

DMCA: A Balanced Public Policy Brief

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1. INTRODUCTION

The Digital Millennium Copyright Act (DMCA) has been heavily scrutinized by academics, researchers, the media, technologists, entertainment groups, and the general public since it was passed in 1998. In particular, section 1201 of the Act has been criticized as a threat to free speech, civil liberties, and an extreme restriction of and intrusion into academic research and development. In this balanced policy brief, we examine the history of the DMCA and a summary of the actual statement of the law and specifically, provisions for protecting works on the Internet. We also consider copyrights in general and the idea of fair use rights. Given that the law was enacted in part to comply with international treaties, we examine the international aspects of the law. We also consider the original intent of the law and look at its effects on those intents. After providing some examples of how the law has affected areas of public policy other than copyrights, we discuss four camps of thinking with respect to the DMCA and draw some conclusions about the state of this controversial law.

2. HISTORICAL ORIGINS/MOTIVATION OF THE DMCA

In order to understand the origins of the DMCA we have to understand how Digital Right Management (DRM) tools work. DRM tools try to put restrictions on when and how a digital copyrighted technology can be used. These tools are not designed to serve as a simple solution to a security problem, but actually consider the owner of the digital works as a potential violator of copyright laws. The philosophy here is to allow controlled access to the digital work and prevent any and all copyright infringement possible. The initial reasoning behind such systems was to enforce copyright laws.

DRM tools are generally implemented under two techniques. The first technique is to tag each copy and prosecute owners if their copies are found on Peer-to-Peer (P2P) systems. P2P systems are online based distributed networks that lack a central server and each node on the network acts like a server and a client. Once a file is on such a system, it is very hard to control its broadcast. In contrast, the tag technique requires that each owner's information along with their item be centrally stored and if it is ever detected on a P2P system, the owner could be prosecuted. This presents privacy issues in itself as people are hesitant to reveal personal information every time they make a purchase of a digital work. Another problem to this approach is what happens if stolen copies of digital works are exchanged on file-sharing systems. In such a scenario, original owners should not be prosecuted for copyright infringement crimes they did not commit. However, not taking any action under these circumstances can open the door for people to use the "stolen" excuse for sharing digital works illegally.

The second technique to enforce DRM tools is to encrypt the content and allow only authorized devices to play these works. This would allow the distributors to enforce and limit the use of the content. The potential problem with this technique is that once the encryption of the work is cracked, digital copies could be very easily reproduced and very hard to control on P2P systems. Once the digital work is on a P2P file sharing system it can spread across the globe and this can translate to a significant loss in sales and revenue as indicated by Senator Hatch [1].

With the increase in popularity of file swapping systems and digital copyright infringement, Congress presented the DMCA to remedy these piracy concerns. The DMCA received unanimous support and came into law in October 1998 [2]. The U.S. Congress had visions of international piracy protection when they introduced the DMCA. Due to the fact that the U.S. is a leading member of the World Intellectual Property Organization (WIPO), it made the DMCA comply with the global standards of the WIPO to provide better protection of digital copyrighted materials world wide.

WIPO is a global organization that deals specifically with the protection of intellectual property and has 181 signatory countries [3]. The WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT) were both presented at the Geneva Convention on December 20, 1996 as a way to combat digital piracy on a global scale. Since the Geneva Convention in 1996, the WCT has been ratified by 51 WIPO members and the WPPT treaty has been ratified by 49 WIPO members [4]. The United States ratified both treaties, and as a result, gave birth to the DMCA at home to provide protection against digital piracy for WIPO members.

The DMCA has many provisions and its section 1201 is designed to help achieve the copyright infringement protection originally designed by DRM tools. According to 1201(a)(1)(A) of the DMCA, “No person shall circumvent a technological measure that effectively controls access to a [copyrighted work],” and defines circumvent “to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner” [5]. The goal of this section is to provide deterrence against DRM tool manipulators because their actions can now be considered “circumvention” of a digital work and they can be held responsible before the law.

Section 1201(a)(2) of the DMCA further inhibits the manufacturing, importing and distribution of technologies that can cause circumvention. This is a general and all-encompassing point that is used by the courts to prevent any kind of circumvention to digitally copyrighted works and to discourage relaying of any knowledge that can cause infringement [6]. This clause is significant in the online realm because it can help prevent the propagation of circumvention technologies on the internet.

This new model of digital protection is much stronger than the originally proposed DRM tools to prevent copyright infringement. Unlike copyright law, which only prevents unauthorized duplication of the copyrighted work, the DMCA goes beyond that scope and controls not only copying, but also access of the digitally copyrighted work. For example, it is acceptable for a history teacher to photocopy some pages of a book for his students without risking a lawsuit, whereas, a music teacher may be violating the DMCA if she extracts a sample of a song or video from a copyrighted DVD for her students. The history teacher is exercising his right to “fair use” under the copyright law and this “fair use” is weakened in the case of the music teacher. The extracting of the DVD snippet could be considered circumvention of the DRM tool protecting the DVD from being broken into chunks and the music teacher can be held liable due to her violation of the

DMCA. One of the fundamental differences between copyright laws and the DMCA is that it is possible to prosecute someone on the basis of circumvention even when infringement has not occurred.

3. SUMMARY OF THE ACTUAL STATEMENT OF THE LAW

Title 1, WIPO Treaty Implementation:

The DMCA is divided into five major sections called titles. The first title is related to changes in the law necessary to implement the World Intellectual Property Organization Copyright Treaty and the World Intellectual Property Organization Performances and Phonograms Treaty (“WIPO Treaties”). Many of the changes dealt with modifications to the way foreign works were treated under U.S. law. Certain works under copyright protection in other countries but formerly ineligible under U.S. law became recognized. The law was also changed so that foreign works became exempt from the requirement to register with the U.S. copyright office in order to sue in U.S. courts for copyright infringement. In addition, protection provisions were added for Copyright Management Information (CMI), which is information about the work outside of the protected content. This information includes title, author, terms and conditions for use, etc. Apart from limited exceptions for certain broadcast stations and cable networks, the law made it illegal to alter this information in a copyright protected work.

In order to comply with the WIPO treaty, certain technology provisions had to be met. This includes making it illegal to circumvent technological protection measures taken to prevent people from accessing or copying a work to which they do not have a legal right. Circumvention is defined in the DMCA as “the act of descrambling a scrambled work, decrypting an encrypted work, or otherwise bypassing technological protection measures” [7]. The exception to this rule is to make a copy for fair-use purposes. In fair use situations and other limited circumstances discussed below, users are permitted to circumvent copy protection mechanisms provided that they have the legal right to use the work. In other words, it may be legal to hack a computer program to make a copy of it, but it is never legal to hack it to use it without permission [8]. It is illegal, however, to manufacture devices or software which are primarily designed or marketed to help people circumvent technological protection measures.

Aside from fair use, multiple other exemptions are provided to the anti-circumvention provision of the DMCA, with the broadest one being for any legitimate law enforcement or intelligence activity. Nonprofit libraries, archives and educational institutions are also allowed to circumvent protection technologies to decide if they would like legal access to the work, provided they are unable to obtain an identical work by other means. Reverse engineering of a legally obtained computer program is allowed for the purpose of determining interoperability requirements with independently created computer programs. The requirements must not be available by other means, and the reverse engineering must be otherwise legal under copyright law. Encryption research exemptions are provided to allow researchers to determine flaws and improve the development of the technology. In order to circumvent access-controls, an encryption researcher must have legally obtained the copyrighted work, circumvention must be necessary for the encryption research, a good faith effort must have been made to obtain authorization from the copyright owner

and the circumvention must be legal in all other respects. Factors such as the value of the research being conducted, the qualifications of the researcher and the notification and documentation of the research are to be considered when making a judgment as to the legitimacy of a DMCA exemption request. An exemption is also allowed for tools and services that prevent access by minors to objectionable material on the Internet. Additionally, exemptions are provided for circumvention to prevent collecting or distribution by software programs of personally identifiable information about online activities. A final exemption is provided for the testing of security on a computer or a network.

Despite a substantial list of exemptions to the anti-circumvention provision, no mention is made of legalizing the tools to perform such circumventions, an oversight that has been noticed in many different analyses of the DMCA.

Title 2, Online Copyright Infringement Liability Limitation

This section of the DMCA deals with Online Service Provider (“OSP”) responsibility for the copyright infringement of their users and protects OSPs from copyright infringement liability provided certain conditions are met. The four types of OSPs defined by the DMCA are conduit, system caching, user storage, and information locator. The conduit safe harbor protects an online service provider who “provides, transmits, routes or connects through the internet service provider’s system or network” [7]. System caching safe harbor protects providers who allow “temporary or intermediate storage of materials on a network” [7]. The user storage safe harbor protects providers who allow storage for material at the request of a user, while the information locator safe harbor protects a service provider who “links or refers a user to a site with infringing material or infringing activity” [7]. Depending on the safe harbor being used, the OSP’s activity must meet certain standards, including being an automated response to a user-initiated request. In addition, the recipient must not be chosen by the OSP and the OSP cannot derive any financial benefit from a copyright violation. The OSP is not allowed to modify the materials that pass through and must not be aware of a copyright violation. If made aware, the OSP must act to remove or block access to the material.

In exchange for providing protection for OSPs, this section requires certain actions of them to prevent copyright infringement. The OSP must “adopt, reasonably carry out, and inform subscribers and account holders of a policy that provides for subscriber cancellation of repeat infringers” [7]. They must also not interfere with standard technical measures put in place by copyright owners to identify or protect copyrighted material provided such measures do not impose substantial burdens on the OSP. Methods are also provided by which copyright holders can subpoena an OSP to determine the identity of users who are violating their copyright and for the removal of copyrighted materials on their systems once OSPs have been given notice of infringement.

To qualify for the protections offered by the various safe harbors listed above, OSPs must respond in a certain way when notified of a copyright violation on their systems. In order to qualify for the safe harbor exemptions, an OSP must designate to the Copyright Office and specify somewhere on its service, an agent to receive take-down requests. When a

copyright owner submits notification of allegedly infringing material, the OSP must respond to remove or block access to the material. The user must be notified that his or her material has been blocked or removed and is then given the opportunity to provide a “counter notification” if he or she believes the action was taken in error. If provided a counter notification, the OSP must then send this notification to the copyright owner who sent the original notice. At this point, the material must be replaced unless the OSP is subsequently notified that the copyright owner has initiated a court action regarding the alleged infringement. After escalation to this level, the dispute is taken out of the OSP’s hands and turned over to the courts.

Title 3, Computer Maintenance and Repair

Section three of the DMCA allows for duplication of legally installed, copyrighted computer programs in circumstances where the owner or lessee of a computer needs to have hardware maintenance or repairs performed.

Title 4, Miscellaneous

Miscellaneous items have been grouped into section four, and include provisions relating to copyright office authority, distance education, ephemeral recordings, copying of phonorecords, webcasting and royalty payments in the music industry.

Ephemeral recordings include copies of copyrighted material that are made in order to simplify the broadcasting process. An example would be to load songs from a CD onto a hard drive in order to automate a broadcast or simply to provide the DJ with easier access to the material. Under the DMCA, ephemeral recordings are allowed in order to facilitate digital transmission. Broadcasters are also allowed to copy materials for backup purposes and can even circumvent copy-protection measures provided that they first request and are not provided a backup copy from the content provider.

Copyright law is also amended in this section to allow libraries the right to make copies of phonorecords. A library is allowed to make up to three copies of a phonorecord provided that they are properly labeled with notice of copyright. Digitally formatted copies may not be moved from the library’s archive or premises. Copying is also allowed for backups in the event a work is lost or damaged and to replace works whose formats have become obsolete.

Another subject in this section was the clarification of royalty payments for webcasting of copyrighted content. Under the Digital Performance Right in Sound Recording Act (DPRA) of 1995, royalties were required to be paid for subscription transmissions and on-demand transmissions, but were exempt from FCC-licensed broadcast transmissions. The DMCA extends these categories to include non-subscription transmissions, of which webcasting is a member, and requires royalty payments. Digital transmission organizations are also allowed to make ephemeral recordings similar to the rules for traditional broadcasters.

The last miscellaneous provision concerns residual payments in the motion picture business. Provided distributors knew or should have known ahead of time that this would

be their responsibility, they are required to take up residual payments to writers, actors and directors when producers become unable to pay them.

Title 5, Vessel Hull Design Protection Act

Title five extends copyright law to include the area of vessel hull design. In order to be protected, the design must be an original design for certain useful articles that make the article attractive or distinctive in appearance. This section was included to address the concern brought about by the Supreme Court ruling in the case *Bonito Boats Inc. v. Thunder Craft Boats Inc.*, which stated that boat hull designs were not protected under federal copyright law [9].

4. PROVISIONS FOR PROTECTING WORK ON THE INTERNET

The advent of the Internet fundamentally altered the methods and scale of potential copyright violations. Without the need to make and distribute physical copies of the protected works, a substantial barrier to widespread copyright infringement has been removed. Exact digital replicas of copyrighted works can be shared nearly instantaneously with millions of different people around the world. The DMCA includes several provisions which attempt to deal with the new reality of Internet-based copyright infringement. By clarifying the responsibilities of OSPs with regard to infringements on their networks and via the specifications of the anti-circumvention provision, the DMCA aims to bring copyright law into the Internet age. Additional measures to protect copyrighted works include mandating the preservation of copyright management information, making it easier for copyright holders to use tools to identify infringements that occur online, and providing measures for removing the anonymity of online copyright violators.

One of the main effects the DMCA had on online copyright protections was by defining the responsibilities of internet service providers with regard to copyright infringements by their users. While they are not held accountable for the actions of their users, OSPs are required to act when notified of copyright infringements. Once informed of a potential copyright infringement, an OSP must follow the procedure outlined in the previous section. Additional rules are provided for what an OSP must do when the copyright infringement is disputed. A key aspect of the rules and regulations surrounding OSPs in such situations is the effort to avoid placing an undue burden on them and their systems. They are not required to actively search their networks and systems for infringing materials and are only required to act when properly notified of a violation under the terms of the DMCA. While they must not interfere with standard technical measures for the identification of infringing materials, this applies only in instances where such measures are “standard” and do not impose major costs or burdens on an OSP or the OSP’s systems [7].

In addition to clarifying OSP responsibilities, the DMCA provides copyright holders with certain rights to use when tracking down violators. Standard measures to fight infringement must not be modified or impeded by an OSP. The DMCA defines standard to mean “developed by a broad consensus of copyright owners and OSPs in a fair multi-industry process.” In addition, such standard measures must “be available to anyone on

reasonable and nondiscriminatory terms.” [9] Examples of standard measures to fight infringement include watermarking technologies or anti-copying technologies.

Another protection for the Internet age is that copyright violators are not allowed to hide behind their service provider in an attempt to retain their anonymity. The process by which a copyright holder may compel an OSP to identify one of their subscribers was originally the source of some controversy. It is an example of a vagueness of the DMCA that has since been cleared up by the courts in a ruling for the case *Recording Industry Association of America v. Verizon Internet Services, Inc.* The courts ruled that OSPs are not obligated to identify users accused under the DMCA of copyright violations solely on the basis of an accusation by the copyright holder. Instead, the Recording Industry Association of America (RIAA) was forced to file “John Doe” lawsuits against such users and a court would then determine whether there was sufficient evidence to compel the OSP to identify them. While this was not to the liking of groups such as the RIAA, the judge stated that “it is not the province of the courts ... to rewrite (copyright law) in order to make it fit a new and unforeseen Internet architecture, no matter how damaging that development has been to the music industry” [10]. Infringers can still be identified, but only after a lawsuit has been filed and evidence of infringement presented.

Perhaps the most significant aspect of the DMCA with regard to protecting works on the Internet is the anti-circumvention provision. While the arguments for this section of the law are addressed in more detail later on, the main point is that by outlawing circumvention and the sale of tools to perform it, the government is attempting to provide assurance that there will not be widespread violation of copyrighted digital works which are placed on the Internet. Such provisions had been sought by content providers before they were willing to allow for legitimate online distribution of their materials and prevent widespread Internet-based piracy of their works.

5. COPYRIGHT

By definition, “Copyright is a form of protection provided by the laws of the United States (title 17, U.S. Code) to the authors of original works of authorship, including literary, dramatic, musical, artistic, and certain other intellectual works” [11]. The Copyright Act of 1976 extends to the owner of a copyrighted work the exclusive right to do such things as reproduce the work, derive new works from the copyrighted work, distribute copies of the work and display the copyrighted work publicly. In addition, the copyright owner has the authority to extend these rights to other persons. In other words, the owner of a creative work has the exclusive right to control who can make copies, or make new works derived from the original work. Note that a creative work must exist in tangible form (i.e. written down, photographed, recorded, and the like) and does not include thoughts or spoken words. The duration of copyright protection is the life of the owner plus an additional 70 years after the owner’s death [11].

So what does copyright mean in everyday use of copyrighted works? As soon as a work is created in tangible form, the copyright in the work automatically becomes the property of the creator of the work. Thus the creator or any persons who were granted permission by the creator are the only ones who can lawfully claim copyright of the work. Copyright

is not something that is transferred upon the sale of a copy of the work. Merely owning a book, a painting, or a record does not extend copyright to the purchaser. What the purchaser pays for is the right to use a copy of the copyrighted work in any way the purchaser sees fit but is not allowed to exercise any of the rights granted to the creator of the work by the Copyright Act.

Under the law, it is illegal to violate the copyright of a work. Violations are referred to as infringement. The Copyright Act defines infringement as the violation of “any of the exclusive rights of the copyright owner [12].” It is important to note that it is the (proprietary) rights granted to the copyright owner that are subject to infringement, not the work itself. The copyright owner is granted the following rights: (1) to make copies of the work; (2) to create derivative works; (3) to distribute copies of the work to the public; (4) to perform the work publicly; (5) to display the work publicly; and (6) to perform audio digital recordings publicly. Furthermore, “there is a distinction between the use of the work and the use of the copyright of the work” [12]. For example, by the first sale doctrine, once someone purchases a book, that person can do with that book whatever he or she chooses. The purchaser basically pays for the use of the book and the copyright owner’s marketing monopoly ends with the first sale doctrine. The distinction is that the purchaser of the book owns the book while the copyright owner owns the copyright. The purchaser’s use of the book is not limited, but the purchaser’s use of the copyright is limited to permission from the copyright owner or fair use (see 5.1) only.

Considering the aforementioned details, copyright law can be summarized as follows: “(1) copyright is a monopoly that provides authors the right to sell copies of their work; (2) the monopoly is regulated in the public interest; (3) the monopoly of a particular copy ends when that copy is sold; (4) a user is free thereafter to make use of the work contained in that copy but not to make use of the copyright of that work” [12]. This summary implies that there is a limitation on the exclusive rights of a copyright owner; copyright law calls it “fair use.”

5.1. Fair Use

There are four factors that determine fair use of a work: “the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; the nature of the copyrighted work; the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and the effect of the use upon the potential market for or value of the copyrighted work” [11]. Typical examples of fair use of a copyrighted work include reproduction of copies for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research; these uses are not considered an infringement of copyright.

In addition, there are three kinds of fair use. The first kind is creative fair use and is employed by an author who uses another author’s work to create his own (original) work. Using another author’s work in this way makes use of copyright since it may have an effect on the market of the work. The crucial issue here is to figure out how much use of the original work constitutes fair use. The second kind of fair use is personal fair use in which an individual makes use of a work for his or her learning or for entertainment.

Under the fair use doctrine, an individual is allowed to copy parts of the original work for use in research, personal education or personal use. The individual may not, however, copy the entire work and put it on the market. Finally, educational fair use involves use of a copyrighted work for teaching, research or scholarship. But just how far does educational fair use extend? In *Princeton University Press v. Michigan Document Services* [12, 13], the defendant was accused of infringement because it copied course pack materials for classroom use at the request of professors. The burden of proving fair use fell on the copy shop owner.

Even though creative fair use involves the use of copyright and both personal fair use and educational fair use involve only use of the work, in general, the amount of the work used is the determining factor in whether a use is fair or not. Fair use becomes infringement when the amount of the work that is copied is large enough to interfere with the marketability of the original work. Thus, personal fair use is always protected by the fair use doctrine since it involves only the use of a work, while the other two involve copying of a work.

5.2. The Fair Use Doctrine

The rights of the copyright owner are said to be exclusive, however, the rights are not unlimited in scope. There are limitations to the rights, some of which provide exemptions from copyright liability. The fair use doctrine (Section 107) is one of the major limitations imposed upon the Copyright Act. According to the fair use doctrine, “the fair use of a copyrighted work, including such use by reproduction in copies,” does not mean infringement of copyright [12]. Making the first copy of a copyrighted work under the fair use doctrine is legal, but making copies of that first copy is not.

The intent of the fair use doctrine is two-fold. On the one hand, it protects the copyright owner’s market monopoly; on the other hand, it protects the (existing) fair use rights of consumers purchasing copyrighted material. There is, however, a conflict within the two-fold intent. By the definition of infringement, the copyright owner is the only person who can make copies, unless the owner extends this right to other persons. On the other hand, the fair use doctrine states that “the fair use of a work, including such use by reproduction in copies ... is not an infringement of copyright” [12]. There definitely exists a grey area within the scope of fair use because copying a copyrighted work is infringement in one case and fair use in another.

One reason behind the fair use doctrine was to prevent the market monopoly from being used to inhibit (rather than promote) learning. Although the copyright owner controls who can make copies of the copyrighted work, the doctrine “allows certain types of copying without permission in areas where it is felt that some more important social principles would be violated otherwise” [14]. One such area is criticism. Without the fair use exemption, copyright law would stifle criticism. In reviewing a book or film, the reviewer is allowed to use a snippet of the book or film in order to make a case for his or her critique. Without this exemption, a negative reviewer would not be able to make a strong case; hence, criticism might be very one-sided. Another area is class room teaching. Instructors are allowed to use limited portions of an author’s work if the work is

the focus of study for the course. Care must be taken, however, as to how much of the copyrighted work is used without permission and the purpose for doing so. “Some people think fair use is a wholesale license to copy if you don’t charge or if you are in education, and it isn’t” [14].

Another reason is to prevent the copyright owner from creating an absolute monopoly to market the work. Apart from the fair use doctrine, there are four instances that show that the copyright owner does not have absolute right to copy. The first instance is the first sale doctrine, which says that “the copyright owner’s marketing monopoly is exhausted with the first sale and other can then sell the copy” ensures that the marketing right is now absolute [12]. Thus, a book store, for example, has the right to sell copies of a book to the public after the purchase of copies of the book and the author’s rights do not extend to this area. In the second instance, the U.S. Supreme Court has established that in some cases the public interest outweighs the copyright owner’s “exclusive” rights to copy. The third instance involves a specific ruling of the Supreme Court which declared that making one copy of a motion picture was not infringement. Finally, in the fourth instance the Supreme Court again ruled that “there is a constitutional right for a use to copy uncopyrightable material from a copyrighted work” [12].

6. INTERNATIONAL GUIDELINES/JURISDICTION FOR THE DMCA

Given the global position of the United States as a geo-political leader, other nations gladly accept any trade agreements it proposes in hopes of economic prosperity and global recognition. Some of these trade agreements include treaties and regulations that oblige participating nations to accept the statutes of the DMCA as a part of the package. This is certainly the case in Free Trade Agreements (FTA) the United States proposes to other countries. The U.S.-Singapore FTA is a clear example of this. In May 2003, President Bush and Singapore’s Prime Minister Goh signed a FTA [15]. This is the first trade agreement of its kind in which the participant accepted DMCA-like anti-circumvention technologies.

Free Trade Agreements like the one between the U.S. and Singapore have serious ramifications at home pertaining to the DMCA. President Bush possesses what is known as “fast track” authority under which he negotiated the FTA with Singapore. Congress, when faced with the FTA, can only accept or reject the entire package and can not make any sort of amendments to the FTA because it falls under the “fast track” classification. As a result, congress is forced to accept the FTA without dissecting the DMCA from it due to the time-sensitive nature of the bill. In addition, “fast track” procedures expressly limit floor debate, and require Congress to make its “up or down” vote on a rapid timetable - normally 90 days [15]. Due to the contentious nature of the DMCA, congress should use a higher level of scrutiny for FTAs embedded with language similar to the DMCA. We need to be very careful when dealing with the DMCA because if there are judiciary ameliorations to the DMCA at home, then these changes cannot be streamlined across international borders with FTA participants. Given the global connectedness of the information technology world, these changes need to be consistent across borders or else infringement in one region of the world may occur and may not be considered infringement in another part of the world.

DVD/DeCSS

The DMCA can only monitor and try to enforce laws in countries that have accepted it and are a part of the WIPO treaty. A clear example of this was experienced in lawsuits dealing with DeCSS, which is the code that cracked the Content-Scrambling System (CSS). CSS is used in encryption of DVDs and in October 1999, Norwegian-born teenager Jon Johansen wrote DeCSS, which broke the CSS's encryption and allowed DVDs to be copied and played on desktop machines running operating systems such as Linux. In 2000, Johansen's house was raided by police and he was charged with economic crimes after a complaint was made by the U.S. DVD Copy Control Association (DVD-CCA) and the Motion Picture Association of America (MPAA) against him. If found guilty, Johansen could have faced 2 years in jail plus fines [16]. However, in 2002, Norwegian courts found that Johansen had not participated in any illegal activity and acquitted him. Later in March of 2003, prosecutors argued that Johansen had violated section 45 of the criminal code of Norway, which is the section dealing with hacker activities. Johansen was also acquitted in that trial because the courts did not find anything illegal about his activity under the Norwegian law. Norway had no statutes that made it illegal to tamper with a digital copyright protected work, nor did they sign the WIPO treaties, and Johansen was acquitted in both cases.

In January 2000, the MPAA filed a lawsuit against Eric Corley in the U.S. for violating the DMCA. Eric had posted the DeCSS code on the website for his magazine, *2600*. After initial court injunctions, the defendants removed the code from their site but kept links to the code on their site in an act of civil disobedience [17]. The site also had claims like "Stop the MPAA.... We have to face the possibility that we could be forced into submission. For that reason, it's especially important that as many of you as possible, all throughout the world, take a stand and mirror these files" [17]. The United States district courts finally ruled in favor of the MPAA stating that the posting of the DeCSS was against the DMCA. The courts analyzed that the MPAA depends on legal structures to ensure their profits; MPAA invests millions of dollars into their products relying on the legal structure to help prevent infringement. Defendants, on the other hand, believed that information should be free for distribution and individuals should not be restricted from tampering with their own digital works. This case was later brought to the Court of Appeals for the Second Circuit and in May 2001, it was again ruled in favor of the MPAA. However, both of these courts did not look at first amendment issues related to the study of cryptography and how this might be an infringement against suppressing academic research. [17].

The DeCSS cases show that two countries can have varying results for tampering related to digital copyrighted works. For now the U.S. courts are in favor of the MPAA and until Norway accepts the WIPO and makes the DMCA a law in its country, copyright circumvention would be perfectly acceptable without fear of legal penalty.

7. THE ORIGINAL INTENT OF THE DMCA

Arguably the overriding flaw with the DMCA as perceived by the public at large is that it does not meet the intent of the law both in the drafted verbiage at the time the law was

passed and since then in the interpretations of the law in applying them to real cases. To understand whether or not this is true, the actual intent of the law at the time it was drafted must be re-visited.

On July 31, 1997, Senator Orrin Hatch first introduced the bill that would become the DMCA to be included in the congressional record. In his speech that day, Senator Hatch explains that the impetus of the bill comes from WTO treaties which the United States had signed, specifically the WIPO Copyright treaty and the WIPO Performances and Phonograms treaty. Senator Hatch said, "... copyright industries represent nearly 6% of the U.S. domestic gross product, and nearly 5% of U.S. employment. Yet American companies lost \$18-20 billion every year due to international piracy of copyrighted work." After adding some facts and figures concerning piracy, the Senator adds that "These figures will only continue to grow with the recent technological developments that permit creative products to be pirated and distributed globally with the touch of a button..." He later adds, "The WIPO treaties will raise the minimum standards for copyright protection worldwide, providing the U.S. with the tools it needs to combat international piracy." [1].

Based on his statements it is clear that the reason for introducing the bill was to comply with WTO treaties, which Senator Hatch saw as a strong weapon in fighting international piracy.

This line of reasoning continues to be followed during deliberations on the bill. A report by the House Committee on the Judiciary submitted on May 22, 1998 articulates the background and need for this piece of legislation. Specifically, the report mentions the emergence of technology that allows rapid dissemination of copyrighted works, and that "while such rapid dissemination of perfect copies will benefit both U.S. owners and consumers, it will unfortunately also facilitate pirates who aim to destroy the value of American intellectual property." Again, the focus at the time of deliberations on the bill appears to be on combating piracy.

The report also introduces the need to add the most controversial portion of the DMCA, section 1201 of the Copyright Act. The report states that the section is required to comply with the WIPO treaties to make it unlawful to "profit from the works of others by decoding the encrypted codes protecting copyrighted works, or engaging in the business of providing devices or services to enable others to do so." The authors of the report add, "The changes contained in the new Section 1201 are meant to parallel similar types of protection afforded by the Federal telecommunications law and state laws. Just as Congress acted in the areas of cable television and satellite transmissions to prevent unauthorized interception and descrambling of signals, it is now necessary to address the on-line environment." By drawing parallels to cable television, it is reasonable to assume that this section is meant to prevent the on-line analog of "stealing cable (TV)." Nowhere in the report are there mentions of prohibiting the decryption of copyright protections for academic or other non-commercial purposes.

Furthermore, the report makes clear that the authors of the bill understand that “it is not easy to draw the line between legitimate and non-legitimate uses of decoding devices, and to account for devices which serve legitimate purposes.” The bill is supposed to present a set of compromises which focuses on “preventing only the manufacture or sale of devices that: (1) are “primarily designed” to grant free, unauthorized access to copyrighted works; (2) have only limited commercially significant purpose other than to grant such free access; or (3) are intentionally marketed for use in granting such free access.” This statement of intent clearly excludes ordinary household devices such as VCRs and personal computers from consideration as circumvention devices since they meet none of the above criteria. [18].

During the Senate floor debate on the Senate version of the bill, Senator Hatch repeats his assertion that the bill is designed to curb piracy, thereby ensuring the United States’ dominant position in creative output of copyrighted works and the growth of a thriving online marketplace for such works by protecting the rights of copyright holders. [19].

Senator Hatch is certainly not the only congressman to make the case for the bill by arguing its anti-piracy aims. On October 20, 1998, Senator Leahy, a co-sponsor of the Senate version of the bill, remarked, “I want to ensure that the creators of movies and television and cable programming and recordings and books and computer software and interactive media continue to create, that their creativity is rewarded, that their creations are not stolen or pirated, and that those basic tenets are followed in all the world’s markets.” [20].

Throughout the process of the creation of the DMCA, the congressmen repeated their desire to enact a bill that would curb piracy of copyrighted works. But one of the main criticisms of the act has been how the DMCA’s introduction of section 1201 of the copyright law trampled fair use rights of consumers of copyrighted works. Senator Ashcroft, in his remarks to the Senate floor on October 8, 1998 explains his position on the controversial section and its intent. The section is designed such that the Librarian of Congress is required to selectively implement prohibitions against the act of circumventing technological protection measures of copyrighted works to balance the rights of copyright owners as well as those of consumers. Senator Ashcroft states in his remarks that day, “I trust that the Librarian of Congress will implement this provision in such a way that will ensure information consumers may exercise the centuries-old fair use privilege to continue to gain access to copyrighted works.” Of note here is that Senator Ashcroft refers to “centuries-old” fair use privilege, rather than re-defining what fair use rights are. [21].

But it is not only the congressmen who enacted this law that understood and affirmed the intent of the DMCA. One of the first companies to be hit with infringement of the DMCA was 321 Studios, makers of the DVD Copy Plus software. According to Julia Bishop-Cross, spokesperson for 321 Studios, “The intent [of the DMCA] was to stamp out piracy -- it was never meant to stamp out fair-use rights of average Americans.” [22]

It is clear that since its inception, the DMCA was intended to help copyright owners protect their works in a digital environment by providing a means to attack the kind of piracy that has threatened the creativity and innovation of those who create works that are copyrighted.

8. THE EFFECT OF THE DMCA ON PIRACY

Given that the primary intent of the DMCA was to curb piracy, it is important to examine the facts about piracy since the enactment of the DMCA. Few cases exist of the DMCA actually being used to prosecute piracy, and nearly all of those are for very small-scale piracy committed by individuals, not the kind of organized mass piracy that the law was intended to stamp out – in fact, most evidence suggests that piracy has increased, suggesting that the law isn't even having the intended, desired consequence.

According to the Eighth Annual BSA (Business Software Alliance) Global Software Piracy Study: Trends in Software Piracy 1994-2002, software piracy rates in the United States have been relatively constant during this time:

Year	Software Piracy Rate
1994	31%
1995	26%
1996	27%
1997	27%
1998	25%
1999	25%
2000	24%
2001	25%
2002	23%

Table 1: Software Piracy Rates in the United States, 1994 – 2002 [23]

The DMCA was enacted in 1998, and according to these statistics, the DMCA would appear to have had little or no effect on software piracy rates. According to the First Annual BSA (Business Software Alliance) and IDC (International Data Corporation) Global Software Piracy Study, the rate is 23% in 2003 – not a statistically significant decline from years 1994 – 2002. [24]

As for music and video piracy, statistics provided by the IFPI (International Federation of the Phonographic Industry) in its annual music piracy reports from 2000 – 2004 specifically for the United States are given only as less than 10% for each of those years. While these statistics do not make clear the changes in piracy rates, the reports claim that at a global level, music piracy rates are rising each year. While the DMCA is the United States' implementation of the WIPO treaties, they were written to protect the rights of copyright owners globally. While it cannot be conclusively said that the DMCA has allowed piracy rates to rise, it is clear that the law has not had the intended effect of curbing piracy for software and music/video discs.

9. THE DMCA'S EFFECT ON PUBLIC POLICIES

While the intent of the DMCA was clearly aimed primarily at curbing piracy without affecting traditional fair-use rights or impeding scientific research or digital competition and innovation by enforcing copyrights in the digital age, there are plenty of cases and developments for which the DMCA has been used with unintended consequences. The following cases and developments highlight some of the uses of the DMCA which appear to stifle a variety of legitimate activities while affecting areas of public policy other than copyrights.

9.1. Free Speech

Edward Felton

In 2000, the Secure Digital Music Initiative (SDMI) invited academics and others to break their watermark technology used as an encryption in audio recordings and proposed a reward for the winners. University of Princeton professor Edward Felten and his team wrote a paper describing the methodologies used by the SDMI to encrypt the recordings. They explained how SDMI used a faint inaudible signal to act as their encryption mechanism. The paper clearly described how these techniques could compromise the SDMI technology. Upon discovering that Felten and his team were going to make this information public, SDMI brought a lawsuit against Felten and his team for violating the DMCA and prevented the research paper from being published and presented at a conference. In response, Felten, with the help of the Electronic Frontier Foundation (EFF), defended his position that the paper was a peer-reviewed academic work that did not present any circumvention technology and the paper did not have any code and only consisted of graphs and text. While the SDMI's contest rules prohibited publication of results on the grounds that it would infringe on the DMCA, Felten and the EFF argued that the SDMI's lawsuit infringed on Felten's right to free speech as guaranteed by the first amendment. The SDMI saw that Felten had grounds on the first amendment to successfully defend his case, and they withdrew their case. [25]

Dmitry Sklyarov and Elcomsoft

Perhaps the most famous of these cases is that of Dmitry Sklyarov and Elcomsoft. In short, Sklyarov worked on a software product known as the Advanced e-Book Processor, which was distributed over the internet by his Russian employer, Elcomsoft. This software allowed legitimate owners of copies of Adobe electronic books (e-books) to convert them into Adobe's Portable Document Format (PDF), thereby removing the restrictions embedded into the e-book files by the e-book publishers and making it more convenient for users to read the e-books by allowing them to be read on any device that could read PDF documents, which greatly outnumber the few devices supporting the e-book format.

While Sklyarov was never accused of infringing any copyrights or assisting anyone in copyright infringement, Sklyarov was jailed for several weeks and detained for five months by the United States under the criminal provisions of the DMCA. The software had many legitimate uses, but the threat of a third-party using it to make illegal copies of e-books was ultimately enough for the United States Justice Department to invoke the DMCA against Sklyarov. Critics argue that the software produced by Sklyarov and

Elcomsoft are no different than photocopiers that could be used to make illegal copies of copyrighted works, despite having many legitimate uses that have become accepted as such.

Ultimately, Sklyarov was released, and a jury acquitted Elcomsoft of all charges. Presiding U. S. District Judge Ronald Whyte very correctly emphasized that “Congress did not ban the act of circumventing the use restrictions. Instead, Congress banned only the trafficking in and marketing of devices primarily designed to circumvent the use restriction protective technologies. ... In fact, Congress expressly disclaimed any intent to impair any person’s rights of fair use” [26]. Critics of the DMCA saw the case as an attack on Sklyarov’s free speech rights, arguing that the code and ideas represented in the software are speech.

9.2. Fair Use

Copy-Protected CDs

Recently, the music industry has responded to its growing concerns of music piracy by introducing copy-protected CDs into the marketplace. These CDs contain technology that prevents a user from making a legitimate backup copy or “mix” CDs by collecting tracks from several discs onto one CD. These uses are all considered fair use, but anyone who provides tools to circumvent these copy-protection schemes run the risk of infringing the DMCA.

One of the most famous of such copy-protection schemes was implemented by Sony, dubbed “Key2Audio.” The scheme was designed to allow protected discs to be played on standard audio CD players, while preventing their playback on computer CD-ROM drives, regardless of the fair-use rights of playing CDs on a computer through their CD-ROM drives. These CDs had an extra track of corrupt data that would prevent the computer CD-ROM drives from proceeding past the track to play the music content. In a decidedly non-technical workaround to a sophisticated, technical protection scheme, consumers found that they could play these CDs on CD-ROM drives by marking the edge of the CD with a black marker. Critics of the scheme and those who understood that technically, the workaround was a circumvention of a copyright protection scheme sarcastically wondered if markers would be banned as a circumvention tool under the DMCA. The bigger question is whether these copy-protected CDs tread on the fair-use rights enjoyed by consumers. [27]

321 Studios

Another example in which the DMCA is being used to unintended consequences is the case of the aforementioned 321 Studios, makers of the DVD Copy Plus software. The software allows a user to make a copy of a DVD for the purposes of maintaining a backup as the original media can become damaged, rendering it unusable. To make the backup, the software must “circumvent” the encryption technology used on DVDs, which is where it appears to run afoul of the DMCA, despite 321 Studio’s claims that the software is not intended for use in aiding piracy, but as a tool for consumers to exercise their “century-old” fair-use rights.

Ultimately, a California federal court ruled against 321 Studios, stating that “the downstream uses of the software by the customers of 321, whether legal or illegal, are not relevant to determining whether 321 itself is violating the statute.” Critics of this decision and the DMCA in general argue that the ruling strips consumers of fair-use rights. “The great popularity of 321 Studios’ products demonstrates a legitimate consumer desire to use DVDs with the same rights they have had with earlier technologies,” added EFF Senior Intellectual Property Attorney Fred von Lohmann. [28]

9.3. Competition and Innovation

Lexmark v. Static Control Components

In January 2003, printer manufacturer Lexmark invoked the DMCA against third-party manufacturers of toner cartridges for its printers, citing circumvention of authentication routines built into the cartridges that allowed the printer to validate the cartridge. It is commonly understood that the revenue for printers primarily comes from the toner cartridges that consumers must purchase as they are a wear item, rather than the printer itself. After-market toner vendors have created competition for printer manufacturers by providing an alternative to consumers for purchasing replacement toner cartridges, ensuring that printer manufacturers could not artificially raise prices on the cartridges knowing consumers had no choice but to purchase from them unless they wanted to buy a new printer each time the cartridge ran out of ink. Lexmark introduced a chip into its cartridges specifically to stifle these after-market vendors. When one vendor, Static Control Components, reverse-engineered these measures, Lexmark used the DMCA as a threat to stifle its competition.

Recently, a three-judge panel of the 6th U. S. Circuit Court of Appeals lifted an earlier injunction against Static Control from manufacturing their cartridges. In reaction to the ruling, Static Control CEO Ed Swartz said, “We have asserted from the outset that this is a blatant misuse of the DMCA and the 6th Circuits’ ruling solidifies and supports our position that the DMCA was not intended to create aftermarket electronic monopolies.” Swartz added that such monopolies could cost consumers billions of dollars. [29]

Apple v. One World Computing

In August, 2002, Apple used the DMCA to threaten Other World Computing (OWC), a small retailer specializing in Apple Macintosh computers. OWC developed a software patch that would allow all Mac owners to use Apple’s popular iDVD software. Newer Macs have a built-in DVD recorder that could be used by the iDVD software; however, users of older Macs did not have such a built-in DVD recorder, so many resorted to buying an external DVD recorder. Unfortunately, the iDVD software was written so that it would not work with such external DVD recorders. OWC discovered a way to make a minor modification to the software to make iDVD compatible with external DVD recorders. This software patch would essentially provide an upgrade for owners of older Macs, who wanted a way to use the iDVD software with their newly purchased hardware. However, Apple claimed that this patch constituted a violation under the DMCA and was successful in stopping OWC from completing the patch. “Rather than prevent copyright

infringement, the DMCA empowered Apple to force consumers to buy new Mac computers instead of simply upgrading their older machines with an external DVD recorder.” [30]

OWC president Larry O’Connor quipped, “We don’t want to get into a fight with Apple.... We’re not out there to offend Apple.” Given that 85 to 90 percent of Apple’s revenues come from hardware sales, it’s reasonable to assume that Apple’s legal strategy was chosen not to enforce any copyrights, but to protect their revenue stream by forcing consumers who wanted to use the iDVD software to purchase new machines with built-in DVD recorders at significantly greater cost than buying a third-party external DVD recorder. [31]

10. FOUR CAMPS OF THINKING

There are four major positions concerning the place of copyright in the digital environment. The positions are very divergent and are driven by the interests of the industries and professions they represent. This divergence highlights the controversial nature of copyright law which suggests looking into “what it is that copyright is designed to protect and why” [5].

10.1. Supporters of Government-Mandated DRM Technologies

This camp consists of entertainment tycoons like Walt Disney Co. and News Corp. These entertainment giants have supported the spirit of the DMCA and rallied for government-mandated Digital Rights Management (DRM) technologies. They have also influenced prominent studios from the Motion Picture Association of America (MPAA) to join in their cause to legally formalize the existence of DRM technologies.

Initially in 1996, Hollywood started consulting technology firms to devise encryption techniques to protect DVDs from being copied and broadcasted illegally. This effort led to the creation of the “5C” consortium, which consisted of the following consumer electronics manufacturers: Intel Corp., Matsushita Electric Industry Co., Toshiba Corp., Sony Corp., and Hitachi Ltd. [5]. This conglomerate now includes many other major technology firms who oppose the copying of digital media without the consent of the owner, and more importantly, want to enforce restriction on the access people have to their digital copyrighted materials by use of DRM technologies. This camp essentially wants the DMCA to enforce accessibility restrictions on digital media using DRM technologies but this has overridden some basic fair use principles that copyright law initially provided.

Hollywood studios persuaded Senate Commerce Committee Chairman Ernest “Fritz” Hollings, D-S.C., to introduce legislation that would actually bar the creation of all computer software and hardware that does not include a government-sanctioned digital rights management (DRM) technology. Dubbed the Consumer Broadband and Digital Television Promotion Act, this was presented as a measure known as Hollings’ S. 2048 in March 2002. [5] This bill has a very general scope and now dictates that anyone not complying with government mandated DRM technologies is in breach of the DMCA. The president of the MPAA, Jack Valenti, presented congress with three major arguments to consider in February of that year to show the necessity of this bill.

Argument 1

The MPAA argued that unlike satellite and cable television, which have digital encryption mechanisms in their technology and for which the manufactures of these technologies abide by copyright laws to help form some protection, over-the-air (unencrypted) broadcast of television programs and movies are highly prone to copying and infringement. One reason these over-the-air broadcasts cannot be broadcast on a digital medium is because there are millions of old television sets that are analog only and would not be able to receive this broadcast. The distributors also are worried that intercepted digital broadcasts would be of the highest quality and would not degrade on replication and they want to limit the quality of pirated copies as much as possible. These reasons have simply deterred distributors from digitally broadcasting over-the-air. A solution to this over-the-air broadcast is to give each program a digital flag that would signal devices that this program should not be copied and transmitted or shared by the receiving device. This enforcement of a digital flag will require the existence of a mandatory government-controlled DRM policy.

Argument 2

The MPAA also presented the point that something needs to be done to “plug the analog hole” [5]. They argued that when devices play a digital program onto the television, the television converts it to an analog format and now this analog format can easily be copied to another machine in a digital format. Once copied, the program can be replicated many times and shared on peer-to-peer type systems without any mechanism to stop this illegal broadcast. The creation of a DRM policy would be needed to help prevent this digital-to-analog-to-digital conversion in the first place. “Circumvention” language of the DMCA can enforce this and mandatory DRM technologies could help enforce this as well.

Argument 3

This last point was a very zealous attempt to prevent digital copying and piracy at a grand scale. Jack Valenti, on behalf of the MPAA, insisted “that the technology industry do something to develop unspecified technical solutions that would counter the ability of someone to use computers, software, or electronic equipment to make an authorized copy available through a file-sharing service” [How Copyright Became Controversial]. This would involve government-controlled DRM technologies to prevent all illegal piracy by way of watermarking or other technologies that could possibly prevent the propagation of copied materials via P2P systems. Although this is a very tough task as indicated by University of Princeton professor Edward Felten who said that “a standard for copy protection is as premature as a standard for teleportation” [5]. However, the supporters of government-mandated DRM technologies believe that until there exists some technological mechanism to prevent illegal file-sharing, their products are not safe. They believe that Hollings’ S. 2048 would help prevent these illegal file-sharing activities due to its all encompassing nature [5].

10.2. Supporters of Anti-Circumvention

Despite the wishes of some interest groups, the DMCA does not include any specific government mandates for the adoption of anti-copying or digital rights management

implementations for digital technologies. This is in contrast to the analog world, where device manufacturers are required to recognize and comply with two technologies known as automatic gain control and colorstripe copy control [9]. As described above, supporters had argued for extending a similar government mandate to the digital world. In the end, counter-arguments that a government mandate in this area would stifle innovation in the market for DRM technologies won out, and it was decided that the anti-circumvention provision was sufficient for the protection of digital works online.

Supporters of the DMCA's anti-circumvention provision include the Business Software Alliance, RIAA and MPAA, among other groups. Because there is no foolproof way to protect content from unauthorized copying, many of the supporters see it as the "locks for digital doors" that will allow these standards to work and will give content owners the confidence to provide their material in digital form [32]. As stated by the Business Software Alliance, "Without these protections, fewer companies and individuals will be willing to put their works into digital format. That would dramatically slow the creative genius that has fueled the expansion of the Internet and e-commerce" [33]. It is argued that new technologies and business models for digital content distribution will not develop if the first hacker to crack the encryption can freely distribute software to bypass all protections. It has been suggested that services such as pay-per-view movies, DVDs, digital music webcasting and others would be less likely to be made available without the protections of the anti-circumvention provisions [32]. However, opponents have pointed to the slow introduction of digital music and video services even after such protections were granted as a contradiction to this argument.

Many of the strongest supporters of this rule are also strongly opposed to government standards for copyright protection technology. The major difference between people in this camp and those who seek government-mandated DRM technologies is that these people believe that a government mandate would stifle the creativity and adaptability of the free market. The "lock" of anti-circumvention laws would allow competing standards to stand on their own merits and the marketplace would migrate toward the better schemes.

10.3. Critics of the Current State of Copyright Law

Enactment and subsequent applications of the DMCA have stirred the debate on copyright law as a whole. Critics of the current state of copyright law argue that the DMCA is just a small part of the problem with copyright laws.

The original purpose of copyright was to grant a temporary government-supported monopoly on copying a work, not to give content creators a property right. The purpose of copyrights was to encourage the circulation of ideas by giving artists a short-term incentive to circulate their creations. One of the most heavily criticized changes of copyright law over the years has been the extension of the "short-term" incentive from 14 years as was in the original law, to now 70 years after the creator's death. Critics of the current state of copyright law argue that heavy lobbying by industries primarily involved in creating content has altered copyrights to such an extent that it no longer encourages

the circulation of ideas, but now restricts such exchange. This criticism obviously extends to the DMCA, which is supposed to enforce copyrights for digital media.

One of the most controversial, outspoken, and extreme critics of copyrights is Ian Clarke, founder and project director of Freenet [34]. Freenet is described as “software which lets you publish and obtain information on the Internet without fear of censorship.” According to Clarke, this freedom of speech free of censorship cannot be guaranteed if copyright law is enforced.

Critics of the DMCA point to its use as a legal club and that its original intent has been distorted by powerful entertainment companies who are reluctant to meet the public’s demand to leverage the power of high-speed digital communications to provide inexpensive and immediate access to digital material (copyrighted or not). Clarke believes that copyright laws are no longer appropriate in the digital age: “In my view, copyright has been a failure, in addition to being based on something that simply isn’t true: namely, that information is property.” [35]

Some supporters of copyright laws would contend that the system exists to allow artists to be rewarded for their work, and that without such protections, artistic creations would greatly diminish or cease to exist altogether. But its critics, especially Clarke, argue that artistic creations and works would not diminish, as it is a human compulsion to be creative; the question would be if artists could create such works for a living. Furthermore, it is debatable whether the existing copyright laws are effective in rewarding artists for their work, as they are designed, in part, to do; for example, artists get about 11% of the cost of a CD in royalty payments, which is about one-fifth of the portion of the cost of a CD attributed to retail markup and distribution costs [36]. These figures suggest that copyright laws have benefited the middlemen who control distribution of copyrighted works, not the artists who create them or the public who consume them.

In the extreme sense, copyrights protect the flow of information by restricting the manner in which the copyrighted material can be communicated. This restriction is cited by critics like Clarke as contrary to the ideal of freedom of speech. Copyrights can only be enforced by monitoring the communication (transfer) of the copyrighted content from one entity to another; however, freedom of speech cannot be guaranteed with constant monitoring of communications. Freedom of speech is arguably the most important individual right any human can have. Therefore, such critics argue that the freedom of speech is far more important than any benefits and protections that copyright laws may provide. This idea is at the heart of the argument against copyright laws in general and the DMCA in particular given the apparent misuse counter to its original intents.

10.4. Critics of the DMCA for Undermining Copyright’s “Fair Use” Doctrine

The fourth camp of thinking regarding the DMCA concerns those who emphasize the importance of copyright’s “fair use” doctrine and criticize the DMCA for undermining it.

Flaws in the Legislative History

One way of finding out what effect the DMCA has had on the fair use doctrine is by considering its legislative history. Like most new legislations, there are flaws in the legislative history of the DMCA. One such flaw concerns the original floor (House and Senate) statements. On the floor, there had been unanimous support of protecting fair use in the digital environment. The issue of becoming a “pay-per-use” nation was addressed by assuring that the DMCA would preserve fair use in the digital environment. However, upon inspection, the law failed that goal. Although Congress designed the law to exclude fair use from the provisions of the law, the violations under Section 1201 do include fair use [37].

Another flaw concerns the inconsistency and ambiguity of the DMCA. Concerning additional violations of Section 1201, there is a distinction made between circumventing an access control and the subsequent actions of a person once he or she has gained access to a copy of the work. According to the Senate Judiciary Committee, if a copy control technology is employed to prevent the unauthorized reproduction of a work, (1) the circumvention of that technology would not itself be a violation of Section 1201, but (2) any reproduction of the accessed work would remain subject to the provisions of Section 1201 [37]. The question that arises is: Why is (1) not considered an “additional violation”? Legislative history explains that (1) is not itself an additional violation since it falls under regulation of traditional copyright law. Concerning technological measures, as mentioned earlier in the paper, the basic provision of Section 1201 states that circumvention of a technological measure that is used to control access to a work protected under copyright law is prohibited. But what are these measures? The statute does not provide clarity here. The difficulty with this is that it is unclear how effectively a protection technology must operate in order to fall within the scope of Congress’ intended protection.

The question, then, is whether we consider the legislative history or just ignore it. On the one hand, intentions are made in good faith and shortcomings can provide a good way of learning what works and what will not work for future legislation. On the other hand, one also has to consider whether enough time was spent crafting the DMCA. Changing the original copyright law to transition to the Digital Age is a huge undertaking and should not have been taken lightly.

Court Interpretation of Fair Use

There are two opposing views on how the fair use doctrine was interpreted in court. The external view (Figure 1) holds that the DMCA’s original floor statements are in fact erroneous with respect to fair use. This view raises the question of whether judges may go outside the statutory text by doing what common law jurists have done since the beginning of time. “Both the first sale doctrine and the fair use defense began as judicial constructions that Congress later codified. It remains to be seen whether courts may apply their common law powers to fashion a type of fair use defense to the anti-circumvention strictures of Section 1201, independent of the fair use defense that Section 107 codifies as to copyright infringement” [37]. The application of common law means that there is a judicial construction from outside the statutory framework that applies fair use to Section

1201. In other words, Section 1201 itself does not contain a fair use defense. The shaded region in Figure 1 demonstrates that the applied fair use defense is external to Section 1201.

The internal view (Figure 2) claims that there is support in at least one interpretation of the statute to show that the legislative history is fighting for preservation of fair use in the digital age. The interpretation referred to here is a subsection of Section 1201, namely Section 1201(c). Section 1201(c) deals with rights other than the circumvention violations but it is not clear what these rights are. The internal view holds that although Section 1201(c) is ambiguous, it is actually a type of fair use defense (as opposed to common law) that is applied internally to Section 1201. The shaded region in Figure 2 demonstrates that Section 1201 does contain a fair use defense within its statutory text.

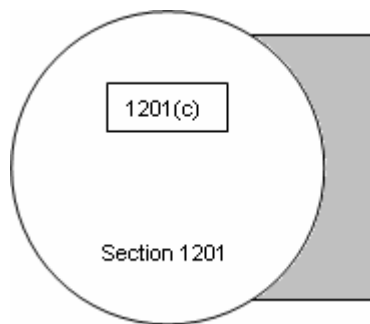


Figure 1: *External* view showing source of fair use defense lies *outside* of Section 1201.

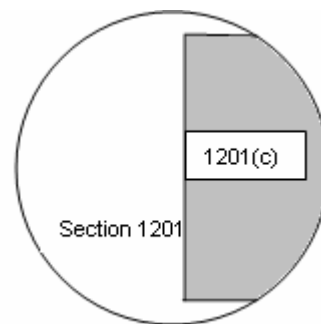


Figure 2: *Internal* view showing source of fair use defense lies *within* Section 1201 in the form of Section 1201(c).

Both views recognize that the courts might apply a fair use defense to handle a violation under Section 1201 and that the legislative history defending fair use could be used in either the external or internal areas of the views. The external view looks at the legislative history as flawed but recognizes that common law is a practical way of dealing with imperfect legislation. The internal view feels that the legislative history is fulfilling its intent with regard to protecting (traditional) fair use rights. The difference in the views lies in that the external view holds that fair use is justified by way of reaching outside the statute itself while the internal view claims that fair use is justified by way of interpreting an internal statute.

It is important to distinguish these viewpoints because there are three different types of legislators. The “textualists” apply the language of Section 1201 and do not consider legislative history. On the other hand, staunch defenders of fair use utilize their common law powers with the implication that fair use would be vindicated in all appropriate cases under Section 1201. Finally, those in between are “jurists who would be inclined to uphold a fair use defense if the language of the statute permitted, who interpret the Congressional language to afford them no such latitude, and whose judicial philosophy constrains them neither to add to nor detract from the statute’s plain meaning” [37].

The implication of the two opposing views is that within the legal system there exist opinions against and opinions in favor of the DMCA within the context of fair use

preservation. The external view clearly does not believe the DMCA upheld its original intent to protect fair use rights. In fact, this view might feel that the DMCA has undermined the fair use doctrine since the fair use defense of the doctrine is not employed to provide protection against copyright infringement under Section 1201. The internal view, however, feels that Section 1201, the anti-circumvention law, has a potential inherent fair use protection mechanism.

Criticizing the DMCA

Another opposing opinion is that the DMCA has allowed copyright to become off balance. Instead of protecting both the copyright owner and the fair use rights of consumers, the DMCA has “dramatically tilted the copyright balance toward complete copyright protection at the expense of the Fair Use rights of the users of copyrighted material” [38]. In other words, the copyright owner is fully protected and has all the advantages. This opinion supports H.R. 107, a bill by Rep. Rick Boucher (Virginia) that would support circumvention for the purpose of exercising fair use. The goal of the Boucher bill is to ensure that consumers who purchase digital media are allowed to copy the media for their personal (or home) use as long as they do not infringe the copyright in the media. Boucher is basing his legislation on the 1983 *Betamax* decision by the Supreme Court. The outcome of this decision was that consumers have the right “to make copies of legally purchased copyrighted material for the purpose of ‘fair use’, such as making personal backup copies or multiple copies for different media devices” [38]. This outcome was significant because under the DMCA it is illegal to copy any digitally-recorded material for any purpose. Boucher also claims support from the technical community. Companies such as Intel, Verizon, Philips Electronics North America Corp., Sun Microsystems, Gateway and various computer associations are quoted as supporting Boucher’s legislation [38].

Opinions in this category view the future of copyright under the DMCA as very bleak. Given the enormous amount of protection offered to copyright owners, it is only a matter of time before the rights of copyright owners will extend beyond their current context and the first sale doctrine to “decide when, where, and how users can make use of the copyrighted materials they [lawfully] purchase” [39]. Users will no longer be able to view the copyrighted material, transfer it or share it with others. One recommendation made by individuals in this group is to rebalance copyright. Congress should amend the DMCA to include a fair use defense. The U.S. Supreme Court should decide how fair use will be used as a defense under the provisions of the DMCA. In addition, the courts should recognize that the “overboard application of the anti-trafficking provisions of the DMCA” may possibly be unconstitutional [39]. Copyright laws affect certain types of speech fair use can be a tool in permitting such types of speech. Another recommendation involves congressional action. The Boucher bill “would amend the DMCA to include several new protections designed to temper the harsh results mandated by the anti-trafficking provisions” [39]. The bottom line is that Congress must make sure that fair use is absolutely preserved under the DMCA.

Rebuttal

Those in favor of the DMCA are of the opinion that the DMCA does not undermine fair use and that it does not only protect the copyright owner. Evidence of this claim can be found in *Chamberlain Group v. Skylink Technologies* [40]. Chamberlain, a maker of garage door opener systems, used the DMCA in accusing Skylink, a manufacturer of third party remote controls for garage door openers, of violating the anti-circumvention provision of the DMCA in making a garage door opener that is compatible with Chamberlain's garage door openers. Chamberlain claimed that Skylink had violated the anti-circumvention provisions of the DMCA by circumventing the technological measure put in place to protect the copyrighted software in Chamberlain's garage door opener. The court, however, decided in favor of Skylink: "The DMCA does not create a new property right for copyright owners. Nor, for that matter, does it divest the public of the property rights that the Copyright Act has long granted to the public. The anti-circumvention and anti-trafficking provisions of the DMCA create new grounds of liability. A copyright owner seeking to impose liability on an accused circumventor must demonstrate a reasonable relationship between the circumvention at issue and a use relating to a property right for which the Copyright Act permits the copyright owner to withhold authorization-as well as notice that authorization was withheld. A copyright owner seeking to impose liability on an accused trafficker must demonstrate that the trafficker's device enables either copyright infringement or a prohibited circumvention" [41].

One of the key aspects in the outcome of this case is that the DMCA does not create new property rights for copyright owner and that it does not extend the existing rights granted to the owner under copyright law. The anti-circumvention provisions simply provide copyright owners with new ways to protect their works. Without this recognition, the plaintiff's claim would empower copyright owners to prohibit fair use even when no violations of copyright had occurred.

Another opinion in favor of the DMCA does not find it necessary to make changes to the DMCA. Supporters in this group claim that the DMCA allows exemptions for educational purposes and research and that the U.S. Copyright Office has the power to review the DMCA every three years and make exemptions to the anti-circumvention provisions. David Green, vice president and counsel for the Motion Picture Association of America opposes the Boucher bill fearing that it will encourage "the creation of devices and technologies that have significant copyright-infringement uses" [42]. Green feels that the sharp rise in the availability of digital content over the last six years is due to the protections offered by the DMCA. He does not see the necessity of allowing the circumvention of protective technological measures: "Do we see people out there who say, 'I must back up my DVDs because I buy them and they disappear immediately'?" [42]. Jonathan Zuck, president of the Association for Competitive Technology shares this view of the Boucher bill. Zuck feels that the DMCA already provides a strong framework for protecting digital copyrights and that Boucher's bill "statutorily creates an excuse for infringement" [42].

Individuals in this category recognize that the issue at hand is about finding balance between the rights of the copyright owner and the greater good. However, they also feel that perhaps there is a much broader interpretation of “fair use” among users than what copyright law actually states.

11. CONCLUSION

Content-producing industries are a valuable asset to the U.S. economy and it is generally agreed that they should be allowed certain protections provided by copyright law. Widespread piracy of software, movies and music threatens the value of copyrighted works and reduces the incentive to create and distribute new material. The WIPO treaties and the DMCA originated with the good intentions of protecting these industries by updating copyright law to deal with the realities of recent technological advances. Despite the need for digital copyright protections, several major flaws in the DMCA have become evident which call into question its effectiveness and appropriateness with regard to the original intentions. Lack of global enforceability is a major drawback in the Internet age and limits the piracy-fighting ability of the law, and statistics suggest that it has had a negligible effect on piracy prevention. Additionally, vagueness of certain sections have allowed interpretations to suit interests unrelated to those of protecting copyright, such as stifling speech, limiting fair use rights and restricting competition.

First Amendment

The Felton lawsuit is a very good example of what can happen if the DMCA is pushed against first amendment issues. In the formation of the DMCA, congress has created a law which will ultimately be formed by the judiciary system. With the expansion of the digital world, the possibilities of DMCA violations are certainly going to increase; it will be interesting to note how the legal system reacts to future cases in helping set precedence to define what constitutes a violation. The future of the DMCA seems to be a very dynamic one. As demonstrated in the Felton case, SDMI’s withdrawal of their lawsuit indicates that there is a strong possibility this law can be successfully defended against on first amendment issues. We will not know for certain how the courts react to this defense until it actually happens.

Fair Use

Questions still remain as to whether the DMCA undermines the fair use doctrine. Section 1201 is more concerned with circumvention and access control than with protecting (the notion of) traditional fair use. While the DMCA was supposed to be the answer to the shortcomings of the Copyright Act, it let fair use fall between the cracks. For example, the language of the DMCA is unclear; some instances of fair use are recognized as legitimate using the standards of the fair use doctrine while others are now considered violations under the DMCA. There needs to be more consistency in how fair use is interpreted in court. Legislators need to decide how the legislative history could be used to create more consistency and clarity in the language of the DMCA.

Another issue is whether fair use, or how much of fair use, is a legitimate consumer expectation. “Consumer expectations have a lot to do with existing copyright law. People generally expect to be able to do the things that copyright law permits” [43]. What is

needed is a clearer understanding to the public of what fair use is and how fair use is now interpreted in the digital environment as opposed to the old understanding of fair use in the analog environment. In other words, there must be more clarity on the transition of fair use from one environment to the other.

Anti-Circumvention

The DMCA has introduced a new area of liability with Section 1201. The *Chamberlain v. Skylink* case shows that the allegation is not copyright infringement but has to do with anti-circumvention. Chamberlain did not accuse Skylink of copyright infringement. Instead, Chamberlain alleged that the computer programs in its openers and transmitters are protected by copyright and the rolling codes in the software comprise a technological measure that controls access to those programs. It is important to point out that the circumstances of this case deviated from the normal expectations. The proof of burden was shifted to Chamberlain (the plaintiff) to establish a connection between Skylink's circumvention device and the rights granted to Chamberlain under copyright law [43], i.e. to prove that Skylink's access to the rolling codes was unauthorized. Normally, in copyright infringement occurrences, the proof of burden of fair use is on the defendant who is considered the infringer.

The implication of this case is that it is a lot trickier to deal with copyright infringements under the DMCA. Traditional copyright law is not equipped to deal with copyright infringement under Section 1201 because copyright law has not focused on (circumvention) devices. This means that before the DMCA came along, a copyright owner had no case against a person who circumvented a technological access control but did not infringe. However, the DMCA made circumvention a liability for "digital trespass" [43].

Rebalancing Copyright

There are differences in the legislative history between the original Copyright Act and the DMCA. The provisions under the Copyright Act are "technology neutral". These laws do not regulate the exchange of information technology, particularly products and devices for transmitting, storing and using information. "Instead, they prohibit certain actions and create exceptions to permit certain conduct deemed to be in the greater public interest, all in a way that balances the interests of copyright owners and users of copyrighted works" [37]. The focus is on regulating how information is used and not on the means used to transmit the information. The Copyright Act also provides a balance between the interests of copyright owners and information users. In contrast, the DMCA (specifically Section 1201) goes one step further by regulating devices as well as information. According to the Commerce Committee, this is necessary since the digital environment makes it possible to reproduce and distribute perfect copies of works as opposed to the (old) analog environment.

It is clear that the balance between copyright owners and the public has shifted in favor of the owners. In order to rebalance copyright, the courts need to start recognizing the potential unconstitutionality of some of the applications of the DMCA. Congress needs to amend the DMCA to include a fair use defense. "It is hoped that the U.S. Supreme Court

will look closely at the issues in [key cases] under the DMCA, and finally decide how fair use will exist as a defense under the DMCA” [39]. The Boucher bill would amend the DMCA to assuage the harshness of the violations under the anti-trafficking provisions. In addition, the broad language of the DMCA needs to be modified in order to apply the appropriate sections of the DMCA only to cases where they are needed instead of including cases that might not be under DMCA violations. Finally, “Congress must act to remove the barriers to fair use that are codified in the DMCA, and even if the courts come around and broaden the rights of consumers to make fair use, Congress should nevertheless amend the DMCA to make it unequivocally clear that fair use is an integral part of the DMCA, and will continue to receive the protection that it has for the last 150 plus years” [39].

Not Completely Global

The DMCA was motivated and propelled by the WCT and the WPPT. It is very interesting to note that even though WIPO has 181 signatories, less than one third of them have ratified both WCT and WPPT. As a result, this represents many countries world wide that are not legally obligated to follow strict digital copyright protection guidelines. There are nations that do not agree with this particular implementation of the law as it is and this makes it very difficult to govern possible digital copyright infringements when they occur across jurisdictional boundaries.

The fact that the DMCA has no jurisdiction in some nations, allows technically capable individuals, like Jon Johansen, to produce circumvention technology without any fear of prosecution. Especially after the lawsuits filed against Johansen, it is clear that people of non-DMCA compliant nation have more freedom than people in the U.S. pertaining to digital copyrighted work. The courts in Norway ruled in favor of Johansen, whereas, the U.S. legal system found Eric Corley guilty of violating the DMCA for virtually related actions. Court cases like these have made people ponder the possibilities of amending the DMCA in the U.S. to comply more with fair use and first amendment issues. As it currently stands, people in the U.S. are fearful of violations of the DMCA and as a result, their fair use and first amendment rights are being stifled.

No Easy Answers

Despite the identification of several problems with the law, easy answers do not present themselves to the policy questions that arise. Court decisions seem to be shaping the law away from attempted uses of the anti-circumvention clause to stifle competition, but it might be wise for Congress to more explicitly define the law to prevent such abuses. Fair use is a more challenging subject and the right to circumvent copy protections for fair use purposes is basically meaningless without legal tools to do so. Codifying such rights in law and legalizing the tools to exercise them would potentially remove the “lock” of anti-circumvention tools and could open the door to widespread infringement. The strong coupling between circumvention tools and fair use necessitates that the move to outlaw tools has a negative effect on the practicality of exercising fair use rights.

The DMCA has been the target of criticism that areas of public policy unrelated to copyright such as free speech, fair use rights, and competition and innovation are being

affected. There are also concerns that the law does not go far enough in protecting the copyrights in a rapidly evolving digital environment. Whether lawmakers choose to modify the law in some way to answer these concerns, or simply ignore the criticisms and allow the courts to shape the law, the topic of enforcing digital copyrights and the DMCA is sure to remain controversial.

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