April 10, 2000

Intellectual Property in the Digital Era

Reminder

This is part of my March 23rd e-mail to the class:

> ... I'd like to tell you about an opportunity. There will be a meeting discussing the "Management of Digital Intellectual Property" at Rutgers on April 17 and 18. I realize that most of you are quite busy, but several of the talks are likely to be both interesting and accessible (NOT "technical"). You may consider coming. Here are specific examples of such talks:
>
> 1. Title: *Stronger copyright protection for cyberspace: desirable, inevitable, and irrelevant.* Monday, April 17, 11:15-12:00. An abstract of the talk is available at
> `http://dimacs.rutgers.edu/Workshops/Management2/abstracts.html#odlyzko`
>
> 2. A discussion entitled *Summary of the National Research Council's "Digital Dilemma" report: Findings, non-findings, and implications for the technical agenda.* This is a major recent report, and several of the people who participated in writing the report will discuss it. This report will certainly be a large influence shaping the laws and practices of the world you'll live in. Tuesday, April 18, 9:00-10:00. The abstract of this is
> `http://dimacs.rutgers.edu/Workshops/Management2/abstracts.html#lynch`
>
> 3. Title: *Intellectual Property in the Information Age: Will Laws and Technology Destroy Public Libraries?.* Tuesday, April 18, 1:15-2:00. The abstract is at
> `http://dimacs.rutgers.edu/Workshops/Management2/abstracts.html#simons`
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> All of these talks are in the CORE building auditorium. This building is next to Hill Center on the Busch campus, and the auditorium is on the first floor.

What's "intellectual property"?

The term "intellectual property" can refer to ideas protected by copyright, patent, trademark, or trade secret. *Intellectual Property and the National Information Infrastructure: The Report of the Working Group on Intellectual Property Rights* (November, 1995) available through the web page `http://www.uspto.gov/web/offices/com/doc/ipnii/` discusses all of these protections. I'll principally discuss the first named, copyright, although digital information (bitstreams) could easily be imagined infringing on ideas protected by the other classical restrictions.

Copyright

Here's an official description from `http://www.loc.gov/copyright/circs/circ1.html` (a web page of the U. S. Library of Congress). Note that copyright may be different in different countries. The ellipses (...) indicate my deletions of technical phrases.

> Copyright is a form of protection provided by the laws of the United States ... to the authors of original works ... including literary, dramatic, musical, artistic, and certain other intellectual works. This protection is available to both published and unpublished works. ... the 1976 Copyright Act generally gives the owner of copyright the exclusive right to do and to authorize others to do the following:
>
> - **To reproduce** the work in copies or phonorecords;
> - To prepare **derivative works** based upon the work;
> - **To distribute copies or phonorecords** of the work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
> - **To perform the work publicly**, in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works;
> - To display the copyrighted work publicly, in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work; and
> - In the case of **sound recordings, to perform the work publicly** by means of a **digital audio transmission**.

In addition, certain authors of works of visual art have the rights of attribution and integrity ...

It is illegal for anyone to violate any of the rights provided by the copyright law to the owner of copyright. These rights, however, are not unlimited in scope. Sections ... of the 1976 Copyright Act establish limitations on these rights. In some cases, these limitations are specified exemptions from copyright liability. One major limitation is the doctrine of "fair use," which is given a statutory basis in ... the 1976 Copyright Act. In other instances, the limitation takes the form of a "compulsory license" under which certain limited uses of copyrighted works are permitted upon payment of specified royalties and compliance with statutory conditions.

The Digital Dilemma

A very recent (publication date listed as 2000!) book-length report on digital intellectual property was published by the (U.S.) National Academy of Sciences. It is *The Digital Dilemma: Intellectual Property in the Information Age* and is available (in its entirety, of course!) at `http://www.nap.edu/books/0309064996/html/`. This is the beginning of the Executive Summary:

THE ORIGINS OF THE DIGITAL DILEMMA

Borrowing a book from a local public library would seem to be one of the most routine, familiar, and uncomplicated acts in modern civic life. A world of information is available with little effort and almost no out-of-pocket cost. Such access to information has played a central role in American education and civic life from the time of Thomas Jefferson, who believed in the crucial role that knowledge and an educated populace play in making democracy work. Yet the very possibility of borrowing a book, whether from a library or a friend, depends on a number of subtle, surprisingly complex, and at times conflicting elements of law, public policy, economics, and technology, elements that are in relative balance today but may well be thrown completely out of balance by the accelerating transformation of information into digital form.

The problem is illustrated simply enough: A printed book can be accessed by one or perhaps two people at once, people who must, of course, be in the same place as the book. But make that same text available in electronic form, and there is almost no technological limit to the number of people who can access it simultaneously, from literally anywhere on the planet where there is a telephone (and hence an Internet connection).

At first glance, this is wonderful news for the consumer and for society: The electronic holdings of libraries (and friends) around the world can become available from a home computer, 24 hours a day, year-round; they are never "checked out". These same advances in technology create new opportunities and markets for publishers.

But there is also a more troublesome side. For publishers and authors, the question is, How many copies of the work will be sold (or licensed) if networks make possible planet-wide addess? Their nightmare is that the number is *one*. How many books (or movies, photographs, or musical pieces) will be created and published online if the entire market can be extinguished by the sale of the first electronic copy?

The nightmare of consumers is that the attempt to preserve the marketplaces leads to technical and legal protections that sharply reduce access to society's intellectual and cultural heritage, the resource that Jefferson saw as crucial to democracy. ...

Further resources

The page `http://www.scils.rutgers.edu/special/kay/copyrightissues.html` contains more links to copyright information, including a link to the Digital Millenium Copyright Act (DMCA). The page `http://www.arl.org/info/frn/copy/primer.html` discusses the DMCA. It is very new legislation. The act extends certain copyrights (Mickey Mouse's masters are *very* happy about this!) and also changes some U.S. laws and practices to make them agree more with worldwide standards. U.S. laws on intellectual property can be seen through the web page `http://fedlaw.gsa.gov/fedfra23.htm`. A general reference on intellectual property is `http://www.ip-surveys.com/links/links.html` which includes links to "world" practices, not just the U.S. Another general reference is the web page `http://www.patents.ibm.com/ip_pages/`.