IT Ethics

Intellectual Property

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Topics

Intellectual Property

Introduction

Theories

Copyrights

Introduction

Regulations

DRM

License Agreements

Patents

Introduction

Software Patents

Property

- defined over relationships instead of objects
 - If person X owns the object Y, then X can control other people's relationships with Y.
- easier to understand if talking about tangible objects

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Intellectual Property

- creative works: works of art
- ▶ literature, music, movies, paintings
- computer programs
- functional works: inventions
- ▶ not exclusive: taking it doesn't prevent the owner from using it
- ▶ (digital formats) not a limited resource: easily reproducible

Intellectual Property

- ▶ what rights to give to the owner?
- ▶ not the same as owning a physical property
- ► hampers competition and progress
- not preferred to give property rights to ideas
- encourage producers to expose their ideas
- making the idea public property after the owner receives financial gains

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Expression

- property for the expression of an idea
- creative ideas have to be "fixed" on a tangible medium
- ▶ book, music CD, . . .
- copyright
- ▶ functional ideas have to be implemented in a concrete manner
- machine
- patent

Trade Secret

- ▶ formula, process, design, client list, ...
- ► advantage in competition
- ▶ must have measures to keep it secret: non-disclosure agreements
- ▶ no expiration, no need to publish
- ▶ if exposed, no longer a secret
- ▶ reverse engineering allowed

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Labor Theory



John Locke (17th century)

labor theory

a person acquires a natural right of ownership in something by mixing his or her labor with it

- "natural right"
- ▶ not take more than needed

Utilitarian Theory

utilitarian theory

it is beneficial for the society to allow intellectual property

▶ if people can earn money from their ideas they will make them available to the public

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Personality Theory



Hegel (19th century)

personality theory

an intellectual work is an extension of its creator's personality

 its creator should be able to control how it's used

Software Property

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- why is it wrong to copy software against its license?
- ► according to labor theory
- ▶ according to utilitarian theory
- according to personality theory
- ▶ according to social contract theory

Copyright

- copyright is granted to the expression of an idea
- ▶ software: algorithm is the idea, program is the expression
- ▶ it has to be original
- it has to be non-functional
- ▶ it has to be fixed on a medium
- ▶ it is possible that different people independently come up with the same expression

Extent of Copyright

- copying
- distributing
- deriving new works (for example translations, movie adaptations)
- performing (for example theater plays)
- exhibiting (for example paintings)

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Example: Copyright of an e-mail message



- an e-mail message
 is forwarded to a mailing list
 without the approval
 of its author
- its author sues for copyright infringement
- the court decides that the message is not a creative work (2011)

http://www.theregister.co.uk/2011/04/12/email_not_creative_enough_for_copyright_protection/

Example: Time zone database



- part of the time zone database used on some computers is based on the atlas prepared by Astrolabe
- Astrolabe sues to prevent the use of the database
- ▶ then retracts its case (2012)
- no copyright on historical facts

https://www.eff.org/press/releases/eff-wins-protection-time-zone-database

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Example: Blizzard vs MDY



- ▶ MDY sells a "bot" for the game World of Warcraft by Blizzard
- Blizzard sues: "program copied to memory"
- ▶ court agrees with Blizzard (2008)

http://virtuallyblind.com/category/lawsuits/mdy-v-blizzard/

Example: PRS vs Kwik-Fit



"performance" of the music in public and renders the firm

- Performing Rights Society is an organization that protects the intellectual property rights of the music industry
- sues a car repair firm because of staff radios: "broadcasting" (2007)
- sues a department store worker for singing at the workplace: "performing" (2009)

http://news.bbc.co.uk/2/hi/uk_news/scotland/edinburgh_and_east/7029892.stm http://news.bbc.co.uk/2/hi/uk_news/scotland/tayside_and_central/8317952.stm

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Software Copyright

copyrights don't protect software against imitation of functionality

example: Lotus vs Borland (1995)

- ▶ similarity in the look and functionality of a spreadsheet program
- ▶ is the look of a program protected by copyright?
- court: "yes", appeals: "no"

example: Apple vs Microsoft/HP

- desktop interface, icons, . . .
- ► court: "similar to video player buttons or car panels"

International Treaties

Programmes guilty of infringing copyright

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- ▶ Bern Treaty (1887)
- ► TRIPS: Trade-Related Aspects of Intellectual Property Rights (1995)
- ▶ WIPO Copyright Treaty (2002)
- ► World Intellectual Property Organization

Telif Yasaları

- ► Turkey: Works of Intellect and Art Act (1995)
- ▶ USA: Digital Millenium Copyright Act (1998)
- protection duration: 70 years after the death of the author
- ▶ 95 years for works for hire
- copyright is automatic, no need to register anywhere

Principles

- ► fair use:
 - no need for permission for some uses
- purpose: criticism, news, education, research
- nature of work: fiction vs non-fiction
- extent of use: whole, parts
- effect on the sale of the work
- first sale: after first sale, copyright owner has no rights on the copy sold

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Example: Ralph Lauren ad campaign



By Cory Doctorow at 10:32 am Tuesday, Oct



Last month, Xeni blogged about the photoshop disaster that is this Ralph Lauren advertisement, in which a model's proportions appear to have been altered to give her an impossibly slemmy body ("Dude, her head's bigger than her pelvis"). Naturally, Keni reproduced the ad in question. This is classic fair use: a reproduction "for purposes such as criticism; comment, news reporting," etc.

However, Ralph Lauren's marketing arm and its law firm don't see it that way. According to them, this is an 'intringing image,' and the Marketin and the see and t

- an ad photo for Ralph Lauren is heavily criticised
- ► RL tries to stop sites from using the photo (2009)

http://boingboing.net/2009/10/06/the-criticism-that-r.html

Example: Google Book Search



- Google scans printed books and includes pages in search results
- ► Author's Guild sues, Google claims fair use (2005)
- settlement for 125 million \$ (2008)
- ➤ 300 thousand € fine in France (2009)

http://www.theregister.co.uk/2008/10/28/google_settles_book_suit/http://news.bbc.co.uk/2/hi/technology/8420876.stm

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Example: Turnitin

Fair Use Bolstered by Student-Cheating Detection Service

What is Turnitin WriteCycle?

By David Kravets M April 17, 2009 | 3:05 pm | Categories: Copyrights and Patents

A federal appeals court granted a boost to fair use advocates Friday when it ruled that an online cheating-detection service storing thousands of student essays did not violate the intellectual property rights of the essa

Students who claimed Turnitin com breached their copyrights because it placed their works in its database brought the lawsuit. The site compares new essays submitted by teachers with a database of other essays to determine whether plagiarism was at work.



The court stepped through the fair use analysis, dropping positive notes here (commercial uses can be fair uses), here (a use can be transformative in function or purpose without altering or actually adding to the original work; clining Perfect 10 Inc. v Amazon.com Inc.), and here (fact that furnith com used the entirety of the plaintiff work did not preducte finding of fair use). And it turned back a lot of other, small-bore challenges to the district court's fair use finding.

Some 6,000 educational institutions in about 90 countries use the California-based cheating-detection service.

http://www.wired.com/threatlevel/2009/04/fair-use-bolste/

- plagiarism detection service
- universities subscribe for a fee
- assignments compared with each other, with previous assignments, and with Internet sources
- students sue Turnitin for copyright violation
- ► court rules fair use (2009)

Legal Immunity

- ► some organizations cannot be sued for copyright infringement resulting from the actions of their users: safe harbor
- service providers
- search engines
- ► Internet Archive

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File Sharing

- ▶ increase in file sharing also increased copyright violations
- ▶ centralized networks: Napster, Kazaa, ...
- distributed networks: BitTorrent (requires search engine)
- ▶ file hosting services: Rapidshare, Megaupload, ...

File Sharing Debates

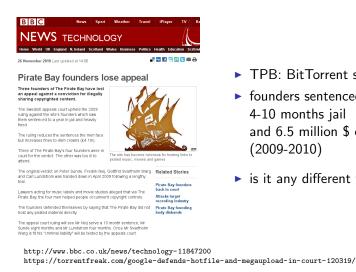
- ▶ file sharing also has legal uses
- courts decide that services are responsible for preventing large scale copyright violations
- are damage assessments realistic?
- how to distribute collected fines?

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Example: Betamax

- Universal film studios sue Sony over the Betamax video recorder (1970): "this device can be used to violate copyrights"
- court: "there are also legal uses"

Example: The Pirate Bay



- ► TPB: BitTorrent search site
- founders sentenced to 4-10 months jail and 6.5 million \$ compensation (2009-2010)
- ▶ is it any different from Google?

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Example: LimeWire



- in the LimeWire case, the music industry demands 75 trillion \$ in damages
- ▶ judge finds the amount "absurd" (2011)

DRM

- ▶ Digital Rights Management
- enforcing copying and distribution rules using technology
- region protection in DVDs
- copy protection in CDs
- transfer prevention on digital files
- supported by "anticircumvention" clauses in recent copyright laws

http://www.theregister.co.uk/2011/03/24/judge_slaps_music_biz/

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DRM Debates

- regarding consumer rights
- regarding reverse engineering
- ▶ technically, is DRM really effective?

Example: Adobe vs Sklyarov



This is the first criminal lawsuit under the Digital Millennium Copyright Act by Stephanie Ardito

Some of us who regularly write about intellectual property issues jokingly refer to publishers as the "copyright police," and contemplate being thrown into "copyright jail" for "violating" fair-use laws. Despite this imagined scenario, I never really expected that a civilian would be arrested and criminally prosecuted by the U.S. government.

Leading Up to Action, Arrest

On July 16, 2001, Dmitry Sklyarov, a Russian programmer, was arrested by the FBI as the copyright holder of a software program that circumvents the technology that protects against the unauthorized copying of Adobe Systems' eBook format. Sklyarovs arrest was preceded by several events. On June 22, his company, ElcomSoft (http://www.elcomsoft.com), posted a press release announcing the sale of a software program called Advanced eBook Processor (AEBPR), which removes encryption coding from Adobe Acrobat PDF files and Adobe Acrobat eBook Reader software. In part, the press release stated:

Advanced eBook Processor lets users make backup copies of eBooks that are protected with passwords, security plug-ins, various DRM (Digital Rights Management) schemes like EBX and WebBuy, enabling them to be readable with any PDF viewer, without additional plug-ins. In addition, the program makes it easy to decrypt eBooks and load them onto PalmPilots and other small, portable devices. This gives users—especially users who read on airplanes or in hotels—a more convenient option than using larger notebooks with limited battery power to read their eBooks.

http://www.infotoday.com/it/nov01/ardito.htm

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Example: Adobe vs Sklyarov

- ▶ Sklyarov develops a software that removes password protection from PDF e-books
- ▶ his company Elcomsoft sells this software
- ▶ Sklyarov is arrested when he visits USA (2001)
- ▶ Adobe and the Department of Justice sue Sklyarov and Elcomsoft
- due to public reaction, the case against Sklyarov gets dropped
- ▶ the case against Elcomsoft ends in acquittal (2002)
- ► fair use? (backup copy)
- first sale?

Example: Jon Johansen



- ► Jon Johansen develops a software that breaks region protection on DVDs to watch them on Linux
- Paramount, Universal, and MGM sue
- ▶ Johansen is acquitted (2003)
- ▶ Johansen Apple: buying music from iTunes (2005)

http://news.cnet.com/Norway-piracy-case-brings-activists-hope/2100-1025_3-979769.html http://news.cnet.com/DVD-Jon-reopens-iTunes-back-door/2100-1027_3-5630703.html

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Example: Sony music CDs



Country Profiles
Special Reports
Special Reports

RELATED BBC SITES Mr Russinovich discovered his own tale of horror - Sony was SPORT using a copy-protection TPM on some of its CDs that quietly weather installed a software program known as a "rootkit" on users' Sony music CDs install a copy protection program without telling the user

- Sony apologizes, recalls CDs (2005)
- ▶ the copy protection program turns out to be stolen from open source projects

http://news.bbc.co.uk/2/hi/technology/4456970.stm http://www.theregister.co.uk/2005/11/18/sony_copyright_infringement/ Example: MPAA



not OK when it's done to protect the families of movie fans. After all, the MPAA and its members have said it's "theft" and "piracy" for you to copy your own DVDs, whether to make a

back-up copy to protect your DVDs from being scratched by your toddler, to edit out the approving, unskippable commercials that open many DVDs, or to skip strong language, nudity MPAA copies the movie "This Film Is Not Yet Rated" without permission and distributes it to its employees (2004)

https://www.eff.org/deeplinks/2006/01/mpaa-copying-movies-ok-our-families-not-yours

Example: Nicolas Sarkozy

Nicolas Sarkozy: French President Accused Of Pirating 400 DVDs

If the story pans out, this would be Sarkozy's second copyright infringement -- and a major embarrassment for a President famous for his three-strikes-

A French paper Le Canard Enchaine, has husted ident Nicolas Sarkozy for pirating 400 copies of a DVD.

you're-out, anti-file-sharing stance. ccording to the paper, Sarkozy made 400 nauthorized copies of a 52-minute documentary arring the President himself, called A visage accovert: Nicolas Sarkozy.

rance writes that a proud Sarkoz ited to distribute the documentary to diplomats at onference (the "17eme conférence des sadeurs"), but the DVD's distributor had only nd 50 copies of the documentary.

Sign Up Submit this story 🕾 🤯 🔕

A few copies short? Pas de probleme! The President's office decided to make up for the difference by pirating a few hundred copies They even went so far as to doctor up a new DVD jacket, replacing the original DVD maker's name and logo ("Galaxie Presse") with a line crediting the lde la presidence de la Republique".)

- Sarkozy's party uses a song by the band MGMT without permission in election campaigns (2009)
- Presidential Office prints a documentary about Sarkozy on copy DVDs (2009)

Product or Service

and violence that you think is inappropriate for your family.

- ▶ is software a product or a service?
- ▶ mass sales → product
- ▶ personal sales → service
- ightharpoonup if mass sales: make sure product is safe ightharpoonup strict liability
- the risk costs can be distributed in sales
- ightharpoonup if personal sales: not in circulation ightharpoonup neglect
- the risk costs cannot be distributed

http://www.huffingtonpost.com/2009/10/08/nicolas-sarkozy-french-pr_n_313723.html

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Proprietary Model

- source code: trade secret
- copying and distribution of compiled code: copyright
- ▶ use of program: license agreement
- ► what the consumer buys is not the program, it's the license to use the program

End User License Agreements

- what if the consumer doesn't agree? (preinstalled software)
- activation, hardware changes
- reverse engineering: none, or as much as local law permits
- ► no warranty
- no liability

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Free/Open Source Model

- ► ability to customize
- speedier updates
- ▶ protection from problems of the vendor

GNU General Public License - GPL

- use: no restriction
- distribute: no restriction (including selling)
- ► modify: no restriction
- ▶ distribute modified: along with source code
- ▶ no warranty
- ▶ no liability

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Other Free/Open Licenses

- ▶ BSD: any license on the modified software
- Lesser GPL, Apache, Mozilla, ...
- ▶ dual licensing: MySQL, Qt
- ▶ for documentation: GNU Free Documentation License
- ▶ for creative works: Creative Commons

Open Source Initiative (OSI)

- ▶ dağıtım özgürlüğü
- kaynak kodun açıklığı
- ▶ değişikliklere izin
- özgün kaynak kodunun bütünlüğü
- ▶ kişi ve gruplara karşı ayrımcılık yapılmaması
- iş alanlarına karşı ayrımcılık yapılmaması
- ► lisansın dağıtımı
- lisansın ürüne özel olmaması
- lisansın başka yazılımları kısıtlamaması
- ▶ lisansın teknolojiden bağımsız olması

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Example: First sale



Topics E-commerce and the internet | General contract and boilerplate | Corporate | Software | TMT & Sourcing

Like many software publishers Autodesk claims that it sells only licences to use its software and that those who pay for it do not necessarily have the right to sell it on. It sued Timothy Vernor, who was selling legitimate copies of Autodesk software on eBay. for copyright infringement.

The US District Court for the Western District of Washington has backed Vernor, though, in his claim that he owned the software and had the righ

http://www.out-law.com/page-10421

➤ a US court decides that software is sold, not licensed (2009)

Example: Liability



► British High Court rejects that software cannot be sued for poor performance (2010)

http://www.channelregister.co.uk/2010/05/12/red_sky_liability_ruling/

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Patents

- patent protection is for inventions
- ▶ new: advancing the current state of the art
- ► functional: applicable in industry
- not obvious
- even if someone else invents it independently, they cannot use it
- ▶ clients can also be sued for infringement

Patent Protection

- produce
- use
- sell
- give these rights to others (license)
- ► legal monopoly
- protection duration: around 20 years
- protection region

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Patent Difficulties

- ▶ registered at the patent office
- ▶ too expensive to obtain
- difficult to evaluate patent applications
- by checking patents registered earlier
- ▶ difficult to find the list of patents that might apply
- ▶ just because the patent office granted the patent, it doesn't necessarily mean that the court will accept it

Software Patents

- ▶ no software patents in the US until 1981
- ▶ patent office starts issuing software patents after a court ruling
- ▶ it is still a controversial topic whether software could be patented
- "software is mathematics"

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Example: Benson

- ► Benson applies for a patent for an algorithm that converts BCD numbers into binary numbers
- ▶ patent office rejects, Benson sues
- ▶ court decides that this algorithm isn't patentable (1972)

Patent Problems

- ▶ patents granted although they should not be eligible
- using patents to stop competitors from using the idea
- holders can stop each other and block technology: patent pools
- "fair, reasonable, and non-discriminatory" licensing for critical patents (FRAND)
- getting patents just to sue for infringement (patent trolling)
- keeping the patent hidden or not enforcing it until the technology becomes widely used

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Patent Problems

- patents are now used as weapons
- many companies getting patents for protection
- ► the system has diverged from the original goal of promoting innovation
- ▶ on the contrary, it hinders start-ups and small companies

Example: Amazon - One-click shopping

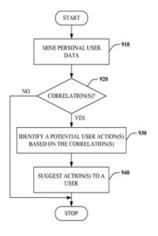
- ► Amazon gets a patent for one-click shopping (1999)
- sues Barnes and Noble
- ▶ patent office re-examines the patent, rejects parts of it (2007)
- ▶ accepts modified patent application (2010)
- ▶ Bilski case: Appeals Court makes it more difficult to get business process patents (2008)

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1725009

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Example: Microsoft - Personal data mining

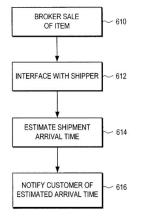


- ► Microsoft: personal data mining (2010)
- ► Microsoft buys 800 patents from AOL (2012)

 $// techflash.com/seattle/2010/02/gates_ozzie_other_microsoft_execs_patent_personal_data_mining.html$ http://www.theregister.co.uk/2012/04/09/aol_microsoft_patent_deal/

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Example: Google - Shipment arrival estimation



► Google: when will the shipment arrive? (2011)

http://www.theregister.co.uk/2011/08/12/google_customer_notification_patent/

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Example: Apple vs Samsung - Google

PCWorld » Blogs » Today @ PCWorld

Apple to Samsung: Don't Make Thin or Rectangular Tablets or Smartphones

Apple proffers design advice on how Samsung could avoid stepping on Apple's design patent toes, in a legal brief filed as part of its ongoing patent infringement lawsuit against its competitor.

Some of the alternative design options Apple has suggested for Samsung seem so farcical you'd think you were reading The Onion. Don't make tablets or smartphones with overall rectangular shapes or rounded corners, make tablets with front surfaces that aren't completely flat, try cluttering the appearance of the devices, and more.

When Apple sued Samsung in April the company claimed Samsung

had "slavishly" copied the distinctive designs of the iPhone and iPad, thereby violating Apple intellectual property rights. In its rebuttal, Samsung argues that there are only so many ways you could design devices like the Galaxy S and Galaxy Tab.

Apple obviously doesn't think so. To defend its claim that Samsung had other design options, Apple had to provide examples of design alternatives

► Apple stops a Samsung tablet from being sold in Germany (2011)

Motorola stops Apple users from using "push email" in Germany (2012)

► HTC sues Apple with patents obtained from Google (2011)

https://www.pcworld.com/article/245493/apple_to_samsung_dont_make_thin_or_rectangular_tablets_or_

http://www.theregister.co.uk/2012/02/24/apple_patent_motorola/

smartphones html

//www.bloomberg.com/news/2011-09-07/htc-sues-apple-alleging-infringement-of-four-u-s-patents.html

Example: Microsoft vs Eolas



Microsoft has settled a long-running patent infringement suit with Eolas and the University of

California in a case which has been running since 1999. Microsoft will make an undisclosed

Eolas had claimed that Microsoft's internet browser Internet Explorer violated a patent held

payment to Eolas.

changed that element of its browser

from within browser

▶ sues Microsoft (1999)

running applications

▶ settles out-of-court (2007)

Eolas later sues Apple ve Google (2010)

▶ loses (2012) by it. The dispute centred on the embedding of items within a web page. Microsoft has since

Eolas won \$521m in 2003 but Microsoft appealed and won the right to a retrial. It said that it expected the damages to be changed

http://www.theregister.co.uk/2007/08/31/microsoft_eolas_settlement/ http://www.wired.com/threatlevel/2012/02/interactive-web-patent/

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Example: Compuserve - GIF image format

- ▶ Compuserve patent: compression algorithm used in GIF
- ▶ doesn't enforce the patent for years
- ▶ after GIF use increases, Compuserve announces that it will sue some web sites (1994)
- ▶ the PNG image format gets developed and replaces GIF

References

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Required Reading: Tavani

► Chapter 8: Intellectual Property Disputes in Cyberspace