Introduction to Online Content Distribution
Revolution in Content-Related Technology

- Computers and digital documents radically change content creation.
- WWW radically changes content publication.
- Internet radically changes content distribution.
Revolution in Content-Related Business?

• Plenty not scarcity?
• Anyone can be a publisher?
• Disintermediation and reintermediation?
Three Major “Enforcers” Support a Content-Distribution Business

• Legal Protection
• Digital-Rights Management
  * Business Model
Product- or Service-Developer’s Goal

• Choose the right ingredients and weave them together into an effective end-to-end technical protection system (TPS).
• Ingredients must be “right” w.r.t. business model and legal and social content as well as technical context.

Notoriously Difficult!
Dual Doomsday Scenarios

Today’s Rights Holders and Distributors:
TPSs won’t work. Copying, modification, and distribution will become uncontrollable.

Fair-Use Advocates and (Some) Consumers:
TPSs will work. Rights holders will have more control than they do in the analog world.
Best TPS is a Great Business Model

“The first line of defense against pirates is a sensible business model that combines pricing, ease of use, and legal prohibition in a way that minimizes the incentives for consumers to deal with pirates.”

Holy Grail: A Great Business Model for Internet Music Distribution

Hal Varian (quoted in C. Mann’s “Heavenly Jukebox” article): “Maybe Coke will find a way to integrate itself directly into the shows. Or they’ll release the music free on the Internet, except that it will be wrapped in a commercial.” What’s the difference if the Spice Girls are marketed by Coca-Cola or by Virgin Records, soon to be a subdivision of AOL-Time Warner?

2000 Sales by RIAA members: $15B
2001 Coca-Cola Net Operating Income: $20.1B
Existing Business Models for Information Products

• **Fee models**: Subscription purchase, Single-transaction purchase, Single-transaction license, Serial-transaction license, Site license, Payment per electronic use

• **Advertising models**: Combined subscription and advertising income, Advertising income only

• **“Free” distribution models**: Free distribution (no hidden motives), Free samples (e.g., coming attractions), Free first version, Free information when you buy something else (complementary products, bundling).
Less Traditional Business Models for Information Products

- **Extreme customization**: Make the product so personal that few people other than the purchaser would want it.
- Provide a large product in small pieces, making it easy to browse but difficult to get in its entirety.
- **Give away digital content** because it complements (and increases demand for) the traditional product.
- Give away the product, **sell the service contract**.
- Allow free distribution of the product but **request payment** (Shareware).
- Position the product for **low-priced, mass market distribution**.
RealNetworks: An Internet Media Delivery Solution

- Full Name: RealNetworks, Inc.
- Employees: 1,000 (2001 report)
- Stock Price (NASDAQ: RNWK):
  - $3.31 (at close 1/28/2003)
  - 52-week range: $2.68 to $9.28
- EPS: -$0.02 (qtr), -$0.24 (year)
- Provides client and server software for streaming multimedia content over the Internet.
RealNetworks Overview


• Over 200 million registered users as of 1/2003; RealPlayer is installed on 90% of home PCs (note: down from 95% in 2001).
RealNetworks Stock Chart
(source: Quicken.com, market close 1/28/2003)

Period: Jan-28-1998 - Jan-28-2003

[S] = Stock Split
RNWK Quarterly Revenues

(source: SEC Filings, Forms 10-Q and 10-K)
RealNetworks Business Model

- Roughly 60% of RealNetworks’ 4Q2002 revenue came from consumers. (13% in 2001)
  - The basic RealPlayer software is free. Users may pay a small fee (~$20) for an advanced version with more features.
  - Users also pay for subscriptions to premium content.
- Roughly 5% of its 4Q2002 revenue is from services and advertising. (35% in 2001)
- Roughly 35% of its revenue stream is from charging broadcasters of streaming data for the RealServer software. (50% in 2001)
- In summary, business model is (slightly exaggerated): give away the player, sell the server and content!
Competition in the Market

• Microsoft’s Windows Media Player (WMP) has become a competitor, as it now offers functionality similar to RealPlayer.

• Microsoft has been very aggressive in its attempts to gain market share:
  - By bundling WMP with Windows, users are more likely to use it instead of RealPlayer; it’s one less program to download.
  - By signing Windows-only deals with various radio stations (including Boston’s WGBH and New York’s WNYC), Microsoft is forcing users to use WMP if they want to access these resources.
RealNetworks Maintains Dominant Market Share

• RealNetworks has successfully maintained a dominant market share: over 85% of the streams on the Web are RealNetworks-encoded.
  - This fact has held true since (at least) 2001.
• Many independent websites broadcast streams in both RealMedia and Windows Media formats because both are popular with users.
• RealNetworks has, like Microsoft, formed contracts with companies and sells consumers access to premium content through subscriptions.
The Importance of Consumer Subscriptions

- Consumer subscription revenue grew 167% from 2001 to 2002.
- Examples of premium content:
  - Starz on Demand (web-based movies)
  - NBA Inside Ticket
  - PGA Tour
  - SEGA Arcade (for web-based games)
- RealNetworks has over 900,000 subscribers.
- The more subscribers, the more partners that might affiliate with RealNetworks, which leads to larger market share and revenue.
RealNetworks: Important Strategies

- Unlike what Netscape did with its browser, RealNetworks gave away the player for free from the beginning. This was crucial in establishing such a large user base in the first place.
  - RealPlayer is the second most-widely used application on the Internet.

- While Microsoft’s content-distribution is just limited to the Windows and (for content receivers only) Mac OSs, RealServer runs on 11 different OSs. Because Windows servers make up only about 20% of the publicly accessible Internet, this poses a significant bottleneck for Microsoft.
Responding to Technology

• Media-delivery companies can take advantage of physical-layer developments:
  - Broadband: as more consumers adopt fast home Internet connections, it becomes more feasible to stream (and charge for) high-quality media.
  - Wireless networking: media can be streamed to many new types of devices.

• Because of Internet layering, RealNetworks can deliver media to any IP-speaking device (that goal is stated in its annual report).
“Daft Club” Model

Purchase Daft Punk CD and you also get a “personalized code” that gives you access to the Daft Club server. From it you get:

- Ability to download a new Daft Punk “bonus track” each month. The bonus tracks are not released on CDs.
- Access to the rest of the Daft-Club user community.

Bonus tracks will be wrapped with DRM metadata that says they can’t be copied. Almost surely circumventable, but would many people bother circumventing?
“Napster++ as Superdistribution” Model (Napster--??)

• Napster users pay monthly subscription fee.
• They can download DRM-wrapped songs from Bertlesmann server. (And other labels if others also settle.)
• When they redistribute via P2P file sharing, they get rebates on their next month’s subscription fees. DRM system keeps track.
• They retain the chat-room, “Napster community” network effects.

Again, probably circumventable. But is there a price point at which circumvention would not be worth it?
“Street Performer” Model

Novelist gives chapter 1 to publisher and promises rest of book after she is paid $X. Publisher posts chapter 1, collects payments, issues signed receipts to customers (“donors”?). If publisher collects $X+Y, he gets rest of book from novelist, posts it, gives $X to novelist, and keeps $Y. If he collects less than $X+Y, he sends refunds to customers. Also, if novelist doesn’t deliver rest of book, she gets bad publicity and customers get refunds.
“Street Performer” Model (continued)

Many variations:

- New author gives first book away.
- Non-anonymous big donors
- Some publishers “edit” and choose, and some don’t.
- Famous authors don’t have to deliver chapter 1 in advance.
“Hum A Few Bars” Model
(K. McCurley, Financial Crypto ’00)

“I listen to music in the living room, in the office, in the car, in the shower, and while jogging. I want the music companies, consumer-electronic companies, and data-networking companies to wire these environments so that I can hum a few bars and get the song I’ve hummed looked up, retrieved from their databases, and piped into my speakers. I’d expect to pay one monthly fee, as I do for cable TV.”

JF Note: Can be “all streaming”; no need to clutter your living room floor or your computer disk with a “CD collection.” Music will be purely a service, not a product.
Notable Business-Model Components

+ Buy one song at a time (cheap!).
? “Lock” content to user.
- “Lock” content to device(s).
- “Play k times.”

(+ / ? / -: Just my guesses.)
Reading for February 4

• Chapter 4 and Appendix G of *The Digital Dilemma*