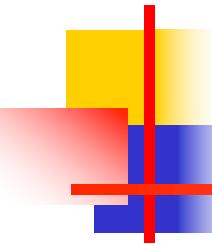


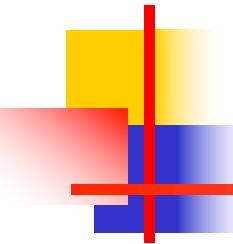
Intellectual Property and the Web

Craig Knoblock
University of Southern California



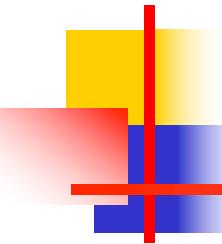
Some (Hypothetical) Cases

- Abby wants a pretty image for her blog. She found one on Flickr. Can she use it on her blog?
- Ben notices many students wearing USC apparel. He decides to take USC logos off the web, stick them on cheap t-shirts and make some extra \$\$\$. Can he legally do this?
- Can Carlos post class notes he took on his web site?
- Donna posted a video of her baby dancing to a Prince song. Can Prince's record company demand that it be removed?
- Eddie really likes the movie he rented from Netflix, and wants to rip it to his computer. He finds ripping instructions online. Is he legally able to do this? Can the website legally offer instructions?



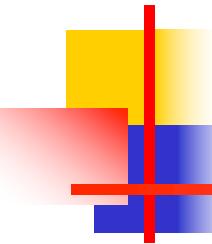
Intellectual Property

- Intellectual property (IP) is an intangible creative work
 - It is not the physical form on which it is stored or delivered
- IP can be protected through the use of
 - patents,
 - copyrights,
 - trademarks, and
 - trade secret laws



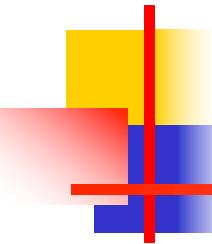
Sources

- US Patent and Trademark Office
 - www.uspto.gov
- Scrape It, Scrub It and Show It: The Battle Over Data Aggregation
 - http://web.archive.org/web/20070818130311/http://www.ffhsj.com/bancmail/bmarts/aba_art.htm
- Intellectual Property Law, Freedom of Expression, and the Web, K. McLeod
 - <http://www.electronicbookreview.com/thread/technocapitalism/proprietary>
- Electronic Frontier Foundation -
 - <http://www.eff.org/issues/intellectual-property>



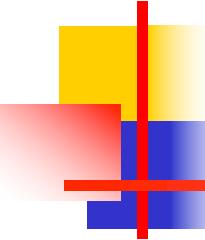
Outline

- Patents
- Copyrights
- Trademarks
- Trade Secrets
- Data Aggregation
- Software Licenses



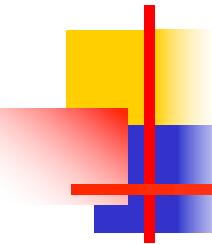
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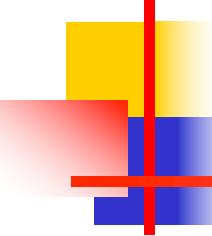
Patents

- **PATENTS** provide rights for up to 20 years for inventions in three broad categories:
 - **Utility patents** protect useful processes, machines, articles of manufacture, and compositions of matter
 - Some examples: fiber optics, computer hardware, medications.
 - **Design patents** guard the unauthorized use of new, original, and ornamental designs for articles of manufacture
 - The look of an athletic shoe, a bicycle helmet, the *Star Wars* characters are all protected by design patents
 - **Plant patents** are the way we protect invented or discovered, asexually reproduced plant varieties
 - Hybrid tea roses, Silver Queen corn, Better Boy tomatoes are all types of plant patents



What Can Be Patented

- Inventions or discoveries of any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof
 - This covers practically everything that is made by man and the processes for making the products
- **The patent law specifies that the subject matter must be “useful.”**
 - Refers to the condition that the subject matter has a useful purpose
 - A machine which will not operate to perform the intended purpose would not be called useful
- Laws of nature, physical phenomena, and abstract ideas are not patentable
- A patent cannot be obtained upon a mere idea or suggestion.
 - A complete description of the actual machine or other subject is sought is required



Novelty And Non-Obviousness, Conditions For Obtaining A Patent

- In order for an invention to be patentable it must be new
- An invention cannot be patented if:
 - If the *invention* has been described in a printed publication before the date that the applicant made his/her invention
 - If the *inventor* describes the invention in a printed publication or uses the invention publicly and more than one year has gone by
- The inventor must file on the date of public use or disclosure to preserve patent rights in foreign countries
- The subject matter to be patented must be sufficiently different from what has been used or described before
 - It may be said to be nonobvious to a person having ordinary skill in the area
 - For example, the substitution of one color for another, or changes in size, are ordinarily not patentable.

Example Patent Abstract / Inventors

Performing predictive pricing based on historical data

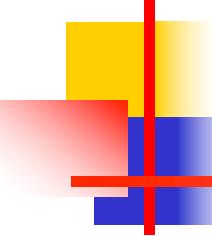
US 20140310066 A1

ABSTRACT

Techniques are described for using predictive pricing information for items to assist in evaluating buying and/or selling decisions in various ways, such as on behalf of end-user item acquirers and/or intermediate item providers. The predictive pricing for an item may be based on an analysis of historical pricing information for that item and/or related items, and can be used to make predictions about future pricing information for the item. Such predictions may then be provided to users in various ways to enable comparison of current prices to predicted future prices. In some situations, predictive pricing information is used to assist customers when purchasing airline tickets and/or to assist travel agents when selling airline tickets. This abstract is provided to comply with rules requiring an abstract, and it is submitted with the intention that it will not be used to interpret or limit the scope or meaning of the claims.

Publication number	US20140310066 A1
Publication type	Application
Application number	US 14/059,655
Publication date	Oct 16, 2014
Filing date	Oct 22, 2013
Priority date <small>?</small>	Mar 27, 2003
Also published as	CA2519693A1 , 12 More »
Inventors	Oren Etzioni, Alexander Yates, Craig A. Knoblock, Rattapoom Tuchinda
Original Assignee	Oren Etzioni, Alexander Yates, Craig A. Knoblock, Rattapoom Tuchinda
Export Citation	BiBTeX , EndNote , RefMan
Classifications (15)	

External Links: [USPTO](#), [USPTO Assignment](#), [Espacenet](#)



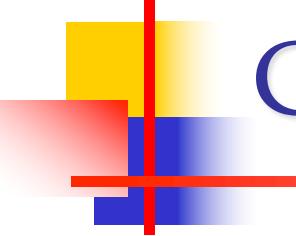
Example Patent Description

TECHNICAL FIELD

The following disclosure relates generally to the use of techniques for predicting future pricing information for items based on analysis of prior pricing information for the items, and more particularly to using such predicted future pricing information in a variety of ways, such as to assist users in making better buying and/or selling decisions.

BACKGROUND

In many situations, potential buyers or other acquirers of various types of items (such as products and/or services) are faced with difficult decisions when attempting to determine whether acquiring a particular item of interest under current conditions is desirable or optimal based on their goals, or whether instead delaying the acquisition would be preferable. For example, when the potential acquirer desires to obtain the item at the lowest price possible before some future date, and the item is currently offered by a seller for a current price, the potential acquirer needs to evaluate whether accepting the current price is more advantageous than the potential benefits and costs associated with waiting to see if the item will continue to be available and will be later offered at a lower price before the future date. Such potential acquisitions can include a variety of types of transactions (e.g., fixed-price purchase, auction-based purchase, reverse auction purchase, name-your-price purchase, rent, lease,



Example Patent Claims

CLAIMS (20)

What is claimed is:

1. A computer-readable memory storing computer-executable instructions for controlling a computer to provide pricing information for items with use dates, the computer-executable instructions comprising instructions that:

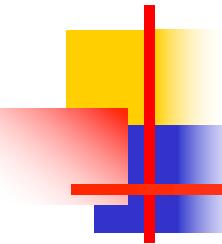
receive a request for pricing information for a requested item with a requested use date;

for each of a plurality of suppliers of the requested item, obtain an offer for the supplier to provide the requested item with the requested use date at a current offer price;

determine a prediction for a future direction of offer prices for the requested item based on the obtained offers; and

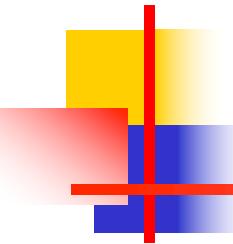
provide a response to the request that indicates a current offer price for the requested item and the prediction of the future direction of offer prices for the requested item.

2. The computer-readable memory of claim 1 wherein the prediction is provided so that a user can decide whether to accept the offer from a supplier at the current offer price or defer accepting an offer based on



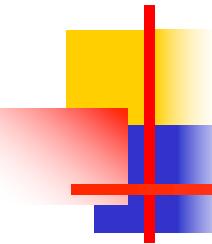
Why Patent?

- Benefits to the inventor
 - Gives owner exclusive right to make, use, sell, the patented invention
 - For a limited term only (20 years)
 - Provides economic incentive for research and development
 - Inventor is not required to patent invention
 - Coca Cola's formula was never patented (trade secret)
- Benefits to society
 - Disclose invention to the public
 - Allows others to improve on the original invention



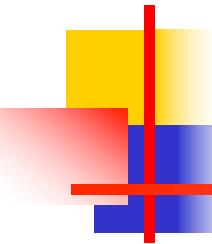
Patent Infringement

- Two ways to defend against a patent lawsuit
 - Invalidity
 - Show that the prior art exists prior to the actual patent
 - Single patent that covers all of the claims
 - Combination of patents and it would have been obvious to put them together
 - Noninfringement
 - Show that the accused work does not implement exactly what is claimed in the patent



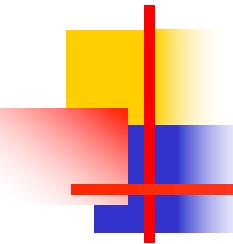
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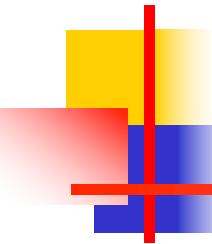
Copyrights

- **COPYRIGHTS** protect works of authorship, such as writings, music, and works of art that have been tangibly expressed.
 - The Library of Congress registers copyrights which last the life of the author plus 70 years
 - Books, albums, movies are all copyrighted
 - You don't even have to register it with the U.S. Copyright Office, but you can for only \$45 for an electronic document
 - You cannot copyright facts, such as the information in the telephone book
 - But you can copyright the particular presentation of those facts



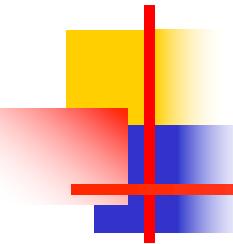
Copyrights

- Copyright owners have the exclusive right to:
 - Make copies of the work
 - Produce derivative works
 - Distribute copies
 - Perform the work in public
 - Display the work in public



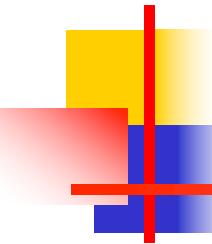
Copyright and the Consumer

- As a consumer, you cannot legally
 - Copy the work: online media too, such as images, music, movies, etc.
 - Create derivative works
 - Distribute copies: burn a few CDs and sell them or give them away
 - Perform a work in public: unless you pay royalty
 - Display the work in public



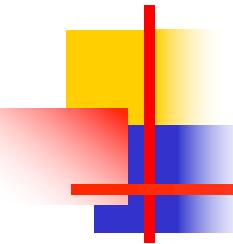
U.S. Copyright Law History

- 1790: First U.S. copyright law; covered printed material. Later, newer technologies (photography, sound recordings, etc.) were added
- 1909: Definition of unauthorized copy formed
- 1960s: Some software and databases receive protection
- 1992: Making copies for personal gain became a felony
- 1997: Illegal to make copies regardless of financial gain
- 1998: Illegal to circumvent copy protection schemes
- 1998: After heavy lobbying by Disney, Congress extends copyright term by 20 years



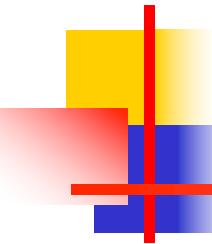
Limits to Copyright: Fair-Use

- Under certain circumstances, permission to use a work is not required
- Fair-Use Doctrine: factors to be considered
 - The purpose and character of the work
 - The nature of the copyrighted work
 - The amount and substantiality of the portion used in relation to the copyrighted work
 - The effect on the potential market for or value of the copyrighted work



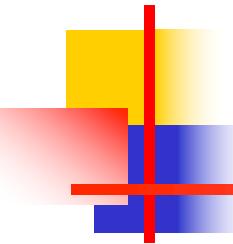
Fair-Use Doctrine

- Allows the use of copyrighted material that contribute to the creation of new works
 - The new works cannot significantly affect sales of the source material, thus depriving copyright holders of their income
- Allows use for some research and educational purposes
- Allows use for news reporting and critiquing



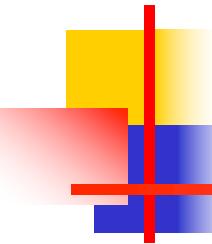
Copyright Law

- Fair-Use Cases
 - *Sony vs. Universal City Studios*
 - 1984: U.S. Supreme Court ruled that non-commercial copying of a movie for viewing at a later time was fair use
 - Court ruled that copying devices (e.g., Betamax VCR) should not be banned if they have significant legal uses
 - *Sega Enterprises vs. Accolade*
 - 1992: Reverse engineering a complete program in order to produce new, creative work was ruled as fair use



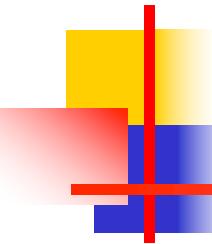
More Fair-Use Cases

- *Kelly v. Arriba Soft Corporation*
 - 2003: Appeals court ruled that use of thumbnail images and inline linking in search engine results do not violate copyright since thumbnails are “highly transformative”
 - Also applies to Google quoting portions of web pages in search results
- *Online copyright policing*
 - 2008: Court ruled that copyright holders cannot order a deletion of an online file without first determining that it reflects “fair use” of the copyrighted work
 - Case involved a mom posting a video on YouTube of her baby dancing to a Prince song
 - Universal Music, copyright owner, ordered YouTube to remove the video
 - Mom sued Universal Music for her legal costs



Google Books

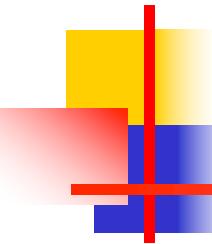
- Google's goal is to scan all books and provide search capabilities
 - ~130 million books, ~40 million scanned (as of 2019)
 - Most books out-of-print
- Google books library project
 - Many libraries allowing Google to scan their books
- Copyright infringement lawsuit/settlement
 - 2005 Sep: Authors Guild sues Google
 - 2008 Oct: \$125M settlement
 - Opt-out clause for out-of-print works, orphan books
 - Authors get: 63% of all associated revenues, \$60 per scanned book
 - Google gets to:
 - index the books and display snippets in search results,
 - show ads on these pages and
 - make available for sale digital versions of each book.
 - 2011 Mar: Judge rejects settlement:
 - "would grant Google significant rights to exploit entire books, without permission of the copyright owners".
 - 2013 Nov: District court sides with Google citing fair use, authors appeal...
 - 2015 Oct: Second Circuit Court rules that Google's use is highly transformative



Public Domain

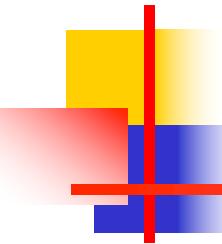
Works in the public domain are not covered by IP rights

- Works not covered by copyright law
 - Ideas (e.g., mathematical formulas)
 - Works pre-dating copyright law (e.g., Bible)
- Expired copyright
 - E.g., novels of Jane Austen
- Government works
- Traditional knowledge, folklore



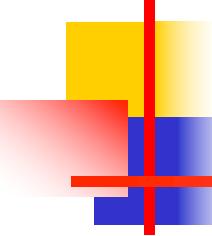
Outline

- Patents
- Copyrights
- Trademarks
- Trade Secrets
- Data Aggregation
- Software Licenses



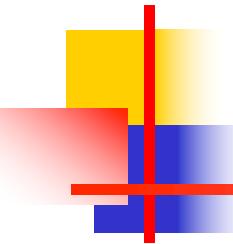
Trademarks

- **TRADEMARKS** protect words, names, symbols, sounds, or colors that distinguish goods and services from other manufacturer's products
 - Trademarks, unlike patents, can be renewed forever as long as they are being used in business.
 - The roar of the *MGM* lion, the pink of the *Owens-Corning* insulation, and the shape of a *Coca-Cola* bottle are familiar trademarks.
 - No Fair-Use provision in Trademark law



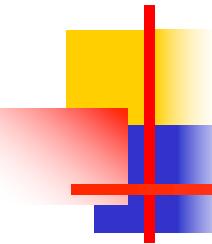
Types of Trademarks

- TM
 - unregistered trademark used to promote or brand goods
- SM
 - unregistered service mark used to promote or brand services
- [®]
 - registered trademark



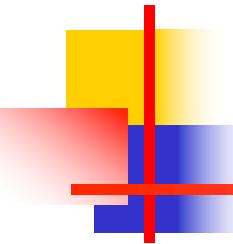
Trademarks and the Internet

- Companies use trademark & copyright law to silence criticism online
 - Court ruled in favor of Church of Scientology in its dispute with church dissidents
- Domain names
 - Courts ruled in favor of trademark-owners in “cyber-squatting” cases.
 - 1999 Congress passed a law with penalties up to \$100k for people who use trademarked names in their domain names (e.g., "CokeSucks.com")



Outline

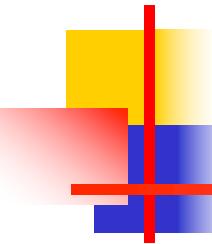
- Patents
- Copyrights
- Trademarks
- **Trade Secrets**
- Data Aggregation
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Trade Secrets

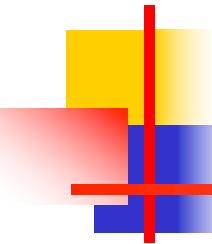
- **TRADE SECRETS** are information that companies keep secret to give them an advantage over their competitors
- The formula for Coca-Cola is one of the most famous trade secrets





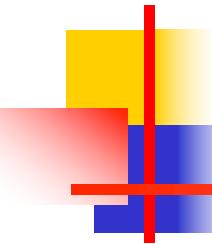
Legal Protection of Trade Secrets

- Treated by law as confidential information
 - Must be protected by non-disclosure agreement (NDA) or non-compete contracts
 - Gives owner perpetual monopoly on secret information
 - Does not expire like a patent



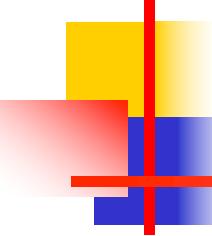
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- Patents
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- Trade Secrets
- **Data Aggregation**
- Software Licenses



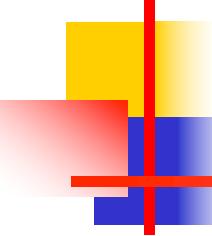
Data Aggregation

- Data aggregation, aka “screen scraping” or “wrapping” is conducted widely today
- Some of it is on sound legal ground
 - Business to business sharing of data
 - Partnerships where organizations agree to share the information on their web sites
 - Data aggregation within an organization
 - Aggregation of public information
 - Aggregation of facts
- but some it is has more ambiguous legal standing
 - News aggregation (e.g., Google News)
 - Auction aggregation (e.g., Ebay vs. BiddersEdge)
 - Deep linking (e.g., Microsoft vs. Ticketmaster)



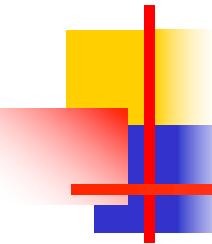
First Union vs. Secure Commerce Services

- Companies such as VerticalOne, Yodlee, and Secure Commerce Services provide aggregation of account information for customers
- Dec 30, 1999, First Union Bank filed a complaint against SCS over the Paytrust Smartbalance feature
 - Alleged “unauthorized access to a computer, trademark and copyright infringement, misrepresenting its relationship with First Union and misleading customers.”
- Feb 28, 2000, First Union drops the legal action against SCS since SCS agreed to meet First Union’s Internet Aggregation standards



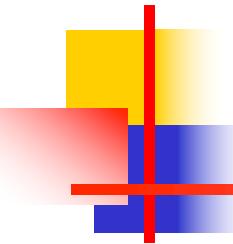
eBay vs. Reverse Auction

- Jan 2000, Ebay filed suite against Reverse Auction, Inc.
- Reverse auction would copy eBay's users' email addresses, user id's and feedback ratings
- Then they sent the users email falsely warning that their eBay id would expire soon
- They offered to let them use their id and feedback rating on the Reverse Auction website
- The Federal Trade Commission also brought an action against RevereAuction for unfair and deceptive aspects of the ReverseAuction operation



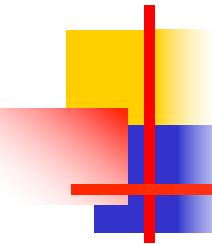
Ebay vs. BiddersEdge, Inc

- Jan 2000, Ebay also brought suite against BiddersEdge, Inc.
- BiddersEdge aggregated auctions from multiple auction sites and then linked users to do the bidding on the individual sites
- Claims against BiddersEdge included
 - Trespass to personal property for interference with Ebay's computer systems
 - Violation of the Computer Fraud and Abuse Act for unauthorized access to a protected computer
 - Unfair business practices, false advertising, injury to business reputation, federal trademark dilution and unjust enrichment
- In 2000, the courts granted Ebay a preliminary injunction based on a finding that the trespass claim had sufficient likelihood of success
 - Bidder's Edge's activities were sufficiently outside the scope of the use permitted by Ebay as to be unauthorized
 - To the extent these activities imposed even a small burden on Ebay systems, the court found that Ebay could show that it was deprived of the ability to use that portion of its own property for its own purposes
- In 2003, the supreme court implicitly overruled this case in another case, so the case law is still undecided



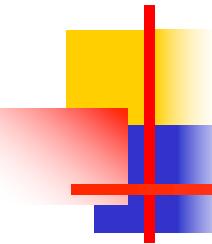
Ticketmaster vs. Microsoft

- Microsoft was linking directly to ticket information for its Seattle Sidewalk web site
 - Microsoft showed their own ads on the page with the ticketmaster information
 - The user was linked to Ticketmaster to buy the ticket
- The case was settled.



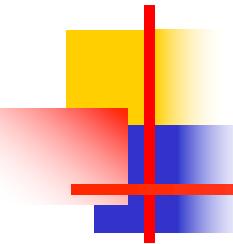
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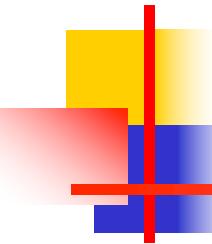
Software Licenses

- All software should have a license associated with it
- So what happens where you find software no license is specified?
 - Since they didn't specify, it must be open, right?
 - How will anyone know that you used a few lines here or a small routine somewhere else?
 - It's harmless, right?



Types of Software Licenses

- Copyleft licenses
 - Viral licenses
 - GNU
 - If you use the software in your code, your software inherits the same license
- Permissive licenses
 - Apache, BSD, MIT
 - Others are free to use the software with restrictions associated with the license



Creative Commons (CC)

- Original CC licenses
 - **Attribution**: Licensees may copy, distribute, display and perform the work only if they give owner the credits
 - **Noncommercial**: Licensees may copy, distribute, etc. the work only for noncommercial purpose
 - **No Derivative Works**: Licensees may copy, distribute, etc. the work, not derivatives based on it.
 - **ShareAlike**: Licensees may distribute derivative works only under a license identical to the license that governs the original work.
- Some content online is CC

CC Licenses

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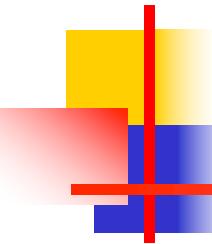


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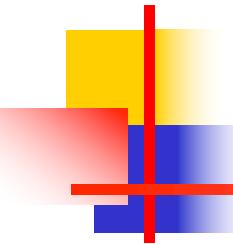
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Some (Hypothetical) Cases

- Abby wants a pretty image for her blog. She found one on Flickr. Can she use it on her blog?
- Ben notices many students wearing USC apparel. He decides to take USC logos off the web, stick them on cheap t-shirts and make some extra \$\$\$. Can he legally do this?
- Can Carlos post class notes he took on his web site?
- Donna posted a video of her baby dancing to a Prince song. Can Prince's record company demand that it be removed?
- Eddie really likes the movie he rented from Netflix, and wants to rip it to his computer. He finds ripping instructions online. Is he legally able to do this? Can the website legally offer instructions?



Discussion

- The Internet is still the wild west of intellectual property
- Few court cases have actually been decided since most of the relevant cases have settled outside of court
- If you want to build a data aggregation application for commercial purposes, think about business models that help the parties that you want to aggregate data from instead of competing with them