

# Intellectual Property 2

## Copyright

- [1790] covered books, maps, & charts
- later: photography, sound recording, & movies
- [1909] must be in a form that could be seen and read visually
  - e.g. piano-roll didn't violate copyright legally but did in spirit and intent of copyright
  - also chess program in ROM copied legally

- [1976 & 1980] copyright law revised to include
  - software
  - Literary works including computer databases & programs containing original expression of ideas
  - nature of material objects made irrelevant
- [1997] No Electronic Theft Act: eliminated legality of copying if there was no “commercial advantage or private gain”.
- [1988] DCMA {Digital Millennium Copyright Act} prohibits the making, distributing, or using of tools (devices, SW, or

services) to ***circumvent*** technological copyright protection systems used by copyright holders (w. limited exceptions)

- controversial because of outlawing of devices & SW w. legitimate purpose. e.g.
  - DeCSS (DVD protection scheme)
  - Princeton's Edward Felten vs. the SDMI {Secure Digital Music Initiative – an industry consortium} re. publication of research illuminating copy protection flaws.
  - Dmitry Sklyarov vs. FBI: Russian working for Russian company legally (in Russia) wrote & marketed a program to circumvent e-book format protections.

## Fair Use

- US Constitution – copyright
- purpose of copyright: encourage production of useful works
- Fair Use: allows use of copyrighted material to:
  - promote creation of new work
  - not likely to deprive authors or publishers of remuneration
  - emerged from judicial interpretation

- [1976] US law included it
  - \* including SW, but targeted large business systems
  - \* includes: criticism, comment, news reporting, teaching (w. mult. copies in classrm), scholarship, & research

4 factors considered w.r.t. fair use:

1. purpose & nature of use including whether for commercial or non-profit purposes
2. nature of the copyrighted work {creative work better protected than factual}
3. amount and significance of portion used
4. effect of use on the potential market for or value of copyrighted work (will sales be reduced?)

- factor #4 often takes precedence
- courts interpret & apply above guidelines in specific cases – w. notoriously unpredictable verdicts
- clarification for digital media recommended

## Notable Fair-Use Cases

- Sony vs. Universal City Studios
- Sony created & sold Betamax VCR
- [1984] Supreme Court (5-4) Sony OK
  - private noncommercial uses should be presumed fair unless there's a realistic likelihood of economic harm to copyright holder
  - makers of a device w. substantial legal uses shouldn't be penalized for occasional infringing use by some consumers



- non-commercial copying of an entire movie is fair use
- Reverse-Engineering: Game Machines
  - [1992] Sega vs. Accolade: ***decompilation*** used
    - \* intent: create new games for Sega machines
  - [1992] Atari vs. Nintendo
    - \* reverse-engineering for research use OK
  - [2000] Connectix vs. Sony
    - \* BIOS copying for reverse-engineering OK

## Other copying issues:

- MP3s & Napster
  - “experts”: personal use limited, not unlimited availability to strangers
  - “peer-to-peer” SW – similar to search engine (protected by DMCA for violations by users)
- Tivo & RecordTV.com
  - devices that “zap” commercials cause problems w.r.t. fair use

- SW Piracy
  - strong-arm tactics by US consortiums (e.g. SPA, SIIA, BSA)
  - lax but improving laws & enforcement by some nations
- “dongle” a hardware device plugged into a computer port to enable a SW app.
- Digital Rights Management – collection of techniques which manage reproduction
- Sale vs. License

- Look & Feel

- courts recognized value of compatibility
- methods of operation not copyrightable
- issues not fully resolved in courts yet

## Free SW & Open-Source

- Free SW & open-source movement similar
- source code available to all
- e.g. GNU project founded by Richard Stallman
  - w. the Free Software Foundation & the League for Programming Freedom
- Benefits:

- more can use & benefit from the SW
- bugs found & fixed quickly & extensively
- SW can be modified to adapt to individual needs and to make improvements

- Liabilities:

- much free SW difficult for ordinary consumers to use
- less user-friendly tech-support
- many versions – no one specific vendor only

- few standards