

COMPETING WITH FREE

*Suggestions for Remaining Relevant in the Economy of Ideas*¹

Aaron Perzanowski

The Challenge of P2P - IS296A-2

Spring 2005

Defining the “P2P Problem”

Before proposing a course of action to address the impact of peer-to-peer (P2P) networks, a clearer understanding of the harms - actual or perceived - to the effected parties is required. Unlike poverty, disease, or illiteracy, P2P technology does not lend itself to classification as an unalloyed social ill. Instead, as with any multi-purpose technology, P2P is capable of affecting a multitude of players in a variety of ways.

As evidenced by its aggressive battle against P2P technology, the content industry has perhaps the greatest stake in the resolution of the “P2P crisis.” As the copyright holders of the vast majority of music and movies transferred over P2P networks,² the companies that comprise this industry face two pressing problems. The first, and most obvious, is the illicit sharing of copyrighted material. In recent years P2P users have downloaded billions of files, over 90 percent of which these corporations claim to control, without compensating copyright holders. Record labels and movie studios allege billions of dollars in lost revenue

© 2005 Aaron Perzanowski

The author hereby permits the reproduction of this piece subject to the Creative Commons Attribution-ShareAlike 2.0 License, the full terms of which can be accessed at <http://creativecommons.org/licenses/by-sa/2.0/legalcode>.

¹ For a general discussion of the effects of digital reproduction on owners of information goods see John Perry Barlow, *The Economy of Ideas*, 2.03 WIRED 84 (March 1994), available at <http://www.wired.com/wired/archive/2.03/economy.ideas.html>.

² The computer software industry, whose content is widely available on P2P, suffers estimated financial losses far greater than those of the music and movie industries. Nonetheless, software makers have reacted to P2P not by demanding its demise, but by calling for liability for active inducement - the intentional encouragement of infringement - by P2P developers. See *Brief of Amicus Curiae Business Software Alliance, Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 04-480.

as a result.³ While the accuracy of these figures has been challenged,⁴ it seems safe to assume that some non-trivial economic harm has been visited upon the content industry as a result of P2P. While these financial losses have driven the studios and labels to both Congress and the Supreme Court in search of redress, they pose an easily remedied problem in comparison to the second challenge facing today's major content providers.

Not only does P2P distribution threaten the content industry's bottom line, the technology imperils the very structure of the industry. The coupling of P2P's nearly costless distribution infrastructure and the ever-decreasing costs of digital production threaten to render labels and studios irrelevant. Nor is the content industry's function as national taste-maker immune from the caustic effects of P2P technology. The business model of the content industry has long been one driven by hits. Content providers, as a result of both their distribution and promotion abilities, have served as the hit-makers. By placing their records in every retail outlet around the country, assuring press coverage, MTV rotation, and radio play (by whatever means necessary),⁵ record companies dictate popularity. Most consumers are content to purchase the most available and identifiable options - those pushed by the hit-makers. P2P threatens to break this lucrative spell. Unburdened by distribution costs or limited shelf space, P2P promises to cater not to the mass market, but rather to an aggregate of niche markets - allowing more choice and greater granularity of consumer preferences. The critical mass of interested consumers required for widespread availability of content

³ While both the music and movie industries have an equal stake in the outcome of the P2P debate, for the sake of simplicity, the discussion here will focus on the music industry, but with minor alterations is equally applicable to the movie industry.

⁴ The extent of the financial losses to the content industry resulting from P2P is the subject of protracted debate. For one analysis, see Felix Oberholzer and Koleman Strumpf, *The Effect of File Sharing on Record Sales: An Empirical Analysis*, Working paper, March 2004, at http://www.unc.edu/~cigar/papers/FileSharing_March2004.pdf.

⁵ New York Attorney General Eliot Spitzer is currently investigating several major record companies for allegedly hiring independent contractors to pay radio stations to increase airplay in an attempt to circumvent federal law. Jeff Leeds, *Spitzer's List For Scrutiny Said to Include Record Labels*, *New York Times*, Oct. 22, 2004 at C1.

approaches one. This phenomenon, referred to as The Long Tail,⁶ poses the greatest threat to the current practices of the studios and labels.

But the plight of the major record labels is not the entire story. Perhaps the most important countervailing concerns in the P2P debate are those of the public.⁷ P2P is a promising technology still in its infancy and has shown potential beyond its thus-far primary use as a facilitator of copyright infringement. The tales of well known acts like Wilco⁸ and Fiona Apple⁹ employing P2P to focus attention on projects shelved by their respective labels only hint at the technology's potential. Lesser known performers, often employing Creative Commons licenses, offload the distribution of their creativity to P2P networks, avoiding otherwise unaffordable bandwidth costs.¹⁰ A vast amount of public domain material - from Homer to the 9/11 Commission Reports - is available on P2P networks. P2P offers the potential to create an organic, redundant, and accessible Library of Congress.

Moreover, the public has an interest in maintaining a legal environment hospitable to technological innovation. In the years since the Supreme Court's *Sony* decision,¹¹ innovation has thrived, in part because of a legal regime that freed developers from the fear of liability

⁶Chris Anderson, The Long Tail, 12.10 WIRED 170 (Oct. 2004), available at <http://wired.com/wired/archive/12.10/tail.html>.

⁷ Other players are unquestionably implicated in the P2P issue. The artists' whose works are traded via P2P certainly have a dog in this fight, but unlike the labels who control their creative output, artists and their interests resist broad generalizations. The few artists popular enough to earn income from record sales likely oppose unlicensed distribution of their work. Among the vast majority of artists who will never turn a profit on the basis of record sales, sentiments are undoubtedly mixed. Some likely see file-sharing as an impediment to success on the charts. Others view P2P as a powerful tool for establishing a fan base willing to pay for concert tickets and merchandise - all at the expense of the record label. Independent labels, P2P developers, and the radio industry (among others) will invariably be effected by the future of P2P. At the risk of oversimplification, I will assume that the major labels and the public can serve as adequate proxies for the varied interests within these industry segments.

⁸ See *MGM Studios, Inc. v. Grokster Ltd.*, 380 F.3d 1154, 1161 (9th Cir. 2004).

⁹ See Katie Dean, Fiona Apple Is Cookin' on the Net, Wired News, at <http://www.wired.com/news/digiwood/0,1412,66926,00.html> (Mar. 18, 2005).

¹⁰ See Brief of Amicus Curiae Creative Commons, *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 04-480.

¹¹ *Sony Corp. of Am. v. Univ. City Studios, Inc.*, 464 U.S. 417 (1984)

premised on the behavior of end users. Legal rules that target P2P technology, because of their likely over-inclusiveness, would chill the development of new technologies that provoke the ire of the content industry, depriving society of potentially revolutionary devices and services.

The potential public value of P2P and the environment that fostered it, however, must be weighed against the legitimate concerns of copyright holders. In fact, the public interest and the content industry's interests may well overlap to a significant degree. The mass media that dominates American popular culture, while a recent development, has value to most of us. Both the production values and common cultural experience that Hollywood provides should not necessarily be cast aside for the promise of a new world of disaggregated content.

It is this matrix of often conflicting and sometimes complimentary interests - and the careful balancing required to address them - that constitutes the "P2P problem."

The Solution Space

So far, the efforts to combat P2P have focused primarily on litigation and legislation. These attempts have achieved, at best, in mixed results. While the record industry was successful in its litigation against the original incarnation of Napster¹², this victory was a hollow one. The next crop of decentralized P2P networks followed quickly on the heels of this decision. While the Supreme Court has yet to rule on the liability of P2P developers for the infringing activities of their users, it is safe to say that regardless of the outcome of *Grokster*,¹³ P2P developers across the globe will continue unabated. Given the international character of the internet, no judicial opinion, not even one emanating from the Supreme Court, can fully resolve this issue.

Further, the music and movie industries' decision to enforce their copyrights against individual file-sharers has proven one of questionable providence. After suits against

¹² A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001)

¹³ Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 04-480.

10,000 consumers, including the oft-mentioned elementary school students and grandparents, the level of deterrence realized by this strategy remains uncertain. While the threats posed by these suits may have discouraged some users from file-sharing, widespread P2P usage persists.

The content industry's legislative agenda has fared no better. The INDUCE Act failed to gain support, in part because of the fervent opposition of the technology sector. Even the small victories won in the Family Entertainment and Copyright Act - criminal prohibitions against camcording in movie theaters and distributing prerelease works via P2P, two acts already covered under existing law - came at the price of allowing Clearplay and its ilk to enable enduser editing of DVDs.¹⁴ In light of the the futility of shutting down P2P developers, Congress is unlikely to stem the file-sharing tide without mandating harsh criminal penalties for P2P users, a risky decision given the estimated 60 million Americans using P2P networks.

While both litigation and legislation will almost certainly play some role in any eventual resolution to the P2P problem, alone they are insufficient. Moreover, the judicial and legislative remedies sought by the content industry fail to account for the public interest in continued development of P2P and other "disruptive" technologies. Any workable and equitable solution to the challenges created by P2P will undoubtedly rely not only on the law, as determined by both judges and legislators, but also social norms, technology, and markets. In what follows, I outline one component of such a multi-pronged solution that focuses on the last of these pressures.

Although content providers have grudgingly entered the world of online distribution, their offerings thus far have failed to compete with the unlimited free access to content offered by P2P networks. The challenge of competing with free, although a formidable one, is not insurmountable. By examining both the merits and handicaps of current P2P networks, I

¹⁴ Family Entertainment and Copyright Act, S.167 (2005).

hope to construct a model online distribution network that satisfies the desires of the public as well as the content industry.

P2P: The Price of Free

P2P networks offer consumers a nearly limitless selection of content, delivered on demand in their format of choice, without technological restrictions - all for free. But even for consumers, P2P is not without costs. Consumers value both convenience and legitimacy, both of which are often lacking in today's P2P networks. The optimal online distribution system must recognize and exploit both the strengths and weaknesses of P2P in order to persuade consumers to pay for content now widely available for free.

Discussions of consumers' motivations to use P2P typically focus on price. The ability to download content at no charge is an undeniably important factor contributing to P2P's popularity. But focusing exclusively on cost belies the significance of other key characteristics of P2P networks. Further, discounting P2P as merely a way for consumers to get for free what they could otherwise purchase clouds our vision of potential competitive services. If "free" were all P2P had to offer, its popularity would be severely stunted, and if price point were the only factor on which content providers could compete, their efforts would be futile.

Luckily, for both consumers and content providers, the appeal of P2P goes beyond price. For most P2P users, much of the value of these networks stems from their ability to deliver content immediately in the user's format of choice, unburdened by technological restrictions. The way we listen to music has changed. Many of today's consumers, rather than rushing home to play a new CD on their home stereo, immediately rip their new purchases to their computer's hard drive, transfer that content to their iPods, and stow the CD away where it collects dust. P2P offers convenience by eliminating the need to convert physical media to compressed portable formats. Further, P2P puts an end to the trip to the local record store and Amazon shipping delays. While the current crop of online music

stores offer these same benefits, downloads are typically limited to a single proprietary file format encumbered with DRM that limits functionality and interoperability. P2P networks, on the other hand, offer files in a variety of file formats that can be played on the consumer's device of choice.

For some users, the convenience and flexibility offered by P2P are not the primary draw of these networks. P2P offers a catalog of entertainment content unrivaled by any retailer in either the online or brick-and-mortar environment. In addition to the Top 40 hits at national discount stores and the less in-demand selections available from Amazon and the local record shop, P2P offers titles long out of print, never released on CD, unavailable in this country, or simply too obscure to find their way to the shelves or warehouses of these retailers. Since each user's music collection is shared across the network, the P2P model is uniquely suited to deliver this sort of "celestial jukebox."¹⁵ The network effect springing from the connection of millions of users through P2P creates a seemingly limitless wealth of globally-available content.

But for all the benefits P2P confers on consumers, these networks are not without flaws. While the sheer volume of material available via P2P serves as one its greatest assets, the difficulty of wading through this flood of information gives rise to P2P's biggest problems. Locating, downloading, and ensuring the quality of any particular content on P2P networks can present a significant challenge to users. While a particular song can be easily located on P2P, finding an entire album requires first searching the web for the album's track listing then locating each of the dozen or more individual tracks. Once the individual files have been located, users then face the challenge of downloading complete copies of each file, contending with download queues, slow connection speeds, and other users disconnecting from the network. After downloading, users must determine the quality of the files, which on P2P networks vary widely. Incomplete files, low bitrates, and compression artifacts can all severely decrease the value to P2P users of the files they download. Further, the metatags

¹⁵ PAUL GOLDSTEIN, COPYRIGHT'S HIGHWAY: THE LAW AND LORE OF COPYRIGHT FROM GUTENBERG TO THE CELESTIAL JUKEBOX (1994).

that identify file information - such as artist, track and album name - are often incorrect, incomplete, and inconsistent. While these errors can typically be corrected by the user without much difficulty, occasionally a file is so mislabeled that a user discovers, only after downloading, that it's not even the desired track. These navigation and quality control problems have been compounded by the content industry's attempts to pollute P2P networks by uploading compromised and decoy files.¹⁶

Usability difficulties are not the only issues facing P2P users. Concerns over legitimacy are a second source of discontent. Many, if not most, P2P users are aware that the legal status of their activity is dubious at best.¹⁷ While its highly improbable that any given file sharer will find himself on the receiving end of an RIAA or MPAA lawsuit, the fear of legal action certainly weighs on the minds of many P2P users. For others the thought of denying artists compensation for their work is more troubling.¹⁸ After all, users tend to download music they appreciate. Its safe to assume some users feel a certain level of guilt for enjoying an artist's work without compensating her for her creative efforts. While these concerns have proven insufficient to convince most P2P users to refrain from their activity, they make them more open to alternative means of acquiring content. What remains is to design a service that can address P2P's failures while incorporating its most valuable contributions.

Building a Viable Competitor

In 2001, two years after the emergence of Napster, the music industry unveiled its first internet-based distribution service. MusicNet, a joint venture by AOL Time Warner, Bertelsmann, EMI, and Real Networks, offered consumers a subscription based service that allowed a limited number of streaming songs and downloads each month. Shortly thereafter,

¹⁶ See Nicolas Chirstin, Pollution and Poisoning in Peer-to-Peer Networks, at <http://www.sims.berkeley.edu/academics/courses/is296a-2/s05/pdf/christin-poisoning.pdf>.

¹⁷ While suits have been filed against uploaders in the U.S., the legality of downloading has not yet been decided by a U.S. court. Courts are nonetheless very likely to deem such activity infringing.

¹⁸ There is a countervailing social norm among many P2P users. They view their activity not as denying payment to artists - many of whom they correctly assume receive no income from record sales - but as refusing to compensate corporations they view as exploitative of both artists and consumers.

Pressplay, a similar subscription service, debuted. Neither gained any lasting traction in the market.

Not until Apple introduced its iTunes Music Store (iTMS) in early 2003 did a possible competitor to free P2P networks emerge. From the start iTMS enjoyed two substantial advantages over its other authorized competitors. First the service was incorporated into a music jukebox already widely adopted on both the Mac and Windows platforms. More importantly, the service was tied to Apple's iPod, the portable music player of unrivaled market dominance. Aside from these advantages, the iTMS - more than any service that preceded it - exploited the weaknesses of P2P while mimicking its strengths.

Apple created a library of hundreds of thousands of tracks from labels small and large that, while orders of magnitude smaller than the catalog of material on P2P, dwarfed its competitors. Apple, unlike most of its early competitors, sold music a la carte rather than as a subscription service. And it set price points at new lows - 99 cents per track and \$9.99 per album. Apple introduced its own DRM scheme, dubbed Fairplay, which set relatively liberal technological restrictions on users, limiting the number of computers that could play purchased music and the number of times users could burn a given playlist of purchased songs.

While the iTMS strived to create a reasonable alternative to P2P through its large catalog, competitive pricing, and tolerable DRM, the service's biggest selling point for many consumers was and remains its ease of use. Users are able to find material quickly and intuitively by either searching or browsing. An artist's entire catalog can be viewed on a single screen; full albums can be purchased and downloaded with a single mouse click. Just as importantly, iTunes downloads are speedy and uninterrupted; music files are of reliably high quality; metatag data is consistent and correct. The iTMS files even include embedded album art viewable in the iTunes player as well as on iPods. In short, iTunes offers consumers the one thing they value more than low prices: convenience.

For all its success, however, the iTMS has thus far been unable to put a dent in P2P use. The staggering 400 million songs purchased through iTunes its two year history¹⁹ are still just a drop in the proverbial bucket when compared to tens of billions of P2P downloads over the same period. Nonetheless, in constructing a service that can approach the appeal of P2P, Apple's iTunes Music Store serves as an instructive example of the market power of convenience.

While the ease of use of the iTMS lays the groundwork for a service that could unseat free P2P from its dominant position, a consumer-friendly interface alone is insufficient. To truly compete with P2P, an ideal service must replicate P2P's strengths rather than merely mimic them. By adopting the key features of P2P architecture, both consumers and service providers can reap the benefits of P2P while compensating rights holders.

Today's major licensed music services all operate on a client-server model. Users download or stream content from central servers operated by the service provider. As its name implies, P2P takes advantage of a more distributed means of file transfer. Users connect to one another, eliminating the need for central servers. This architecture has a number of benefits and some online music services have begun to take advantage of them.

Some services are hoping that P2P architecture can reduce the costs of delivering content, allowing lower prices that could attract P2P users unwilling to pay 99 cents per song, but perhaps willing to pay less. Savings introduced by a P2P architecture could be passed on to consumers directly, lowering the per track cost and undercutting competitors. Alternatively, services could incentivize both the purchasing and sharing of licensed content by rewarding users who upload their purchases to other paying users. Peer Impact, a newly launched licensed P2P service, takes this approach.²⁰ Each time a file is downloaded from a Peer

¹⁹ See <http://www.apple.com/itunes/store/> (last visited May 14, 2005).

²⁰ Other music sellers are adopting similar approaches. Altnet, for example, distributes files that require payment for users to fully enjoy on existing P2P networks. <http://www.altnet.com/products/index.asp>. Bitmunk uses P2P to distribute licensed content and allows users to profit by sharing content with other paying customers. http://www.bitmunk.com/help.php?action=fulldisplay&term=how_it_works_buyer. The Prodigem Network offers another approach to file distribution, utilizing bittorrent file transfers rather than P2P networks. <http://www.prodigem.com/marketplace.html>.

Impact user, that user's account is credited with a small payment. In time those payments earn the user free downloads. This sort of incentive system rewards users with large libraries of purchased content for their bandwidth and taste. Such a system could provide a significant advantage in competing with free P2P networks, particularly if it incorporates iTunes-like ease of use.

The cost savings of incorporating P2P architecture, however, are likely to be minimal. Of the 99 cents users pay to download a track, only an estimated 5 cents are attributable to storage and bandwidth costs.²¹ The new services attempting to harness the power of P2P have thus far failed to incorporate its most important network effect: its nearly infinite catalog of content. Apple's iTunes currently boasts the largest catalog of any licensed online music service. The 1.5 million songs on the iTunes may satiate the desires of many consumers, but for the millions users searching for harder to find material, P2P remains the only option.

A service that allowed users to add content to the network could dramatically increase the revenue stream of both music services and copyright holders. Such a system would entail charging users to download songs from the music library of other users - files originally acquired from sources other than the service itself. They could have been purchased from a competing service, downloaded from the artist's website, ripped from CDs, borrowed from friends, or even downloaded from free P2P networks. The growth of the service's catalog would likely explode, as would its revenue. With confidence that whatever content they seek can be found in one reasonably-priced and legal stop, consumers would likely flock to this new service.

Imagine a service much like the iTunes Music Store with a catalog of millions of files. Now suppose that when a user connects to that service the user's library is scanned and checked against the service's database of available content. If the user's library contains files not already in the system, the user is asked if she'd like to share those files. If so, they are added

²¹ Evan Hansen, "Microsoft, Again: Apple's Old Nemesis," at http://news.com.com/Microsoft,+again+Apples+old+nemesis/2009-1027_3-1009538.html (May 29, 2003).

to the service's searchable database and become available for other interested customers to purchase. The benefits of such a model could be immense, particularly if consumers were rewarded for adding and sharing content. But while this service would capture the most valuable elements of P2P, it would face serious obstacles, both logistically and legally.

A paid service incorporating files from users would have to maintain quality and usability in the face of the the varied and plenteous contents of its users' libraries. The indiscriminate addition of users' files could quickly result in the same confusion and frustration found on today's P2P networks. To avoid these pitfalls, the service must ensure content of consistent quality that is easy to locate and download. To consumers, there should be no perceivable difference between buying songs from the service's own catalog and purchasing material from another user's library.

To achieve this goal, the service must exert some level of control over user contributed content. First, the service should require minimum encoding standards for shared content to help ensure quality. Second, shared content should be uploaded initially to the service's own servers to prevent content from disappearing from the network when users disconnect. Third, and most importantly, shared files would have to conform to the service's naming conventions. Metatags should be automatically checked for typographical errors, misspellings, and other potentially confusing mislabeling. Correcting such errors would prevent multiple catalog listings for the same content and ensure reliable and efficient searches. Inevitably some errors will pass through these safeguards, so the service should also incorporate an error reporting mechanism which could require human intervention to correct inconsistencies and errors in user contributed content.

The technical challenges to maintaining usability are likely to prove simple to overcome in comparison to the legal concerns facing such a system. While some user contributed content may be in the public domain or licensed for commercial use under a Creative Commons license, the vast majority of the content added by users will require a license from the copyright holder. While proposals for compulsory or voluntary blanket licenses would

certainly reduce the transaction costs associated with the creation of such a system, these measures are unnecessary. The music service could negotiate licenses with each content provider giving the service the right to distribute all content, past and future, from that rights holder. In their terms, these licenses need not differ materially from the current agreements between copyright holders and online download services, save for allowing users rather than the copyright holders to add material.

Certainly, convincing the content industry to loosen its grip on the source of its profitability would be no easy task. But in comparison to the loss of control resulting from compulsory or blanket licensing, retaining the ability to choose which online distributors to support, even if means allowing users to add content, may prove an attractive option. And given that most, if not all, of the content users would contribute to a paid service is already widely available on free P2P networks, record labels have little to lose. The service described here would allow the content industry to derive some revenue from P2P while retaining some control over the means of distribution and licensing terms.

Potential liability poses another challenge to the implementation of such a plan. Content from rights holders with whom the service has obtained no license, leaked pre-release content, derivative works such as mashups, and live bootleg recordings would all present potential liability for the service. Much of this liability could be eliminated through the license agreements with content providers. The introduction of unlicensed content would likely require policing efforts - automated and human - by both the rights holders and the service to further limit exposure. Even with careful filtering of user added material and expeditious removal of suspected infringing files, some danger of direct and indirect infringement liability would persist.

Another hurdle to creating the service described here is the content industry's infatuation with DRM. Digital Rights Management measures are incorporated into every music download service that features major label content. Those services free of DRM, most

notably emusic.com and audiolunchbox.com, distribute content from numerous independent labels but are not licensed to sell the vast majority of in-demand content.

User contributed content, because it will originate outside of the system, will likely not incorporate DRM at the time of introduction. The most likely solution to the DRM concern would be to wrap the downloaded file in DRM after it has been downloaded within the user's client. Apple's iTMS takes a similar approach, relying on its standalone download client/media player to protect purchased music.

More importantly, the DRM worry demonstrates yet another way the ideal music service could better compete with P2P. Users, at best, tolerate DRM. Many would strongly prefer legitimate vendors without DRM to those with it; others refuse to use services that demand DRM altogether.²² The benefits of DRM, particularly in light of consumer preferences, are dubitable. Most DRM schemes are notoriously easy to break. Apple's Fairplay DRM has been defeated on several occasions, most notably by the Hymn Project²³. Further, DRM restrains only those customers without the technological know-how necessary to circumvent such protections, precisely the consumers that pose the least threat of mass piracy. Most critically, DRM has little if any impact on the availability of content on free P2P networks.²⁴

Rather than alienate customers by limiting their rights to the music they purchase, the goal of the content industry should be to draw consumers away from illicit P2P networks to sanctioned legitimate services. One way to achieve this is through limiting or eliminating DRM. One solution would be to offer more expansive limits on consumer rights - allowing users to play their purchases on 15 machines, for example, or allowing unlimited CD burning. If consumers have a larger pen in which to play, they are less likely to encounter its fences, lessening the risk of dissatisfaction as well as circumvention.

²² Even former RIAA chief Hilary Rosen has recently bemoaned the restrictions of the DRM she helped mandate. See Hilary Rosen, "Steve Jobs, Let My Music Go," The Huffington Post, available at <http://www.huffingtonpost.com/theblog/archive/2005/05/steve-jobs-let-.html> (May 9, 2005)

²³ <http://www.hymn-project.org/>

²⁴ DRM does, however, allow content owners to invoke the protection of the DMCA. Therefore, regardless of its impact on file sharing, DRM offers some benefit to content owners.

A better solution may be to implement a digital watermarking scheme. A watermark that embeds identifying information about a purchaser will render consumers less likely to share illegally and easier to identify if they do. Watermarking systems have the advantage of allowing consumers to make whatever use of the file they choose, with the knowledge that they may face consequences for illegal activity. Most consumers would prefer this positivist approach to the code-mandated limitations on use of DRM schemes. While watermarks, much like the DRM they would replace, are susceptible to removal, they provide consumers less incentive to do so.

In convincing consumers to abandon illicit P2P networks in favor of licensed services, the impact of price cannot go unmentioned. As Real discovered when it temporarily reduced the price of Rhapsody downloads by 50%, when prices fall, purchases rise. The 49 cent downloads offered by Rhapsody outsold their 99 cent counterparts by three to one.²⁵ Given the lack of most real world fixed costs in the digital distribution market, the price of licensed downloads could easily approach the 49 cent point of the Rhapsody experiment. If so, the content industry - in collaboration with services that incorporate the best of P2P while offering user-friendly interfaces - would likely entice scads of users to licensed services, abandoning the free for the sake of convenience.

Problem Solved?

For some P2P users time will always be less valuable than money. Little can be done to convince these users to pay for content they can get for free at the cost of a few wasted hours. These users, however, are lost to the content industry and their existence should not impede the development of competitive systems.

Even with these chronic P2P users, the content industry can likely recapture a significant portion of the sales lost to P2P by adopting the approach described above. Further, it can do so in a way consistent with both the public interest in developing technologies and

²⁵ Anderson, *supra* note 6.

consumer expectations regarding the purchase of music. For some consumers, music rental services, exemplified by the new “all-you-can-eat” subscription plans offered by Napster and Rhapsody,²⁶ may prove a better option. If the future of digital music distribution is to be a profitable one, it must offer consumers choice.

But again, too much choice may prove the downfall of the current content industry. The Long Tail problem facing the industry’s dominant hit-makers cannot be easily remedied. By licensing content to select online services and negotiating favorable treatment - much as they now secure radio play and shelf placement - the major labels can delay their obsolescence, but the move towards a niche driven entertainment economy appears imminent. If so, the hit-makers have yet to face their biggest challenge.

²⁶ Wilson Rothman, “Gadget of the Week: RealNetworks Rhapsody Music Service,” Time, available at <http://www.time.com/time/gadget/20050427> (April 27, 2005).