Music In The Digital Age
An Introduction to Issues in Distribution

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New Age of Distribution

- Key Concept: Mechanism of Product/Service Delivery Can, in and of itself, be a basis for economic action
- Historically, distribution has generally been a "hidden" element of overall economic activity
- Reorientation of business activity and industrial structure has exposed the key role of distribution and its potential as an independently operated concern
- Has raised key questions
  - Theoretical
  - Operational
  - Philosophical

P2P Filesharing

- At the juncture between two big issues: the future of digital communications and the future of copyright
- How has a diversion, an entertainment, become such a controversial thing?
One Side of the Issue: Copyright Law

- Title 17, Sec. 102. Subject matter of copyright: In general
- (a) Copyright protection subsists, in accordance with this title, in
  - original works of authorship
  - fixed in any tangible medium of expression, now known or later developed,
  - from which they can be perceived, reproduced, or otherwise communicated,
  - either directly or with the aid of a machine or device.

- Works of authorship include the following categories:

What An Odd Idea – Why Does It Exist?

- Not a Natural Right in most jurisdictions
  - Common exception. Continental concept of "droit d'auteur"
- Copyright is a So-Called "Legislative Right"
  - Exists Only as a Matter Of Law
  - Among the Most "Strictly Constructed" of Rights
- Quite a History
  - Inextricably Tied Up in Developing Communication Technology, Starting With the Printing Press
  - Also Inextricably Tied Up In Concepts Of Distribution
  - A Construct Of Government Policy

Historical Context: Where Does Copyright Come From?

- Printing Invented: 1445; Gutenberg press
  - Wide dissemination of ideas;
  - not always those that supported the government or the church
- Middle of 16th century - Legislation to prevent the publication and distribution of seditious, heretical or treasonable works
  - 1547 - Edward VI grants monopoly to King's printer for certain works
  - 1556 - the Stationer's Company established
    - Charter granted monopoly over printing and powers to enforce
    - Inspection of content, customs officials, etc.

Historical Context (continued)

- 1637 - codification of printing by Star Chamber
  - Registration of works
  - Certification of legitimacy and lack of heretical content
  - Attribution of author and publisher
  - Copies of the book must be supplied to Bodley Library at Oxford
- 1644 - expiration of monopoly grant
  - Collision among the Stationer's Council to limit output, what was printed
- 1704 - External Competition from the Scots to break the monopoly
- New law - English Copyright - Statute of Anne - 1709
Innovations in the Statute of Anne

- Legal provision for consumers of copyrighted works
  - Curtailment of the term of copyright
    - Statutory and Infringement Copyright in Perpetuity
    - Effective Monopoly On What Would (and Could) Be Published
  - Creation of a "public domain" for literature
    - Copyright Only For New Works
    - Limited Term
    - Limited Copyright To Power To Print, Publish and Sell
      (i.e., control of the copy is relinquished once sold)
  - Copyright Belong to the Author/Creator
- Final Legal Challenges Resolved - 1774
- Essential Principles Maintained To Date

And not without controversy - Jefferson

If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself, but the moment it is divulg'd, it forces itself into the possession of every one, and the receiver cannot dissemiss himself of it.

Its peculiar character, too, is that no one posseses the less, because every other posseses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine: as he who lights his taper at mine, receives light without darkening me.

- The exclusive right to invention [is] given not of natural right, but for the benefit of society

Copyright: General Principle

- Objective:
  - Wide distribution of diversity of creative expressions
- Difficulty:
  - Cannot sustain economic incentives to do so
  - High up-front costs in creation & setup for distribution
  - Negligible marginal costs in copying for distribution
  - In competitive market, price equals marginal cost
- Solution:
  - Awards creators with monopoly powers
  - Marketable asset
  - Rents can be extracted
  - Back by power of the State at point of distribution

Intellectual Property - Basis in US Constitution

Article I, Section 8, Clause 8:

The Congress shall have Power ... To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.
**Exclusive Rights Associated With ©**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rights</th>
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<tbody>
<tr>
<td>1790</td>
<td>Copy</td>
</tr>
<tr>
<td>1790</td>
<td>Right to Distribute</td>
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<tr>
<td>1870 &amp; 1909</td>
<td>Right to Make Derivative Works</td>
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<tr>
<td>1890 &amp; 1897</td>
<td>Right to Public Performance</td>
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<tr>
<td>1976</td>
<td>Right to Public Display</td>
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<td>1990</td>
<td>Rights of Attribution and Notice, Sound, Copyright Management</td>
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<tr>
<td>1994</td>
<td>Knowledge and Use of Technological</td>
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<td>1996</td>
<td>Protection Measures</td>
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<tr>
<td>1998</td>
<td>Rights included</td>
</tr>
</tbody>
</table>

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**What Is Covered?**

<table>
<thead>
<tr>
<th>Year</th>
<th>What Is Covered</th>
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<tbody>
<tr>
<td>1790</td>
<td>Books, Maps &amp; Charts</td>
</tr>
<tr>
<td>1802</td>
<td>Prints</td>
</tr>
<tr>
<td>1821</td>
<td>Music</td>
</tr>
<tr>
<td>1865</td>
<td>Photographs</td>
</tr>
<tr>
<td>1870</td>
<td>Drama, Paintings, Drawings &amp; Sculpture</td>
</tr>
<tr>
<td>1912</td>
<td>Movies</td>
</tr>
<tr>
<td>1964</td>
<td>Computer Programs</td>
</tr>
<tr>
<td>1976</td>
<td>Record &amp; Tapes</td>
</tr>
<tr>
<td>1976</td>
<td>Dance</td>
</tr>
<tr>
<td>1990</td>
<td>Architecture</td>
</tr>
<tr>
<td>1998</td>
<td>Boat Hull Designs</td>
</tr>
</tbody>
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**Copyright: A Technologically Sensitive Policy**

- Routinely upset by new technologies
  - Reduced costs of copying
    - Photocopiers, tape recorders
  - Reduced costs of distribution
    - Player piano rolls, radio, CDs
- Maintenance of economic incentives as technological capabilities increase

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**Digital Telecommunications**

- The current revolution in copyright
- Several key elements
  - Digitization of communication/information
  - Transition from circuit switched to packet switched communications networks
    - Smart networks to dumb networks
  - Increasingly inexpensive computing power
- A revolution in distribution of information

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Digitizing of Information

- Claude Shannon; "A mathematical theory of communication;" *Bell System Technical Journal, July and October,* (published in two parts)
  - Study of how to communicate in the face of limits of communication channel
  - Modeled information transmission as one of symmetric encoding and decoding of information
    - Led to key (then impractical insight) - benefits of digitization of information in communications
- Available at: [msd COMS home page](http://msd.com/)

Packet Switched Network

- Paul Baran, whose 1961-63 RAND studies suggested a packet switched network (see [http://www.rand.org/history/baran.html](http://www.rand.org/history/baran.html))
- First test deployment for ARPA in 1969

Inexpensive computing power

- Moore's "Law" (1965)
- "Cramming more components onto integrated circuits;" *Electronics*, Volume 38, Number 8, April 19, 1965


An Explosive Set of Technologies

- Digitizing – conversion of analog expressions into digital, and thus transmittable, form
- The Internet – a cheap, practical distribution network for digital information
  - Built upon the "end-to-end" principle - TCP/IP
  - Enabled with cheap computing power
- Personal computing – Powerful, inexpensive consumer device
  - The natural "end" for the "dumb network"
**One View**
- Content drives the development of the internet
- Content providers need to retain classical forms of control to support the economics of creativity
- The law should protect those controls
- And technology should be managed to maintain these controls
- Then, and only then, will content providers participate fully

**An Alternative View**
- Content drives the development of the internet
- The economics of internet distribution change the business of content distribution radically
- These economic benefits are a sufficient incentive to provide content
- Technology & law need not change dramatically
- Only those willing to adapt to these changing economies will survive

**Lessig's “New Chicago School” Model**

**Constraints On Individual Action**

**“Architecture” A Dimension Frequently Missed**

- “Digital Copies Are Different”
- “Internet Is Unregulable”
- “We Must Take Measures To Defend A Policy”
Music & the Internet
- Topic of Active and Ongoing Contention
- Music Distribution and Technology Development: An Ongoing Challenge
- Legal Institutions Have Evolved to Meet These Challenges
- Digital Communication – the Latest Battlefield
- Network Distribution Upsetting the Current Business Model

Music: The Legal Context
- First Distinction
  - A "Song"
  - A "Sound Recording"
- Second Distinction
  - Reproduction Right
  - Making Copies
  - Public Performance Right
    - Owned By the "Song" Owner
    - Not Owned By the "Recording" Owner
    - Charged in 1998 to add "digital audio transmission"
- Compulsory License (Section 115)
  - If a recording has been distributed, the owner of a song must license the use of the song at a legislated rate

The Actors
- Record Companies
  - Consent With Recording Artists
  - Financing, Promotion and Distribution of Recordings
  - Royalties To Artists
- Music Publishers
  - Consent With Songwriters
  - Commercial Exploitation of Songs
  - Licensing
    - Recordings
    - Sheet Music printing
    - Public Performance, Live and Recorded
- ASCAP/BMI/SESAC
  - "Performance Rights Societies"
  - Representation of Publishers and Songwriters on Performance Licensing
  - "Song," not "Sound Recording"
- Harry Fox Agency
  - Licensing Agency
  - Specifically To Record Companies for Music Publishers
  - For Reproduction of "Song" in Phonorecording
  - Compulsory Licensing Arrangements

The Actors (continued)
- Recording Industry Association of America
  - Trade Association
  - Promotion of Record Company Interests
  - Aggressive Anti-Piracy and Intellectual Property Protection Efforts
- The Recording Artists Themselves
  - Prince
  - Courtney Love
  - Janis Ian
  - Don Henley & The Recording Artists Coalition
  - Metallica
A Complex Structure of Relationships

- Creators of Intellectual Property
  - Composers
  - Performers
  - Arrangers
- Distributors of Intellectual Property
  - Music Publishers
  - Phonorecording Manufacturers
  - Performers
  - Broadcasters, etc.
- Consumers of Intellectual Property

Music Licensing Structures - Current Non-Digital

- "simplified" focus on music delivery & mechanical reproduction

- Performer
- Mechanical reproduction (CD, etc.)
- ASCAP/BMI Agency
- Harry Fox Agency

Music Licensing Structures - Digital Phonorecord Issues

- Record Companies
- Harry Fox
- ASCAP/BMI/SESAC

Why All The Extra Lines?

- Record Companies
  - Digital Copies, Persistent Or Otherwise, Are As Good As The Original
  - Could Displace CD Sales - Added To The 1995 Law
- Harry Fox
  - Digital Copies, Persistent Or Otherwise, Are "Mechanical Reproductions"
  - Thus, Copying Licenses Must Be Paid
- ASCAP/BMI/SESAC
  - Digital Distribution Is A "Public Performance"
  - Thus Performance Licenses Must Be Paid
Enter - Napster

- Shawn Fanning
  - Founder of Napster University

- Concept
  - P2P (Peer-to-Peer) network
  - Distributed file sharing

- Peer-to-Peer Technology Rather Than Central File Store
  - Centralized vs. Decentralized

- Explosive Growth
  - 2000: 6.7 million users
  - 2001: 95 million users

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Pew Study - Upward Trend
Percent of Internet Users Who Download Music (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>7-8/2000</th>
<th>2/2001</th>
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<tbody>
<tr>
<td>Men</td>
<td>24%</td>
<td>36%</td>
</tr>
<tr>
<td>Women</td>
<td>28%</td>
<td>31%</td>
</tr>
<tr>
<td>Blacks</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Hispanics</td>
<td>32%</td>
<td>42%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>7-8/2000</th>
<th>2/2001</th>
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<tr>
<td>&lt; High Sch</td>
<td>48%</td>
<td>55%</td>
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<tr>
<td>Grad HS</td>
<td>26%</td>
<td>31%</td>
</tr>
<tr>
<td>Some Coll</td>
<td>25%</td>
<td>30%</td>
</tr>
<tr>
<td>Grad Coll+</td>
<td>35%</td>
<td>21%</td>
</tr>
</tbody>
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RIAA Year-End Sales Statistics

CD sales are 99% of 2002 total
**Unit Revenues**

![Graph showing unit revenues over time]

**Immediate Controversy**

- **Typical Positions - "Napster..."**
  - "It is theft of intellectual property, theft of artists' work, the end of the music business in the U.S., and the end of the music business as we know it".
  - "My computer is just a tool, it's not a device that is capable of creating content.
  - "Let's imagine the following scenario: I'm a music fan, I like rock and roll. I have a series of CDs.
  - "Let me acquire only the songs which I like on a CD and then upload those songs to my computer."
  - "In essence, all Napster does is to allow me to use the record companies, let me steal from them at the same time I'm supporting them."

- **Other Points**
  - "MP3s Allow Me To 'Space Shift' Just Like Analog Cassettes"
  - "MP3s Are Infringing Copies"
  - "MP3s Are Can Be Degraded Copies, Not Pure Digital Copies"

- **RIAA Sues Napster For Copyright Infringement**

  - **RIAA Positions**
    - Making Copies
    - No Right To Distribute
    - Playing Phonorecords
    - No Licensing
    - Economic Harm To Artists, Industry

  - **Napster Counterpositions**
    - Fair Use
    - Noncommercial Use - Home Recording Act
    - DMCA - Safe Harbor Provision
    - Transitory Digitial Network Connections
    - Information Location Tools
    - Lawful Sharing
    - (unauthorized works or copyrights not enforced by owners)

- **Napster Loses - Immediate Consequences**

  - **February, 2002 - Peak**
    - Treaded Off Rapidly
    - Ultimately, Complete Shutdown
  - **Still Weak, Tried To Convert To Subscription Service**
    - Purchased By Bertelsmann
    - Declared Bankruptcy
    - Only Remaining Assest: Brand Name
  - **Sold To Roxio, About to Rearance as subscription service**

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**Alternatives Immediately Emerge**

- Variants designed to attack legal limits of Napster
  - “Pure” peer-to-peer - no central server
  - Buddy-list based-sharing systems
  - Encrypted/Obfuscated clients
- Some substantially successful, albeit with some issues
  - File sharing surpasses Napster at its peak
  - Some possible legal protections - Grokster

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**Artists Split on the Subject**

- Disdain for Record Companies
  - Outstanding FTC Consent Degree On Price Collusion in CD Market
  - High Profile Artist Controversies
    - Prince, Courtney Love, Janis Ian
    - Recording Artists’ Coalition
- Others Working With RIAA
  - Metallica, Dr. Dre
- Independents On The Outside, In Many Respects

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**Com, licatin Factor - Distribution As A Pla, er**

- Injuries To Artists - Generally Decreed
- Injuries To Users - Generally Decreed
- Injuries To Record Companies - Generally Applauded
Economics - Courtney Does the Math

- **Monies Earned by the Client:***
  - Adverse: $40,000
  - Repatriation: $9,000
  - Video Production: $5,000

**Monies Earned by the Band:***
- Adverse: $40,000
- Video Production: $5,000
- Tour Support: $5,000
- Radio Promotions: $7,000
- CD Manufacturing: $10,000
  - Assumed $1,000 royalty unit

**Monies Earned by the Record Company:***
- Recording Costs: $10,000
- Royalties: $10,000
- Recording Time Support: $5,000
- Recording Promotion: $3,000

Net: $395,000

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**Profits as a function of sales volume**

- Assume "recoupable" costs come out of royalties/sales
- If sales are not high enough, record company "eats" the loss
- Assume CD production costs constant with volume and produced in million-unit loss
- Assume no profit to company on recording studio time

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**Profits as a function of sales volume - detail**

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**Profits as a function of sales volume - detail**

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TP5; 2003; Michaelmas
What about uncertainty?

Profits as a function of sales volume - detail

Comparison

Conclusions?

- Of course, the shape of the distribution can change a lot
  - But, what does the base analysis suggest?
  - Are the companies that "unfair"?
  - Or, is there something else?

- Note:
  - Also see Steve Albini's "The Problem With Music"
  - Other artists with perspectives online
    - (Links: IP controversies : Digital Music : Record Industry Practices)
    - Prince - http://www.npgmusicclub.com
    - Janis Ian - http://www.janisian.com

TP5; 2003; Michaelmas
So, Make The Record Company Has A Case

- But Digital Distribution Should Have Some Economic Consequences
- The Physical versus the Digital Product
  - Changes in delivery
  - Changes in retail
  - Changes in product
  - Changes in control

Different Economics?

- Consider this breakdown in costs for an $8 CD
  - 58% retailer
  - 8% distributor
  - 14% record co. overhead
  - 8% record co. marketing
  - 6% CD manufacture
  - 4% record co. profit
  - 12% artist profit
  - 4% song publisher profit

It's Not Just About P2P/Music

- Digital technology has led to many new opportunities
- But certain constructions of the law are turning those opportunities into a stranglehold on freedom & culture
- How far do we want to go to protect this construct?
- What do we get out of it?
The Views At Conflict

- Content drives the development of the internet
- Content providers need to retain classical forms of control to support the economics of creativity
- The law should protect those controls
- And technology should be managed to maintain those controls
- Then, and only then, will content providers participate fully

- Content drives the development of the internet
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The (not-so) "Academic" Objections

- Recording industry withdraws suit
  Mistaken identity raises questions on legal strategy
  By Chris Gaither, Globe Staff, 9/4/2003
  The recording industry has withdrawn a lawsuit against a Newton woman because it falsely accused her of illegally selling music — possibly the first case of mistaken identity in the battle against Internet file-senders.

- Privacy critics of the DMCA subpoena power (the so-called "Verizon case")
- One (so far) out of 261 lawsuits filed in error

The Digital Dilemma

- On one hand, technology has made copying easier
  - Anyone can be a "publisher"
  - With the same rights, opportunities, exposure, obligations
- On the other hand, technology has given copyright holders the instruments for perfect control
  - Versus the historically "weak" construction
  - Fair use, First sale, ideas/expression dichotomy

Still "promot[ing] the Progress of Science and useful Arts"?