

Strategic
Computing and Communications
Technology

CS 294, EE 290X, IS 290, BA 296
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Rights Management

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Intellectual property law

- “Intellectual property law cannot be patched, retrofitted, or expanded to contain digitized expression... Information wants to be free.” John Perry Barlow
- Is he right?

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Production and distribution

- digital tech lowers production costs
- digital tech lowers distribution costs
- examples
 - tape recorder lowers production, but not distribution costs
 - AM radio broadcast lowers distribution costs, not reproduction costs

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Make lower distribution costs
work for you

- Information is experience good
- Must give away some of your content in order to sell rest
- Can use product line/versioning
 - National Academy of Sciences Press
 - easy to read, hard to print

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Demand for repeat views

- give away all your content, but only once
- music, books, video have different use patterns
- children
 - Barney: free videos
 - Disney: sued day care centers
- adults

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Demand for similar views

- free samples direct customers back to you
- Playboy
- McAfee Associates
 - \$5 million in first year
 - \$3.2 billion market value
 - half of virus protection market

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Demand for complementary products

- give away index and sell content
- ...or other way around
- Wall Street Journal, New York Times, Economist give away index
- Farcast sells current awareness
 - free content
 - organization/index is what matters

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Illicit copying

- timely information: not a big problem
- cheap information: not a big problem
- negative feedback: the bigger you are, the easier to detect

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Lower reproduction costs

- perfection isn't as important as commonly thought
- Digital Analog Tape
 - SCMS inhibits copies of copies
- Analog video tapes:
 - 1979: 4 blanks for each pre-recorded
 - 1992: 1 to 1

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Trusted systems

- Divx -- described earlier
- single-play music CDs
- weak link is in rendering

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Cryptolopes and superdistribution

- Adobe's Type on Call CD
- superdistribution: give it to a friend
- Web rather than star-shaped network

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Problems

- patent battles
- standards battles
- inconvenience
 - spreadsheet copy protection
- price of content
- reliability
 - technical and procedural

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Historical examples

- Circulating libraries
 - 1741: Pamela
 - 1000 libraries by 1840
- Video stores
 - video rental as prelude to purchase
 - growing the market

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Choosing terms and conditions

- revenue = price x quantity
- more liberal terms and conditions
 - increases price
 - decreases quantity sold

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Simple model

- y = amount consumed
- x = amount sold
- $p(y)$ = demand, assume zero cost
- Baseline case: $\max p(y)y$
- Make T&C more liberal
 - $a p(y)$ with $a > 1$
 - $y = bx$ with $b < 1$

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Analysis

- $\max a p(y) x$
- $\max (a/b) p(y)$
- conclusion: y the same, profits depend on a/b

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Transactions costs

- Site license v individual licenses?
 - Who can distribute more cheaply?
 - How effectively can group aggregate value?

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