The Customer Is Always Wrong: The Problems with Digital Rights Management

by Jordan Frith
TSC 630: Legal Writing

Table of Contents

Introduction

History has witnessed many abrupt societal shifts. In early human history humanity discovered fire; in 1440, Johan Guttenberg invented the printing press; in the late 18th and early 19th centuries most of the Western World went through the Industrial Revolution. Now, we are facing a new paradigm shift: the World Wide Web. In 1991, Tim Berners-Lee released the World Wide Web (Quittner), and in the 17 years since, our notions of economy and communication have been altered. One of the areas of our society most affected by the proliferation of the World Wide Web is intellectual property. Not only did the World Wide Web change the way we communicate, it changed business plans and content distribution. Content owners, such as the record companies and movie studios, had to face outside competition for the first time in over 50 years. How they responded to the threat of the digital age is an interesting example of the fight to stay relevant in a changing world.

In 1999, the World Wide Web made its indelible mark on the realm of intellectual property. On July 22, 1999, Shawn Fanning and Sean Parker released Napster, the first major peer-to-peer file-sharing service (Hunter 6). A user could start the program, search for a song, and download that song for free. The appeal was obvious, and by February 2001, the British Broadcasting Corporation estimated that at least 26.4 million users were sharing files through the Napster network ("Napster Use"). The Napster phenomenon, however, did not go unnoticed by the Recording Industry Association of America (RIAA)—the powerful trade group that represents the United States recording industry. The RIAA filed suit against Napster in December 1999, alleging that Napster was in direct violation of copyright law because Napster allowed users to share copyrighted material. The case continued for over a year, and on March 5, 2001, the Ninth Circuit Court ordered a preliminary injunction to shut down Napster temporarily. Napster complied, and in 2002 the company filed for Chapter 11 bankruptcy ("Napster Files").

Shutting down Napster was only the beginning of the RIAA's battle. After Napster filed for bankruptcy, other free file-sharing services rose in its place. Services such as Grokster and Kazaa let users download and share copyrighted material and showed that the courts could not destroy the file-sharing market. The record companies realized they had to get involved in digital music, but they were afraid that licensing digital music distribution could make sharing music too easy. Finally, in 2003 the RIAA licensed its music to Apple. The license allowed Apple to sell copyrighted music for $0.99 a song using the Apple iTunes music store. The RIAA did not give its music freely; it required Apple to include Digital Rights Management (DRM) on every song distributed by an

RIAA member (Jobs).

DRM is a blanket term that refers to technological methods used by publishers, producers, and copyright holders to restrict access to copyrighted material. Many types of DRM protect content; the most popular is Apple's Fairplay. The reason so many types of DRM exist is because the only way DRM can be effective is if it is secret. For DRM to restrict access, the "keys" that restrict access to the product have to be hidden from hackers. As Steve Jobs pointed out in his influential essay, "Thoughts on Music," the only way to keep secrets from hackers is to keep DRM information secret by not sharing it between companies. The proprietary and restrictive nature of DRM causes many problems that have angered consumers. Consequently, many groups, such as Defective By Design and the Electronic Frontier Foundation, are strongly opposed to the use of DRM to restrict access to music. Some groups even feel the name Digital Rights Management is misleading, preferring to call the technology Digital Restriction Management ("Digital Restrictions Management").

The RIAA and the International Federation of the Phonographic Industry (IFPI), which is the same type of trade group as the RIAA but on an international scale, frame the DRM issue so it seems to consist of two groups: one in favor of DRM and the other in favor of music piracy. The issue is not one of protection or piracy; it is an issue of consumer rights. Most DRM critics are not in favor of piracy. The protection of intellectual property is important for the growth and development of artistic expression. In the digital age, however, the markets for music and film have changed, and nothing content owners do can return the market to the way it was. Rather than develop new business plans to address new distribution channels like file-sharing, the record companies have tried to stem the tide in a misguided attempt to stay relevant in a changing marketplace. Their efforts have not worked. Consumers have paid the price.

The fight began in the late 1990's and early 2000's, when the record industry looked to DRM as the best way to protect intellectual property (Rosen). Now, in 2007, DRM has not stopped illegal file-sharing. Pirate Bay, a file-sharing service started by the anti-copyright group Piratbyrån (*Pirate Bay)*, is one of the 300 most trafficked sites on the World Wide Web (Alexa), and LimeWire, a different file-sharing program, has been downloaded over 3,000,000 times (*Limewire*). While trying to win the war against piracy, the RIAA has violated the rights of countless legal consumers. The DRM debate is not solely a debate about piracy or protection; it is a fight for consumer rights in the digital age.

DRM is not exclusive to the music industry. The film and television industries commonly use DRM to protect content, as do software companies. However, this paper focuses on the use of DRM to protect copyrighted music. The first section briefly discusses the Digital Millennium Copyright Act, which prevents users from circumventing DRM. The next section discusses a few of the arguments against DRM. The final section discusses the future of DRM.

The Digital Millennium Copyright Act

In 1996, the member states of the World Intellectual Property Organization (WIPO) passed the WIPO Copyright Treaty. The WIPO Copyright Treaty was designed to provide additional copyright protections to address technological advancements. In 1998, the United States passed its version of the WIPO Copyright Treaty: the Digital Millennium Copyright Act (DMCA). The DMCA is an addition to existing copyright law.

The goal of the WIPO treaty and the DMCA is the same: to define copyright law in the digital age. The DMCA, however, is more extreme than the guidelines suggested by the WIPO treaty. The DMCA includes an anti-circumvention provision that states, "No person shall circumvent a technological measure that effectively controls access to a work protected under this title" (17 USC 1201, 1998). The anti-circumvention provision makes it illegal to circumvent DRM because DRM controls access to copyrighted works, even if the individual who circumvents the DRM does not infringe copyright. The DMCA effectively strips away the rights of consumers to control when, where, and how they use the material they purchase. The importance of the DMCA's anti-circumvention clause is explained in more detail in the Fair Use section of this paper.

Digital Rights Management

The switch from analog to digital media changed the music industry forever. When media is in analog form it can be copied, but the quality degrades with each copy made. For example, a consumer can copy a cassette tape but the copy is lower quality than the original, and a copy of the copy is even lower quality. Digital media does not have that problem. A copy of a digital song is identical in quality to the original, and a copy of the copy is identical as well (Recording Industry v. Diamond 2-3). The ability to make an infinite number of copies of a product presented obvious copyright concerns. With analog media, a pirated bootleg of a song was inferior to the original; with digital media, the listener can hardly tell the difference between an original and

a bootleg. The problem that unlimited reproduction presented was compounded by the growth of the World Wide Web. The World Wide Web provided people with a venue to distribute material instantly. Conceivably, one consumer could purchase one Compact Disc (CD) with digital music, copy it millions of times, and then distribute copies of that one CD over the World Wide Web to everyone in the world.

Consumers' ability to illegally copy and distribute copyrighted music is a huge problem for the RIAA. The marketplace is changing, and the RIAA is facing major competition from file-sharing services. To stay relevant in a changing marketplace, the RIAA chose a two-pronged attack: litigation and Digital Rights Management (DRM). The litigation worked to shut down Napster, but it did not solve the file-sharing problem, and Napster replacements began popping up all over the World Wide Web. DRM was supposed to be a more permanent solution. The goal of DRM was to restrict access to music so it could not be copied or distributed illegally; however, the implementation of DRM has been controversial. DRM has violated consumer rights ("Sony BMG Tentatively Settles"), alienated recording artists (Dela), and resulted in failed lawsuits (Recording Industry Association of America v. Diamond Multimedia). Most alarmingly for the RIAA, DRM has not succeeded in halting piracy. Songs are still leaked before their release date ("Another Rihanna Song Leaked!!"), and huge file-sharing venues still exist that allow users access to pirated copies of songs (*Limewire*). The following subsections of this paper discuss the reasons DRM has failed to halt piracy as well as the ways in which it has violated consumer rights.

Digital Rights Management and the Compact Disc Market

DRM has not been an effective method to halt music piracy because no one has developed a successful DRM system to protect CDs. The DRM systems that protect digital music distributed through online stores, such as Apple's Fairplay, Microsoft's Window's Media Audio, and RealNetworks' Helix, have been successful at restricting use. However, the DRM systems built into CDs have been feckless at best and dangerous at worst.

The first major DRM disaster began on September 6, 2000, when the Secure Digital Music Initiative (SDMI), an RIAA supported group, wrote an open letter to the digital community challenging the community to hack the new SDMI watermarking DRM system (Labelle 87). Presumably, SDMI made the challenge because it believed its new system was unhackable. Within weeks of the challenge, the SDMI DRM was hacked by a group led by Princeton Computer Science professor Edward Felton. When Dr. Felton attempted to present his findings at an academic conference, the

RIAA sent him a letter threatening to sue him under the anti-circumvention provisions of the Digital Millennium Copyright Act (Oppenheim). Since May 18, 2001, SDMI has been inactive (*Sdmi.org*).

In 2003, Sony began releasing CDs that included a new DRM system called MediaMax C3. MediaMax C3 was developed by a software company named Sunncomm and was supposed to be the new wave of DRM. The head of Sunncomm's Professional Multimedia Test Center was quoted saying that MediaMax C3 offers "an incredible level of security for the music" (Halderman). However, within months of MediaMax's release, a Princeton Ph.D. student, Alex Halderman, published a paper analyzing MediaMax's security (Halderman). In the paper, he explained that holding down the Shift key on a keyboard when inserting a MediaMax CD bypassed the security features. Once again, DRM was defeated in a public manner, and Sunncomm threatened to sue. Sunncomm eventually dropped the case because of public outcry but did not stop developing DRM systems. In 2005, Sunncomm designed a new MediaMax system for Sony that caused more problems for the two companies. The new MediaMax system violated consumers' rights by installing programs on consumers' computers before the users had the chance to accept or reject the terms of the End User License Agreement (Labelle 90). These illegally installed programs transmitted personal information about the users to Sunncomm even though the End User License Agreement explicitly stated the software would not track personal information. Consumers filed a class action lawsuit against Sony, and Sony was forced to recall all CDs with Sunncomm's Mediamax ("Sony BMG Settles"). In 2005, Texas attorney general Greg Abbot sued Sony for violating Texas's Consumer Protection Against Computer Spyware Act (Zeller).

By far, the worst DRM debacle was the Sony rootkit incident. In 2005, Sony began using a new DRM system called Extended Copy Protection (XCP). A few months later, security researcher Mark Russinovich found that XCP operated identically to a rootkit. A rootkit is a software program that cloaks itself on a computer, hiding itself from diagnostic tests and security scans. Rootkits are most commonly used as malware to infiltrate computer security (Russinovich). XCP installed itself before asking the user to agree to terms and conditions and then hid executable files so that it could monitor users' CD drives and restrict the use of protected CDs. This technology exposed every user who bought a Sony CD with XCP to serious security risks. XCP hid files in the computer's hard drive using the sys filename prefix, and any malicious trojan program could "piggyback" and add more damaging software inside of the XCP prefix (Labelle 93). Under the guise of copyright protection, Sony installed a type of virus on its customers' computers.

On Halloween, 2005, Russinovich published his findings on his blog (Russinovich). At first, Sony denied anything was wrong with XCP. The president of Sony's Global Digital Business, Thomas Hesse, even said in an interview on National Public Radio, "Most people, I think, don't even know what a rootkit is, so why should they care about it?" (Hesse). After more results were published, Sony eventually agreed to remove the infected CDs from stores. However, the rootkit was difficult to remove from computers, and Sony was sued in a class action lawsuit for the damage its DRM did to computers (LaBelle 98). Sony settled out of court and agreed to pull all CDs featuring XCP off the shelves. Adding salt to Sony's wounds, the analyst firm Gartner later published a report that anyone could bypass XCP by properly placing a piece of tape on a CD with XCP (Mcguire and Reynolds 2). Sony's DRM violated people's rights and infected computers with a rootkit to install a program that could be bypassed with a common household supply.

After failing to include DRM on music CDs, the major record companies abandoned the idea, and by February 2007, they began releasing all CDs without DRM. However, the record companies did not remove the DRM from music sold in online marketplaces. Therefore, any song sold on iTunes still has DRM, but any song sold on a CD does not. That means any song sold on CD can be easily ripped onto a computer hard-drive and shared illegally using programs such as Pirate Bay or LimeWire. Only users who purchase their music from digital music stores are affected by DRM, meaning that only users who obey the law in the first place by purchasing music from legal venues have their rights restricted.

Digital Rights Management and Fair Use

Copyright law has highly debatable gray areas, such as how strictly copyrights should be enforced or how long copyrights should exist. What is not debatable is that copyright was included in the United States Constitution to help encourage the creation of new, important works of art and science. Article 1, Section 8, Clause 8 of the Constitution states that Congress has the 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." Congress exercises that power by granting copyrights to creators. Copyrights give creators exclusive rights to their work, which provide monetary incentive to create new work, therefore furthering the "Progress of Science and useful Arts."

To promote progress, Congress has delineated exceptions to copyright law. One of those exceptions is the Fair Use doctrine. The Fair Use doctrine is an important part of

the American copyright tradition and was incorporated into the 1976 Copyright act (17 U.S.C 107, 1976). It states that if a use of copyrighted material is judged to be fair it does not violate copyright law. Fair use is important because it helps "promote the Progress of Science and useful Arts" by allowing users to sample copyrighted materials. Without fair use, writers and academics cannot use quotes from copyrighted materials, and shows like Saturday Night Live or The Daily Show cannot satirize pop culture.

With the spread of DRM, fair use is under fire. Apple's Fairplay DRM prevents users from sampling music, preventing remixes and parodies of songs ("Battle for Your Digital Media Devices"). The sampling of music for the creation of an original work has strong tradition in American culture. Title 17, Section 107 of the United States Code states, "the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment...is not an infringement of copyright." Now, because of DRM, it does not matter if a sample is an infringement of copyright. If a consumer purchases a song with DRM, the consumer cannot sample that song and use it for any fair use purpose; the DRM prevents fair use, and the DMCA makes it illegal for the consumer to circumvent DRM, even if the consumer is circumventing DRM for a non-infringing use of copyrighted material. Taken together, DRM and the DMCA make it illegal to use music for legal purposes, effectively stamping out artists' abilities to sample and parody copyrighted material.

Another well established exception to copyright law is the First-Sale doctrine, which states in Title 17 Section 109(a) of the United States Code that "the owner of a particular copy or phonorecord lawfully made under this title...is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy or phonorecord." People who buy a product have the right to sell that product later without the permission of the copyright owner, or at least they did before the invention of DRM. Now, a consumer who buys a song on iTunes can play that song on a select number of computers. Once that allotment is reached, the song cannot be transferred; therefore, first-sale no longer exists with some DRM protected music. For a consumer to resell some legally purchased products—a hallmark of flea markets, yard sales, and Ebay— the consumer would have to sell his or her entire computer to transfer one song. This restriction clearly violates the First-Sale doctrine.

DRM also prevents consumers from making legal backups of DRM protected material. Making a backup of legally purchased material is not against the law. Computers crash and CDs get scratched, so backing up CDs and software programs is

a viable way to protect the investment a consumer makes in a product. DRM makes backing up products impossible in some situations. Consumers can only make a few legal copies of digitally downloaded music from online music shops like iTunes, and if consumers were unlucky enough to buy CDs with DRM on them, they often could not make copies at all. Every three years Congress listens to proposed exemptions to the DMCA, and this issue was brought up by the Electronic Frontier Foundation as an attack on DRM and the DMCA. The RIAA responded with a brief that disagreed with consumers' rights to protect their investment, stating, "the submissions provide no arguments or legal authority that making backup copies of CDs is a noninfringing use... Even if CDs do become damaged, replacements are readily available at affordable prices" (*Exemption* 40). Even more alarming is a statement found in a footnote of the same brief: "Nor does the fact that permission to make a copy in particular circumstances is often or even routinely granted… necessarily establish that the copying is a fair use when the copyright owner withholds that authorization" (*Exemption* 22). In this footnote, the RIAA questions the legality of making backups for any purpose, which is concerning because backing up music is especially pertinent in today's music landscape. Many consumers purchase CDs and then rip the tracks onto their iPods, effectively making a backup of purchased music, which has traditionally been considered a fair use. Even the RIAA considered it a fair use as recently as 2005. In 2005, an RIAA lawyer, Don Verilli, said to the Supreme Court while arguing *MGM v. Grokster*, "The record companies, my clients, have said, for some time now, and it's been on their website for some time now, that it's perfectly lawful to take a CD that you've purchased, upload it onto your computer, put it onto your iPod" (Verrilli). In its DMCA brief, the RIAA rebutted this earlier Grokster statement, saying, "the statement attributed to counsel for copyright owners in the MGM v. Grokster case is simply a statement about authorization, not about fair use" (*Exemption* 22). The RIAA is arguing that it has the power to remove people's authorization to play their CDs on their iPods. DRM gives the RIAA this power.

DRM cannot be permitted to strip consumers of their rights. The RIAA has attempted to make consumers sign away their rights by agreeing to End User License Agreements that "prohibit actions that are clearly allowed under the Copyright Act, such as conduct that would undoubtedly qualify as fair use" (Galbraith 139). Without fair use, materials will be lost over time because they cannot be copied, parodies will decrease, and consumers everywhere will suffer. Sadly, the consumers and artists who suffer from DRM restrictions are not the ones pirating music. The pirates who illegally download music can make as many copies as they want and can sample those copies as many times as they want. The people who suffer are those who obey the law.

Digital Rights Management and Anti-Competitiveness

As Steve Jobs points out in his "Thoughts on Music," the key to DRM is secrecy. The more people who know the code to the DRM, the more people there are to leak the code to the DRM. For that reason, each DRM system is proprietary. Music downloaded from Apple's iTunes can only be played on Apple's iPod; music downloaded from Microsoft's Zune Marketplace can only be played on the Microsoft Zune; music downloaded from RealNetworks' Rhapsody can only be played on a RealNetworks Mp3 player.

The proprietary restrictions on music with DRM have the potential to be inconvenient for consumers. Imagine if, in the late 1980's, anyone who bought a CD was then forced to buy the same brand of CD player or else all the CDs he or she owned would no longer function. That is the current landscape of digital music, and the potential harm to the consumer cannot be understated; however, even when he criticized DRM in "Thoughts on Music," Steve Jobs defended the proprietary nature of the technology. He stated that sharing DRM between digital music providers would increase the likelihood of hacks, and users barely feel any negative effect. His first point may be valid. His second point is not.

Jobs uses a sophistic argument to support his point that users are not locked into buying iPods because of iTunes' Fairplay DRM. His math seems to make sense: The most popular iPod model holds 1000 songs, the average iPod is nearly full, and "through the end of 2006, customers purchased a total of 90 million iPods and 2 billion songs from the iTunes store." Jobs then states that "on average, that's 22 songs purchased from the iTunes store for each iPod ever sold." On an iPod that has 1000 songs, 22 songs only makes up about 3 percent of the entire library. Jobs finishes his argument by stating, "It's hard to believe that just three percent of the music on the average iPod is enough to lock users into buying only iPods in the future."

Three percent of the music on an average iPod is likely not enough to stop a user from buying a competitor's product. The problem is Jobs has no way to know how many iTunes songs listeners have on their iPods. Music is still easy to download illegally, and people who illegally download music do not likely use iTunes for anything. Why would someone who downloads music illegally ever pay for a song from iTunes? The far more likely scenario is that many consumers purchase none of their music from iTunes, and other consumers use it as their main music source. This is another situation where the legal consumer suffers. People who download the majority of their music legally are stuck with an iPod as a portable music player or else they lose every dollar they ever spent on iTunes. Listeners who log onto LimeWire and

download free songs can play their music on any player they want. The proprietary nature of DRM is another way the technology punishes legal users.

Digital Rights Management and the RIAA's Faulty Business Plan

From an economic standpoint, the use of DRM has probably done more harm than good to the music industry. At the beginning of the millennium, the RIAA realized it had to provide digital music to compete with illegal file sharing; however, the RIAA was afraid that providing digital music would only encourage illegal file sharing. The recourse was DRM. What the RIAA did not anticipate was the consumer backlash against restricted music. Websites began popping up like *Ihatedrm*, influential technology blogs like Techdirt began attacking DRM, and the Electronic Frontier Foundation has dedicated itself to protecting consumers from overreaching DRM. The RIAA would likely accept a few angered customers if DRM managed to cut down on file sharing and boost record sales. It has not.

The most serious flaw in the RIAA's digital music business plan is an obvious one: by including DRM on its music, the RIAA is competing with free file sharing by providing a more expensive, inferior product. The best example of the flaws in this plan is the Apple iTunes music store. iTunes is, by far, the most successful venue for the legal distribution of copyrighted music, but even iTunes suffers from the flaws in the RIAA business plan.

The iTunes DRM, Fairplay, has been the most successful DRM system. It has been hacked a few times, but Apple succeeded in fixing the hacks almost immediately (Jobs). Nonetheless, even though Fairplay works well, it makes no business sense, and Apple's creator, Steve Jobs, recently addressed this in his "Thoughts on Music." The reason DRM protected digital music like iTunes makes no sense is simple economics. Listeners can go on Pirate Bay or LimeWire and download a new single for free. They can then take the single, remix it, play it on any player, and burn as many copies as they want. If listeners decide to download the same song on iTunes, they pay $0.99 per song, and then cannot play it on the Microsoft Zune or any other digital music player, cannot remix or edit the song, cannot play it on more than a set number of computers, and cannot include the song on more than seven playlists. DRM protected music is inferior in every way to the DRM-free music downloaded at no cost.

The RIAA's defense of DRM is that technological restrictions are necessary because they are the best way to protect intellectual property (Rosen), which is a specious argument. In theory, DRM is supposed to stop listeners from sharing music over the Internet. What DRM really does is stop law-abiding listeners from fully enjoying the

music they legally purchased. It does not stop anyone from illegally downloading songs. In fact, because legally downloaded songs are restricted, it encourages people to illegally download songs.

The consumers who are punished for legally downloading songs are not the ones who pirate music. If a consumer wants to share music illegally, he or she would go on LimeWire, download the song for free, and put it right back on LimeWire to be downloaded by other users. The majority of listeners who download music for $0.99 a song on iTunes do not share songs on LimeWire, or else they would have downloaded the music from LimeWire in the first place. The RIAA is punishing law-abiding listeners, and it is choosing to compete with a free, non-restricted product by offering an expensive, restricted product. That does not make sense economically, and it does nothing to stop pirating. Anyone who wants to download or share an illegal copy can do so just as easily whether iTunes music has DRM or not.

The Future of Digital Rights Management

In February 2007, Steve Jobs released "Thoughts on Music," which called for an end to DRM protected music. He claimed DRM has not worked, DRM hurts consumers, and because the majority of music is sold on CDs with no DRM, DRM is pointless. On April 2, 2007, EMI, one of the four major record labels, answered Jobs's call. EMI made a deal with Apple to sell every song in its catalog on iTunes DRM-free. The anti-DRM community hailed this move as the future of digital music. EMI's deal with Apple may signal a future of DRM-free downloads.

The IFPI and the RIAA do not agree with Jobs or EMI. One of the prominent articles in the IFPI's 2006 annual report on the state of the music industry is called "DRM Promotes Consumer Flexibility and Protects Content" ("IFPI:07" 22). The IFPI website also features numerous articles expounding the benefits of DRM, including articles such as "The Economics of DRM in Capitalist Markets" (Pugatch) and "Setting the Record Straight on DRM" (Gooch). Neither of these articles adequately addresses the criticisms of DRM, but by featuring them so prominently on the website, the articles do signal the IFPI's reluctance to abandon the technology.

Whether the IFPI and the RIAA choose to abandon DRM or not, something needs to be done about the issue. The recording industries either have to find an effective method to protect all music while not violating consumer rights, or else the recording industries need to abandon DRM. Ideally, the RIAA would be able to protect its member's products without taking away consumer rights; however, as Bill Gates pointed out in a meeting with bloggers, DRM "causes too much pain for legitimate

buyers…DRM is not where it should be" (Arrington). The technology is not advanced enough to differentiate between infringing and noninfringing uses; therefore, legitimate consumers' are caught in the middle of a fight between music pirates and the record companies.

There is no quick fix for DRM. Developers have not been able to design a DRM system that adequately allows fair use. In his article for the Denver University Law Review, "Anticircumvention and Anti-anticircumvention," Peter K. Yu proposes a new DRM system that includes a core minimum approach that allows for "at the very least, minimum essential levels of noninfringing use" (66). His paper describes a system in which consumers would, for example, be allowed to sample a certain number of seconds of a song. One of the problems he points out about his idea is the risk that setting a core minimum level would encourage the RIAA to take a "minimalist interpretation of important safeguards and the creation of a rights ceiling" (66). This fear is well founded. In 1997, the Conference on Fair Use was held in Washington, D.C. The groups attending the conference attempted to set fair use levels. The proceedings derailed when copyright holders insisted on minimalist levels of use (Yu 67). If fair use were built into DRM, the same would likely happen again. If low minimum standards are set, the RIAA could then potentially exploit those levels and litigate against consumers who exceed the minimum levels. Judging by the RIAA's history and the zeal with which it protects the rights of its members, setting a minimum standard of use that is RIAA approved could do more harm than good.

Another problem with designing technology that determines fair use is that fair use is a notoriously amorphous standard. The Copyright Act of 1976 set out four determining factors for judges to use on a case-by-case basis when deciding if a use is fair:

1. the purpose and character of the use (commercial or educational, transformative or reproductive);
2. the nature of the copyrighted work (fictional or factual, the degree of creativity);
3. the amount and substantiality of the portion of the original work used; and
4. the effect of the use upon the market (or potential market) for the original work

It is left to the discretion of the judge to apply these factors, and the factors are of differing importance depending on the case. For example, in 1983, the District Court of the Second District of New York ruled in favor of publisher Harper & Row in its lawsuit against the magazine *The Nation*. *The Nation* had published a 400 word excerpt of Gerald Ford's autobiography before it was released, and the book's

publisher Harper & Row sued the magazine. Despite the fact that *The Nation* only published only a 400 word excerpt from a 454 page book, the District Court ruled that, because the excerpt dealt with the Nixon pardon, *The Nation* took "the heart of the book" (Harper & Row v. Nation Enterprises 488); therefore, *The Nation*'s use of the excerpt was deemed not to be a fair use.

On the other hand, in 1993 the Supreme Court heard the copyright case Campbell v. Acuff-Rose. In this case, Acuff-Rose Music Inc. filed suit against the rap group 2 Live Crew because the rappers parodied the Roy Orbison song "Oh Pretty Woman." Despite the fact 2 Live Crew sampled significant portions of "Oh Pretty Woman," the Supreme Court ruled unanimously in favor of 2 Live Crew. The Court ruled that "the extent of permissible copying varies with the purpose and character of the use." The Court also ruled that a successful parody must "conjure up at least enough of the original to make the object of its critical wit recognizable," and that to accomplish that goal effectively the parodist must use a "quotation of the original's most distinctive or memorable features" (587).

The difference in these two cases shows why DRM is far from where it needs to be. In the first case, a judge ruled that taking 400 words from a 454 page book was a copyright infringement. In the second case, the Supreme Court ruled that a significant sampling of a song was deemed to be fair use. DRM systems cannot make this judgment. Even the most advanced system cannot judge if a consumer wants to sample a song for parodic uses or if a consumer wants to sample "the heart of a work." These judgments have to be made by the courts, but if DRM systems do not allow for fair use, the DRM systems are making the judgment. Until a DRM system is invented that can make a viable case-by-case judgment on fair use, and many doubt that will ever happen, the technology should not be used.

Conclusion

DRM is far away from answering the criticisms addressed in this paper. DRM does not allow fair use; DRM's proprietary design does not let consumers choose their digital players; most importantly, DRM is not an effective tool to battle piracy. The RIAA's members are at a crossroads, and they can either develop ways to compete with illegal file-sharing, or they can continue alienating customers while trying to stop the illegal flow of material over the World Wide Web. They really have no choice. File-sharing is not going away, and as soon as the recording companies use the courts to shut down one file-sharing site, two more will grow back like the heads of the Hydra. DRM faces the same problem. Even if the recording companies do manage to develop an effective DRM system, and nothing indicates they can,

someone will hack it. The RIAA needs to accept that the spread of the World Wide Web and the change from analog to digital media have changed the world, and that new business plans involving different methods of distribution, pricing, and advertising are necessary. No matter what kind of restrictions the newest DRM imposes, nothing and no one can stop the world from changing. Not even the RIAA.

Works Cited

Alexa.com. 1996. Alexa Internet Inc. 21 April 2007 <http://www.alexa.com/>.

"Another Rihanna Song Leaked!!" *Popfusion.* April 9 2007. Popfusion. 20 April 2007 < http://www.popfusion.net/forums/showthread.php?t=44391>.

Arrington, Michael. "Bill Gates on the Future of DRM." *TechCrunch.* 14 December 2006. TechCrunch. 21 Apr. 2007 < http://www.techcrunch.com/2006/12/14/ bill-gates-on-the-future-of-drm/>.

"The Battle for Your Digital Media Devices." *EFF.org.* Electronic Frontier Foundation. 20 April 2007 < http://www.eff.org/IP/fairuse/>.

Campbell v. Acuff-Rose. No. 92-1292. Supreme Court of the United States. 7 March 1994.

Dela. "DRM-crippled Switchfoot CD Recalled." *Afterdawn.com.* 1 October 2005. Afterdawn Ltd. 21 April 2007 <http://www.afterdawn.com/news/archive/6869.cfm>.

"Digital Restrictions Management and Treacherous Computing." *Free Software Foundation.* September 18 2006. Free Software Foundation. 20 April 2007 <http://www.fsf.org/campaigns/drm.html>.

Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies. United States. U.S. Copyright Office. Docket No. RM 2005-11. Washington: GPO, 2005.

Galbraith, Christine. "Remembering the Public Domain." *Denver University Law Review* 84.1 (2006): 135-142.

Gooch, Richard. "Setting the Record Straight on DRM." *IFPI.com*. 3 February 2007. Internation Federation of the Phonograpic Industry. 21 April 2007 <http://www.ifpi.org/content/section_views/view022.html>.

Halderman, J. Alex. "Analysis of the MediaMax CD3 Copy-Prevention System."

Princeton University Computer Science Technical Report TR-679-03. 6 October 2003. Princeton University. 20 April 2007 < http://www.cs.princeton.edu/~jhalderm/cd3/>.

Harper & Row v. Nation Enterprises. No. 80 Civ.0856 (RO). United States District Court for the Second District of New York. 16 February 1983.

Hesse, Thomas. Interview with Neda Ulaby. "Sony Music CD's Under Fire From Privacy Advocates." *Morning Edition.* Natlional Public Radio. 4 November 2005.

"IFPI: 07 Digital Music Report." London: International Federation of the Phonographic Industry, 2007.

Jobs, Steve. "Thoughts on Music." *Apple.com*. February 6 2007. Apple Inc. 20 April 2007 < http://www.apple.com/hotnews/thoughtsonmusic/>.

Labelle, Megan M. "The 'Rootkit Debacle': The Latest Chapter in the Story of the Recording Industry and the War on Music Piracy." *Denver University Law Review* 84.1 (2006): 79-134.

Limewire. Vers. 4.12.11. 2007 Limewire LLC. 20 April 2007 < http://www.limewire.com/english/content/home.shtml>

Mcguire, Mike, and Martin Reynolds. "Sony BMG DRM a Public-Relations and Technology Failure." Gartner Inc. 18 November 2005. Accessed: < http://www.gartner.com/resources/136300/136331/sony_bmg_drm_a_publicrelatio_136331.pdf>.

"Napster Files for Bankruptcy Protection." *ABC News Online.* June 4 2002. American Broadcasting Company. 20 April 2007 < http://www.abc.net.au/news/business/2002/06/item20020604075343_1.htm>.

"Napster Use Slumps 65%." *BBC News.* 20 July 2001. British Broadcasting Corporation. 12 April 2007 < http://news.bbc.co.uk/1/hi/business/1449127.stm>.

Oppenheim, Matthew. Letter to Computer Science professor Edward Felton of Princeton University. April 9 2001. Accessed at: < http://

www.cs.princeton.edu/sip/sdmi/riaaletter.html>.

Pirate Bay. 2003. Pirate Bay. 21 April 2007 <http://thepiratebay.org/>.

Pugatch, Meir. "The Economics of DRM in Capitalist Markets." *IFPI.com.* February 2007. Internation Federation of the Phonograpic Industry. 21 April 2007 < http://www.ifpi.org/content/section_views/view027.html>.

Quittner, Joshua. "Tim Berners Lee." 29 March 1999. *The Time 100.* Time Magazine. 20 April 2007 <http://www.time.com/time/ time100/scientist/profile/bernerslee.html>.

Recording Industry Association of America v. Diamond Multimedia. No. 98-56727. 9th Circuit Court of Appeals of the United States. 15 June 1999.

RIAA.com. 2003. Recording Industry Association of America. 21 April 2007 < http://www.riaa.com/default.asp>.

Rosen, Hillary. *House Hearing on "Piracy on Peer-to-Peer Networks."* 26 September 2002. Accessed at: < http://www.riaa.com/news%5Cnewsletter%5C092602.asp>.

Russinovich, Mark. "Sony, Rootkits and Digital Rights Management Gone Too Far." *Mark's Blog.* 31 October 2005. Technet Blogs. 20 April 2007 <http://blogs.technet.com/markrussinovich/ archive/2005/10/31/sony-rootkits-and-digital-rights-management-gone-too-far.aspx>.

Sdmi.org. Secure Digital Music Initiative. 20 April 2007 <http:// sdmi.org/>.

"Sony BMG Tentatively Settles Suits on Spyware." *Nytimes.com.* 30 December 2005. New York Times. 21 April 2007 <http://www.nytimes.com/ 2005/12/30/ technology/30soft.html?ex=1177473600&en=ea9001ef90db54ca&ei=5070>.

Verrilli, Donald. "Oral Argument before the Supreme Court." Supreme Court of the United States, Washington. 29 March 2005. Accessed: < http://www.supremecourtus.gov/oral_arguments/argument_transcripts/ 04-480.pdf>.

Wagenseil, Paul. "EMI to Sell Unrestricted Music Through Apple's iTunes." *Fox News.* 2 April 2007. Fox News. 21 April 2007 <http://www.foxnews.com/

story/0,2933,263249,00.html>.

World Intellectual Property Organization. *WIPO Copyright Treaty.* Geneva: 1996.

Yu, Peter K. "Anticircumvention and Anti-anticircumvention." *Denver University Law Review* 84.1 (2006): 13-78.

Zeller Jr., Tom. "Sony BMG Sued Over CD's with Anti-Piracy Software." *Nytimes.com.* 22 November 2005. New York Times. 20 April 2007 <http://www.nytimes.com/2005/11/22/technology/22sony.html?ex=1290315600&en=0d3647edf65d1a92&ei=5090&partner=rssuserland&emc=rss>.