

## CS121: Our Digital World



+

# Digital Copyright

# + History of Piracy

- 1993 @ MIT
  - A student used a computer as a file sharing machine for computer games
  - This was a centralized system
  - Copyright infringement, but no commercial motive, so, no crime
  - US attorney's office brought a charge of wire fraud on the grounds that his acts constituted interstate transmission of stolen property
  - Judge dismissed the case, citing a supreme court ruling that bootleg copies do not qualify as stolen property
  - Judge suggested that congress modify the copyright law

# + Ne Electronic Theft (NET) Act

## ■ NET

- Passed by congress in 1997
- Criminalized any unauthorized copying with retail value over \$1,000, commercially motivated or not
- Violators could be risking a year in prison

## ■ Digital Theft Deterrence and Copyright Damages Improvement Act

- Passed by congress in 1999
- Supporters argued that NET was ineffective and penalties needed to be increased

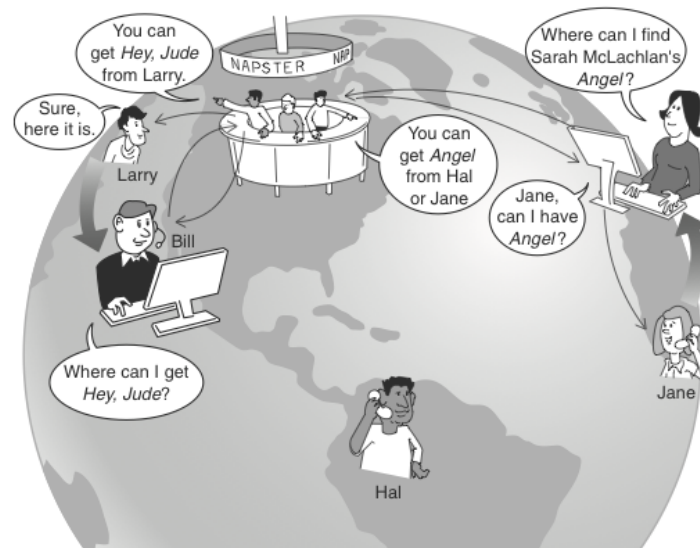


***napster.***<sup>®</sup>



# + Napster

- 1999 @ Northeastern University
  - Sean Fanning created the file-sharing program Napster
  - It had peer-to-peer architecture
  - Napster maintained a central directory showing where files on other computers could be found



Blown to Bits: <http://www.bitsbook.com>

# + Napster

- By 2001, there were 26 million registered users
- In December 1999, the RIAA sued it for more than \$100 million in damages
- Napster protested that it had no liability since it wasn't copying files
- In July 2000, the California Federal District Court found Napster guilty of secondary copyright infringement
- After an unsuccessful appeal a year later, Napster is shut down

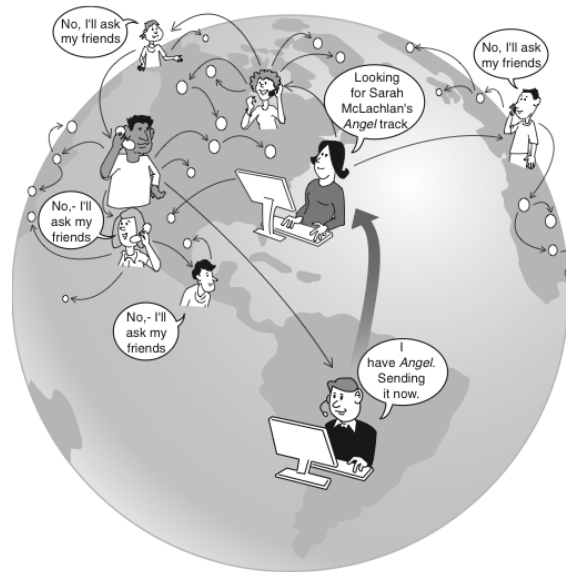


Peer-to-Peer



# + Peer-to-Peer (P2P)

- Central directory was what made Napster liable for copyright violation
- Examples of other peer-to-peer software providers: Grokster, Morpheus, and Kazaa



Blown to Bits: <http://www.bitsbook.com>

# + Peer-to-Peer

- In October 2001, the RIAA sued the makers of Grokstr, Morpheus, and Kazaa for damages of \$1500,000 per infringement
- The companies responded that the makers of other software should be liable:
  - Microsoft, Cisco, etc.
- How would the Supreme Court rule?

# + 1984 Sony v. Universal Studios

- MPAA sued Sony and charged them with secondary infringement for selling the video cassette recorder
- Supreme Court ruled in Sony's favor stating:
  - “ ... the sale of copying equipment, like the sale of other articles of commerce, does not constitute contributory infringement if the product is widely used for legitimate, unobjectionable purposes. Indeed, it need merely be capable of substantial noninfringing uses.”

# + Peer-to-Peer

- Grokster, Morpheus, and Kazaa were quick to cite the 1984 Sony ruling in their defense, explaining that there were many noninfringing uses of file sharing
- In April 2003, the Central California Federal Court District Court agreed that this was different from Napster and dismissed the case
- The District Court's ruling was appealed, and it was upheld by the Ninth Circuit

# + P2P in the Supreme Court

- RIAA appealed, and the Supreme Court agreed to review the decision
- In June 2005, the Court returned a unanimous verdict in favor of the RIAA:
  - “We hold that one who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties”

# + A Question of Intent

- The Sony standard had been left intact
- The file-sharing companies' liability stemmed not from the capabilities of the software, but from the companies' intent in distributing it
- What is evidence of bad intent?
- Can a company defend itself against accusations of bad intent?

# + Grokster

- Grokster was shut down on November 7, 2005



# + Kazaa

- Legal issues ended after a settlement of \$100 million in reparations to the recording industry
- Kazaa was sold to Brilliant Digital Entertainment, Inc
- Operate a music subscription service





# + Morpheus

- On April 22, 2008, Morpheus distributor filed for bankruptcy
- All employees were laid off
- Websites were taken offline

# + Advertising Bad Intent

- What are the risks?
- Say you sell 14 million iPods, times 100 songs allegedly copied per iPod times \$750 per song
- That's more than a trillion dollars in damages!
- Guessing wrong is a bet-the company mistake





+

What's Next?

# + Computers Copy All The Time

- Dynamic Random Access Memory (DRAM) copies bits thousands of times a second
- Computers copy programs from disk to memory in order to run them
- Computers cannot display images on the screen without copying them to the display buffer
- Department of Commerce argued that almost any use of a digital work involves making a copy and therefore requires explicit permission from the copyright holder

# + Digital Rights & Trusted Systems

- If computers are making it easy to copy and distribute information without permission, then change computers so that copying or distributing without permission is difficult or impossible
- The general technique of distributing content together with control information that restricts its use is called digital rights management (DRM)
- Even better, build a chip into every computer that checks the operating system each time it is turned on. If the OS has been modified the computer won't boot. It's called a Trusted Platform Module (TPM)

# + The Other Side of Copyright

- When we buy a book today, we have the right to:
  - Read it from cover to cover or skip around
  - Lend it to a friend
  - Resell it
  - Copy out a paragraph for use in a book report
  - Donate it to a library
  - Open it without “phoning home”
- Are we willing to give up those rights when books are digital computer files?

# + The Other Side of Copyright

- The same methods that, in one country, prohibit people from playing unlicensed songs can, in another country, prevent people from listening to:
  - Unapproved political speeches
  - Unapproved newspapers
- Increases opportunities for technology lock-in and anticompetitive mischief

## + Moving Away from DRM

- In February 2007 by Apple's Steve Jobs, in the form of an open letter to recording industry executives asking them to relax the licensing restrictions that required Apple to implement DRM on iTunes music.
- By the summer of 2007, Apple iTunes and (separately) Universal Music Group began releasing music tracks that could be freely copied.



# + The Cloud

- iTunes Match
  - Released in the US in November 2011
  - With iTunes Match, all your music — even songs you've imported from CDs — can be stored in iCloud. So you can access your music from all your devices and listen to your entire library, wherever you are.
  - \$24.99
- What does this do to piracy?

# + Creative Commons

## ■ Mission:

- Creative Commons develops, supports, and stewards legal and technical infrastructure that maximizes digital creativity, sharing, and innovation.

## ■ The book *Blown to Bits* is available under a Creative Commons license

### You are free:



to **Share** — to copy, distribute and transmit the work

to **Remix** — to adapt the work

### Under the following conditions:



**Attribution** — You must attribute the work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work).



**Noncommercial** — You may not use this work for commercial purposes.



**Share Alike** — If you alter, transform, or build upon this work, you may distribute the resulting work only under the same or similar license to this one.

# + Sampling Music

- Watch:

<http://www.sciencefriday.com/program/archives/201101287>

- Do you believe this is illegal?

# + Acronyms

- RIAA
- MPAA
- NET Act
- P2P
- DRAM
- TPM

# + References

- [http://en.wikipedia.org/wiki/Trusted\\_Platform\\_Module](http://en.wikipedia.org/wiki/Trusted_Platform_Module)
- <http://www.respectcopyrights.com/>
- <http://www.musicunited.org/>
- <http://creativecommons.org/>
- <http://www.apple.com/itunes/itunes-match/>
- <http://www.pcmag.com/article2/0,2817,2396424,00.asp>
- <http://www.npr.org/templates/story/story.php?storyId=98591002>
- <http://www.arl.org/pp/ppcopyright/copyresources/copytimeline.shtml>