Digital Millennium Copyright Act: Copyright Protections for the Digital Age

Carolyn Andrepont

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INTRODUCTION

As the turn of the century fast approaches, it is being heralded as the digital millennium. The Internet revolution, the turbo charged expansion of the net over the last decade, has created a global marketplace. One of the greatest difficulties to be faced in this digital millennium is the question of how to adequately provide for and protect the transfer and sharing of information in the global community. Intellectual property is considered differently from other forms of property because it consists of intangible information. The various forms of intellectual property provide the benefits of limited monopolies to musicians, writers, designers, software manufacturers, filmmakers, and the owners of creative works. Copyright law specifically protect and facilitate the conversion of artistic energy into public arts and entertainment. Throughout history the government’s role concerning the protection of copyrighted materials has been to encourage creativity and innovation, while at the same time creating incentives for the distribution of these works to the general public. The advent of the digital age presents unprecedented challenges to the aims of copyright protection.

Due to technological advances, the principles of intellectual property have expanded into the realm of cyberspace and the

5. Id. at ¶9.
6. Id. at ¶4.
Internet.\textsuperscript{7} New opportunities now exist for copyright owners to exploit and benefit from their work.\textsuperscript{8} Unfortunately, along with these benefits come the increased possibilities of misappropriation and distribution of copyrighted property and the destruction of a copyright owner’s rights to that property.\textsuperscript{9} Computers, machines treasured by most individuals, are the “world’s greatest copying machines.”\textsuperscript{10} Computers enable ordinary users to access web sites containing newspaper articles, pictures and music.\textsuperscript{11} This same technology which provides easy distribution and sharing of information also enables the pirating of copyrighted works “with a single keystroke.”\textsuperscript{12} Today’s rapid technological advances and global economy require immediate advancements to be made to the protections afforded by copyright laws.\textsuperscript{13}

In response to the immediate need for improved copyright protections, the Digital Millennium Copyright Act ("DMCA" or "Act") was signed by President Clinton on October 28, 1998. This Act is a long awaited piece of legislation which was the subject of intense debate in both the Senate and the House of Representatives for many months. It has been heralded as “the most important law in [intellectual property] so far this decade.”\textsuperscript{14} The DMCA seeks to accomplish three primary purposes. First, the DMCA implements two important international treaties of the World Intellectual Property Organization (WIPO), the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty (collectively as "Treaties"), both passed in Geneva, Switzerland in December of

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\begin{itemize}
  \item 7. Koenigsberg, \textit{supra} note 3, at ¶1.
  \item 8. \textit{Id.} at ¶2.
  \item 9. \textit{Id.}
  \item 11. \textit{Id.}
\end{itemize}
1996. Second, the enactment of the DMCA updates the copyright laws concerning the Internet. The Act provides necessary protection for copyright holders who fear their works, now available on the Internet in a digital form, will be misappropriated. Third, the DMCA outlaws the manufacture of devices or software designed to circumvent protective security measures created for the Internet and other electronic environments. In sum, the legislation presents practical extensions of copyright law in both the domestic and international arena, providing the necessary tools to protect copyrighted materials in the growing global infrastructure.

This article will analyze the DMCA and discuss its ability to protect the rights of copyright holders while trying to accommodate the rights of consumers and those individuals who earn a living through the reproduction and dissemination of intellectual property. Section I addresses the reasoning behind the implementation of the WIPO Treaties and the adoption of the DMCA. Section II discusses the legislation in detail. Section III analyzes the legislation and considers its possible impact upon the global information system.

I. BACKGROUND

A. Global Information System

Today's technological advancements are impacting the ways in which copyrighted works are created, reproduced and distributed. Advances in digital technology along with the development of electronic networks and similar communication technologies have

16. Id. at ¶9.
19. Lehman, supra note 13 at ¶16.
20. Id. at ¶11.
successfully contributed to the creation of a global information system.\textsuperscript{21} Due to the global nature of the Internet, the economic impacts of copyright infringement are far reaching. Today, any two-dimensional work can be "digitized," transformed into a numeric, digital code.\textsuperscript{22} Digital technology involves "the use of computers to encode visual images so they can be stored, displayed, transmitted and manipulated."\textsuperscript{23} Specifically, digitization involves the process of encoding information in binary form, either as a "0" or a "1".\textsuperscript{24} Information in a binary format is "discontinuous in time", compared to information represented in analog format which is in "variable, but continuous, waveforms."\textsuperscript{25} This digital format allows the works to be copied with greater ease and speed than ever before.\textsuperscript{26} Digital format also ensures that both the first and the fiftieth copies will be of the same high quality.\textsuperscript{27} High-speed and high-capacity electronic information systems make it possible for individuals to deliver perfect copies of digitized works to an infinite number of recipients throughout the world.\textsuperscript{28} Because of the ease of instantaneous copying and dissemination of digital works worldwide, copyright owners will be hesitant to place their works on the Internet unless adequate protection is provided.\textsuperscript{29} The illegal reproduction and dissemination of copyrighted materials prevents the creators of those works from controlling the manner in which they are presented and used and denies them the economic benefits derived from those copied works.

By the year 2001, it is predicted that 112 million computers will be connected to the global information system.\textsuperscript{30} However, the continued success of the global information system and its

\textsuperscript{21} Id. at ¶8.
\textsuperscript{22} Id. at ¶10.
\textsuperscript{23} Seth Shulman, Digital Museums, 97 Technology Review 8, 20 (1994).
\textsuperscript{24} Donald E. Lively et al., Communications Law: Media, Entertainment, and Regulation 807 (1988).
\textsuperscript{25} Id.
\textsuperscript{26} Lehman, supra note 13 at ¶10.
\textsuperscript{27} Id.
\textsuperscript{28} Id. at ¶11.
\textsuperscript{29} Hatch, supra note 2 at ¶3.
\textsuperscript{30} Lehman, supra note 13 at ¶6.
potential economic growth is jeopardized by the threat of inadequate copyright protections. As addressed above, without appropriate protection, owners of copyrighted property will be hesitant to make their works available on-line. If the Internet is unable to provide a sufficient amount of worthy content, the "growth and usefulness of the Internet will be stifled." Without the availability of interesting materials, consumers will be unwilling to pay users fees to access the Internet, effectively stunting its growth and evolution. One other concern regarding the growth capacity of the Internet involves Internet Service Providers ("ISPs"). The "potential of the Internet, both as [an] information highway and marketplace, depends on its speed and capacity." If ISPs are unclear as to their potential liability concerning infringed copyrights, they will be unwilling to provide the necessary investments to ensure the technology keeps apace with demand.

B. The WIPO Treaties

WIPO attempted to address the growing concerns connected with the availability of copyrighted materials in the new global information system in 1996 by passing the WIPO Treaties. The first treaty, the Copyright Treaty, serves to strengthen the current Berne Convention Copyright Treaty in order to include protections for cyberspace commerce. This treaty requires participating parties to "provide adequate protection and legal remedies against the circumvention of technological measures used to protect copyrights." The provisions of the WIPO Copyright Treaty include: 1) the explicit recognition of coverage for computer

31. Leahy, supra note 4 at ¶6.
32. Hatch, supra note 2 at ¶7.
33. Id. "Without clarification of their liability, service providers may hesitate to make the necessary investment to fulfill that potential. In the ordinary course of their operations service providers must engage in all kinds of acts that expose them to potential copyright infringement liability."
34. Bill Holland, Congress Extends C’Right Term: WIPO Passage Seen, BILLBOARD, Oct. 17, 1998, at ¶10. The Berne Convention is the leading treaty on copyright and related rights and was ratified by the United States in 1989.
35. Id.
programs; 2) the recognition of broad public distribution rights; 3) the broad right of public communication including the Internet; and 4) an obligation to provide legal remedies designed to preserve the integrity of “rights management information.” The second treaty, the Performances and Phonograms Treaty, introduced protections for sound recording performances in this digital era.

Taken together, the WIPO Treaties’ main provisions update the existing copyright protections for creators of intellectual property and clarify the illegality of encryption violations and the circumvention of copyright protections. The Treaties expand the protection available to online works including music, software, movies and literary works. Furthermore, the WIPO Treaties address the limits of potential infringement liability faced by ISPs and the telephone companies which serve as data and information providers. At the same time, the Treaties outline the fair use limits of copyrighted materials by libraries and educational institutions. Together, the Treaties fortify intellectual property rights throughout the entire world.

For the Treaties to achieve full force in the international community, thirty countries must adopt the Treaties’ guidelines. As of publication of this article, only three countries, the United States, Indonesia and Moldova, have ratified the WIPO Treaties. It is hoped that the DMCA will provide a model for other countries to follow in the implementation of the WIPO Treaties.
the world.\textsuperscript{45} Without the enactment of the DMCA, foreign countries will have far less incentive to address the issue of copyright infringement in a timely manner.\textsuperscript{46} The Treaties will not be effective on a global scale until they are implemented by a significant number of countries. Although the WIPO Treaties will enable the "commercial applications of online digital communications in cyberspace," the law of signatory countries evinces that much of the world is still reluctant to implement the Treaties.\textsuperscript{47} The implementation of the Treaties by the United States hopefully will serve as an impetus to other foreign nations to act quickly to implement these two treaties. Not only do the two WIPO Treaties provide clear standards for international protection for intellectual property in the digital environment, they provide valuable protection for U.S. copyrighted works.\textsuperscript{48} Without the implementation of the WIPO Treaties, difficulties may arise which prevent the enforcement of copyright protections.\textsuperscript{49}

\textbf{C. United States Copyright Industries}

The United States started the Internet and today remains its largest hub, leading every other country in terms of creative


\textsuperscript{46} \textit{Id.} at ¶3. "Implementation of the WIPO treaties...will substantially enhance the software industry’s ability to combat copyright infringement. As the software industry continues to lose billions of dollars in revenue each year internationally, immediate action is needed to uphold copyright protection around the world."

\textsuperscript{47} Lehman, \textit{supra} note 13 at ¶14.


\textsuperscript{49} "While, there will be no barriers to dissemination, there could be barriers to enforcement of copyrights if countries do not implement these Treaties." "...A lax regime in one country could provide a haven for pirates who could undermine the market for legitimate goods throughout the world." \textit{Id.} at ¶15.
cyberspace output. In the United States, the copyright industry is an increasingly important aspect of the U.S. economy. A study by the International Intellectual Property Alliance completed in 1998 found that in 1996, 3.65% of the Gross Domestic Product, a value of $278.4 billion, was generated by the copyright industries. Between the years 1977 and 1996 the copyright industries grew three times as fast as the economy taken as a whole, and by 1996 the industry employed close to four million Americans, almost 3% of the U.S. workforce. It is predicted that, within two years, over 100 million computers will be connected to the Internet. It is therefore apparent that a major source of economic growth in the 21st Century will be electronic commerce. Already on-line sales generate $31.4 billion, a number that is expected to grow to $357 billion by the year 2001.

The United States’ competitive edge is threatened by the relative ease with which digital works can be copied and disseminated worldwide instantaneously, however, the DMCA substantially mitigates the existing threats to copyrighted materials. The DMCA ensures that the United States will maintain its starring role in the competitive, evolving global market. The legislation, implementing the WIPO Treaties, creates strong protections for copyrighted works available in the global digital online marketplace. The DMCA will set strong international copyright standards while effectively facilitating the quick and convenient availability of movies, music, literary works and software through the Internet.

50. Hatch, supra note 2 at ¶15.
51. Lehman, supra note 13 at ¶5.
52. Id.
53. Id.
54. Id. at ¶6.
55. Id.
56. Lehman, supra note 13
57. Id.
58. Id. at ¶3.
59. Id.
The United States' copyright industries are this country's most important generator of exports.\textsuperscript{60} The international sale and export of films and videos, literature, music and software, exceeds the export of both automobiles and agricultural products.\textsuperscript{61} Unfortunately, it is estimated that these industries also lose billions of dollars in international revenue annually.\textsuperscript{62} Possibly the two industries most greatly effected by the advancement in technology are the music and film industries.

1. Motion Picture Industry

According to Bonnie Richardson, Vice President of Trade and Federal Affairs for the Motion Picture Association of America, the American film industry loses close to \$2.5 billion annually because of the inadequate protection available to intellectual property.\textsuperscript{63} The global appeal of films produced by the U.S. motion picture industry is phenomenal.\textsuperscript{64} In fact, the U.S. earns over \$5 billion from the sale of films and television programs in Europe alone.\textsuperscript{65} On average, American movies cost \$53 million to produce and another \$20 million to market.\textsuperscript{66} Therefore, foreign markets are essential in order to earn back the incredible investment funds needed to create the films.\textsuperscript{67} The majority of the losses experienced by the movie industry are caused by the illegal copying of video


\textsuperscript{61} Id.


\textsuperscript{63} Richardson, \textit{supra} note 60 at ¶7.

\textsuperscript{64} Id. at ¶5.

\textsuperscript{65} Id.

\textsuperscript{66} Margaret Quan, \textit{Valenti Asks Satellite Broadcasters To Secure Transmissions of Films}, ELECTRONIC ENGINEERING TIMES, Sept. 21, 19998 at ¶9.

\textsuperscript{67} Richardson, \textit{supra} note 60 at ¶6.
cassettes. In Italy alone, the motion picture industry loses $220 million to video piracy.

A major concern for the movie industry is the maintenance of secure digital transmissions. Digital terrestrial television is a new form of television signal which is carried on airwaves, rather than through a cable. The digital transmission of programs makes the material much more vulnerable to pirating since the technology allows consumers to create perfect copies of copyrighted films. The deadline for the commencement of digital terrestrial television broadcasting was November 1, 1998. One way to ensure copyrighted materials are protected from illegal reproduction is to encrypt the signal. Encryption serves as a strong anti-piracy device, protecting the rights of retailers. Scrambling and encryption technologies protect a variety of media, including videotapes, pay-per-view broadcasts, and satellite broadcasts.

The DMCA is an extremely important piece of legislation for the film and video industries because the language of the Act prohibits the advertisement, production, distribution or use of devices or measures designed to defeat such analog copy-protection and other encryption signals.

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68. Id. at ¶7.
69. Id. at ¶11.
70. Quan, supra note 66 at ¶2.
72. Quan, supra note 66 at ¶3.
73. Id. at ¶2. "Hollywood producers are concerned that the digital transmission will render the material vulnerable to pirating, because digital TV receivers and home DVD players/recorders allow consumers to create crystal-clear copies of copyrighted films."
75. Id. "The critically important thing with digital products is that, if their encryption is defeated, their signal is a perfect signal, and the last copy is as good as the first."
77. Villa, supra note 74 at ¶3. The Act also requires that new VCRs must be designed to prevent illegal reproductions of videocassettes or pay-per-view
If the rights of movies are not safeguarded in cyberspace, the movie industry will experience a severe devaluation. Because the film industry is such a large contributor to the U.S. economy, any devaluation in the industry will have a profound effect on the national economy as a whole. The increased protection to copyrighted materials provided by the DMCA will encourage motion picture studios and other program providers to make programming available on digital formats including the Internet.

2. Music Industry

For years musical recordings have been available to the general public through a number of different venues, including radio, cassette tapes and compact discs. Now the music industry's most popular recordings are being transmitted over the Internet. The free transmissions of these recordings through cyberspace have made it virtually impossible for the societies and collection agencies who are responsible for the licensing of these recordings to track the destinations of the music. Musical works are transmitted across the Internet in two ways: 1) transmissions similar to radio broadcasts, known as webcasting, and 2) through the delivery of specific computer files that contain sound recordings capable of being replayed on personal computers or other compatible devices. The second method involves a file broadcasts that are copy-protected. New VCR's must be designed to prevent unauthorized recording of videocassette and pay-per-view programs that are encoded with Macrovision's copy protection.

Quan, supra note 66 at ¶9. Jack Valenti, Chairman and Chief Executive Officer of the Motion Picture Association of America, points out that American movies "cost $53 million on the average to produce and another $20 million to market. If we don't protect movie copyrights in cyberspace, the value of movies will be very small." Id. at ¶8.

Id. at ¶10.

MacMillan, supra note 76 at ¶5.


Id. at ¶3.

Id. at ¶2.
format known as MP3.\(^{84}\) The webcasting of sound recordings and the increase in downloadable MP3 files are causing the music industry to question whether current copyright laws can still prove effective in the new digital age.\(^{85}\)

One example of the conflicts arising from the availability of music on the Internet and in digital form is Recording Industry Association of America, Inc. v. Diamond Multimedia Systems, Inc. In 1998, the Recording Industry Association of America (“RIAA”) brought suit against Diamond Multimedia (“Diamond”), seeking an injunction to prevent the release of the Rio MP300 player (“Rio”).\(^{86}\) The RIAA claimed the Rio would be facilitate the “distribution of pirated music on the Internet.”\(^{87}\) The RIAA argued that the Audio Home Recording Act of 1992 “requires digital recording devices to contain a serial copy management system which would prevent...piracy of copyrighted works.”\(^{88}\) In response, Diamond argued the Rio is simply a “playback device” and therefore not subject to the recording device classification in the Audio Home Recording Act.\(^{89}\) The Rio stores thirty minutes of “near-CD-quality music.”\(^{90}\) The availability of this device enables music fans, those with access to the Internet, to avoid paying for their favorite music.\(^{91}\) Unfortunately for the music industry, RIAA’s request for an injunction was denied.\(^{92}\) MP3 and devices compatible with the technology, now considered legal under copyright law, have led to “an explosion in the traffic in pirated

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84. MP3 is a process which compresses digitized music to allow for downloading via the Internet and results in a near CD-quality audio format. Dylan Tweney, *Microsoft Takes Aim At Language Barriers To Business Information*, 21 INFOWORLD 11, 59 (1999).

85. *Id.* at ¶3.


87. *Id.*

88. *Id.* at ¶6.

89. *Id.* at ¶7.


91. *Id.*

music." Individuals throughout the music industry are hopeful that the implementation of the DMCA will prevent other cases similar to RIAA v. Diamond.

II. LEGISLATION

Recognizing the need for improvements in the existing copyright protection in the face of today's technological advancements, President Clinton signed the Digital Millennium Copyright Act in October 1998. The Act clarifies the United States' view of online copyrights and signifies its compliance with the WIPO Treaties. The bill was subjected to a number of last-minute language changes aimed at creating legislation that would serve as a sufficient compromise between the electronic advocacy groups and artists' rights organizations. The DMCA provides protection for copyright holders and artists who fear the potential misuse of their works. In the past copyright holders have employed security devices, such as encryption, to protect their works. However, before the enactment of the DMCA, the law did not provide for the preservation of these security devices. An important aspect of the DMCA outlaws not only the circumvention of protective security devices, but the manufacturing or distribution of the technology designed to circumvent those security measures that control and prevent access to protected works. As a compromise between the competing interests of artists and users of intellectual property, the Act allows the use of encryption circumvention technology for fair use purposes by such groups as educational institutions, but will provide extreme penalties for those individuals who employ such tools to illegally use copyrighted materials.

93. Id.
95. Id. at ¶4.
96. Id. at ¶6.
97. Id.
98. Id. at ¶5.
The DMCA is broken into five sections. Title I implements the two WIPO Treaties. Title II addresses the liability limitations of online copyright infringement and provides "safer harbors" for ISPs. Titles III, IV, and V are beyond the scope of this article.

A. Title I

Title I of the DMCA implements the WIPO Treaties. The implementation of the Treaties expands copyright protection for intellectual property including music, software, text and other works that are published online. Title I accomplishes two things. First, it provides for several amendments to current U.S. copyright laws, providing references to the Treaties. Second, it creates two prohibitions, the first concerning the circumvention of technological measures employed by copyright owners, and the second one on disturbing copyright management information.

1. Technical Amendments

The technical amendments to U.S. law concern national eligibility and the restoration of copyright protection. The

100. Id.
101. Id. Title III is an amendment to section 117 of the Copyright Act, ensuring that copyrighted materials may be accessed by an authorized individual during computer repair service in order to effectively service that computer without incurring liability for copyright infringement. Title IV provides for several miscellaneous changes to the Copyright Act. These changes include a pay raise for the register of copyrights and the commissioner of the Patent and Trademark Office. Title IV also addresses exemptions for libraries and archives, along with the scope of exclusive rights in sound recordings. And finally, Title V, referred to as the "Visual Hull Design Protection Act," created intellectual property rights in the original design of boat hulls.
103. Id.
104. Id.
Treaties require each member country to "provide protection to certain works from other member countries or created by nationals of other member countries." These protections must be as favorable as those provided to domestic works. Additionally, the Treaties require member countries to protect preexisting works of other countries that are not already in the public domain.

2. Technological Protections

The WIPO Treaties contain language requiring member countries to prevent the circumvention of technology used to protect copyrighted works. As defined under the DMCA, to circumvent a technological measure means "to descramble a scrambled work or decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner." To adhere to the Treaties, the DMCA created a new chapter 12 to Title 17 of the U.S. Code. Section 1201 establishes the obligation to provide protection against the circumvention of measures employed by copyright owners. Technological measures are divided into two categories: 1) those that prevent the unauthorized access to works that are copyrighted, and 2) those that prevent the copying of copyrighted materials. Section 1201 prohibits the manufacture or sale of any devices which are designed to circumvent measures in both the above categories, in limited...
circumstances. Section 1201 prohibits only the circumvention of measures designed to prevent unauthorized access, not copying.

In response to extensive lobbying by library and educational groups, the Act does provide for six exceptions to the prohibitions against the circumvention of technological measures. These exceptions include 1) nonprofit library, archive and educational institutions, 2) reverse engineering, 3) encryption research, 4) where actions further the protection of minors, 5) when the measures employed facilitate the dissemination of personal information, and 6) for purposes of testing the security of a computer, its system or network.

The WIPO Treaties update and strengthen copyright protections for creators of intellectual property. The Treaties fortify intellectual property rights throughout the world. It is hoped that the DMCA will provide a model for other countries to follow in the implementation of the WIPO Treaties. The implementation of the Treaties through acts such as the DMCA is an impressive step towards achieving cohesive worldwide copyright protections.

B. Title II

Although the reach of Title II is extremely narrow this section addresses the one area vital to the continued success of the Internet, ISPs. Title II, titled the Online Copyright Infringement Liability Limitation, contains several “safe harbor” provisions for ISPs.

113. The Digital Millennium Copyright Act of 1998, U.S. COPYRIGHT OFFICE SUMMARY, Dec. 1998, at 4. Prohibited devices include those that 1) are primarily used to circumvent, 2) have limited commercial significance other than circumvention, and 3) are marketed specifically for circumvention.
114. Id. The distinction between the two categories ensures the public’s continued access and fair use of copyrighted works.
116. Holland, supra note 34 at ¶10.
117. Leahy, supra note 4 at ¶3.
Specifically, Title II amends Federal Copyright Law, adding a new section 512 to the Copyright Act of 1976, and creating several new limitations on the potential liability of online service providers for copyright infringement.\textsuperscript{120} The limitations on liability fall into four categories of conduct: 1) transitory communications, 2) system caching, 3) storage of information on either systems or networks at the direction of users, and 4) information location tools.\textsuperscript{121}

Any party hoping to benefit from any of these limitations must first qualify as a "service provider."\textsuperscript{122} With regard to the limitation for "transitory communications," a service provider is defined as "an entity offering the transmission, routing, or providing of connections for digital online communications,... without modification to the content of the material as sent or received."\textsuperscript{123} As pertains to the other three limitations, an online service provider is defined as a "provider of online services or network access, or the operator of facilities therefor."\textsuperscript{124}

A service provider must meet two requirements in order to be eligible to benefit from the limitations on liability.\textsuperscript{125} First, the ISP must implement a policy for terminating the accounts of subscribers who repeatedly infringe copyrights.\textsuperscript{126} Second, an ISP cannot interfere with, and in fact must support, technological measures used to protect copyrights.\textsuperscript{127}

\textit{1. Limitations of Liability for Transitory Communications}

Section 512(a) limits the liability of ISPs when the provider serves merely as a "conduit," a transmitter of information from one

\textsuperscript{121} Id.
\textsuperscript{122} Id.
\textsuperscript{124} Id.
\textsuperscript{126} Id.
\textsuperscript{127} Id.
point to another.128 This section includes acts of "transmission, routing, or providing connections for the information."129 To qualify under this section, ISPs must meet the following conditions:

(1) the transmission was initiated by another person; (2) the storage and transmission is carried out through an automatic technological process, without any selection of that material by the provider; and (3) no copy of the material is maintained in a manner accessible to anyone other than the recipients anticipated by the person who initiated the transmission of material and no copy is maintained any longer than necessary to complete transmission.130

This limitation on liability ensures that a service provider will not be liable for any monetary, injunctive or other equitable relief, as long as the above three conditions are met.131

2. Limitations of Liability for System Caching

Section 512(b) limits the liability of ISPs when a provider "retains copies, for a limited time, of material that has been made available online by a person other than the provider, and then transmitted at his or her direction."132 This limitation applies to both intermediate and temporary storage of information.133 To qualify under this section, ISPs must meet the following conditions:

128. Id. at 10.
129. Id.
131. Id.
133. Id. at 11.
1) the content of the material retained cannot be modified; 2) the provider must comply with rules concerning refreshing, reloading, or other updating of the material when specified by the person making the material available; 3) the ISP must not interfere with the ability to return materials to the person who posted it; 4) the provider must limit access to material to those users of its system or network that have met the conditions imposed by the individual who posted the information; and 5) the provider must respond expeditiously to remove or disable access to any material available online with the authorization of the copyright owner.\textsuperscript{134}

Along with the preceding limitation on liability for transitory communications and the two subsequent limitations, the system caching liability limitation provides that a service provider will not be liable for any monetary, injunctive or other equitable relief, as long as the listed conditions are met.\textsuperscript{135}

3. Limitations of Liability for Information residing on Systems or Networks

Section 512(c) limits the liability of ISPs concerning infringing information that is posted on websites hosted by their systems.\textsuperscript{136} To qualify under this section, ISPs must meet the following conditions:

1) the provider does not have actual knowledge that the material or an activity using the material on the system or network is infringing and upon obtaining such knowledge acts expeditiously to

\begin{footnotesize}
\begin{enumerate}
\item Id.
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remove the material; 2) the provider does not receive a financial benefit directly attributable to the infringing activity; and 3) upon notification of claimed infringement the provider responds expeditiously to remove, or disable access to, the material claimed to be infringing.\textsuperscript{137}

In addition to the above conditions, an ISP must provide the Copyright Office with the name of its designated agent responsible for receiving notifications of infringement. The DMCA outlines specific procedures to be followed by copyright owners when submitting a notification of infringement. The DMCA also protects against the eventuality that a false notification may be made against an innocent subscriber. In this instance, the subscriber has the ability to serve a counter notice with the service provider.\textsuperscript{138} If after the service of a counter notice, the copyright owner does not seek a court order against the subscriber, the service provider must re-post the material that had been previously disabled.\textsuperscript{139} Finally, the statute provides penalties for knowingly misrepresenting any information on either a notice of infringement or a counter notice of compliance.\textsuperscript{140}

4. Limitations of Liability for Information Location Tools

Section 512(d) pertains to “hyperlinks, online directories, and search engines.”\textsuperscript{141} Liability is limited for acts which refer or link users to sites containing infringing materials.\textsuperscript{142} To qualify under this section, ISPs must meet the following conditions:

\begin{itemize}
  \item 138. Id.
  \item 140. Id.
  \item 141. Id.
  \item 142. Id.
\end{itemize}
1) the provider does not have actual knowledge that the material or activity is infringing; 2) the provider does not receive a financial benefit directly attributable to the infringing activity; and 3) upon notification of claimed infringement the provider must respond expeditiously to remove, or disable access to, the material that is claimed to be infringing.\(^{143}\)

The provisions included in Title II are vital to the growth and evolution of the Internet and the global information system. Without a clear determination of their potential liability concerning online copyright infringement, ISPs will be unwilling to put forth the time, effort and money which is necessary to ensure the success of the Internet.\(^{144}\) If these carriers are overly concerned with incurring liability, they may be either unable or unwilling to expend investment capital to ensure their technology meets the demands of consumers. The DMCA ensures that ISPs can devote their time and energy to improving and expanding their systems without the worry of copyright infringement liabilities.

III. ANALYSIS OF LEGISLATION

Since the writing of the U.S. Constitution, copyright protections have promoted the progress of science and arts by providing certain beneficial protections to artists and creators. The overriding purpose behind the DMCA is to provide a balance between encouraging creativity while still promoting the distribution of materials to the public. The Act was designed to serve as a compromise between the conflicting interests of artists and those individuals who wish unfettered access to copyrighted materials.\(^{145}\)

\(^{144}\) Hatch, supra note 2 at ¶7.
\(^{145}\) MacMillan, supra note 17 at ¶5.
The largest concern connected with this Act is the potential impact that Title I may have on the fair use of information. It has been argued that the language of the DMCA provides the owners of intellectual property and copyrighted material with "unprecedented and monopoly-like controls over the flow and use of information in commerce and society." When a copyright protection right is granted, it is weighed and balanced with potential exceptions intended to encourage the creation of new or improved intellectual property by permitting individuals to access and build upon the work of others. It is argued by some that the United States succeeds as an innovative leader in the areas of intellectual property and technology because of the unique ability of its citizens to gain access to information found in published or publicly available works. Thus, the argument is made that the more restrictive the access to creative works, the less creativity will flourish.

Despite worries voiced by industry groups which promote fair use of copyrighted materials, the DMCA is a successful attempt to placate "fair use advocates...who argue that too much protection of copyright holders equals not enough access to information." The Act supports the safeguarding of works by copyright owners through encryption technologies and imposes restrictions on devices designed to circumvent those safeguards. To pacify "consumer electronic manufacturers", along with educational institutions and other groups which routinely use copyrighted materials, the Act includes provisions permitting fair use in limited situations and also permits the use of circumvention technologies for purposes of research and development.

In contrast to those individuals who oppose the DMCA on grounds of fair use, the DMCA enjoys support and approval from various groups throughout the entertainment industries. In the

147. Id. at ¶5.
148. Id. at ¶7.
151. Id. at ¶10.
music industry, the DMCA has received support from several groups. The Digital Media Association approves of the DMCA because the Act clarifies "recording companies' ownership of, and Webcasters' authority to use sound recordings, and will provide both industries with a simplified method of licensing."\(^{152}\) Furthermore, the Act establishes a more secure foundation on which to further the development of "online digital commerce" in the music industry.\(^{153}\) Additionally, Hilary Rosen, the president and Chief Executive Officer of RIAA, was quoted as saying "this legislation will really promote the next generation of progress of music on the Internet."\(^{154}\)

According to the Screen Actors Guild ("SAG"), U.S. performers are involved in the majority of the $4.5 billion of entertainment products exported throughout the world.\(^{155}\) SAG is satisfied with the DMCA because the Act promises to prevent the manipulation of U.S. performers' publicity through the duplication and dissemination of their images via the Internet.\(^{156}\) Also, it is expected that the provision of the Act that requires all new VCRs to be designed in such a way as to prevent the unauthorized copying of video and pay-per-view programs will "encourage motion picture studios and other content providers to make more programming available on the new digital formats."\(^{157}\)

The government’s role concerning intellectual property rights and the protection of copyrighted materials has been not only to encourage creativity and innovation, but also to create incentives to facilitate the sharing of information and the distribution of these materials to the public.\(^{158}\) The implementation of the DMCA occurs at a time when technological advancements offer infinite possibilities and opportunities for the sharing of information on a

\(^{152}\) Id. at ¶6.
\(^{153}\) Id. at ¶7.
\(^{154}\) Holland, supra note 34 at ¶5.
\(^{156}\) Id.
\(^{157}\) MacMillan, supra note 76 at ¶5.
\(^{158}\) Leahy, supra note 4 at ¶9.
global level. The Act successfully provides for both the fostering of creative genius within the artistic community, and the fair use of works deriving from that genius.

CONCLUSION

While the effects of this statute may not be immediately visible, this piece of legislation is long overdue. On the eve of the 21st century, it is apparent that advancements in technology and communications require similar advancements in the protections available to copyrighted materials. The digital era will provide individuals and businesses throughout the world with boundless opportunities. With those opportunities follows a significant increase in the risks to copyrighted works. The same technologies which are heralded for facilitating easy transfer, distribution and sharing of materials, also enable the unauthorized duplication of copyrighted works. The DMCA addresses these concerns.

By implementing the WIPO Treaties, the DMCA has successfully updated U.S. copyright laws to meet the needs of a growing global community. The Act provides long awaited protections for copyright holders who fear that, due to advancing technologies, their works lack adequate protection against misappropriation. The legislation provides practical extensions of copyright law in both the domestic and international arena, providing the necessary tools to protect copyrighted materials in the ever changing and borderless digital age.

Carolyn Andrepont