Legal Issues and Responsibilities …

Topics we’ll look at:

1. Liability/protections (part 1)
2. Intellectual property (part 2)
   a. Copyright law (today)
   b. Patent law (next time)
Intellectual Property (IP)

On a piece of paper ...

Jot down your opinions on what your rights should be after you purchase a software product. Consider:

- using the software
- copying the software for use by yourself
- copying the software for use by others
- modifying the software for your own personal use
- reselling modified software

Copyright Law

Protecting “creative works” from unauthorized copying

Copyright protection is for “original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.”

- in general protects the author’s “expression”
- not the idea behind the expression (patents)
Copyright Law

Copyrights give the copyright holder exclusive rights (*) to:

● Make copies of the work
● Produce derivative works (e.g., translations, movies/books)
● Distribute copies
● Perform the work in public
● Display the work in public

(*) With some exceptions based on “fair use” rules ...

The Fair Use Doctrine

Copyright law has two main goals:

1. Promote production of useful work (creator protections)
2. Encourage the use and flow of information (use protections)

Fair Use provides rights to users of copyrighted works …

Examples

● criticism, commentary, news reporting, teaching (excerpts)
● scholarship and research
● basic use as a consumer
Copyright & the Fair Use Doctrine

Four broad factors when considering fair use cases …

1. Purpose and nature of the use
   - commercial less fair use than nonprofit or educational

2. Nature of the copyrighted work
   - creative works are less fair use than factual

3. Amount and significance of portion used

4. Effect of the use on potential market or value of work
   - uses that reduce sales are less fair use

Copyright Law

Copyrights last for a limited time period:

- The lifetime of the owner plus 70 years (*)
- After this, the work becomes part of the public domain
- Where anyone can freely copy and use the work

(*) Unless created from 1923 - 1978, then 95 years
Copyright Law & Software

Some history …

- Software not originally considered protected (not seen as “fixed, tangible objects”)
- In 1976, computer programs included (Copyright Act)
- Courts later clarified programs as “literary works”
- Various court cases in 80’s and 90’s
- Digital Millennium Copyright Act (DMCA) in 1998

Copyright Violation

Copyright holders can seek redress (sue for damages)

- any member in the chain of distribution
- regardless if they knowingly/unknowingly violated copyright
- with some limits (fair use, and DMCA “safe haven”)
Copyright Violation

Proving copyright infringement requires proving:

1. Ownership of the copyright
2. That copying took place

To prove copying took place can show directly, or else show:

- The violator had access to the copyright material
- Substantial similarity between original and copy

Exercise

With a partner, develop rules for defining:

“Substantial similarity between original and copy” for software

Write down your rules (on same sheet of paper)
Copyright Violation

Courts had to develop ways to determine software violations

- Originally the primary function was considered the main idea (which cannot be copyrighted)
- Everything else not strictly necessary for the primary function was considered expression

Evolved into the **AFC test** (abstraction-filtration-comparison)

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Copyright Violation

The Abstraction-Filtration-Comparison test ...

1. Identify increasing levels of **abstraction**
   - Lowest level is code (copyrightable)
   - Middle levels (groups of instructions, modules, etc.)
   - Highest level is main function (not copyrightable)
Copyright Violation

The Abstraction-Filtration-Comparison test ...

2. Remove aspects not covered by copyright (filtration)
   - E.g., elements for efficiency, elements dictated by external factors (standard techniques/designs), elements taken from public domain

Copyright Violation

The Abstraction-Filtration-Comparison test ...

3. Compare each element under copyright (comparison)
Rights of Consumers / Users

**Fair Use allows, without authorization of copyright holder**

“Owners” of copies to make additional copies for
  - Archival or maintenance purposes
  - Utilization of a computer program (a step in using)

“Owners” of copies to resell their copy ("first sale" doctrine)
  - The rights are then exhausted by the old owner

“Owners” of copies to rent their copy
  - Again, rights are exhausted by owner until returned

(*) Note that most software is now licensed not purchased
  - Meaning as a purchaser, you don’t own the copy
  - Courts have ruled differently on sold vs licensed

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Rights of Consumers / Users

**Fair Use allows, without authorization of copyright holder**

“Owners” of copies to modify the copy for personal use

“Owners” of copies to reverse engineer their copies

Among others …
Court Cases

Sony vs Universal Studios (1984)

- Recording movies on TV using Sony Betamax machines
- Sued Sony because machines used to do the copying
- Sony won ...
  - Copying largely for private, non-commercial use
  - Even though entire (not a portion of) movies copied
  - Makers of a device that some use to infringe copyright, but with legitimate uses should not be penalized

Court Cases

Sega vs Accolade (1992)

- Sega had large licensing & costs for 3rd party developers
- Accolade made video games for the Sega console
- And bypassed costs by reverse engineering console software (copied and decompiled)
- Sega sued, Accolade won:
  - Court viewed purpose as creating new works
  - Court viewed this as fair competition, even though it could reduce Sega’s game market (not console market)
Court Cases

Napster vs Recording Industry Assoc. of America (2001)

- Issues:
  - Is P2P copy & distribution of music legal under fair use?
  - If not, is Napster responsible for the actions of its users?
- Napster argued copies for personal, not commercial use
  - Personal implies limited (not distribution to the masses)
  - RIAA argued large impact to music industry/market
- Napster lost on both issues

Court Cases

Apple vs Microsoft (1988)

- Apple sued Microsoft to prevent them from using GUI elements similar to Apple’s Mac OS
- Apple lost
  - Apple sued at the same time by Xerox who also lost
- “Look and feel” cases have largely been struck down
  - Limited protections under design patents do exist
**Digital Millennium Copyright Act (DMCA)**

**Digital rights management (DRM)**

- Techniques to control access to and uses of digital IP
- Includes hardware and software using encryption
- Embedded into text files, music, movies, ebooks, etc.
- Prevents saving, printing, copying, creating excerpts, etc.

DRM tightly controls use
- including in some cases fair use

**DMCA: Anticircumvention provisions**

- Prohibit making, distributing, using tools to circumvent DRM
- Goal is to reduce piracy and other illegal uses of IP
- Problem is it criminalizes actions that don’t infringe copyright

Various legal cases, some exceptions (see book)
- E.g., for security research
- For some devices (e.g., phones, CDs)
Digital Millennium Copyright Act (DMCA)

DMCA: Safe Harbor

- Protects providers from copyright violations of users
- Including ISPs and web sites (e.g., YouTube)
- Cannot profit from the material
- Must remove material when asked (take down notice)
  - Has led to various issues …
  - E.g., YouTube receives millions of requests per year