

1-1-2002

Avast Ye, Hollywood! Digital Motion Picture Piracy Comes of Age

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Recommended Citation

Christian J. Pantages, *Avast Ye, Hollywood! Digital Motion Picture Piracy Comes of Age*, 15 TRANSNAT'L LAW. 155 (2002).

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Avast Ye, Hollywood! Digital Motion Picture Piracy Comes of Age

Christian John Pantages*

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* J.D., University of the Pacific, McGeorge School of Law, to be conferred May, 2002; B.A., Criminal Justice, San Jose State University, June 1997. Many thanks to my parents, Lucky and Rose-Ellen, my diligent editors, Miranda Barber and Kelly Cesare, and to Ingrid Harry, who helped me focus on the task at hand and gave me the confidence to achieve it.

"The technology is moving extremely fast. I worry about the possibility that what has happened to music will soon be happening to movies."

—Jack Valenti, President, Motion Picture Association of America¹

I. INTRODUCTION

Pirates² have landed on the shores of Hollywood. As recently as early 2000, a digital reproduction of a major motion picture was unwieldy, difficult to transfer, and of mediocre video and sound quality. Today, that same reproduction can now be created in near-perfect theatrical quality and transferred worldwide through the Internet within an hour.³ Hollywood faces attack from piracy of both its movies released for rental and sale, as well as piracy of movies in theatrical release.⁴ Though there is a considerable amount of law regulating this type of crime, both in the United States and abroad, pirates are undeterred.⁵ Up to one million full length movies are currently downloaded every day, and as technology makes motion picture piracy quicker and easier, that number is expected to increase dramatically.⁶ Unless immediate efforts are made to stifle Internet motion picture piracy, every product churned out by this multi-billion dollar industry risks ending up as pirates' booty. Part II of this Comment addresses the history of the Internet, Internet piracy, and the technological advances that allow movies to be easily copied and transferred. Part III reviews existing copyright protection for movies transferred in a digital form. Part IV analyzes the current remedies and regulations, and Part V explores the future of copyright protection for motion pictures over the Internet.

1. Lee Gomes, *Web Piracy is Hitting Hollywood Sooner Than the Studios Thought*, WALL STREET J., July 17, 2000, at B1, available at <http://interactive.wsj.com/public/current/articles/SB963785272872501396.htm> (copy on file with *The Transnational Lawyer*).

2. Piracy is defined as "the unauthorized and illegal reproduction or distribution of materials protected by copyright, patent or trademark law." BLACK'S LAW DICTIONARY 1169 (7th ed. 1999).

3. See Gomes, *supra* note 1 (describing how, due to technological advances, movies are getting easier to pirate over the Internet).

4. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000), available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*) (reflecting how the extent of piracy covers virtually all Hollywood movies).

5. See Motion Picture Association of America (MPAA), *Anti-Piracy*, at <http://www.mpaa.org/anti-piracy> (last visited Sept. 16, 2001) (copy on file with *The Transnational Lawyer*) (mentioning how, despite launching over 60,000 investigations into pirate activities in 2000 alone, piracy is growing).

6. See Michael Bartlett, *Pirated Movies Abound on the Web*, WASH. POST (Aug. 1, 2001), available at <http://www.newsbytes.com/news/01/168593.html> (copy on file with *The Transnational Lawyer*) (remarking that just one of many forums for Internet movie piracy serves over one million movies a day and logs around 600,000 downloads).

II. ARG! THE MOTION PICTURE INDUSTRY WALKS THE PLANK

While Hollywood was using the existing laws and international conventions to eliminate the sale of bootleg videotapes through the late 1970s and 1980s, a much more powerful method of piracy was taking hold. A large interconnected network of computers was being created.⁷ Once connected to this network, computer users were able to transfer information amongst one another as easily as talking over the phone.⁸ As this network grew in size, speed, and flexibility, entire books could be transferred in an instant.⁹ Soon, whole libraries were available to anyone connected to the network anywhere in the world.¹⁰ This section discusses how this network, known as the Internet, now has the capabilities to transfer movie files from user to user, without the consent or authorization of the copyright owner, and it is showing no signs of slowing down.¹¹

A. The History of the Internet

In the mid 1960s, the United States was embroiled in the Cold War and had just suffered through the Cuban Missile Crisis.¹² The U.S. Department of Defense was facing a potential crisis: how could orders be issued to the U.S. armed forces if the United States' major telephone, radio, and television hubs were destroyed by a nuclear assault?¹³ The answer was to develop a computer network that had no central hub or switching station and could continue even if the phone lines were destroyed.¹⁴

7. Robert Craig Waters, *An Internet Primer*, 44 FED. LAW. 33, 36 (1997) (citing that although the Internet was created in 1969, it did not really become popular until the early 1980s).

8. See *id.* at 35 (adding that, despite the Internet's intended use for military communications, it was mostly used for exchanging gossip and football scores between researchers).

9. See *id.* at 37 (noting that some of the Internet's most useful features include "accessing remote computers to perform calculations, exchanging information on request, and searching through large amounts of information quickly").

10. *Id.*

11. See Stephanie Brown, *The No Electronic Theft Act: Stop Internet Piracy!*, 9 DEPAUL-LCA J. ART & ENT. L. & POL'Y 147, 154 (1998) (remarking that the problem with the Internet is that many programs are not being made available legally, with both the person who makes the file available and anyone who receives it in violation of copyright law).

12. See Waters, *supra* note 7, at 34 (highlighting the Internet's history as "a curious tale of a secretive Cold War military project that rocketed utterly out of control").

13. See Mark S. Torpoco, *Mickey and the Mouse: The Motion Picture Industry and the Television Industry's Copyright Concerns on the Internet*, 5 UCLA ENT. L. REV. 1, 4 (1997) (illustrating the United States Defense Department's concerns about communication readiness in the event of a nuclear attack).

14. See *id.* (commenting on the U.S. Government's solution to communication problems in the event established channels were unavailable).

In 1969, the Department of Defense created the ARPAnet, a linked network of four computers.¹⁵ As ARPAnet grew, similar networks linking universities, research institutions, businesses, and individuals developed.¹⁶ Eventually, each of these private networks were linked together, allowing users of any computer linked to the network to interact with any other user.¹⁷

The Internet as we know it today is a global network used by over four hundred million people.¹⁸ It provides a number of different interactive methods for sending and receiving information.¹⁹ Users may transfer information via electronic mail (e-mail),²⁰ the most common type of Internet communication, File Transfer Protocol (FTP)²¹ and Usenet,²² essentially “bulletin boards” where information is posted and shared, and Internet Relay Chat (IRC), where groups of users can communicate with

15. See JOHN LEVINE & CAROL BAROUNDI, *INTERNET FOR DUMMIES* 11-12 (3d ed. 1995).

What made the ARPAnet (Advanced Research Projects Agency Network) workable was that the four computers used the same set of protocols. A protocol is agreed-upon method of communication used by computers. The protocol handles such decisions as which computer should begin the communication, how replies are to be handled, how data will be represented, and how errors will be corrected. ARPAnet and the Internet use a collection of protocols called Transmission Control Protocol/Internet Protocol (TCP/IP).

RICHARD SMITH, ET. AL, *NAVIGATING THE INTERNET* 6 (1995).

16. See Torpoco, *supra* note 13, at 3 (describing how private institutions adapted the government’s computer networking technology for their own uses).

17. See *id.* (citing how the National Science Foundation, by building its own network which eventually merged with the Internet, helped the Internet grow rapidly).

18. See Nua Information Surveys, *How Many Online?*, at http://www.nua.ie/surveys/how_many_online/index.html (last updated Nov. 2000) (copy on file with *The Transnational Lawyer*) (measuring Internet use as of Sept. 2000).

19. See Laura Cohen, *A Basic Guide to the Internet*, at <http://library.albany.edu/internet/internet.html> (last modified May 2001) (copy on file with *The Transnational Lawyer*) (reporting that among different interactive methods for sending and receiving information are e-mail, FTP, Usenet, IRC, and the World Wide Web).

20. *Id.* “Electronic mail, or e-mail, allows computer users locally and worldwide to exchange messages.” *Id.* “Each user of e-mail has a mailbox address to which messages are sent.” *Id.* “Messages sent through e-mail can arrive within a matter of seconds.” *Id.*

21. See *id.*

This is both a program and the method used to transfer files between computers. Anonymous FTP is an option that allows users to transfer files from thousands of host computers on the Internet to their personal computer account. FTP sites contain books, articles, software, games, images, sounds, multimedia, course work, data sets, and more.

Id.

22. See *id.*

Usenet News is a global electronic bulletin board system in which millions of computer users exchange information on a vast range of topics. Usenet messages are stored on central computers, and users must connect to these computers to read the messages posted to these groups. Usenet itself is a set of machines that exchanges messages, or articles, from Usenet discussion forums, called newsgroups. There are thousands of Usenet newsgroups in existence.

Id.

each other in real time,²³ similar to a party line.²⁴ The most popular method of communication on the Internet, however, is the World Wide Web.²⁵ What is unique about the Web, and what makes it the dominant form of Internet communication, is that it has the strengths of all the other methods and offers the opportunity for multimedia expression lacking in other methods that are largely limited to text.²⁶

B. The Basics of Digital Piracy

Unfortunately, the ease with which information is accessed and shared over the Internet also affords the ability to transfer copyrighted material without the consent of the owner.²⁷ Anything online, from a needlepoint stitching pattern to a newspaper article to a Hollywood movie, is capable of being rendered into the binary language of zeroes and ones, transferred from one computer to another, and reconstituted as a perfect copy of the original.²⁸ This revolutionary method of digital piracy is far more alarming and harder to defend against than any of its analog predecessors.²⁹

Digital copying and distribution is vastly different and in many ways superior to its analog equivalent.³⁰ In 1991, it took twelve counterfeiting operations, employing hundreds of people, to manufacture approximately twenty-eight million

23. Webopedia, *Real Time*, at http://www.webopedia.com/TERM/r/real_time.htm (last visited Aug. 8, 2001) (copy on file with *The Transnational Lawyer*). "Real time" is defined as "occurring immediately." *Id.* "Real time can also refer to events simulated by a computer at the same speed that they would occur in real life." *Id.*

24. See Cohen, *supra* note 19 (mentioning that "Internet Relay Chat (IRC) is a service through which participants can communicate to each other on hundreds of channels"). These channels are usually based on specific topics. While many topics are frivolous, substantive conversations are also taking place. *Id.*

25. See *id.*

Almost every protocol type available on the Internet is accessible on the Web. This includes e-mail, FTP, Telnet, and Usenet News. In addition to these, the World Wide Web has its own protocol: HyperText Transfer Protocol, or HTTP . . . Because of this feature, and because of the Web's ability to work with multimedia and advanced programming languages, the World Wide Web is the fastest-growing component of the Internet. The operation of the Web relies primarily on hypertext as its means of information retrieval. HyperText is a document containing words that connect to other documents. These words are called links and are selectable by the user. A single hypertext document can contain links to many documents. In the context of the Web, words or graphics may serve as links to other documents, images, video, and sound. Overall, the Web contains a complex virtual web of connections among a vast number of documents, graphics, videos, and sounds.

Id.

26. See *id.* (noting that the World Wide Web provides a single, convenient, and user friendly interface for every protocol mentioned, plus has the unique capacity to be compatible with other more advanced programming languages).

27. See Gomes, *supra* note 1 (remarking on the ease with which unauthorized movies are available online).

28. See Adam Cohen, *A Crisis of Content*, *TIME*, Oct. 2, 2000, at 60 (explaining that any information, once digitized, is capable of being freely transferred over the Internet).

29. See MPAA, *supra* note 5 (describing "analog predecessors" as referring to the copying of one hardcopy of a physical item to another, such as making a photocopy of a document or copying an audio or video tape onto a second, blank, tape). This type of copying is the primary concern of the MPAA. *Id.*

30. See Brown, *supra* note 11, at 154 (explaining the numerous advantages to digital copying, including ease of transfer and increased quality of pirated works).

counterfeit cassette tapes.³¹ By comparison, today it only takes one user with Internet access a matter of minutes to distribute the same pirated album to millions of users worldwide.³² In addition, unlike an analog master which can wear down, or analog copies, which with each successive generation is further removed from the perfection of the original, the quality of a digital copy never denigrates.³³ Digital copies are also far less costly than their analog equivalents because a music or movie file may be transferred thousands of times without any financial investment.³⁴ A physical copy of a work on a compact disc (CD) or digital video disc (DVD) is less expensive to produce than an audio or videocassette.³⁵ For most music and film studios, the most expensive part of manufacturing a CD or DVD is the plastic packaging material, four-color inserts and promotional costs.³⁶ The media itself costs pennies.³⁷ Finally, the combination of digital technology and the Internet exacerbates many of the problems law enforcement encounters when attempting to protect copyrighted works against piracy.³⁸

Previously, works pirated abroad by analog means reached American markets primarily by being physically smuggled into the country.³⁹ Because the Internet is not restricted by international borders, it is now possible for pirated digital works

31. See *id.* (describing the extent of organization and planning it takes to run a large scale analog piracy ring).

32. See *id.* (illustrating one reason that digital piracy is far more threatening to the copyright owners than analog piracy).

33. See Benton J. Gaffney, *Copyright Statutes That Regulate Technology: A Comparative Analysis of the Audio Home Recording Act and the Digital Millenium Copyright Act*, 75 WASH. L. REV. 611, 616 (2000) (stating that because digital copies are made by rendering the original recording into computer code, every copy is identical).

34. See *id.* (setting forth that digital copies are infinitely cheaper because they are the sum of ones and zeros translated between machines and never realized in a tangible form).

35. See *id.* (quoting that "it is cheaper to manufacture the plastic disc that makes up a DVD than the plastic box and reel of magnetic tape that makes up a videocassette"); see also *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 24, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*).

DVDs, are five-inch wide discs capable of storing more than 4.7 GB of data. They are the latest technology for private home viewing of recorded motion pictures and result in drastically improved audio and visual clarity and quality of motion pictures shown on televisions and computer screens . . . To prevent free copying and transfer of the data each disc was protected by an encryption algorithm, a "recipe" that contains instructions for completing a task.

Id.

36. See Gaffney, *supra* note 33, at 616 (implying that the media itself was the most inexpensive part of CD production); see also Webopedia, *Media* (last visited Aug. 4, 2001), at <http://www.webopedia.com/TERM/m/media.html> (copy on file with *The Transnational Lawyer*). Media is defined as "objects on which data can be stored." *Id.* "These include [but are not limited to] hard disks, CD-ROMs, tapes, and floppy disks." *Id.*

37. See Gaffney, *supra* note 33, at 616.

38. See *id.* at 617 (commenting that because the pirates are using the Internet instead of a fixed "workshop" location, they are harder to pursue due to Internet specific difficulties of locating and identifying pirates).

39. See Jeanmarie Lovoi, *Competing Interests: Anti-Piracy Efforts Triumph Under TRIPs But New Copying Technology Undermines the Success*, 25 BROOK. J. INT'L L. 445, 469-470 (1999) (mentioning that the previous method of distributing pirated works was via physical "hard" copies being shipped to the United States).

to reach U.S. markets by purely electronic means.⁴⁰ Said Jack Valenti, President of the Motion Picture Association of America, "The implications of [motion picture] piracy on the Internet are gloomy . . . We lose about four billion dollars a year in analog piracy today, but the threat of piracy on the Internet is far more ominous"⁴¹

As of 1998 and even into early 1999, Hollywood had a very myopic view of digital piracy.⁴² At that time, software manufacturers were losing billions of dollars every year to online piracy and digital copyright infringement of recording artists' work had just begun to run rampant.⁴³ Feature films, however, were still relatively insulated from piracy for a number of reasons.

These barriers to piracy of feature films included the size of the movie files, lack of widespread access to broadband connections,⁴⁴ existing content based copyright measures, and infringed products not being as high fidelity as authorized motion picture releases. First, as opposed to relatively small copyrighted music files, the equivalent of a three to five minute song, when a two hour movie is digitized, the resulting product is extraordinarily large.⁴⁵ A compression utility, MP3, was what ignited the piracy of music files over the Internet, allowing for a fast and easy transfer.⁴⁶ No similar utility existed for movie files. Even on the fast broadband

40. See Barak D. Jolish, *Scuttling the Music Pirate: Protecting Recordings in the Age of the Internet*, 17 SPG ENG. & SPORTS L. 9, 10 (1999) (establishing that because the pirated work is transferred anonymously between users and not as a result of a face-to-face meeting, Internet piracy is harder to defend against than analog piracy).

41. Melissa Perenson, *Insecure Seas*, HOLLYWOOD REPORTER, Sept. 25, 2000, available at 2000 WL 25250501 (quoting Jack Valenti); see also Charles Simmons, *Digital Distribution of Entertainment Content . . . The Battle Lines Are Drawn*, 33 MD. B.J. 31, 32 (2000) (listing the MPAA members including Universal City Studios, Twentieth Century Fox, Time Warner, Paramount Pictures, Metro-Goldwyn-Mayer Studios, Disney Enterprises, S.K.G. Dreamworks, and many others).

42. See MPAA, *supra* note 29 (noting that "the most prevalent form of piracy in the U.S. is the 'back-to-back' copying of videos").

43. See Business Software Alliance, *Sixth Annual BSA Global Software Piracy Study* (May 2001), available at http://www.bsa.org/usa/global/lib/piracy/statepiracy_study.pdf at 1 (exposing that losses to the software industry were in excess of US\$10 billion); see also CBC Radio, *Report Says Music Piracy On The Rise: RIAA Cracks Down*, at http://www.infoculture.cbc.ca/archives/musop/musop_09202000_riaa.phtml (last modified Sept. 20, 2000) (copy on file with *The Transnational Lawyer*) (stating RIAA estimated music piracy cost the recording industry US\$300 million in 1999 and, due to advances in technology could escalate to US\$3.1 billion by 2005).

44. The Cable Modem Information Network, *The Basics of Broadband*, at <http://www.cable-modem.net/features/jun00/wpaper.html> (last visited Sept. 4, 2001) [hereinafter *Basics*] (copy on file with *The Transnational Lawyer*). "Broadband" is defined as "a transmission facility that has a bandwidth, or capacity, greater than a [telephone] line." *Id.* "Such a broadband facility . . . may carry numerous voice, video and data channels simultaneously." *Id.*

45. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 6, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*). "One group of eight bits is called a byte and represents a character, a letter or an integer." *Id.* "A kilobyte ("K") is 1024 bytes, a megabyte ("MB") 1024 K, and a gigabyte ("GB") 1024 MB." *Id.*; see also Andy Patrizio, *DVD Piracy: It Can Be Done* (Nov. 1, 1999), at <http://www.wired.com/news/technology/0,1282,32249,00.html> (copy on file with *The Transnational Lawyer*) (noting that movie files are often over 1GB, over 250 times the size of a typical MP3).

46. See Akansha Atroley, *Computers Today, Music to Most Ears* (Aug. 1, 2000), at <http://www.india-today.com/ctoday/20000801/trends.html> (copy on file with *The Transnational Lawyer*).

connections available at most colleges, a movie file still took approximately six hours of uninterrupted download time.⁴⁷ Compared with the ability to transfer a compressed music file in seconds, the time investment required to download a popular movie, which is 250 times as large, was considered to be too great.⁴⁸ Second, due to the prohibitive cost of both installing and operating broadband cable and Digital Subscriber Line (DSL)⁴⁹ connections, access was limited to institutional uses and only available to home users on a restricted geographical basis.⁵⁰ Third, the digital piracy of movies released for home viewing, the most worrisome type of analog piracy to the MPAA,⁵¹ could not be accomplished digitally because DVDs allowed users to play but not copy the disc's data.⁵² Finally, piracy of theatrical fare existed on the Internet solely as the product of a pirate who had videotaped a film screen and captured this low quality image on a video compact disc (VCD).⁵³ Although these films are often distributed digitally via the Internet, they are worlds apart from theatrical quality, being typically equal to home video quality and marked by poor sound due to the piracy process.⁵⁴

C. *Movie Piracy Becomes Possible*

In the early 1990s, major movie studios began to explore distribution of motion pictures to the home market in a digital format. This new format offered

47. See *Basics*, *supra* note 44 (mentioning how broadband connections, the standard for communications at most universities, can carry over one million bits of information per second (1Gbps)). By contrast, a typical home modem carries 56,000 bits per second (56K). See *id.*

48. See Patrizio, *supra* note 45 (reporting that most movie files are over 1GB, and too large to fit on a single compact disc).

49. See Webopedia, *xDSL*, at <http://www.computerwords.com> (last modified Aug. 21, 2001) (copy on file with *The Transnational Lawyer*) (defining DSL as a high speed Internet service that connects through your existing phone line). DSL offers speeds of up to 32Mbps. *Id.*

50. See Michael Balmoris, *FCC Issues Report of the Availability of High-Speed and Advanced Telecommunications Services* (Aug. 3, 2000), at http://www.fcc.gov/Bureaus/Common_Carrier/News_Releases/2000/nrcc0040.html (copy on file with *The Transnational Lawyer*).

In the First Report there were approximately 375,000 subscribers to advanced services as of late 1998.

This total consisted of at least 350,000 subscribers to cable modem service and at least 25,000 subscribers to DSL . . . However, certain groups of consumers that are particularly vulnerable to not receiving advanced services . . .

Id. These certain groups were defined as inner city, low income and/or minority consumers and consumers in rural or tribal areas. See *id.* The number of subscribers is .3 percent of Internet users in the United States. See *id.* (noting that both Cable and DSL are high-speed Internet connections capable of transferring information over 100 times faster than a traditional 56K modem).

51. See MPAA, *supra* note 29 (remarking on one of the barriers to digital copying of DVDs).

52. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 24, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*).

53. See Russil Wvong, *Video CD FAQ*, at <http://www.geocities.com/Athens/Forum/2496/vcdfaq.html> (last visited Sept. 13, 2001) (copy on file with *The Transnational Lawyer*).

54. See Weiquing Huang, *FAQ about DVD and VCD*, at <http://www.aweto.com/cccpa/vcd.html> (last modified Dec. 7, 1998) (copy on file with *The Transnational Lawyer*) (explaining that VCD picture quality is about the same or worse than a VHS tape).

substantially higher audio and visual quality and greater longevity than videocassette tapes, the standard format in which films were distributed to the home market.⁵⁵ In 1995, this technology, which became known as DVD, brought with it the problem of an increased risk of piracy by virtue of the fact that digital files, unlike videocassettes, can be copied without degradation from one generation to the next.⁵⁶ In 1996, after researching methods to counter this threatened piracy, inventors of DVD technology created the encryption code known as Content Scramble System (CSS).⁵⁷ With the popularity of DVDs exploding, pirates' interest in decoding and copying these high quality digital movies also increased. Over the next few years, several radical developments destabilized the copyright holders' ability to control their products.

1. DeCSS Cracks DVD Code

In late 1999, Jon Johansen, a Norwegian teen, along with two friends he "met" over the Internet, reverse engineered⁵⁸ a licensed DVD player and discovered the CSS encryption and decryption algorithms.⁵⁹ Using this information, they created DeCSS, a program capable of decrypting protected DVDs, thereby facilitating the copying of decrypted DVD files to computer hard drives.⁶⁰ Johansen then posted the

55. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 13-14, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*).

Major motion picture studios typically distribute films in a sequence of so-called windows, each window referring to a separate channel of distribution and thus to a separate source of revenue. The first window generally is the theatrical release, distribution and exhibition. Subsequently, films are distributed to airlines and hotels, then to the home market, pay television, cable and eventually free television broadcast.

Id.

56. See *id.* at 13 (assessing the chief weakness of the DVD format). Because of the dramatic improvement in picture and sound quality when compared to videocassettes, DVD players have been rapidly adopted by the movie buying public. *Id.* at 17; see also The Digital Bits, *CEA DVD Player Sales*, at <http://www.thedigitalbits.com/articles/cemadvdsales.html> (last updated Sept. 4, 2001) (copy on file with *The Transnational Lawyer*).

57. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 15, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*) (explaining that "CSS is an encryption algorithm that protects the sound and graphics files on a DVD from being accessed except by a DVD player or drive which contains the appropriate decryption algorithm").

58. Ted Diamond, *Copyright for an Electronic Age* (Apr. 27, 1998), at <http://picasso.oce.orst.edu/users/mark/desktop97/html%20presentations/chon/index.htm> (last visited Dec 15, 2000) (copy on file with *The Transnational Lawyer*) (describing reverse engineering as "starting with the known product and working backward to find the method by which it was developed").

59. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 17, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*).

60. See *id.* at 18 (noting that Johansen claimed the reason he hacked CSS was to play DVDs with the Linux operating system). As the DeCSS code was written to be compatible for any operating system, it has enjoyed widespread use among Windows users. *Id.* at 19.

decryption code to his Internet site.⁶¹ Within months, the code was posted on over one hundred sites.⁶² In November, Universal Studios, acting for eight major motion picture studios, brought suit against one high profile web site based in the United States to have the code removed as a violation of the Digital Millennium Copyright Act (DMCA).⁶³ Though successful, the drawn out court battle was only a symbolic victory for Universal Studios, as the suit called much more attention to the decryption code and led to its exponential growth.⁶⁴ The DeCSS code that strips DVDs of their encryption protection can now be found on almost one million web sites easily reached by any search engine.⁶⁵

2. *DivX Marks the Spot*

“DivX” is a file compression utility that can compress a five GB DVD file down to approximately 650 MB, allowing it to fit on a single CD or be transferred worldwide via broadband connection in generally under two hours.⁶⁶ This transfer method, from the perfect DVD source to the compressed “DivX’ed” file source, is accomplished with little or no loss in quality.⁶⁷ The program is Microsoft’s version of MPEG-4, a standard video-compression system used in the computer industry.⁶⁸ Microsoft released the software in 1999, intending it only for software developers.⁶⁹ But Jerome Rota, a twenty-seven year old French film fan and video engineer who goes by the Internet nickname of “Gej,” worked with a German hacker named “Max Morice” and rewrote the software so that anyone could use it to create compact DivX movies.⁷⁰ To use it, one need only install a small program that adds DivX

61. See *Universal City Studios, Inc. v. Corley* (N.Y. 2nd Cir. 2001), available at 2001 WL 1505495 (documenting Johansen’s intent to share the secret of decoding the DVD encryption).

62. See *id.* (remarking on the relatively slow spread of the DeCSS code on the Internet prior to Universal’s action).

63. See *id.* (referring to *Universal v. Reimerdes*). Shawn Reimerdes is the site administrator of <http://www.2600.org>, a site devoted to computer hacking. *Id.*; see also 17 U.S.C. § 1201.

64. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 89, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*).

65. See AltaVista Search Engine, at <http://www.altavista.com> (last visited Sept. 17, 2001) (copy on file with *The Transnational Lawyer*) (reporting that the search term “DeCSS” rendered 11,821 responses on Oct. 24, 2000). On Aug. 4, 2001, 975,895 results were found. *Id.*

66. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 25, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*) (considering that transmission times for a feature film could be between 3 minutes to 6 hours).

67. See *id.* at 23 (proclaiming the fidelity of the DivX format when copying a DVD).

68. See Gomes, *supra* note 1 (mentioning that MPEG is a high resolution video compression standard). MPEG-4 is designed specifically to transmit video images. *Id.*

69. See *id.* (remarking how software companies frequently release copies of their products stripped down and without any coded protection to enable the developers to work more freely with the software).

70. See *id.* (expounding on the creation and development of DivX).

playing capability to Microsoft's free Windows Media Player.⁷¹ Since its release in February 2000, DivX's popularity has grown at a phenomenal rate.⁷² "[The DivX format] was released as an underground thing, and in six weeks I'm getting over 100,000 hits a day,"⁷³ said Daniel Marlin, who runs the MyDivX.com web site devoted to the new format.⁷⁴ Today, any movie released on DVD and most theatrical releases can be found in DivX format on the Internet.⁷⁵ Whole catalogues of movies for download exist on Internet sites devoted to piracy.⁷⁶ These sites generally provide detailed instructions on how to create DivX movies from DVD or theatrical sources.⁷⁷

Because DivX can compress a movie into 650 MB, approximately the capacity of a writeable CD-ROM, it is entirely feasible to decrypt a DVD with DeCSS, compress it with DivX, and then make as many copies as one wishes by writing the resulting files onto writeable CD-ROMs, which are sold blank for less than one dollar each.⁷⁸ Although this technology created a platform for widespread movie piracy, MPAA chairman Jack Valenti said of DivX, "We're not against the new technology. We're against new technology used illegitimately. And DivX is compression technology. There's nothing illegal about . . . [it]."⁷⁹

Even with the DivX compression technology, a 650 MB file would still be nearly impossible to download on a standard dial-up modem were it not for the explosion of broadband connectivity.⁸⁰ Broadband modems for home use, including both cable and DSL, have grown from being in .3 percent of the homes at the end of 1998⁸¹ to being in eleven percent of the homes in the fall of 2000.⁸² Furthermore,

71. See Bob Sullivan, *Movie Pirates Hitting Prime Time*, MSNBC (May 12, 2000), at <http://www.msnbc.com/news/402970.asp> (last visited Jan. 12, 2001) (copy on file with *The Transnational Lawyer*).

72. See Chris Albritton, *Movie Pirates Invade the Web*, N.Y. DAILY NEWS ONLINE (July 30, 2001), available at http://www.nydailynews.com/2000-07-30/New_York_Now/Technology/a-74845.asp (last visited Sept. 21, 2001) (copy on file with *The Transnational Lawyer*).

73. *Id.* "Hit" as used in describing web page visitors is defined as "the retrieval of any item, like a page or a graphic, from a Web server." Webopedia, *Hit*, at <http://www.webopedia.com/TERM/h/hit.html> (last modified Oct. 28, 1998) (copy on file with *The Transnational Lawyer*).

74. See Sullivan, *supra* note 71 (reviewing the popularity of the DivX format).

75. See *id.* (describing the extent to which movie content has been compromised over the Internet).

76. See *id.* (stating that thousands of movies are available for easy download).

77. See *id.* (noting that "pirates encourage each other to learn how to copy movies, offering up elaborate instructions and how-to guides on the best methods").

78. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 24, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*) (implying that a pirate operation for selling DivX'ed movies is inexpensive to set up).

79. Albritton, *supra* note 72 (highlighting the rather disingenuous comment of Jack Valenti, in full knowledge that DivX is used primarily for pirating feature films).

80. See Perenson, *supra* note 41 (presenting how at 56K, even a compressed movie file takes about 12 hours of uninterrupted download time).

81. See Albritton, *supra* note 72.

82. See Michael Pastore, *Broadband Still Making Converts in the US*, CYBERATLAS, at http://cyberatlas.internet.com/markets/broadband/article/0,,10099_481071,00.html (last visited Sept. 9, 2001) (copy on file with *The Transnational Lawyer*) (showing the explosive growth of broadband services in the United States).

a 2000 study reported that twenty-three million Internet users in the United States are interested in buying high-speed Internet access for their home at the cost of US\$40 per month, over twice the number that have broadband connections now.⁸³ A similar study conducted shows that broadband households are twice as likely as users with standard dial-up connections to try downloading video content from the Internet, and three to four times more likely to do so on a regular basis.⁸⁴

DeCSS is a free, effective, and fast means of decrypting DVDs and copying them to computer hard drives.⁸⁵ DivX permits compression of the decrypted files to sizes that readily fit on a writeable CD-ROM, requiring only time and effort.⁸⁶ While most people with Internet access do not find it convenient to send or receive DivX'ed copies of pirated motion pictures over the Internet, the availability of high speed connections in many institutions and their growing availability in homes make Internet traffic in pirated movies a growing threat.⁸⁷ An industry expert expressed his concern: "We think there are [between] 200,000 and 400,000 full-length films being illegally downloaded per day . . . Film piracy online is very prevalent, and it is exploding."⁸⁸

Even though broadband connections and DivX make downloading and transferring movies easier, there are still a number of limitations which make transferring movies more arduous than transferring music files. First, like MP3s in their infancy, there is no central location at which one can visit and select any movie quickly and easily.⁸⁹ Downloading movies requires using some of the lesser known parts of the Internet, including FTP file sharing and IRC chat channels or "secret" web sites which are beyond the expertise of the average Internet user.⁹⁰ Though some file sharing utilities offer movies, such as Gnutella, Morpheus, Hotline, and iMesh, no one forum has become dominant.⁹¹ Scour was sued by the MPAA for its role in the infringing activities that took place over its server and was forced to cease

83. See Michael Pastore, *American Users Ready for High Speed Access*, CYBERATLAS, at http://cyberatlas.internet.com/markets/broadband/article/0,,10099_307031,00.html (last visited Sept. 9, 2001) (copy on file with *The Transnational Lawyer*) (indicating an overwhelming demand among Internet users for faster service).

84. See *id.* (implying that people with faster connections are more likely to download both legal and unauthorized video content).

85. See *Universal Studios, Inc. v. Reimerdes*, No. 00 Civ. 0277 (LAK) (S.D.N.Y. 2000) at 27, available at http://www.eff.org/Intellectual_property/Video/MPAA_DVD_cases/20000817_ny_opinion.pdf (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*) (remarking on the reasons for the popularity of DeCSS).

86. See *id.* at 24 (suggesting that pirates could now trade and view unencrypted DVD files more easily, as they can now be compressed to the size of a CD).

87. See *id.* at 27 (predicting that piracy of films will intensify when more people have access to faster connections).

88. Perenson, *supra* note 41 (foreseeing that movie downloads would grow to over 1 million per day by 2001).

89. See Sullivan, *supra* note 71 (stating that there is no centralized clearinghouse for movies).

90. Peter Howell, *It's Already Possible to Bootleg Hit Movies*, TORONTO STAR, May 24, 2000, at EN4, available at 2000 WL 21247739 (mentioning that in order to download files, a user must have access to a "secret" web site).

91. See Perenson, *supra* note 41 (listing the different file sharing utilities with no differentiation made between them).

all operations in late 2000 as the lawsuit prevented it from raising capital to expand.⁹²

Further complicating the process, pirates often split motion picture files into two parts to further facilitate fast transfer.⁹³ Often, however, each different pirate who uploads a film, making it available to the public, splits the film in a different place. Though joining the two distinct halves to create the entire film requires little skill and effort, two mismatched halves could result in a film with overlapping or missing footage.⁹⁴

Finally, and perhaps most significantly, movies are both distributed and enjoyed differently than music.⁹⁵ While music is typically listened to *ad infinitum*, movies are typically watched only once or very few times.⁹⁶ Music enjoyment is passive and often done while doing other things, while movies are viewed less frequently because of the time and attention required.⁹⁷ Movies are also available to rent or for theater viewing relatively inexpensively, between three and eight dollars, compared to the time and effort involved in seeking out and transferring a movie over the Internet.⁹⁸ The time and effort required to transfer a song or even a whole album file is worth far less than the cost for a new CD at most record stores.⁹⁹ Unlike MP3s that can be played in stand alone devices or easily converted to play in any CD player, no DVD or other stand alone player will play "DivX'ed" movies.¹⁰⁰ While DivX movies have a high enough resolution to be played at full screen on computer monitors with little image degradation, unless a user's computer has a video card that allows for output to TV, DivX movies cannot be played on televisions.¹⁰¹

As of August 2001, downloading and playing a DivX file is somewhat inconvenient. As a result, it is easy to see why the MPAA is less worried about DivX's current incarnation and more worried about DivX's potential.¹⁰² DivX files are, after all, in their infancy. With each successive revision of the DivX program, more

92. See Martin Stone, *Scour Files for Bankruptcy Protection*, NEWSBYTES NEWS NETWORK (Post-Newsweek Bus. Information. Inc.) (Oct. 13, 2000), available at 2000 WL 27301400 (explaining the lawsuits against Scour that "expressed concern that its technology could allow the transfer of allegedly pirated copies of video files").

93. See Sullivan, *supra* note 71 (picturing a program for joining files which shows two multiple film halves and a "merge files" function that must be used before the entire film is viewed).

94. See Howell, *supra* note 90 (writing that films are often split in multiple pieces, requiring the user to join them before viewing the entire movie).

95. See Perenson, *supra* note 41 (mentioning that, in contrast to popular music, which can be enjoyed for free on the radio at the time of release, people have been conditioned to pay for first run movies; this could help stop movie piracy from spreading as fast as music piracy).

96. See *id.* (suggesting that movies are enjoyed differently than music).

97. See *id.* (discussing the differences between film and music piracy).

98. See Sullivan, *supra* note 71 (implying that movie piracy will never be as prevalent as music piracy).

99. See *id.* (implying that the cost of audio CDs is a big factor in the growth of music piracy).

100. See Sullivan, *supra* note 71.

101. Justin Hibbard, *Are Movies About to Meet Their Napster*, Red Herring (Jan. 22, 2001), at http://www.redherring.com/index.asp?layout=print_story&channel=40000004&doc_id=11400 (last visited Sept. 2, 2001) (copy on file with *The Transnational Lawyer*) (remarking that while DivX movies currently cannot be played on televisions, DivX hopes to encourage manufacturers to build stand alone players for televisions).

102. See MPAA, *supra* note 29 (stating that analog copying is the MPAA's primary concern).

problems are corrected.¹⁰³ The anticipated revisions to come are expected to make movie files easier to convert and create, allow for higher fidelity transfers and be adaptable to a wider range of platforms and file types.¹⁰⁴

The inconvenience of downloading and playing a pirated movie file pales in comparison to the frustrating nature of defending the copyright owner's rights against unauthorized uses.¹⁰⁵ Problems associated with creating laws that restrict unauthorized uses through technological advancements, difficulties in applying the law to suspected infringers, and disparate treatment for international infringing parties are all issues lawmakers have struggled with as they attempt to regulate this brave new world.¹⁰⁶ The question is "if [copyrighted] property can be infinitely reproduced and instantaneously distributed all over the planet without cost, without our knowledge, without its even leaving our possession, how can we protect it?"¹⁰⁷ The next section represents both the responses of the United States and the rest of the world to that question.

III. AVAST! THE CROWN PATROLS THESE WATERS

With Internet use changing and expanding rapidly, the United States was forced to modify and expand the current laws to protect copyright owners rights online. Because the Internet is not bound by national borders, coalitions of nations who were already members of international conventions were forced to address the growing problems of piracy on the Internet. This section addresses the current state of the law regarding motion picture piracy, both domestically and abroad.

103. See Divx, *Divx4*, at <http://www.divx.com/features.php> (setting forth that the current version of DivX, 4.01 is a dramatic improvement over earlier versions) (last visited Sept. 4, 2001) (copy on file with *The Transnational Lawyer*).

104. See Hibbard, *supra* note 101 (presenting that the newest version of DivX, DivX Deux, turns out files 40 percent smaller and of higher visual quality than those produced by the original DivX).

105. See Jack Valenti, "If we have to file 1000 lawsuits a day, we'll do it!", at <http://store.yahoo.com/2600hacker/decsshirt.html> (last visited Sept. 20, 2001) (copy on file with *The Transnational Lawyer*) (speaking to the hopelessness of fighting digital pirates under the current laws).

106. See S.E. Oross, *Fighting the Phantom Menace*, 2 VAND. J. ENT. L. & PRAC. 149, 152 (2000) (noting the difficulties of enforcing one of the newest statutory changes, the NET Act, against suspected infringers); see also Brown, *supra* note 11, at 149 (discussing how one individual, accused of running a bulletin board service that traded in pirated software, was unable to be successfully prosecuted); see also Michael J. O'Sullivan, *International Copyright: Protection For Copyright Holders In The Internet Age*, 13 N.Y. INT'L L. REV. 1, 23 (2000) (speaking about the challenges facing U.S. copyright holders in defending their rights overseas).

107. John Perry Barlow, *Selling Wine Without Bottles*, at http://www.eff.org/pub/Misc/Publications/John_Perry_Barlow/idea_economy.article (last visited Feb. 27, 2001) (copy on file with *The Transnational Lawyer*).

A. *United States Copyright Law*

“The Congress shall have Power . . . To Promote the Progress of Science and the useful Arts, by securing for limited times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”¹⁰⁸

The U.S. Constitution has protected the exclusive rights of owners and creators of a limited field of works since the United States’ inception.¹⁰⁹ Even when written, the Constitution was unclear which specific works were protected.¹¹⁰ Since then, copyright law has grown incredibly more complex.¹¹¹ With each new invention, new issues regarding infringing uses are raised.¹¹² Rarely, however, has there been such a technological advance like the Internet, which has had the effect of completely destabilizing the established manner in which artists protect their works from unauthorized uses.¹¹³ The law has struggled to catch up.¹¹⁴

Even before the creation of the Internet, Congress stepped in a number of times to respond to the potential for widespread infringement that new technologies created.¹¹⁵ Inventions such as the photocopier and videocassette recorder have both been the subject of intense litigation and subsequent legislation.¹¹⁶ Though most attempts by Congress to regulate the Internet have failed to be ratified, there have been two notable federal acts amending the established Copyright Act that deal with infringing uses on the Internet.¹¹⁷ These two statutes, from the mass of proposed and active legislation dealing with copyright infringement over the Internet, have been used most often and most successfully by the music and motion picture industries to protect their interests. The first is the Digital Millenium Copyright Act (DMCA);¹¹⁸ the second is the No Electronic Theft Act (NET).¹¹⁹ As the pre-eminent

108. U.S. CONST. art. I § 8, cl. 8.

109. *See id.*

110. The most basic expression of copyright law, once the “Copyright Clause” of the Constitution, is now the Copyright Act of 1976, weighing in at over 200 pages. 7 U.S.C. §§ 101-803 (2001).

111. *Id.* (reflecting on the complexity of copyright law, the current copyright act is almost 150 more pages than the last revision in 1909).

112. *See* Jessica Litman, *Revising Copyright for the Information Age*, 75 OR. L. REV. 19, 22 (1996) (comparing troubles modifying copyright law for unexpected violations due to the Internet to new violations raised in the 1980s regarding personal computers, the 1970s regarding videocassette recorders, and even the 1920s, when commercially broadcasted “talkies” were invented).

113. *See* Yochai Benkler, *Net Regulation: Taking Stock and Looking Forward*, 71 U. COLO. L. REV. 1203, 1204 (2000) (explaining the destabilizing effect of technology on copyright law).

114. *See id.* at 1206 (exposing the somewhat haphazard manner in which laws are vainly proposed to regulate the Internet).

115. *See* Litman, *supra* note 112, at 35 (citing lawsuits over videocassette recorders, software rentals, and recording devices being enabled for serial copying).

116. *Id.*

117. *See* Benkler, *supra* note 113, at 1206 (noting that in 2000, 348 resolutions were introduced in Congress; 18 were eventually signed into law).

118. *See* Pub. L. No. 105-304, 1122 Stat. 2680 (Oct. 28, 1998).

119. *See* 17 U.S.C. § 506(a) (amended Dec. 16, 1997).

remedies at law for copyright holders of movies, these acts are the subject of this section.¹²⁰

1. Copyright Act of 1976

Copyright of motion pictures is regulated under Title 17 of the Copyright Act.¹²¹ The Copyright Act protects motion pictures, as it does all “original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.”¹²² A work is fixed in a tangible medium of expression when “its embodiment in a copy or phonorecord, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.”¹²³ To encourage authors to create original works and make these works available to the public, they are granted five exclusive rights: the rights of reproduction, adaptation, distribution, performance, and display.¹²⁴ Authors can bring suit against anyone engaging in an unauthorized use, thus violating the exclusive nature of these protected rights.¹²⁵ Remedies range from injunctive relief to monetary and criminal penalties.¹²⁶ As the Copyright Act balances the public interest and the artist’s private interests, there are significant limitations to the rights provided under the Copyright Act.¹²⁷ The Copyright Act limits the scope of the owners’ rights through such restrictions as fair use, first sale, and duration of rights, among others.¹²⁸

120. See Oross, *supra* note 106, at 154 (stating that “the Digital Millennium Copyright Act (DMCA) was quickly hailed as the revolutionary panacea of which the evolving global marketplace was in sore need”).

121. See 17 U.S.C. § 102 (amended Dec. 1, 1990).

122. *Id.*

Works of authorship include the following categories:

- 1) literary works;
- 2) musical works, including any accompanying words;
- 3) dramatic works, including any accompanying music;
- 4) pantomimes and choreographic works;
- 5) pictorial, graphic, and sculptural works;
- 6) motion pictures and other audiovisual works;
- 7) sound recordings; and
- 8) architectural works.

Id.

123. *Id.* § 101.

124. See *id.* § 106.

125. See *id.* § 501(a).

126. See 17 U.S.C. §§ 502, 504, 506 (amended Dec. 1, 1990).

127. See *id.* (looking to Chapter One of the Copyright Act, most limitations are enumerated there).

128. *Id.* § 107 (covering fair use, which allows some otherwise forbidden infringing uses, if they will not harm the artists rights); see also *id.* § 109 (discussing the limitation of first sale, which allows for the purchaser of a copyrighted item to dispose of it as he or she wishes); see also *id.* § 302 (limiting duration in copyright to seventy years).

2. *The Digital Millenium Copyright Act*

While providing greater protection for many works and limiting liability of Internet Service Providers (ISP) for the infringement of their customers, the DMCA creates stiff penalties for the circumvention of copyright protection systems.¹²⁹ The statute states, “[n]o person shall circumvent a technological measure that controls access to a work protected under this title.”¹³⁰ In essence, if a user accesses an encrypted or otherwise protected system without authorization in order to gain access to protected information, such as using DeCSS to gain access to a DVD movie, he or she will be in violation of the Federal Copyright Act.¹³¹ The second anti-circumvention measure in the DMCA addresses devices or services that circumvent a technological measure that effectively controlling access to a copyrighted work.¹³² With regard to film piracy and DeCSS, the use of the code itself would violate the first measure, and the distribution and posting of the code would be in violation of the second measure. Criminal penalties for infringement can be up to US\$500,000 and/or a jail sentence of up to five years for the first offense.¹³³

3. *No Electronic Theft (NET) Act*

The NET Act closes a “loophole” in the Copyright Act that prevented copyright owners from successfully charging some willful infringers.¹³⁴ Under the Copyright Act, pirates could not be held liable for their infringement unless they profited financially, either by commercial advantage or private financial gain.¹³⁵ Because many pirates trade but do not sell the spoils of their infringing activities, often

129. 17 U.S.C. § 1201 (amended Oct. 28, 1998).

130. See 17 U.S.C. § 1201(1)(A) (defining circumvention). The statute states, “to descramble a scrambled work, to decrypt an encrypted work, or to otherwise avoid, bypass or otherwise impair a technological measure, without the authority of the copyright owner.” 17 U.S.C. § 1201(a)(3)(A). Access to a work is “effectively controlled” when the work “requires the application of information, or a process or treatment, with the authority of the copyright owner, to gain access to the work.” *Id.* § 1201(a)(3)(B).

131. See Shahram Sheyesteh, *High Speed Chase on the Information Superhighway: The Evolution of Criminal Liability for Internet Piracy*, 33 LOY. L.A. L. REV. 183, 187 (writing that this litigation was pushed through Congress by powerful industry groups as a “high speed attempt to curtail the problem of Internet piracy”).

132. See 17 U.S.C. § 1201(a)(2). This section provides criminal penalties for any person who provides to the public or otherwise traffics in devices:

which are primarily designed or produced for the purpose of circumventing a technological measure, have only a limited commercially significant purpose or use other than to circumvent a technological measure or which are marketed for use in circumventing a technological measure

Id.

133. See *id.* § 1204(a).

134. See 17 § 101, 506(a). On December 16, 1997, the NET Act was signed into law, amending § 101 and 506(a) of Title 17 of the U.S.C. *Id.* The NET Act changed the standard for criminal copyright infringement by removing language which previously required that the infringement be done for commercial advantage or private financial gain. *Id.*

135. See 17 U.S.C. § 101, 506(a), prior to amendment.

giving away the programs they have pirated for free to create a reputation for themselves as a pirate, these people were unable to be prosecuted prior to the NET Act.¹³⁶

B. *International Copyright Law*

Similar to the United States, most developed countries provide for a high level of copyright protection within their own borders.¹³⁷ Just as U.S. laws only protect the works of its citizens, these countries' laws do nothing to protect any of their citizens' intellectual property rights outside their borders. To expand the protection of their own rights, countries formed agreements with each other to provide for the same level of protection for foreign citizens' creations as they would for their own citizens.¹³⁸ The first significant international convention was established in 1886 and international conventions have governed the protection of intellectual property passing between states ever since.¹³⁹

1. *The Berne Convention and its Offspring*

The Berne Convention for the Protection of Literary and Artistic Works (Berne), which established standards for copyright protection between its member states, was enacted in 1886.¹⁴⁰ Berne provides skeletal regulations through which member states must comply.¹⁴¹ Though offering scant protection, Berne was the first convention to protect members' rights to control and receive payment from the use of their

136. See generally *United States v. David LaMacchia*, 871 F. Supp. 535 (1994) (demonstrating the inadequacy of the current copyright code provisions, which require that piracy must be tied to financial gain). In this case, LaMacchia set up a bulletin board system to facilitate the piracy of millions of dollars of software, but was unable to be prosecuted under the Copyright Act because he did not seek "or derive any personal benefit from the scheme to defraud." *Id.* at 537.

137. See Susan A. Mort, *The WTO, WIPO & The Internet: Confounding the Borders of Copyright and Neighboring Rights*, FORDHAM INTELL. PROP. MEDIA & ENT. L.J., 173, 175 (1997); see also *European Union Database Protection*, at http://cyber.lp.findlaw.com/ip/eu_database.html (last visited Sept. 21, 2001) (copy on file with *The Transnational Lawyer*) (charting the different directives the European Union has enacted to provide a high level of database protection amongst its citizens only).

138. See Mort, *supra* note 137, at 178 (mentioning how countries frequently made individual arrangements to offer higher protections to certain nations willing to offer a reciprocal level of protection). This concept is called "national treatment." *Id.* With a treaty, all contracting parties to that treaty agree to provide a fixed level protection to all citizens of member nations. *Id.* These treaties alleviated disparate treatment of copyrights between states by establishing standards to which all could agree. *Id.*

139. See *id.* (stating that international conventions have governed copyrights since the late nineteenth century). Today, 19 such treaties exist, ranging in subject matter from industrial property to satellite transmissions. *Id.*

140. See *The Berne Convention for the Protection of Literary and Artistic Works*, Sept. 9, 1886, 828 U.N.T.S. 211 (last revised at Paris, July 24, 1971) [hereinafter *Berne Convention*], available at <http://www.wipo.org/treaties/ip/berne/berne01.html> (last visited Sept. 24, 2001) (copy on file with *The Transnational Lawyer*) (specifying that the most recent amendment to the Berne treaty was in 1979).

141. See O'Sullivan, *supra* note 106, at 10.

creative works.¹⁴² Article 6b first recognized “moral rights,” an author’s right to have his work respected and to object to any alterations without his consent.¹⁴³ Currently, there are over 125 Berne Convention members.¹⁴⁴ Subsequent to Berne, intellectual property conventions held in Rome, Paris, and Madrid have significantly added to the protection of copyrights in motion pictures among member States.¹⁴⁵

Under the system of regulation posed by these conventions, significant difficulties arise when pursuing an infringement claim. First, the level of protection these conventions offer is often the lowest level of protection of any one member State.¹⁴⁶ Second, to enforce their convention-based rights, copyright holders must pursue their claims in the International Court of Justice, which renders a judgement ultimately not binding on either nation.¹⁴⁷

2. *World Intellectual Property Organization (WIPO)*

To remedy problems with Berne, the World Intellectual Property Organization (WIPO) was created in 1967.¹⁴⁸ The purpose of this agency was to provide much needed cohesion to various conventions, each with their own membership charter and rules.¹⁴⁹ By administering the major international conventions under one organization, it was hoped that intellectual property rights would be strengthened worldwide.¹⁵⁰ Despite centralizing all treaty administration, the agency has significant shortcomings.¹⁵¹ Because it merely administered prior conventions, rather than adding new rules, the level of protection provided under WIPO was slight. Another shortcoming was that jurisdictional difficulties frustrated resolution of disputes between member countries.¹⁵² The most critical fault of WIPO is its inability to enforce rights and provide for adequate enforcement for the treaties it governs.¹⁵³

142. *See id.* (mentioning that Berne protects, among other creative works, novels, short stories, poems, plays, songs, operas, musicals, sonatas, drawings, paintings, sculptures and architectural works).

143. *See id.* (describing the Berne moral rights provision).

144. *See* Mort, *supra* note 137, at 179.

145. *See id.* (citing the Rome Convention for the Protection of Performers, Producers and Phonograms, the Paris Convention for the Protection of Industrial Property, and Madrid Agreement Concerning the International Registration of Trademarks, as the other “major intellectual property unions”).

146. *See id.* at 178 (noting that treaties represent the most basic level of protection all members could agree to respect).

147. *See id.* at 181 (examining how the Berne and Paris conventions provided for resolution through the International Court of Justice only).

148. *See* Mort, *supra* note 137, at 179 (reporting that WIPO was created “as a specialized agency designed to promote the protection of intellectual property worldwide and to administer the major international conventions under the leadership of the United Nations”).

149. *See* Mort, *supra* note 137, at 180 (vying for uniformity between conventions, each member nation sends delegates to the general convention to discuss the agreement and negotiate changes).

150. *See id.*

151. *See id.* (discussing the deficiencies in the WIPO convention).

152. *See id.* at 181.

153. *See* O’Sullivan, *supra* note 106, at 12.

3. *Trade Related Aspects of Intellectual Property Rights (TRIPS)*

Because of the weak protection offered under WIPO, the United States, as the world's largest exporter of intellectual property, sought to craft an alternative that would maintain stronger enforcement and dispute settlement procedures.¹⁵⁴ The United States' efforts to enhance and supplement the protections in the major international treaties resulted in the 1995 passage of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).¹⁵⁵ While developing countries consistently hampered efforts to raise intellectual property protection standards under WIPO, TRIPS was able to incorporate all the substantive rights of the major conventions, as well as creating new standards for protection and enforcement.¹⁵⁶ Part of TRIPS' sweeping reform requires all member States to enforce Articles 1 through 21 of the Berne Convention, regardless of whether the member State was a Berne convention member.¹⁵⁷ In another break from WIPO and its predecessors which tried to encourage stronger national protection through general guidelines, TRIPS established a group of specific rights all States must enforce.¹⁵⁸ Because of TRIPS' compulsory enforcement of other conventions' rights, membership in other intellectual property conventions has greatly expanded.¹⁵⁹

In addition to enforcing all prior WIPO convention rights, TRIPS also requires that every nation afford to one another "most favored nation" status.¹⁶⁰ Most favored nation status dictates that each State must afford every other State the same favor, advantage, privilege, or immunity it grants to any other State, eliminating discrimination against developing countries.¹⁶¹ This requirement surpassed the previous standards of national treatment in which States engaged in reciprocal

154. See Mort, *supra* note 137, at 181 (noting that the United States was the main proponent of TRIPS).

155. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, The Results of the Uruguay Round Multilateral Trade Negotiations, 33 I.L.M. 1197 (1994) [hereinafter TRIPS], available at http://www.wto.org/english/docs_e/legal_e/27-trips.pdf (copy on file with *The Transnational Lawyer*).

156. See O'Sullivan, *supra* note 106, at 13 (stating that TRIPS incorporated the substantive rights of Berne, Paris, and Rome and created new measures of enforcement); see also Mort, *supra* note 137, at 180 (reporting how developing countries consistently resisted efforts to raise standards).

157. See O'Sullivan, *supra* note 106, at 13 (explaining that because TRIPS countries must abide by the Berne Convention articles 1 through 21, membership in Berne has increased dramatically).

158. See Mort, *supra* note 137, at 184 (remarking that this practice helps TRIPS achieve its main objective of equitable treatment).

159. See *id.* (extending that WIPO membership has expanded, and, since 1986, membership in Berne has almost doubled).

160. See TRIPS, *supra* note 155 (writing that "with regard to the protection of intellectual property, any advantage, favour, privilege or immunity granted by a Member to the nationals of any other country shall be accorded immediately and unconditionally to the nationals of all other Members").

161. See *id.* (commenting that TRIPS was the first treaty to adopt a most favored nations standard for an intellectual property agreement).

protection agreements, often times above and beyond the minimum protection granted by the treaty.¹⁶²

Though TRIPS' stance on regulation of intellectual property was considered extraordinary, its enforcement procedures were considered even more maverick.¹⁶³ Members of TRIPS must "provide domestic procedures and remedies so that right holders can enforce their rights effectively."¹⁶⁴ Member States were free to determine their own regulations to achieve this end, so long as the twin goals of TRIPS were achieved: facilitating fair and equitable enforcement of rights and deterring future infringement.¹⁶⁵

Still more innovative was how the TRIPS agreement tied into the General Agreement on Tariffs and Trade (GATT), one of the most prominent trade agreements.¹⁶⁶ Because of TRIPS' integral ties to GATT and the World Trade Organization (WTO), noncompliance with its provisions constitutes a significant impairment on the benefits received under the trade treaties. Through this provision, TRIPS gave other international intellectual property conventions the strength they had previously lacked.¹⁶⁷ TRIPS does have one major failing thus far: failure to adequately regulate the Internet and other non-traditional methods of intellectual property piracy.¹⁶⁸

IV. WHAT D'YER MAKE OF ALL THIS, MATEY?

There is no shortage of laws regulating motion picture owners' rights. Willful copyright infringement for commercial purposes, such as the sale of bootleg films, has long been a criminal offense punishable by fines and jail terms commensurate with the value of the copyrighted works.¹⁶⁹ New laws punish unauthorized digital transfer of copyrighted works, even when no motive for financial gain exists.¹⁷⁰ On

162. See Mort, *supra* note 137, at 184 (mentioning that TRIPS "reinforced" the principles of national treatment).

163. See *id.* at 185 (noting that the enforcement procedures under TRIPS were the most controversial and important).

164. TRIPS, *supra* note 155.

165. See Adrian Otten & Hannu Wager, *Nature and Scope of the Agreement: Compliance with TRIPS: The Emerging World View*, 29 VAND. J. TRANSNAT'L L. 391, 410-11 (1996).

166. See General Agreement on Tariffs and Trade, Jan. 1, 1948, available at http://www.wto.org/english/docs_e/legal_e/gatt47.pdf (last visited Sept. 24, 2001) (copy on file with *The Transnational Lawyer*); see also Mort, *supra* note 137, at 180 (noting that TRIPS integration into the GATT trade agreement was done in response to the weak levels of protection under WIPO).

167. See Mort, *supra* note 137, at 185.

168. See *id.* at 187 (commenting that the TRIPS agreement leaves "notable gaps and loopholes . . . especially with respect to nontraditional objects of intellectual property protection").

169. See Orross, *supra* note 106, at 153 (mentioning that punishments for copyright infringement have been growing more strict with every revision of the Copyright Act).

170. See Andy Patrizio, *DOJ Cracks Down on MP3 Pirate*, WIRED MAGAZINE (Aug. 23, 1999), at <http://www.wired.com/news/print/0,1294,21391,00> [hereinafter *DOJ*] (copy on file with *The Transnational Lawyer*) (describing a prosecution under the NET Act). University of Oregon college senior, Jeffrey Levy, was caught transferring thousands of music files, movies, and software on the college server. *Id.* University administrators

the proper set of facts, courts have little difficulty applying the law to the full benefit of the copyright holders.¹⁷¹

However, movie studios and other copyright holders' rights are still under continued, vicious attack on two fronts. Domestically, the laws enacted at the copyright holders' behest to curb technological piracy are accused of being overbroad and violative of citizens' right to use technological means regulated by these statutes in a non-infringing manner.¹⁷² Internationally, enforcement is virtually non-existent due largely to problems of both finding and prosecuting individual defendants and enforcing any judgement rendered in the copyright holders' favor.¹⁷³ This section will focus on the inadequacies at law of regulating Internet piracy, and argue that due to the worldwide and ephemeral nature of Internet piracy content providers, who are dedicated to protecting their intellectual property in the Internet age cannot depend solely on legal regulations and must embrace other models of regulation to protect their copyrights.

A. *The Digital Millennium Copyright Act Under Attack*

The DMCA, lobbied for heavily by the Motion Picture Association of America (MPAA), Recording Industry Artists of America (RIAA) and the Software and Information Industry Association (SILA), creates stiff penalties for circumvention of copyright protection systems.¹⁷⁴ From this provision found in Section 1201 of Title I, the most relevant title to owners of motion picture rights, it is clear that the DMCA means to provide content creators with complete control over how their works are distributed.¹⁷⁵ Some think the regulation is moving too far in favor of corporations and taking away the individual user's rights; they organized efforts to change the act in Congressional hearings held in 2000.¹⁷⁶

notified the authorities after noticing Levy's computer was transferring almost 1 gigabyte of information per hour over the college's network. *Id.*

171. See Stone, *supra* note 92 (remarking on the Scour prosecution for copyright infringement that resulted in the companies eventual bankruptcy). Scour declared bankruptcy when it was unable to obtain additional funding from investors worried about a protracted court battle. *Id.*

172. See Brad King, *Copyright: Your Right or Theirs?*, WIRED MAGAZINE (Jan 19, 2001), at <http://www.wired.com/news/politics/0,1283,41199,00.html> (last visited April 15, 2001) [hereinafter *Your Right*] (copy on file with *the Transnational Lawyer*) (noting that "Congress has effectively allowed Hollywood to write a statute that turns copyright holders wishes into federal law . . .").

173. See Oross, *supra* note 106, at 153 (mentioning how "even when a group or individual is located, studios must routinely choose between being denied domestic judicial relief because of jurisdictional limitations, or taking their chances with the often inadequate relief offered by foreign courts").

174. See *id.* at 154 (emphasizing that the three agencies mentioned lobbied for the DMCA's passage).

175. See *Your Right*, *supra* note 172.

176. See Brad King, *Copyright Act Faces Big Test*, WIRED MAGAZINE (Nov 29, 2000), at <http://www.wired.com/news/technology/0,1282,40378,00.html> (last visited April 15, 2001) (copy on file with *The Transnational Lawyer*) (relating that hearings were held to determine if the DMCA has properly balanced consumer rights with copyright holders interests).

The DMCA, enacted in 1998, contains a provision which requires the Registrar of Copyrights and others to submit a report of the statute's effectiveness to Congress at periodic intervals.¹⁷⁷ Public hearings were held in 2000 for nearly six months.¹⁷⁸ The Copyright Office's report is due in early 2001.¹⁷⁹ Congress is not expected to hear debate on the changes until late 2001, with any changes in the law not coming until at least 2002.¹⁸⁰

Organizations that stand for the free flow of information on the Internet, such as the Electronic Frontier Foundation (EFF), oppose the DMCA and are pushing for changes. Chiefly at issue is the language of Section 1201, which makes it illegal to circumvent a copy protection system, even with no motive to violate the owner's copyright. An example of this would be doing legitimate research or reverse engineering.¹⁸¹ Recently, a Russian programmer was arrested for demonstrating weaknesses in the security of Adobe's e-book encryption.¹⁸² Similarly, a Princeton professor was threatened with arrest if he gave a speech revealing the weaknesses of technology developed to protect digital music.¹⁸³ With the primary purpose of copyright law being to increase the marketplace of ideas, opponents claim that this provision in Section 1201 of the DMCA is in direct opposition to that goal, frustrating legitimate criticism and analysis of encryption standards.¹⁸⁴

Looking forward, an even more sinister use of the DMCA could be on the horizon. It is not just entertainment content that falls under this law; any company desiring to prohibit fair use can simply wrap its products in a thin layer of protection.¹⁸⁵ The content provider could then restrict access to the material to certain devices or make it possible for the material to be viewed only with certain

177. See *id.* (mentioning that the Registrar of Copyrights and the Assistant Secretary for Communications and Information submit a report to Congress).

178. See *id.* (reporting that Congress opened public hearings June 5, 2000, and they continued over the next six months).

179. *Id.*

180. *Id.*

181. See Lisa Bowman, *Arrest May Spark Review of Copyright Law*, ZDNet News (July 27, 2001), at <http://www.zdnet.com/zdnn/stories/news/0,4586,5094858,00.html> (copy on file with *The Transnational Lawyer*) (stating that Section 1201 is the most controversial section and some members of Congress are promising to modify it).

182. See *id.* (reporting that federal agents arrested and charged Dmitry Sklyarov with violation of Section 1201 of the DMCA for talking at a convention about a program that can crack Adobe Systems e-book encryption). Adobe Systems, bowing to public pressure, later dropped the charges. *Id.*

183. See *id.* (stating that entertainment industry groups threatened Princeton professor Edward Felten with prosecution under the DMCA for giving his speech). He, in turn, sued for the right to present his speech at a later date. *Id.* The copyright holders later dropped their charge, and the speech is now available on the Internet. *Id.*

184. See *id.* (presenting that proponents of industry standards can use the DMCA to squelch any research done into the encryption standards that is not the least bit motivated by a desire to gain unauthorized access to copyrighted works).

185. See Simon Garfinkel, *The Net Effect: The DVD Rebellion*, TECHNOLOGY REVIEW (Jul./Aug. 2001) at <http://www.technologyreview.com/magazine/jul01/garfinkel.asp> (last visited Sept. 3, 2001) (copy on file with *The Transnational Lawyer*) (stating that the new law makes an end run around fair use).

proprietary software.¹⁸⁶ Anti-trust implications aside, if no fair use rights are provided, this seems like a potentially ominous great leap backward for copyright law and freedom of information.¹⁸⁷ Imagine a future in which the worlds' most popular Internet sites are created to only be viewed with one provider's proprietary browser, and the contents could not be modified, printed or removed in any way.¹⁸⁸ Though this is an extreme example, Section 1201, carried to its logical conclusion, would authorize this recipe for disaster.

Advocates of the law also agree that fair use might be eroding under the new law, but contend that the balance should have been weighted on the side of the content providers all along, and the notion of equality between the public and the copyright holder is mistaken.¹⁸⁹ Programmers, professors, and free speech advocates articulate a different point of view. Columbia University law professor Eben Moglen says, the DMCA is not a copyright law, it "is a technology-control law of a particularly aggressive kind. We are heading towards a time when it will no longer be tolerable to say, 'Those used to be your civil liberties, but now it's digital.'"¹⁹⁰

B. International Enforcement of Intellectual Property Rights

Even for a powerful organization like the MPAA, enforcing the intellectual property rights of its members outside the United States is difficult or nearly impossible.¹⁹¹ Online, pirates can appear and disappear at will, crossing the world's borders at once and causing millions of dollars in damage in less than a day.¹⁹² Few individuals or groups are ever located, and rarer still are prosecutions which render them unable to continue their efforts.¹⁹³ Problems that exist in both locating and pursuing extra-national pirates under the law is the subject of this section.

Despite the growing number of nations that are parties to international conventions purporting to impose strict sanctions on countries with lax enforcement of intellectual property rights, piracy is flourishing more than ever before.¹⁹⁴ With

186. See *id.* at 2 (mentioning that the content provider could impose restrictions on viewing).

187. See *id.*

188. See Bowman, *supra* note 181.

189. See King, *supra* note 172 (paraphrasing Bruce Lehman, proponent of the DMCA: the [copyright act] was never meant to give consumers or the public equal rights to content creators). "There has been a change in what people view as fair use. It's now viewed as a right that is equal to copyright. I would say that I flatly reject that notion." *Id.*

190. John Borland, *Battle Lines Harden Over Net Copyright*, Tech News-CNET.com (Jan. 26, 2000), at <http://news.cnet.com/news/0-1005-200-4615695.html?tag=owv> (copy on file with *The Transnational Lawyer*).

191. See Oross, *supra* note 106, at 153 (remarking that pirates operating online are "elusive, immune from a legal framework that never anticipated their presence").

192. See *id.* (noting that online pirates are nearly impossible to catch).

193. See *id.*; see also DOJ, *supra* note 170.

194. See Letter from Eric H. Smith, President of the International Intellectual Property Association, to Joseph Papovich, Assistant USTR for Services, Investment and Intellectual Property, Office of the United States Trade Representative (Feb. 16, 2001), available at http://www.iipa.com/pdf/2001_SPEC301LETTER.pdf at 3, 8 (copy on file with *The Transnational Lawyer*) (presenting that despite recent improvement in policing copyright

the Internet growing throughout the world in developing countries, an unprecedented number of people have the ability to commit piracy.¹⁹⁵

The People's Republic of China is one high-profile example of the futility of preserving motion picture copyright.¹⁹⁶ Despite China's recent membership in the WTO, in the world's most populous country with the one of the world's largest economies, pirated videos account for up to ninety-five percent of China's video market.¹⁹⁷ Popular first-run theatrical movies appear on video shelves just days after their release in the United States, sometimes before.¹⁹⁸ Often local governments promote and profit from the very activities the laws seek to suppress.¹⁹⁹ China alone accounts for half the money spent by U.S. companies to defend their patents, trademarks and copyrights.²⁰⁰ A U.S. trade official recently called Chinese piracy "out of control."²⁰¹

In another of the world's largest nations, Russia, motion picture piracy is equally rampant. With Russia's dramatic shift from a government controlled society to a more capitalistic one, piracy has flourished.²⁰² An estimated ninety percent of all audiovisual videos and CDs are pirated.²⁰³ It is estimated that the movie studios are losing over US\$1 billion dollars a year due to movie piracy.²⁰⁴ The epidemic has also had severe effects on the social infrastructure of Russia.²⁰⁵ Despite new laws characterizing video piracy as a criminal offense and pledges by governmental

violations, the growth of Internet use has caused huge problems in protecting copyright holders rights).

195. *See id.* (hypothesizing that inexpensive and accessible reproduction technologies have made it easy for United States copyrighted materials to be pirated in other countries).

196. *See* Associated Press, *Piracy in China thriving*, CNET NEWS.COM (Dec. 13, 2000), at <http://singapore.cnet.com/news/asia/story/0,2000027473,10033031,00.htm> (last visited Sept. 18, 2001) (copy on file with *The Transnational Lawyer*) (remarking how China is a market for even the lowest quality movies due to government prohibition on foreign films).

197. FAS Online, *The U.S.-China WTO Accession Deal*, at <http://www.fas.usda.gov/itp/china/deal.html> (last modified Mar.13, 2000) (copy on file with *The Transnational Lawyer*) (stating China has one of the world's largest and fastest growing economies); *see also* Associated Press, *supra* note 196 (noting that pirated movies account for up to ninety-five percent of China's video market).

198. *See* Associated Press, *supra* note 196, at 2 (noting that popular movies are available concurrently with the theatrical release and for a far less than a movie ticket).

199. *See* Dan C.K. Chow, *Enforcement Against Counterfeiting in the People's Republic of China*, 20 N.W.J. INT'L L. & BUS. 447-48 (2000) (remarking on the pervasiveness of piracy and counterfeiting in China).

200. *See id.* (mentioning how, now that China is a member of the WTO, businesses expect to be able to stem piracy more effectively).

201. *See id.*

202. *See* Tim Kuik, *Piracy in Russia: An Epidemic*, 20 WHITTIER L. REV. 831, 833 (1999) (stating that video piracy has emerged as the leading source of counterfeiting in Russia).

203. *See id.* at 832.

204. *See id.* at 831.

205. *See* Stan Soocher, *Russian Entertainment Business Examined*, 14 NO. 1 ENT. L. & FIN. 3 (quoting Anatoly Lyssenko, Chairman of the Committee on Telecommunications and Mass Media for the Moscow city government). "There used to be 140 theaters in Moscow, and their profits paid for the health care of the entire Moscow population." *Id.* "Now there are only four or five active theaters". *Id.*

officials to “declare war on piracy,” little has happened to actually restrain it.²⁰⁶ Piracy continues unabated, with government enforcement weak, fines minimal, and no provisions to prevent convicted offenders from repeating their offenses when released.²⁰⁷

Though Asia and the Pacific Rim countries account for some of the highest piracy rates in the world, piracy in Western Europe is responsible for the second largest dollar loss worldwide.²⁰⁸ And, while the rates of piracy are low in Western Europe, this region has one of the largest, most well developed and wealthy economies; even the relatively low piracy rates there still translate into huge dollar losses.²⁰⁹ Similarly, the United States, with the world’s lowest piracy rate, represents a loss of almost US\$2.6 billion, or almost twenty-five percent of the dollar loss to piracy worldwide.²¹⁰

C. Legal Remedies Summary

Though legal intervention, or the threat of it, has had a considerable impact on digital music and film piracy, piracy remains a persistent problem. Anti-piracy laws such as the DMCA and NET Act have been used to great effect, with cases in which they are invoked almost always being construed in favor of the copyright holders.²¹¹ However, in this type of litigation, copyright holders have had the luxury of being able to target and sue corporate defendants, often found to have been offering a forum for online piracy.²¹²

With no centralized source for pirated films, a large percentage of downloads have been occurring through peer-to-peer networks, which are growing to be every

206. *Id.* at 3 (citing how video piracy became a crime under the Russian Federation Criminal Code in 1997); see also Elena Muravina, *The Structure of the Russian Entertainment Industry*, 20 WHITTIER L. REV. 825, 827 (discussing that the Mayor of Moscow, “declared war on piracy. He is known to be a man of action who almost always gets his way”).

207. See Soocher, *supra* note 205, at 3 (mentioning that in addition to weak enforcement, another reason for piracy is the high tax on legitimate video distributors profits).

208. See Business Software Alliance, *supra* note 43 (featuring statistics showing China, Russia, and many other Asian and Eastern European countries with the highest piracy rates, all with 80 percent or more of all products used coming from pirate sources). Correspondingly almost every Western European country has a piracy rate between thirty and forty percent. *Id.* Western Europe accounts for 26 percent of the dollar losses worldwide. *Id.*

209. See *id.* at 4 (noting that the highest losses, US\$635 and US\$531 million, respectively, came from the two member states with the lowest piracy rates, Germany and the U.K.).

210. See *id.* at 4 (noting that although the U.S. has the lowest piracy rate for any country, and has had the sharpest decline in piracy since 1994, yearly losses are still over US\$2 billion).

211. See Bruce R. Poquette, *Information Wants To Be Free*, 22 HAMLINE J. PUB. L. & POL’Y 175, 215 (2000) (stating that the trend in litigation over online copyright violations is to favor the copyright holders).

212. See Sarah H. McWane, *Hollywood vs. Silicon Valley: DeCSS Down, Napster to Go?*, 9 COMMLAW CONSPICUOUS 87, 92 (2001) (mentioning the UMG v. MP3.com litigation as one example of a corporate defendant hosting or facilitating the transfer of content without the copyright holders permission). In this case, MP3.com catalogued thousands of users CDs and stored them online. *Id.* By merely claiming to own a CD stored on their server, a user could access and transfer that CD. *Id.* The court held MP3.com liable for copyright infringement and ordered them to pay damages of US\$25,000 per CD on their site, totaling US\$118 million dollars. *Id.* at 93.

bit as problematic for the industry as Scour or Napster, but without the corporate front.²¹³ One of the most popular peer-to-peer networks, Gnutella, serves over one million movies a day, and logs upwards of 600,000 downloads daily.²¹⁴ As with all peer-to-peer networks, there is no central company to sue and each user is his or her own server, limiting the remedies of copyright holders to prevent distribution of their works.²¹⁵

Unable to hold ISPs accountable for their users actions, and with the costs of litigating against any one individual infringer in the tens of thousands of dollars, not even well-heeled organizations like the MPAA can afford to go after millions of individual infringers.²¹⁶ The result would likely be a legal and public relations disaster.²¹⁷ With remedies at law against the “phantom menace” of online pirates losing effectiveness at the same time that digital motion picture piracy is growing, copyright holders need to examine new ways to protect their products in addition to exercising existing legal remedies.²¹⁸

V. THAR’ BE PRIVATEERS AT WORK HERE

With the rapidly changing nature of the Internet and Internet piracy rendering remedies at law ineffective, new solutions to the piracy epidemic have to be considered.²¹⁹ Digital technology is erasing the well-defined jurisdictions of the physical world, and replacing them with the worldwide lawless realm of “cyberspace.”²²⁰ As technology continues to grow, and the Internet continues to expand, the law will be left even further behind.²²¹

213. See Damien A. Riehl, *Peer-to-Peer Distribution Systems: Will Napster, Gnutella and Freenet Create a Copyright Nirvana or Ghenna?*, 27 WM. MITCHELL L. REV. 1761, 1778 (2001) (defining “peer-to-peer” as a network where each user connects directly to each other user, without having to first be routed through any type of central medium).

214. See Michael Bartlett, *Pirated Movies Abound on the Web*, Newsbytes (Aug. 1, 2001), at <http://www.newsbytes.com/news/01/168593.html> (last visited Aug. 2, 2001) (copy on file with *The Transnational Lawyer*) (listing the quoted statistics and explaining the problem is growing).

215. See *id.* (citing that short of litigation, copyright holders scan the networks looking for “distributors” and then send their ISP a letter asking for appropriate action).

216. See John Borland, *ISPs Wary of Role in Anti-Piracy Actions*, CNET News (June 8, 2001), at <http://news.cnet.com/news/0-1005-200-6221068.html> (copy on file with *The Transnational Lawyer*) (noting that because all the files are on the users own hard drives, and not stored on the ISP’s servers, the ISP’s feel they have little responsibility to police offending users); see also Riehl, *supra* note 213, at 1778 (stating that the minimal damages that could be recovered from infringing users would not justify the cost and time involved to assert jurisdiction against millions of individuals in a myriad of jurisdictions).

217. See Riehl, *supra* note 213, at 1779.

218. See *id.* (mentioning possible solutions include additional legislative remedies, encryption and watermarking).

219. See Barlow, *supra* note 107, at 1 (implying that because the copyright infringement is through the digital medium of the Internet, laws and regulations are difficult, if not impossible, to enforce).

220. See *id.* at 4 (noting that over the Internet, there are no national boundaries to determine the method of prosecution, or even a clear idea of what crime is from country to country).

221. See *id.* at 6.

Despite the inadequacy of legal remedies to regulate Internet motion picture piracy, there are a number of promising alternatives to protect copyright holders' work. Solutions range from suggested new educational programs that teach the nature of copyrights and intellectual property at the grade school level as a way to stem future abuses, to additional technical measures preventing pirates from copying movie files. In addition, studios have future plans to deliver movies on demand directly into homes via both the television and the computer as a way to hopefully decrease the illegal movie trade burgeoning over the Internet. Alternate remedies to prevent digital film piracy are the subject of this section.

A. *Intellectual Property Education in Schools*

Creative Industries Task Force has a bold plan to stem copyright abuses by teaching schoolchildren from twelve to eighteen years old the nature of their actions when downloading a music or movie file, or even trading online pictures of the Backstreet Boys.²²² Research conducted by the group has found that although people are aware of the concept of copyright, few have an understanding of what it means.²²³ Furthermore, the group discovered that most consumers perceive the purchase of a pirated video as an obvious wrong, but the downloading of a song or movie as perfectly acceptable.²²⁴ Digital copyright expert Jessica Litman agrees: "Young people, and other people, believe in a version of copyright [other than] or . . . law that is different from the one now on the books. Many of them believe, for example, that if you buy a CD, you buy the right to share it."²²⁵

Targeting these misconceptions, Creative Industries has developed a program, supplemented by an educational CD-ROM, designed to enhance teenagers' understanding and appreciation for Intellectual Property, specifically copyright.²²⁶ The curriculum aims to teach students that the taking of another's intellectual property is theft, even if the property in question is non-physical and appears to be easy to use without payment, such as an Internet download.²²⁷ The goal of the

222. See Alan Docherty, *Why Can't Johnny Respect Copyrights?* (July 16, 2001), at http://www.salon.com/tech/feature/2001/07/16/abc_ip/print.html (copy on file with *The Transnational Lawyer*) (describing a program to be launched in Britain's schools to help curb online piracy). Creative Industries Intellectual Property Group, which created the program, includes representatives from the publishing, music and broadcast industries. *Id.*

223. Creative Industries Intellectual Property Group, *The Report from the Intellectual Property Group of the Government's Creative Industries Task Force*, at <http://www.patent.gov.uk/copy/notices/pdf/ipgroup.pdf>, at 29 (last visited Sept. 2, 2001) (copy on file with *The Transnational Lawyer*) (remarking that "whilst many people understand 'inventions,' far fewer appreciate the intellectual property that may exist . . .").

224. See *id.* (noting that "there exists a difference in consumers' minds between buying a physical product which is pirated compared with copying . . . music without permission for personal use").

225. Docherty, *supra* note 222.

226. See *id.* (noting that the "Intellectual Property Pack Set" is produced by the Patent Office and distributed to students across the country).

227. See Creative Industries, *supra* note 223, at 29-30 (making this point, among others, such as the importance of understanding that by infringing others copyrights, you may deprive the creators of a means of making a living).

program is stated by the Patent Office's director of copyright: "By bringing awareness of the importance of copyright into our schools, tomorrow's consumers can take their place in a community which understands, values and respects intellectual property."²²⁸

Although this sounds ideal, there are some problems with this high minded approach. First, programs aimed at teaching morality generally have little effect.²²⁹ While it is likely that students who do not know their actions are violating copyright law may stop once educated, the program's target audience of young males is unlikely to be deterred by such a school sponsored program.²³⁰ Secondly, with respect to the Internet and the digital transferring of files, copyright law is in flux.²³¹ Over-arching laws such as the DMCA are prone to challenge and change, and a lesson plan written today could be incorrect a year from now, making it difficult to compose a static curriculum.²³²

B. Technical Measures—Encryption and Watermarking

The solution of new and improved encryption has always been an option. Ideally, if all movies could be encrypted in a way that prevents unauthorized transfer but still allows full use and enjoyment by the consumer, piracy as we know it would slow to a crawl. Unfortunately, this has never been the case. As Judge Ferguson noted in a 1979 high profile copyright case, "As sure as you or I are sitting in this courtroom today, some bright young entrepreneur . . . is going to come up with a device to unjam the jam. And then we have a device to jam the unjamming of the jam, and we all end up like jelly"²³³ That said, there are several promising technical measures that may help movie studios to both protect their copyrights and more effectively target habitual pirates.

Watermarking can be used in one of two ways. First, if an original is watermarked, it can theoretically be tracked if transferred online.²³⁴ While it is futile to try to track down every infringing user, if one user has a history of many repeated

228. Docherty, *supra* note 222.

229. *See id.* at 2-3 (quoting that "[m]oral education programs have little or no positive effect upon moral behavior, achievement, or anything else").

230. *See* Creative Industries, *supra* note 223, at 29 (reporting that young males have the highest propensity to disregard copyright protection measures). Humorously, in the Docherty article, he draws a parallel from the British Intellectual Property education program to D.A.R.E., a roundly lampooned United States program aimed to keep children from experimenting with drugs. *Id.*

231. *See* Docherty, *supra* note 222, at 2 (mentioning that some argue that it may be inappropriate to bring IP education into the classroom when the field is susceptible to rapid change).

232. *See id.* (noting that "[a]ny effort to include I.P. in a moral education curriculum has to grapple with the fact that . . . I.P. law [is] highly contested").

233. Riehl, *supra* note 213, at 1792 (quoting from *Universal Studios, Inc v. Sony Corp of America*, 480 F. Supp. 429 (C.D. Cal. 1979)).

234. *See* Poquette, *supra* note 211, at 205 (noting that "if one tries to send [the copyrighted work] out over the Internet, the holders of the copyright can trace who is responsible for the infringement").

violations, targeted prosecution might be feasible.²³⁵ This type of encryption could also benefit studios when they start distributing theatrical fare digitally for digital projection.²³⁶ In this arena, if a theater owner allowed pirated copies of the digital print to be made, he could be easily tracked and fined.²³⁷ One problem with this type of policing is that in order for the watermark not to interfere with the recording or movie, it has to be completely imperceptible.²³⁸ Most compression methods, such as DivX, would likely eliminate the watermark along with other inaudible sounds when compressing a file for easy transfer.²³⁹

Another use for watermarks is much more in line with traditional encryption methods, such as DVD's CSS, and Sony's Secure Digital Music Initiative (SDMI).²⁴⁰ This method would involve imbedding a watermark detecting device in DVD players and DVD-ROM drives, which would refuse to play any file without the watermark certifying it as genuine.²⁴¹ One movie industry representative is currently sponsoring a bill to require encryption in all digital devices, the Security Systems Standards and Certification Act (SSSCA).²⁴² This legislation would require by Federal mandate all manufacturers of virtually any digital devices to equip their products with a copy-protection scheme to prevent piracy.²⁴³ Similar to the DMCA, this legislation makes no provision for traditional copyright exceptions, such as fair use or first sale.²⁴⁴ The downside of this approach is obvious. After spending millions in propagating a new system, a hacker could eventually unjam the jam, just as was done with DeCSS.

235. See *id.* (hypothesizing that this model of tracking down users "may work for large distributors . . . [but] it would be very costly and difficult to track down multiple small time infringers").

236. See John Gillie, *Boeing Wants to Branch Out into Digital Movie Technology Distribution*, NEWS TRIBUNE, Tacoma, Wa. (Apr. 25, 2001) (explaining that the launch into digital cinema will be the most significant enhancement on the moviegoing experience since "talkies" were introduced in 1927).

237. See *id.* (noting that Boeing has extensive experience with encryption, as it has handled sensitive military contracts for years).

238. See Poquette, *supra* note 211.

239. See Barry Fox, *Listen Up: Record Companies Are Desperate to Distribute Music Over the Net. But First They've Got to Halt the Flow of Pirated Tracks*, NEW SCIENTIST 34 (Feb. 17, 2001), available at 2001 WL 15518782 (explaining that the moment the data is compressed for Internet transmission, the watermark codes disappear).

240. See Peter Wayner, *Marked Music*, Interactive Week ZDWire (Jan. 30, 2001), available at 2001 WL 7347308 (noting that the Secure Digital Music Initiative (SDMI) is aimed to set a common standard for music CDs acceptable to computer, software, entertainment, and electronic goods companies to allow only legitimate content to play on computers and MP3 players).

241. See *id.* (quoting that "[The SDMI] first generation watermark, simply tries to identify copyrighted music to computers and MP3 players").

242. See EFF.org, *Defeat the "Security Systems Standards and Certification Act" (SSSCA)*, at http://www.eff.org/alerts/20010921_eff_sssca_alert.html (Sept. 21, 2001) (copy on file with *The Transnational Lawyer*) (noting that Walt Disney is the main sponsor of the bill, with the support of Senators Fritz Hollings and Ted Stevens).

243. See *id.* (remarking this law would require compliance of almost every digital device, including cellular phones, ATM machines, digital cameras, and many more).

244. See *id.* (remarking the SSSCA represents "an unvarnished attack on the balance of copyright").

C. Movies on Demand

With a planned launch in early 2002, five major studios announced in August 2001 a joint venture to supply low-cost movie downloads in an attempt to entice consumers to purchase their movies legitimately rather than resorting to piracy.²⁴⁵ Termed Moviefly, the service will roll out digitized movies for download within the pay-per-view window, approximately forty-five days after they are released to video.²⁴⁶ Once downloaded, the movie will be able to be viewed for thirty days, but will be encrypted with the same type of protection currently used for secure video broadcasts to prevent unauthorized reproductions.²⁴⁷

While this service will initially only deliver movies to your computer and will be no cheaper than renting from a video store, it is a promising sign that studios are trying to cope with the changes the Internet has brought to the industry.²⁴⁸ Studios are eager to head off piracy with this new service and, even if it is not a huge success, to build upon this project towards an even better service in the future.²⁴⁹ Warner Brothers' representative to Moviefly summed up by saying, "We feel we needed to offer a legal, high quality, user-friendly alternative to what is currently out there on the Internet today. By getting out in front of this, we are going to hopefully prevent some of the issues confronting the music industry."²⁵⁰

A similar plan is in the works to bring digital movies on demand directly to televisions as well.²⁵¹ The plan would involve convincing companies behind the anti-piracy technology to develop devices capable of unscrambling, recording and storing encrypted information.²⁵² Receiving digital quality broadcasts is nothing new to consumers with high-definition televisions (HDTV) and digital cable or satellite service, but the ability to receive any film on demand is certainly a dramatic improvement over traditional pay-cable channels.

245. See Ron Grover, *Video on Demand: Hollywood Style*, Business Week Online (Aug. 21, 2001), available at 2001 WL 25754777 (explaining that the new service called Moviefly to distribute films online). Sponsoring and splitting expenses are MGM, Paramount, Sony, Universal and Warner Brothers. *Id.*

246. See *id.* (stating that the service plans to offer over 100 movies on its launch date, and could feature digitized versions of films yet to be released to DVD).

247. See Jaye Boyd, *Is Hollywood Net-Ready?*, Internet Week (Aug. 27, 2001), available at 2001 WL 8008247 (remarking on the high standards of encryption for delivery of feature films will meet or exceed those now in place for delivery of most secure Internet video).

248. See Gary Gentile, *Studios in Video on Demand Venture*, AP Online (Aug. 17, 2001), available at 2001 WL 26180458 (mentioning the fear of piracy and the lure of a vast new marketplace for the studio's films which led them to form Moviefly).

249. See *id.* (quoting that "it's not so much that this service is likely to be a huge success as that it indicates the willingness of Hollywood to move forward and deliver on the promise of video on demand").

250. *Id.* Confirming this statement, another studio rep from Paramount confirmed that piracy concerns was the most compelling factor for that studio joining the service as well. *Id.*

251. See Jube Shriver, *Studios Foil Movie Thieves*, L.A. TIMES, July 24, 2001 (stating with the proper encryption technology, studios could send digital productions directly to consumers).

252. See *id.* (listing Hitachi, Toshiba, Sony, Intel and Matsushita (Panasonic) among the companies sought to create the anti-piracy devices).

There are noteworthy roadblocks to this approach, not the least of which is only about ten percent of stations nationwide even support broadcasting some of their programming in digital format.²⁵³ In addition, the copy protection issues are far from settled.²⁵⁴ Still, this is yet another bright spot on the horizon of a future with a lower rate of piracy. Said Michael Ayers, President of the studio association trying to license the anti-piracy technology, "The evolution to digital TV has been underway for a while. . . but what we are seeing now is the studios coming together . . ."²⁵⁵
January 28, 2002

VI. TO DAVY JONES LOCKER WIT' YA!

In conclusion, it seems that more than law alone will be needed to stem the tides of copyright piracy. New laws and changes to the Copyright Act have had little effect on Internet piracy. As Internet connection speeds accelerate and download capabilities increase, transfers of pirated files become more prevalent. Soon copyright holders' attempts to protect their work from Internet piracy through law alone will be as effective as rearranging the deck chairs on the Titanic to prevent it from sinking. Whether movie studios will be able to employ methods mentioned here or others to prevent their copyrighted works from ending up as cyber booty is yet to be seen. To quote from a popular film, currently available for easy download over the Internet, "[y]ou ain't seen bad yet, but it's coming."²⁵⁶

253. *See id.* (counting, about 200 of the nations 1678 television stations transmit part of their programming in digital).

254. *See id.* (mentioning the companies behind the anti-piracy controls fear antitrust violations if licensed to over-the-air broadcasts).

255. *Id.*

256. *NEXT OF KIN* (Warner Brothers 1989).