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2003]

PEER-TO-PEER COMBAT:
THE ENTERTAINMENT INDUSTRY'S ARSENAL
IN ITS WAR ON DIGITAL PIRACY

"[T]he battle against file sharing has become the entertainment industry's version of the War on Drugs, an expensive, protracted, apparently ineffective and seemingly misguided battle against a contraband that many suggest does little harm."¹

I. INTRODUCTION

Digital piracy is not a new problem.² The ongoing discussion surrounding it is, however, continually renewed as emerging technologies are employed in both piracy and anti-piracy efforts.³ The entertainment industry has employed, is employing and is looking to employ various methods to protect more efficiently its intellectual property rights in a world that is largely tolerant of copyright infringement.⁴

1. Farhad Manjoo, *Sour Notes* (July 30, 2002), at http://archive.salon.com/tech/feature/2002/07/30/file_trading/print.html (last visited Jan. 7, 2003).

2. See BLACK'S LAW DICTIONARY 1169 (7th ed. 1999) (defining piracy as "[t]he unauthorized and illegal reproduction or distribution of materials protected by copyright, patent, or trademark law"). Digital piracy, as discussed in this Note, is the piracy of digital content, i.e., software, digital music and digital motion pictures.

3. See Stan Liebowitz, *Policing Pirates in the Networked Age*, POL'Y ANALYSIS No. 438, at 1 (May 15, 2002), at <http://www.cato.org/pubs/pas/pa438.pdf> (recognizing that new technologies employed in piracy and anti-piracy efforts attract attention and analysis to digital piracy issue). Liebowitz observes:

New Internet-based technologies appear to threaten the ability of copyright owners to collect revenues for their intellectual creations . . . result[ing] in new legislation against pirating and . . . giv[ing] rise to new technologies to protect intellectual products. Both the new technologies and the counter-technologies that have followed them have attracted attention and analysis, sometimes bordering on the apocalyptic, from competing camps.

Id.

4. See Hiawatha Bray, *Tech Industry Issues Warning on Antipiracy*, BOSTON GLOBE, July 16, 2002, at D2 (reporting that information technology (IT) industry executives are working with Hollywood to find technical ways to limit piracy); *Company Town: Hollywood Boosts Campaign Donations: Politics*, L.A. TIMES, June 14, 2000, at C5 ("Hollywood has been lobbying in Washington to seek ways to fight growing piracy of movies and music on the Internet."); Kay Larsen, *Napster May Have Reformed, But Web Music Piracy Thrives*, WALL ST. J. EUR., June 12, 2002, at M2 (explaining that recording industry is developing anti-piracy tactics based on technology being developed by motion picture industry); Todd Shields, *Techno Phobias: Media Execs Fear Piracy of Digital Content But Are Split Over How to Stifle It*, MEDIAWK., April 1, 2002, at 11 (reporting that film, computer and consumer-electronics industries have formed Copy Protection Technical Working Group to discuss ways of stifling digital piracy); Lisa M. Bowman, *File-traders in the Crosshairs* (July 15, 2002), at

These anti-piracy methods can be divided into three general approaches: legal, social and market.⁵ Analysis of the current state of each of these categories reveals that legal approaches, while popular with the recording and motion picture industries, provide only limited success and threaten to backfire as they become increasingly insular in their protection of copyright owners.⁶ Theoretically, social approaches offer the most effective means of addressing digital piracy, but ultimately remain largely ideological with little hope of ever being reduced to practice.⁷ Market approaches prove to be effective immediate remedies, but ultimately depend upon constant evolution and innovation to sustain anything beyond an ephemeral solution.⁸

This Note discusses, categorizes and analyzes the different approaches already employed and those being developed to combat the piracy of copyrighted digital material in the United States.⁹ Part II discusses the problems and challenges digital piracy poses to the industries it affects the most: the software, recording and motion picture industries.¹⁰ Part III summarizes the relevant history of copyright law in the United States, providing a background for how copyright infringement is defined and contemplated in this country.¹¹ Part IV reviews the most recent legislation enacted to update copyright law in response to the modern threat of digital piracy.¹² Part V categorizes and analyzes current and developing approaches to digital piracy.¹³

<http://news.com.com/2100-1023-943881.html> (“[T]he [recording] industry is looking at a variety of tactics to tackle online piracy.”) (quoting recording industry executive).

5. For a further discussion of the categorization of approaches to digital piracy, see *infra* notes 104-96 and accompanying text.

6. For a further discussion of legal approaches to digital piracy, see *infra* notes 107-30 and accompanying text.

7. For a further discussion of social approaches to digital piracy, see *infra* notes 131-48 and accompanying text.

8. For a further discussion of market approaches to digital piracy, see *infra* notes 149-96 and accompanying text.

9. For a further discussion of approaches to digital piracy, see *infra* notes 104-96 and accompanying text.

10. For a further discussion of challenges faced by the entertainment industry, see *infra* notes 14-56 and accompanying text.

11. For a further discussion of fundamental United States copyright law, see *infra* notes 57-79 and accompanying text.

12. For a further discussion of recently enacted copyright law, see *infra* notes 80-103 and accompanying text.

13. For a further discussion of categories of approaches to digital piracy, see *infra* notes 104-96 and accompanying text.

II. PROBLEMS AND CHALLENGES POSED BY DIGITAL PIRACY

A. *The Software Industry*

Piracy has long been a bane to the software industry.¹⁴ Even before the Internet, piracy in the form of sophisticated counterfeiting operations and casual workplace copying threatened the viability and creativity of software publishers.¹⁵ Since the Internet has become ubiquitous, however, software piracy has become pandemic.¹⁶

The Business Software Alliance (BSA)¹⁷ estimates that in 2001 the worldwide business software piracy rate was forty percent, costing the industry \$10.97 billion in lost revenues.¹⁸ This figure is consistent with an increasing trend from thirty-six percent in 1999 and thirty-seven percent in 2000.¹⁹ Although the piracy rate was the lowest worldwide at twenty-five percent, companies in the U.S. lost revenues totaling \$1.81 billion, more than any other country.²⁰ Furthermore, although monetary losses due to piracy declined both worldwide and in the United States since 2000, the

14. See BUSINESS SOFTWARE ALLIANCE, INTERNET SOFTWARE PIRACY: ENFORCEMENT 1 (2002), at <http://www.bsa.org/usa/policyres/admin/InternetPiracy-Enforcement.pdf> ("Software publishers have long suffered from the impact that traditional forms of piracy have had on their markets, their economic viability and their ability to create new products.").

15. See *id.* ("Copying in the workplace, counterfeiting and various forms of illegal distribution cost the industry billions and billions of dollars each year.").

16. See *id.* ("Unauthorized electronic distribution and sale of copyrighted works over the Internet threatens [sic] to make [traditional software piracy methods] seem almost quaint by comparison."). The Internet has affected software piracy in at least three significant ways. See *id.* (positing three ways Internet has affected software piracy). First, it provides a "vast, borderless, sleepless marketplace for . . . pirated software." *Id.* Second, its increasing ease of access and faster connection speeds allow even the least sophisticated computer users to obtain pirated software with little difficulty. See *id.* ("Today, even the most novice of computer users can easily find his or her way to pirated software."). Third, its anonymous nature provides a lower risk of detection than traditional modes of unauthorized distribution. See *id.* (describing nature of Internet as "unrestricted, self-regulated and largely anonymous").

17. See Business Software Alliance, *About BSA*, at <http://www.bsa.org/usa/about/> (last visited Jan. 7, 2003) (stating that Business Software Alliance is international consortium of companies in software, hardware and Internet industries). Established in 1988, the BSA's mission is to promote "a safe and legal online world" by educating consumers on software copyrights and cyber security, advocating public policy that encourages innovation and trade opportunities and fighting software piracy. *Id.*

18. See BUSINESS SOFTWARE ALLIANCE, SEVENTH ANNUAL BSA GLOBAL SOFTWARE PIRACY STUDY 2 (June 2002), at <http://www.bsa.org/resources/2002-06-10.130.pdf> ("The purpose of the study is to review the available data and utilize a systematic methodology to determine the worldwide business software piracy rates and the associated dollar losses."). The "reported rate" is the percentage of all business application software installed without a license. See *id.* (defining research methods).

19. See *id.* (reporting worldwide piracy rates for last six years).

20. See *id.* at 6 (reporting piracy rate and lost revenues for United States).

BSA attributes this decline not to less piracy, but to currency fluctuations, lower software prices and a sluggish economy.²¹

In a more detailed study of software piracy in the United States, the BSA estimated that, in 2000, publishers lost a total of \$8.31 billion in revenues, \$2.63 billion of which was attributed to the piracy of business application software.²² Typically, the publishers hit hardest are those that produce industry standard applications whose licenses are often relatively expensive.²³ For example, Autodesk, publisher of the professional standard design program AutoCAD, estimates that only one in five computers running its program has a legal copy.²⁴ Considering a legal license for one copy of the program costs \$3,750, that proportion translates to a significant loss.²⁵ Beyond the losses sustained by the software industry, the BSA reported that piracy cost the U.S. economy 118,000 lost jobs, \$5.67 billion in lost wages and \$1.59 billion in lost tax revenue in 2000.²⁶

B. *The Recording Industry*

Digital piracy began to afflict the recording industry in the late 1990s with the popularization of MP3, a technology that allows digital audio recordings to be compressed to manageable file sizes.²⁷ These compressed music files were first distributed somewhat inefficiently on the Internet through web pages, newsgroups, chat rooms and email.²⁸ Although a large amount of material was available at various places on the Internet,

21. *See id.* at 2 (explaining decreasing losses despite increasing piracy rates).

22. *See* BUSINESS SOFTWARE ALLIANCE, U.S. SOFTWARE STATE PIRACY STUDY 7 (Nov. 2001), at <http://www.bsa.org/usa/policyres/admin/2001-11-01.65.pdf> [hereinafter STATE PIRACY STUDY] (studying effects of piracy on American software industry).

23. *See* Kevin Washington, *Software Makers Battle 'Pirates' with Education: Rip-offs: Copies, Counterfeit Versions and Illegal Multiple Use of Programs Cost Publishers and Users Billions Each Year*, BALT. SUN, July 18, 2002, at 11C (discussing losses suffered by various prominent software publishers due to piracy).

24. *See id.* (providing specific examples of software publishers most affected by piracy).

25. *See id.* (quoting Autodesk's Director of Piracy Prevention).

26. *See* STATE PIRACY STUDY, *supra* note 22, at 7 (reporting effects of software piracy on United States economy).

27. *See generally* JUSTIN FRANKEL, DAVE GREELY & BEN SAWYER, *MP3 POWER! WITH WINAMP* (1999) (providing exhaustive discussion of MP3 technology history and development); Corey Rayburn, Note, *After Napster*, 6 VA. J.L. & TECH. 16 (2001), at <http://www.vjolt.net/vol6/issue3/v6i3-a16-Rayburn.html> (explaining development and popularization of MP3 technology); *The History of MP3 and How Did It All Begin?*, at http://www.mp3-mac.com/Pages/History_of_MP3.html (last visited Jan. 7, 2003) (summarizing history of MP3 technology with timeline).

28. Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263, 272 (2002) (discussing introduction of MP3 technology to Internet users).

users generally had to be more familiar with less mainstream venues to find and download the music they wanted.²⁹

Enter Napster, the peer-to-peer (P2P) network that revolutionized Internet file-sharing by streamlining the process of finding and downloading music.³⁰ Napster's ease of use and explosive popularity created a limitless MP3 free-for-all; at its peak, Napster estimated that seventy-five million users were downloading approximately ten thousand songs per second.³¹ Because the bulk of the music on its network was copyrighted material, all five major recording labels brought suit against Napster for contributory and vicarious copyright infringement.³² The labels were successful in forcing the company to stop offering copyrighted material on its network, causing the network to lose popularity just as quickly as it had arisen.³³

Despite the fall of Napster at the beginning of the millennium, the Recording Industry Association of America (RIAA) reported that its industry lost \$4.2 billion in 2001.³⁴ One reason for this loss is that in the wake of Napster, several alternative P2P networks became popular among MP3

29. *See id.* at 273 ("Before Napster, music and other content were only available if someone posted the content to a web page or newsgroup or attached it to an e-mail.").

30. *See id.* ("Peer-to-peer networking dramatically expands the universe of available music[,] . . . streamlin[ing] the publishing process by making information residing on a user's computer hard drive directly available to other users of the network.").

31. *See id.* at 273 n.61-64 (citing *A & M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 902 (N.D. Cal. 2000)) (noting extensive use of Napster as indicated by its internal documents).

32. *See id.* (citing *Napster*, 114 F. Supp. 2d at 900) (indicating plaintiffs' causes of action). Contributory infringement occurs when one knowingly induces or contributes to the infringement of another. PAUL GOLDSTEIN, COPYRIGHT § 1.5 (2d ed. 1996) (defining and explaining contributory infringement). Vicarious liability occurs when defendant's "right and ability to supervise infringing activity coalesces with an obvious and direct financial interest in the exploitation of copyrighted materials—even in the absence of actual knowledge that the copyright monopoly is being impaired." *Shapiro, Bernstein & Co. v. H.L. Green Co.*, 316 F.2d 304, 307 (2d Cir. 1963) (imposing liability "upon the beneficiary of that exploitation").

33. *See A & M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 927 (N.D. Cal. 2000) (enjoining Napster from "engaging in, or facilitating others in copying, downloading, uploading, transmitting, or distributing plaintiffs' copyrighted musical compositions and sound recordings, protected by either federal or state law, without express permission of the rights owner"), *aff'd in relevant part*, 239 F.3d 1004, 1027 (9th Cir. 2001) (upholding preliminary injunction forcing Napster to stop offering copyrighted material on its network); *see also Reid Kanaley & Patrick Kerkstra, Ruling Could Doom Napster: An Appeals Court Agreed the Internet Service Broke Copyright Laws*, PHILA. INQUIRER, Feb. 13, 2001, at A1 (summarizing history of Napster service and litigation).

34. *See Warren Cohen, Special Report: Copy-Protected CDs*, ROLLING STONE, June 7, 2002, at <http://www.rollingstone.com/news/newsarticle.asp?nid=15990> (reporting estimated losses to recording industry). In a \$33.7 billion market, this figure represents more than a ten percent loss. *See id.* (framing estimated losses as proportion of total market).

traders.³⁵ These networks, many of which are derivatives of the open-source Gnutella network, have no central server coordinating communications between their users.³⁶ Consequently, while the recording industry has had some success in getting copyrighted material off centralized P2P networks by threatening to sue central servers, the non-centralized aspect of the most popular current networks makes filing a lawsuit against a central server impossible.³⁷

C. *The Motion Picture Industry*

Digital piracy is a relatively new threat to the motion picture industry, but based on the losses sustained by the software and recording industries, this threat is no less dangerous.³⁸ Until recently, widespread piracy of motion pictures was limited by a number of factors.³⁹ First, file sizes of movie recordings on computers were unmanageable; without compression protocols, movie files were too large to be put on compact discs (CDs) or to transfer conveniently over the Internet.⁴⁰ Second, even for computer

35. See Manjoo, *supra* note 1 (noting variety of alternative P2P networks currently handle bulk of file sharing).

36. See Liebowitz, *supra* note 3, at 2 (explaining that Gnutella networks have no central server, making copyright enforcement much harder). Popular Gnutella derivatives include BearShare, Aimster, LimeWire and Morpheus. See *id.* at 14 (listing P2P networks that operate on Gnutella protocols); see also *Gnutelliums*, at <http://www.gnutelliums.com/> (last visited Jan. 7, 2003) (providing comprehensive list of Gnutella clients for various platforms). KaZaA, another non-centralized P2P network, operates on the FastTrack network, an alternative to Gnutella. See KaZaA, *FastTrack and Gnutella*, at <http://www.kazaa.com/en/help/fasttrakandgnutella.htm> (last visited Jan. 7, 2003) (comparing performance of FastTrack and Gnutella networks).

37. See *Audiogalaxy Settles Music Piracy Lawsuit*, WALL ST. J., June 18, 2002, at D6 (reporting that Audiogalaxy P2P network service settled lawsuit brought by recording industry companies for "a substantial sum"). Recording industry companies have brought similar suits against Streamcast Networks, Inc., Kazaa BV and Grokster Ltd. See *id.* (discussing P2P network litigation). Audiogalaxy has since contracted with Listen.com to become a distributor of its Rhapsody subscription service. See Brian Garrity, *Audiogalaxy Pacts with Listen.com: Deal Brings Rhapsody Music Subscription Service to New Galaxy of Listeners*, BILLBD., Sept. 21, 2002, at 6 (explaining that "[t]he deal between Audiogalaxy and Listen marks the first commercial deployment of a major-label-sanctioned subscription service through a P2P network").

38. See Lee Gomes, *Now, the 'Napsterization' of Movies*, WALL ST. J., July 17, 2000, at B1 (quoting Motion Picture Association of America (MPAA) president and CEO Jack Valenti as saying, "[The technology] is moving extremely fast. I worry about the possibility that what happened to music will soon be happening to movies.").

39. See Christian John Pantages, Comment, *Avast Ye, Hollywood! Digital Motion Picture Piracy Comes of Age*, 15 TRANSNAT'L LAW. 155, 161 (2002) (delineating previous barriers to digital motion picture piracy); Gomes, *supra* note 38, at B1 (commenting on changes in technology that have made digital piracy of motion pictures more threatening to motion picture industry).

40. See Pantages, *supra* note 39, at 161-62 (discussing file size barrier to digital piracy of motion pictures); Gomes, *supra* note 38, at B1 ("[I]n contrast to MP3 music files, DVD movie files are extremely large . . .").

users with hard drives large enough to accommodate massive movie files, the fastest existing Internet connection speeds were still too slow to make wide dissemination of movies practical.⁴¹ Third, unlike CDs, digital versatile discs (DVDs) containing movie files were encrypted.⁴² By incorporating Content Scrambling System (CSS) encryption technology, DVDs allowed users to play, but not copy content.⁴³ Finally, due to the difficulties in copying and disseminating digital movie files, most pirated movies available were analog recordings made by pirates smuggling camcorders into cinemas.⁴⁴ These recordings were often of very low quality, far inferior to the digital quality of a DVD.⁴⁵

Recently, however, all of these barriers to digital piracy of movies have collapsed.⁴⁶ The MP3 analogue to motion pictures, DivX, made it possible to compress a five gigabyte DVD file to 700 megabytes, roughly the capacity of a blank CD.⁴⁷ Cable and Digital Subscriber Line (DSL) broadband connections have become increasingly available and more affordable to private homes across the country, making the transfer of such files much more convenient and less time-consuming.⁴⁸ In 1999, a Norwegian teen reverse-engineered the CSS encryption technology used on most DVDs to create a utility, DeCSS, which was capable of decrypting DVD files, allowing them to be copied.⁴⁹ With the ability to decrypt DVDs and

41. See Pantages, *supra* note 39, at 161-62 (explaining that even on fastest existing broadband connections transmitting one movie file required several hours of uninterrupted transfer); Gomes, *supra* note 38, at B1 (“[I]n contrast to MP3 music files, DVD movie files . . . require many hours, even days, to download.”).

42. See Pantages, *supra* note 39, at 162 (discussing DVD encryption as barrier to digital piracy of motion pictures).

43. See *id.* at 163 (explaining CSS encryption of DVD movies). For a further discussion of CSS encryption technology on DVDs, see *infra* notes 152-55 and accompanying text.

44. See *id.* at 162 (explaining that piracy of motion pictures in theaters involved videotaping movie screen).

45. See *id.* (comparing quality of analog recordings to digital copies); Gomes, *supra* note 38, at B1 (highlighting sharp contrast between DVD quality digital motion pictures and “grainy pirated [analog] movies . . . created by camcorder-equipped movie pirates who sneaked into theaters”).

46. See Pantages, *supra* note 39, at 163 (“[Since 1996], several radical developments destabilized the [motion picture] copyright holders’ ability to control their products.”).

47. See *id.* at 164 (indicating capabilities of DivX protocol); Gomes, *supra* note 38, at B1 (noting development of DivX protocol). DivX is a variant of Microsoft’s version of MPEG-4, a standard video-compression protocol. See *id.* at B1 (discussing DivX compression protocol). The protocol was the product of a collaboration between a French video engineer and a German computer hacker. See *id.* (explaining that creators officially dubbed protocol “DivX ;-)” in mocking reference to earlier protocol named “DivX” that stressed anti-piracy features).

48. See Pantages, *supra* note 39, at 165-66 (discussing impact of widespread home broadband connections on digital piracy).

49. See *id.* at 163 (tracing development of DeCSS program to Jon Johansen and two friends); see also *Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294, 311 (S.D.N.Y. 2000) (providing detailed history of DeCSS development).

compress large files down to manageable sizes without loss in quality, digital piracy began to replace analog piracy, encouraging more and more casual computer users to dabble in “ripping” and trading movies.⁵⁰

Today, research suggests that anywhere from 300,000 to 350,000 pirated movies are downloaded on the Internet each day.⁵¹ The Motion Picture Association of America (MPAA) suggests that those estimates should be even higher.⁵² Augmented further by a loss of three to four billion dollars per year to *analog* piracy, the net loss sustained by the motion picture industry due to piracy is staggering.⁵³

The effect of digital piracy on the software, recording and motion picture industries is undeniable.⁵⁴ Faced with this serious threat to their economic viability, these industries have a clear interest in vigorously protecting the legal rights to their products.⁵⁵ As tangible forms of expression of intellectual property, these products find legal protection under copyright law.⁵⁶

50. See *TECHENCYCLOPEDIA*, at <http://www.techweb.com/encyclopedia/define-term?term=ripping> (last visited Jan. 7, 2003) (defining ripping as “extracting the digital data from an audio CD”). Ripping also refers to extracting the digital data from a DVD. See *Reimerdes*, 111 F. Supp. 2d at 311 (noting that decrypting DVD with DeCSS is referred to as ripping).

51. See *Macrovision and Websense Announce New Partnership to Prevent Unauthorised Digital Material in the Workplace*, M2 PRESSWIRE, Oct. 8, 2002, available at 2002 WL 26804117 (“[One] research firm, Viant of Boston, estimated in June 2001 that more than 300,000 to 350,000 pirated movies are downloaded from the Internet worldwide everyday.”).

52. See Hiawatha Bray, *Bills Would Weaken Digital Antipiracy Law: Aim is to Legalize Bypass Software*, BOSTON GLOBE, Oct. 3, 2002, at E4 (“We’re already an industry that’s seen 400,000 to 600,000 movies illegally downloaded every day . . .”) (quoting MPAA Vice President of Public Affairs Richard Taylor). The recent emergence of digital motion picture piracy has been compared to that of digital audio piracy when MP3 technology had just been introduced to the Internet. See *Gomes*, *supra* note 38, at B1 (“Right now, DivX is where MP3s were when they first came out. It took a while for people to catch on, but it’s gaining fast.”) (quoting video software web site operator Jan Devos).

53. See Press Release, U.S. Sen. Fritz Hollings, Introduction of the Consumer Broadband and Digital Television Act of 2002 (Mar. 21, 2002), at <http://politech.bot.com/docs/cbdtpa/hollings.cbdtpa.release.032102.html> (reporting MPAA revenue loss estimates).

54. For a further discussion of the effect of digital piracy on the software, recording and motion picture industries, see *supra* notes 14-56 and accompanying text.

55. For a further discussion of the economic impact of digital piracy on the software, recording and motion picture industries, see *supra* notes 22-26, 34 and 51-53 and accompanying text.

56. See David S. Fleming & Laura Beth Miller, *Copyright Law in the Digital Age*, in 1 ILL. INSTIT. FOR CONTINUING LEGAL EDUC., BUSINESS, LAW, AND THE INTERNET HANDBOOK § 6.1 (Mar. 2002) (“Copyright law protects tangible forms of expression of intellectual property.”).

III. SUMMARY OF COPYRIGHT LAW IN THE UNITED STATES

American copyright law begins with the Constitution: "The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."⁵⁷ Congress has exercised this power several times since these words were written, enacting, amending and otherwise modernizing legislation when emerging technologies challenged existing protections and raised novel infringement issues.⁵⁸ Current copyright law under the Copyright Act of 1976 is codified in Title 17 of the United States Code.⁵⁹

With the enactment of the Copyright Act of 1976, Congress established a standard federal structure for copyrights on both published and unpublished works, preempting most state common law and statutory protections.⁶⁰ This structure provides for the protection of an author's rights of reproduction, adaptation, distribution, performance and display⁶¹ in all

57. U.S. CONST. art. I, § 8, cl. 8.

58. See Fleming & Miller, *supra* note 56, § 6.1 (highlighting evolution of American copyright law).

59. See generally 17 U.S.C. § 101, *et seq.* (2001) (providing current codification of copyright law).

60. See Fleming & Miller, *supra* note 56, § 6.2 (discussing federal preemption of state copyright law with Copyright Act of 1976). The relevant section of the United States Code provides:

On and after January 1, 1978, all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106 in works of authorship that are fixed in a tangible medium of expression and come within the subject matter of copyright as specified by sections 102 and 103, whether created before or after that date and whether published or unpublished are governed exclusively by this title. Thereafter, no person is entitled to any such right or equivalent right in any such work under the common law or statutes of any State.

17 U.S.C. § 301(a) (2001).

61. See 17 U.S.C. § 106 (2001) (listing specific rights granted to copyright owner). This section grants a copyright owner the exclusive rights:

- (1) to reproduce the copyrighted work in copies or phonorecords;
- (2) to prepare derivative works based upon the copyrighted work;
- (3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
- (4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly;
- (5) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly; and
- (6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.

Id.

original works “fixed in any tangible medium of expression.”⁶² A work is so fixed 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.”⁶³

Copyright protection automatically begins when a work is created (i.e., fixed in a tangible form), and, for works created on or after January 1, 1978, this protection generally endures until seventy years after the author’s death.⁶⁴ Consistent with the constitutional language providing protection “for limited Times,”⁶⁵ these terms ensure that “modern works will be copyrighted for at least as long as they are commercially viable.”⁶⁶ After the period of copyright protection for a work expires, the public may use the work freely as part of the public domain.⁶⁷

62. 17 U.S.C. § 102(a) (2001) (extending copyright protection to “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”). This section further provides:

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.

63. 17 U.S.C. § 101.

64. *See* 17 U.S.C. § 302(a) (2001) (“Copyright in a work created on or after January 1, 1978, subsists from its creation and . . . endures for a term consisting of the life of the author and 70 years after the author’s death.”). For works made for hire, copyright protection lasts for the shorter of 120 years from the year of creation or ninety-five years from the year of first publication. *See* 17 U.S.C. § 302(c) (“In the case of . . . a work made for hire, the copyright endures for a term of 95 years from the year of its first publication, or a term of 120 years from the year of its creation, whichever expires first.”). A work made for hire is defined as:

- (1) work prepared by an employee within the scope of his or her employment; or
- (2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, as an instructional text, as a test, as answer material for a test, or as an atlas, if the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire.

17 U.S.C. § 101.

65. U.S. CONST. art. I, § 8, cl. 8.

66. Fleming & Miller, *supra* note 56, § 6.10 (providing time limitations on copyrights).

67. *See id.* (explaining that works such as Shakespeare’s writings, Bach’s symphonies, Michelangelo’s artwork and Homer’s epic poems are examples of works in public domain).

Authors have three principal measures for effectively protecting their copyrighted material: notice, registration and litigation.⁶⁸ Notice, the easiest and least expensive protection method, consists of formal notice printed on the material itself and written notice sent to potential or actual infringers.⁶⁹ Registration, another relatively easy and inexpensive protection method, consists of sending a form, copies of the work and a filing fee to the Copyright Office at the Library of Congress.⁷⁰ Lastly, authors may protect their works through litigation.⁷¹

A copyright owner may bring an infringement action for another's unauthorized exercise of any of the exclusive rights comprising a copyright.⁷² A prima facie case of infringement requires that the copyright owner prove: (1) ownership of the right allegedly infringed and (2) actual infringement by defendant of original portions of the work.⁷³ Remedies for a successful copyright infringement action include injunctive relief,⁷⁴ impounding or destruction of infringing articles,⁷⁵ monetary damages⁷⁶ and criminal penalties.⁷⁷ To balance an author's private interests with the

68. *See id.* § 6.15 (discussing three ways to protect copyrighted material).

69. *See id.* § 6.16 ("The easiest and least expensive way to protect copyrights is through notice. This includes formal notice printed on the materials as well as notifying potential or actual infringers in writing."). Formal printed notice on a protected material should take the form "© [year of first publication] [copyright owner's name]. All rights reserved." *See id.* (providing suggested form of formal notice). Requirements for formal notice under United States law are found in 17 U.S.C. §§ 401-06. The symbol © may be replaced by the word "Copyright," or the abbreviation "Copr." 17 U.S.C. § 401(b)(1) (2001). The year of the current publication may be written right after the year of first publication, if the years are different. *See Fleming & Miller, supra* note 56, § 6.16 (explaining that year of current publication placed after year of first publication may be single year or range of years). The phrase "all rights reserved," while not required by United States copyright law, generally provides international protection. *See id.* (discussing utility of phrase "all rights reserved").

70. *See Fleming & Miller, supra* note 56, § 6.17 (describing registration as "easy yet powerful way to protect copyright"). Registration is a necessary requirement for most infringement actions and for certain remedies. *See* 17 U.S.C. § 411 (2001) (requiring registration before institution of most infringement actions); 17 U.S.C. § 412 (2001) (requiring registration for awards of statutory damages or attorney's fees).

71. *See Fleming & Miller, supra* note 56, § 6.18 (discussing general issues that may arise in copyright litigation).

72. *See generally* 17 U.S.C. §§ 501-05 (2001). (addressing infringement and remedies).

73. *See Fleming & Miller, supra* note 56, § 6.13 (citing *Feist Publications, Inc. v. Rural Telephone Service Co.*, 499 U.S. 340 (1991)) (providing two elements for prima facie case of infringement).

74. *See* 17 U.S.C. § 502 (providing for injunctive relief remedy).

75. *See* 17 U.S.C. § 503 (providing for impounding or destruction of infringing articles).

76. *See* 17 U.S.C. § 504 (allowing damages to be calculated as copyright owner's actual damages, including lost profits or statutory damages).

77. *See* 17 U.S.C. § 506 (2001) (legislating criminal penalties for copyright infringement); *see also* 18 U.S.C. § 2319 (2001) (providing criminal penalties for copyright infringement).

public interest, the Copyright Act limits the rights granted to a copyright owner.⁷⁸ Among some narrow limitations, broader limitations include fair use, first sale and duration of rights.⁷⁹

IV. RECENT LEGISLATION ENACTED TO COMBAT DIGITAL PIRACY

Since the Copyright Act of 1976, at least two significant pieces of legislation amending the Act have specifically addressed digital piracy issues.⁸⁰ The No Electronic Theft (NET) Act and, to a much greater extent, the Digital Millennium Copyright Act (DMCA) have been used frequently and successfully in recent actions brought by companies in the entertainment industry to combat digital piracy.⁸¹

A. *The No Electronic Theft (NET) Act*

Enacted on December 16, 1997, the NET Act amended two sections of the Copyright Act to make it easier to criminally convict digital copyright infringers.⁸² Prior to these amendments, copyright infringers who did not realize commercial advantage or private financial gain could not be found criminally liable.⁸³ This Act extended liability to the majority of

78. See generally 17 U.S.C. § 107-20 (2001) (providing specific limitations on copyright owner's exclusive rights).

79. See 17 U.S.C. § 107 (providing for fair use limitations); 17 U.S.C. § 109 (discussing limitation of first sale, which allows purchaser of copyrighted item to dispose of it as he wishes); 17 U.S.C. § 302(a) (2001) (limiting duration in copyright to author's life plus seventy years if work was created during or after 1978).

80. See Pantages, *supra* note 39, at 169 (explaining that while most proposed legislation in Congress addressing digital piracy and Internet regulation has failed to be ratified, No Electronic Theft (NET) Act and Digital Millennium Copyright Act (DMCA) are most notable acts amending Copyright Act to deal with copyright infringement on Internet).

81. See 17 U.S.C. § 506(a) (codifying NET Act); Pub. L. No. 105-304, 1122 Stat. 2680 (Oct. 28, 1998) (codifying DMCA); Pantages, *supra* note 39, at 169 (remarking that NET Act and DMCA have been used most frequently and most successfully in actions brought by music and motion picture industries).

82. See 17 U.S.C. § 506(a) (providing criminal liability for specific categories of copyright infringement); D. Jean Veta & Rochelle E. Rubin, *Network and Information Security: Domestic and International Initiatives to Combat Cybercrime*, in PRACTISING LAW INSTITUTE PATENT, COPYRIGHTS, TRADEMARKS, AND LITERARY PROPERTY COURSE HANDBOOK SERIES 955, 983-84 (July 2002) ("The intended consequence [of the NET Act] was to make it easier to convict hackers for criminal copyright offenses."). As amended, this provision states:

Any person who infringes a copyright willfully either—

- (1) for purposes of commercial advantage or private financial gain, or
- (2) by the reproduction or distribution, including by electronic means, during any 180-day period, of 1 or more copies or phonorecords of 1 or more copyrighted works, which have a total retail value of more than \$1,000, shall be punished as provided under [the relevant sentencing provision].

Id.

83. See 17 U.S.C. § 506(a) (1996) (reciting infringement provision prior to amendment). The amendment to this section was the addition of § 506(a)(2), which does not require commercial advantage or private financial gain, as pro-

digital pirates: people who do not attempt to profit from their infringing activities, but rather provide their services for free to build their reputations as pirates.⁸⁴

B. *The Digital Millennium Copyright Act (DMCA)*

Enacted on October 28, 1998, the DMCA implemented two international intellectual property treaties signed by the United States in 1996, as well as other provisions addressing copyright infringement on the Internet.⁸⁵ The DMCA, which comprises five titles, extends greater copyright protection to more works, limits the liability of Internet Service Providers (ISPs) as intermediaries in the transmission of copyrighted material and provides stiff penalties for the circumvention of copyright protection systems.⁸⁶

The anti-circumvention sections of the DMCA are, perhaps, the most significant provisions affecting the entertainment industry's anti-piracy efforts.⁸⁷ One of these provisions makes it illegal to "circumvent a technological measure that effectively controls access to a work protected [by United States copyright law]."⁸⁸ A second provision makes it illegal to "manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that [circumvents technological measures controlling access to a protected work]."⁸⁹ The penalties for violating these provisions can reach up to \$1 million in fines and/or a prison sentence of up to ten years for second and subsequent offenses.⁹⁰

vided in § 506(a)(1) to find liability. *See* 17 U.S.C. § 506(a) (2001) (reciting infringement provision after amendment).

84. *See* Pantages, *supra* note 39, at 171-72 (explaining that most pirates give away pirated material for free, rather than selling it, to build their reputations as pirates). *See generally* United States v. LaMacchia, 871 F. Supp. 535 (D. Mass. 1994) (highlighting inadequacy of previous copyright provisions that required financial gain for liability). Defendant LaMacchia set up a bulletin board system to disseminate pirated software. *Id.* Prosecution was unsuccessful because defendant did not seek "or derive any personal benefit from the scheme to defraud." *Id.* at 537.

85. *See* Fleming & Miller, *supra* note 56, § 6.3 (explaining that DMCA implemented World Intellectual Property Organization (WIPO) Copyright Treaty and WIPO Performances and Phonograms Treaty). *See generally* WIPO Copyright Treaty, *adopted* Dec. 20, 1996, 36 I.L.M. 65, *available at* <http://www.wipo.int/treaties/ip/index.html> (providing original international agreement enabled by DMCA); WIPO Performances and Phonograms Treaty, *adopted* Dec. 20, 1996, 36 I.L.M. 76, *available at* <http://www.wipo.int/treaties/ip/index.html> (providing original international agreement enabled by DMCA).

86. *See* Fleming & Miller, *supra* note 56, § 6.3 (discussing sections of DMCA); Pantages, *supra* note 39, at 171 (discussing effects of DMCA).

87. *See* 17 U.S.C. § 1201 (2001) (providing anti-circumvention provisions of DMCA).

88. 17 U.S.C. § 1201(a)(1)(A).

89. 17 U.S.C. § 1201(a)(2).

90. *See* 17 U.S.C. § 1204(a) (2001) (noting criminal penalties for violations of anti-circumvention provisions of DMCA).

The motion picture industry has recently used these provisions in actions against users and traffickers in programs employed to circumvent the CSS technology protecting copyrighted motion pictures on DVDs.⁹¹ In *Universal City Studios, Inc. v. Reimerdes*,⁹² for example, eight motion picture studios filed suit against the publishers of a print magazine and online web site for violating the anti-trafficking provision of the DMCA.⁹³ Defendant Eric Corley, publisher of *2600: The Hacker Quarterly* and operator of 2600.com,⁹⁴ wrote and published an online article containing copies of and links to the object and source codes for DeCSS.⁹⁵ After granting plaintiffs a preliminary injunction barring defendants from posting the DeCSS code, the district court found that defendants' posting of and linking to DeCSS violated the anti-trafficking provisions of the DMCA.⁹⁶ The court further concluded that enjoining the posting of and linking to the code did not violate defendants' First Amendment rights.⁹⁷ The Second Circuit affirmed, upholding the district court's injunctions on the posting of and linking to the code.⁹⁸ Similar suits involving enjoining the publication of DeCSS have been brought under different theories.⁹⁹

Although it has provided the entertainment industry with a fairly effective tool for combating digital piracy, the DMCA has received a signifi-

91. For a further discussion of CSS encryption technology, see *infra* notes 152-55 and accompanying text.

92. 111 F. Supp. 2d 294, 303 (S.D.N.Y. 2000).

93. See 17 U.S.C. § 1201(a)(2) ("No person shall . . . offer to the public, provide, or otherwise traffic in any technology [that] is primarily designed or produced for the purpose of circumventing a technological measure that effectively controls access to a work protected under [United States copyright law].").

94. THE HACKER QUARTERLY, at <http://www.2600.com> (last visited Jan. 7, 2003).

95. See *Reimerdes*, 111 F. Supp. 2d at 308-09 (noting that in addition to posting code for DeCSS, *The Hacker Quarterly* has included articles explaining how to steal Internet domain names, access other people's email and break into computer systems). For a further discussion of DeCSS, see *supra* note 49 and accompanying text.

96. See *Reimerdes*, 111 F. Supp. 2d at 316-24 (finding violation of anti-trafficking provision and that defendant's activities did not fall under several DMCA exceptions).

97. See *id.* at 333, 341 (positing clear and convincing standard, which was met in this case, to overcome general rule against enjoining site containing circumvention technology).

98. See *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 458 (2d Cir. 2001) (finding that District Court's injunction "is consistent with the limitations of the First Amendment").

99. See, e.g., *DVD Copy Control Ass'n v. Bunner*, 113 Cal. Rptr. 2d 338, 352 (Cal. Ct. App. 2001) (reversing preliminary injunction of publication of DeCSS under state trade secret law), *review granted and opinion superceded by*, 41 P.3d 2 (Cal. 2002). As of Oct. 13, 2002, the parties in *Bunner* are awaiting a date for oral argument before the California Supreme Court. See Electronic Frontier Foundation, *Active EFF Legal Cases and Efforts*, at http://www.eff.org/Legal/active_legal.html (indicating status of pending DeCSS litigation).

cant amount of criticism by commentators.¹⁰⁰ Consumer groups such as the Electronic Frontier Foundation (EFF) and DigitalConsumer.org openly oppose the DMCA and are lobbying for changes.¹⁰¹ These organizations argue that the DMCA's anti-circumvention and anti-trafficking provisions severely undermine consumers' fair use rights, rights that have historically been protected by common law and even codified in the Copyright Act.¹⁰² United States Representative Richard Boucher joins these groups in denouncing the DMCA and supporting a Digital Consumers' Bill of Rights that would reaffirm fair use rights.¹⁰³

V. APPROACHES TO COMBATING DIGITAL PIRACY

Despite the entertainment industry's success in enforcing legal rights to products under the above-mentioned amendments to copyright law, the continuing threat of digital piracy has prompted the industry to look for protection beyond existing law.¹⁰⁴ Indeed, the current threat of digital piracy to the economic vitality of the industry has resulted in a diverse panoply of strategies and approaches in the entertainment industry's "War on Digital Piracy."¹⁰⁵ These approaches can be divided into three categories: legal, social and market.¹⁰⁶

100. See generally Brian Bolinger, Comment, *Focusing on Infringement: Why Limitations on Decryption Technology Are Not the Solution to Policing Copyright*, 52 CASE W. RES. L. REV. 1091, 1110 (2002) (arguing that DMCA is inefficient vehicle for policing use of copyright of digital media); Ryan L. Van Den Elzen, Note, *Decrypting the DMCA: Fair Use as a Defense to the Distribution of DeCSS*, 77 NOTRE DAME L. REV. 673, 704 (2002) (arguing that DMCA's anti-circumvention provisions frustrate Constitution's purpose and eliminate users' fair use rights).

101. See generally DigitalConsumer.org, at <http://www.digitalconsumer.org> (last visited Jan. 7, 2003) (claiming to protect "fair use rights in the digital world"); Electronic Frontier Foundation, at <http://www.eff.org> (last visited Jan. 7, 2003) (supporting legislation that would amend "infamous" DMCA).

102. See 17 U.S.C. § 107 (2001) (codifying fair use rights historically protected by common law).

103. See generally Rick Boucher, *Congressman Rick Boucher Urges Reaffirmation of Fair Use Rights* (2002), at <http://www.house.gov/boucher/docs/fairuse.htm> (discussing problems with DMCA and urging reaffirmation of fair use rights by Congress); Rick Boucher, *Congressman Boucher's New American Foundation Speech on Fair Use Rights* (May 10, 2002), at <http://www.house.gov/boucher/docs/fairusespeech.htm> (proposing Congress adopt consumers' bill of rights to clearly establish fair use as fundamental American right); Rick Boucher, *Statement of Congressman Rick Boucher: "Pay-Per-Use" Society One Step Closer* (Oct. 26, 2000), at <http://www.house.gov/boucher/docs/payperuse.htm> (arguing that enforcement of new legislation will lead to society where use of all intellectual property is paid for on per use basis).

104. For a further discussion of alternative approaches to combating digital piracy, see *infra* notes 110-96 and accompanying text.

105. For a further discussion of the economic effects of digital piracy on the software, recording and motion picture industries, see *supra* notes 22-26, 34 and 51-53 and accompanying text.

106. For a further discussion of the categorization of approaches to digital piracy, see *infra* notes 106-96 and accompanying text.

A. *Legal Approaches*

Legal approaches to combating digital piracy include both the creation of new legislation and the enforcement of existing laws.¹⁰⁷ The goal of these approaches is to curtail copyright infringement by giving copyright owners more effective means to protect their intellectual property rights.¹⁰⁸ As discussed above, the enactments of the DMCA and NET Act have already proved to be useful, albeit controversial, weapons in the entertainment industry's legal arsenal.¹⁰⁹ Beyond these recent amendments to the Copyright Act, however, proposed legislation pending in Congress seeks to expand the entertainment industry's ability to enforce existing copyright law with radical technological measures.¹¹⁰

One bill now being considered in Congress, Senator Hollings' Consumer Broadband and Digital Television Promotion Act (CBDTPA),¹¹¹ would require all new hardware and software to have embedded copy-protection schemes approved by the Federal Government and regulated by the Federal Communications Commission (FCC).¹¹² To achieve this goal in a timely manner, the bill forces content, consumer electronics and information technology industries to join with consumer groups to develop viable standards, technologies and encoding rules within one year.¹¹³ If these negotiations fail, the FCC is to take over.¹¹⁴

In the House of Representatives, Representative Berman has introduced the Peer-to-Peer Piracy Prevention Act (PPPPA),¹¹⁵ which would

107. For a further discussion of existing, recently amended copyright law, see *supra* notes 80-103 and accompanying text.

108. See U.S. Rep. Howard L. Berman, *Just Deserts for Scofflaws* (July 9, 2002), at <http://news.com.com/2010-1078-942325.html> ("There are solutions [to P2P piracy], and Congress has a constitutional obligation to create or facilitate them."); Hollings, *supra* note 53 ("Current digital rights management solutions are insufficient to rectify th[e] problem [of digital piracy]. . . . [A] solution to this problem . . . will require government action, including a mandate to ensure its swift and universal adoption.")

109. For a further discussion of the impact of the DMCA and NET Act on digital piracy, see *supra* notes 82-103 and accompanying text.

110. See Berman, *supra* note 108 ("Under my bill, copyright owners would be freed to use technology to impair P2P piracy"); Hollings, *supra* note 53 ("[S]trong technological protections need to be layered on top of the copyright laws, to complement the law as it exists today.")

111. Consumer Broadband and Digital Television Promotion Act, S. 2048, 107th Cong. (2002).

112. See Hollings, *supra* note 53 (summarizing goal of CBDTPA).

113. See *id.* (describing timed negotiations required by Act); see also John Borland, *Anti-piracy Bill Finally Sees Senate* (March 21, 2002), at <http://news.com.com/2100-1023-866337.html> ("The [CBDTPA] would require that the content, technology and consumer-electronics industries work with consumer groups for a year to set a standard technological means for protecting against digital piracy.")

114. See Hollings, *supra* note 53 (explaining that because FCC is to work in consultation with private sector, ultimate solution should be initiated by government and developed by private sector).

115. Peer-to-Peer Piracy Prevention Act, H.R. 5211, 107th Cong. (2002).

allow entertainment industry companies to disable, interfere with, block, divert or otherwise impair peer-to-peer file-sharing networks to protect copyrighted material being traded on those networks.¹¹⁶ Although the bill does not specify what techniques would be available to companies authorized to attack peer-to-peer networks, it does require companies to communicate to the Attorney General "specific technologies the copyright holder intends to use to impair."¹¹⁷ The copyright holder may not delete files, but if files are accidentally erased, a suit to recover damages must be approved by the Attorney General and allowed only if the injury caused monetary loss of more than \$250.¹¹⁸

While the RIAA and MPAA have announced their approval and support of both bills, a variety of other organizations and interested parties have decried them.¹¹⁹ In a joint press release, the BSA, Computer Systems Policy Project (CSPP) and Information Technology Industry Council (ITI) all condemned the CBDTPA.¹²⁰ Ken Kay, Executive Director of the CSPP,

116. See Manjoo, *supra* note 1 (summarizing PPPPA).

117. See *id.* (quoting PPPPA).

118. See Declan McCullagh, *Could Hollywood Hack Your PC?* (July 23, 2002), at <http://news.com.com/2102-1023-945923.html> (summarizing PPPPA).

119. See Manjoo, *supra* note 1 (quoting RIAA CEO Hilary Rosen as calling Berman PPPPA an "'innovative approach to combating the serious problem of Internet piracy'"). MPAA Senior Vice President for Government Relations Fritz Attaway has endorsed the PPPPA. See McCullagh, *supra* note 118 (noting that MPAA stresses that law-abiding Internet users should not be concerned). Hilary Rosen has heralded the CBDTPA as "an unmistakable signal about the importance of protecting digital music and other content from piracy." Press Release, Hilary Rosen, On Introduction of Consumer Broadband Act (March 21, 2002), at <http://www.politechbot.com/docs/cbdtpa/riaa.cbdtpa.release.032102.html>. MPAA President and CEO Jack Valenti has called the CBDTPA "a measure that will serve the long-term interests of consumers" Press Release, Jack Valenti, On S. 2048 (Mar. 21, 2002), at <http://www.politechbot.com/docs/cbdtpa/mpaa.cbdtpa.release.032102.html>. *But see* Borland, *supra* note 113 ("The [CBDTPA] marks the meeting point of several twisted political strands, each of which has drawn its own political firestorm."); Brad King, *Howling Mad Over Hollings' Bill* (Mar. 28, 2002), at <http://www.wired.com/news/print/0,1294,51337,00.html> (stating that "[s]everal consumer groups and electronics companies aligned themselves against Hollings's CBDTPA"); Declan McCullagh, *Anti-Copy Bill Slams Coders* (Mar. 22, 2002), at <http://www.wired.com/news/print/0,1294,51274,00.html> (explaining that "the electronics industry, computer makers, chip makers and nonprofit advocacy groups have slammed [the CBDTPA] as unworkable and preposterous").

120. Press Release, Business Software Alliance (BSA), Computer Systems Policy Project & Information Technology Industry Council, IT Industry Opposes Legislation Calling for Government Content Protection Mandate on Technology Products (Mar. 21, 2002), at <http://www.politechbot.com/docs/cbdtpa/bsa.cspp.iti.release.032102.html> [hereinafter CBDTPA opposition] (posting statements by Information Technology industry organizations strongly opposed to CBDTPA). The Computer Systems Policy Project, founded in 1989, develops and advocates "the IT industry's public policy positions on technology and trade issues." Computer Systems Policy Project, *About Us*, at <http://www.cspp.org/aboutus.asp> (last visited Jan. 7, 2003) (explaining that CSPP is Information Technology industry's leading advocacy group, comprised of eight industry chief executive officers). The mission of the CSPP is "to educate policymakers, opinion leaders and the public on the technology industry, identify trends in technology

predicted that the bill would “decrease consumer choice, degrade product performance, stifle innovation, and reduce global competitiveness for US IT products.”¹²¹ All of these organizations have argued that government intervention is inappropriate and that digital piracy solutions should ultimately come from the market.¹²² The Home Recording Rights Coalition (HRRC)¹²³ shares these views, criticizing the bill for lacking a clear objective, ultimate goal or regulatory guidelines.¹²⁴ Jonathan Zuck, President of the Association for Competitive Technology (ACT),¹²⁵ has denounced the bill as “simply wrongheaded,” suggesting a more accurate title would be the “Content Owners Market Promotion Act.”¹²⁶

and their impact on our nation, and effectively participate in the lawmaking process that affects [Information Technology] customers and [Information Technology] companies.” Computer Systems Policy Project, *Message from Michael Dell*, at <http://www.cspp.org/msgchair.asp> (last visited Jan. 7, 2003). The Information Technology Industry Council (ITI) “represents the top U.S. providers of information technology products and services.” Information Technology Industry Council, *Who We Are*, at <http://www.itic.org/whoweare/> (last visited Jan. 7, 2003).

121. CBDTPA opposition, *supra* note 120.

122. *See id.* (“The best solution to protecting digital content is a marketplace-driven solution.”) (quoting CSPP Executive Director Ken Kay). BSA President and CEO Robert Holleyman maintained that “voluntary multi-industry efforts currently underway should be permitted to continue in order to identify effective, workable market solutions.” *Id.* ITI President Rhett Dawson argued that the CBDTPA “could stand in the way of consumers enjoying the benefits of innovation by having the government make decisions that are best left to the marketplace.” *Id.*

123. *See* Home Recording Rights Coalition (HRRC), *Core Principles*, at http://hrrc.org/html/core_principles.html (last visited Jan. 7, 2003) (explaining that Home Recording Rights Coalition is comprised of consumers, retailers, professionals and manufacturers of consumer electronics dedicated to promoting fair use rights in use of consumer electronics).

124. *See* Press Release, HRRC, Home Recording Rights Coalition Criticizes Hollings/Stevens Bill for Inviting Undefined and Unlimited Regulation of Digital Consumer Devices (Mar. 22, 2002), at <http://www.politechbot.com/docs/cbdtpa/hrrc.cbdtpa.032202.html> (“[The CBDTPA] lacks a clear objective for all of the regulation that it mandates and any defined goal for the process it would start.”) (quoting HRRC Chairman Gary Shapiro). Shapiro went on to argue that the bill represented a “particularly dangerous delegation of broad, unfettered regulatory authority, which could have severe, adverse, long-term consequences for American consumers. Indeed, this is a breathtaking delegation of authority to a regulatory agency that is ill-equipped to perform such a monumental task.” *Id.*

125. *See* Association for Competitive Technology, *About Us*, at <http://www.actionline.org/about/> (last visited Jan. 7, 2003) (explaining that Association for Competitive Technology (ACT) is national education and advocacy group for technology industry). ACT is comprised of businesses in software, hardware, consulting and Internet industries. *Id.*

126. Press Release, Association for Competitive Technology, Hollings’ Digital Rights Management is “Wrongheaded” (Mar. 22, 2002), at <http://www.politechbot.com/docs/cbdtpa/act.cbdtpa.032202.html>. ACT President Jonathan Zuck also opposed the bill, characterizing it as “government interference in a process best handled by the market.” *Id.*

DigitalConsumer.org, an online consumer group dedicated to preserving fair use rights in the use of digital consumer electronics,¹²⁷ describes the CBDTPA as anti-consumer and contrary to fair use rights, contending that it will undermine innovation and ultimately be unsuccessful.¹²⁸ The organization's principal argument is that any technological copy-protection scheme the public or private sectors devise can and will be reverse-engineered by expert hackers, resulting in a system that does nothing to hinder piracy and instead only deprives legitimate consumers of control and flexibility over legally obtained content.¹²⁹ This argument is supported by a number of respected computer security experts.¹³⁰

127. See DigitalConsumer.org, *Overview: What We're All About*, at <http://www.digitalconsumer.org/overview.html> (last visited Jan. 7, 2003) (explaining that goal of DigitalConsumer.org is "to restore the balance of copyright law so that artists and creators can prosper while citizens have reasonable flexibility to use content in fair and legal ways").

128. See DigitalConsumer.org, *Help Stop the CBDTPA*, at <http://www.digitalconsumer.org/cbdtpa/> (last visited Jan. 7, 2003) (identifying four major problems with CBDTPA). DigitalConsumer.org argues that the CBDTPA's personal use exemption is substantially narrower than the fair use rights consumers have enjoyed in the past. See *id.* (discussing section 3(e)(2) of CBDTPA). The organization also points out that the justification for the bill, that better protection of digital works will encourage content creators to make more works available, is the same justification for the DMCA, which has been in effect for four years without increasing noticeably the volume of digital material on the Internet. See *id.* (maintaining that Hollywood has not offered volume of legal, downloadable digital movies or music promised after enactment of DMCA). Furthermore, the CBDTPA will stifle innovation by defeating digital playing and recording devices before they are invented. See *id.* (arguing that CBDTPA will hinder discovering and imagining unanticipated uses of technology).

129. See *id.* ("[C]opy protection isn't breakable by the average citizen, but it is very breakable by software experts. A government mandated technology standard will not be any more effective at preventing piracy. Instead, the consumer will lose . . .").

130. See *id.* ("The most respected computer security experts agree that this approach to preventing piracy won't work."). Edward Felten, Associate Professor of Computer Science at Princeton University and Director of the Secure Internet Programming Laboratory, has testified to this claim at a Senate Judiciary Committee Hearing on digital copyright:

[E]very copy protection scheme for general-purpose computers that has undergone serious public scrutiny has been found to be ineffective.

. . . .

Consider what will happen if a government-mandated protection measure turns out not to work. Such a measure would do many things: it would inconvenience honest consumers; it would raise the price of media players; it would lengthen product development cycles; it would impede the development of new and better standards. Everyone would suffer, except the pirates. The industry that devised the measure would look technically inept, and the government that mandated its use would look worse.

Competition, Innovation, and Public Policy in the Digital Age: Is the Marketplace Working to Protect Digital Creative Works? Hearing Before the Senate Comm. on the Judiciary, 107th Cong. (Mar. 11, 2002) (statement by Professor Edward W. Felten), available at http://www.felten.com/felten_testimony.pdf.

B. *Social Approaches*

Social approaches to combating digital piracy fundamentally involve changing the way society views intellectual property rights.¹³¹ The goal of these approaches is to reconcile the values of a society that largely tolerates copyright infringement and copyright owners who do not.¹³² To this end, one approach is to condition society to be less tolerant of copyright infringement while another approach proposes to do away with copyright (and, therefore, infringement) of certain works altogether.¹³³

To make society less tolerant of copyright infringement, the entertainment industry has invested in education programs designed to reinforce consumers' value of intellectual property.¹³⁴ A government task force in the United Kingdom has proposed that consumer intellectual property education should begin in grade school to teach children the importance of respecting copyright.¹³⁵ By implementing intellectual property education into the standard curricula of twelve- to eighteen-year-olds, the government hopes to achieve a "[g]reater recognition by the public of the role and importance of intellectual property rights . . ."¹³⁶ The Director of Copyright at the government's Patent Office categorizes this educational method as a social approach stating: "By bringing aware-

131. For a further discussion of social approaches to digital piracy, see *infra* notes 132-48 and accompanying text.

132. 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 ("The idea that counterfeiting and piracy are victimless crimes is an all too common perception.") (quoting Anthony Murphy, Director of Copyright at Great Britain's Patent Office); Manjoo, *supra* note 1 ("[I]t's obvious that music buyers don't have any qualms about stealing music—and what business person wouldn't want to stop the outright theft of a product?") (quoting independent music industry analyst Aram Sinnreich). One commentator observes that "[y]oung people, and other people, believe in a version of copyright 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." See Docherty, *supra* (quoting Professor Jessica Litman). Professor Stan Liebowitz points out that the conflict between the values of copyright owners and consumers is the fundamental driving force of copyright law. See Liebowitz, *supra* note 3, at 3 ("The issue at the heart of copyright, indeed of all intellectual property law, is the degree to which copyright owners can appropriate the value produced by the consumption, or appreciation, of their works by others.")

133. See generally Ku, *supra* note 28, at 263 (arguing that copyright protection for certain digital works is no longer justified); Docherty, *supra* note 132 (describing educational program designed to increase society's value of intellectual property rights).

134. See Washington, *supra* note 23, at 11C (noting that nation's largest software makers have instituted education programs for consumers); Manjoo, *supra* note 1 ("[E]ducating people about the reasons why unauthorized file sharing hurts the music they care about in the long run . . . [i]s a key component of any long-term effort to change people's behavior.") (quoting RIAA spokesman Jonathan Lamy).

135. See Docherty, *supra* note 132 (describing program developed by United Kingdom's Creative Industries Task Force).

136. See *id.* (quoting Chris Smith, former Secretary of State for Culture, Media and Sport).

ness 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.'¹³⁷

At least one scholar has argued for a completely opposite approach: removing copyright protection for digital works altogether.¹³⁸ This argument posits that "the economics of digital technology undercuts prior assumptions about the efficacy of a private property regime for information, a public good."¹³⁹ Traditionally, copyright protection was founded on the principle that copyright was needed to compensate publishers for the high costs of distribution and to provide authors with an incentive to create content.¹⁴⁰ In the digital age, however, the Internet has lowered the cost of content distribution such that anyone with a computer, Internet access and electricity can become a distributor.¹⁴¹ Because consumers can internalize this low cost of distribution, the traditional copyright scheme is now little more than "an argument for protecting content distributors in a world in which middlemen are obsolete."¹⁴²

Both of these social approaches to digital piracy, while polar in theory, are burdened with the mutual problem of reduction to practice.¹⁴³ Citing the failure of other education-based programs, critics of the educa-

137. *See id.* (quoting Anthony Murphy, Patent Office's Director of Copyright).

138. *See Ku, supra* note 28, at 263 (arguing against copyright protection for digital works).

139. *Id.*

140. *See id.* at 266-67 ("Copyright was necessary to provide financial incentives for both creation and distribution.").

141. *See id.* at 271-72 ("The only costs of becoming a global distributor (or pirate) of digital content are the price of a computer, Internet access, and electricity.").

142. *Id.* at 263. Professor Ku further argues that granting copyrights to authors is no longer as important of an incentive to encourage content creation because sufficient incentives can be found in other, secondary markets. *See id.* (arguing that, at least with respect to digital music, "exclusive rights to reproduce and distribute copies provide little if any incentive for creation, and that digital technology makes it possible to compensate artists without control [of content distribution]"). For example, because the majority of professional musicians earn most of their income through ticket sales of live performances, "free, noncommercial distribution of music should have little or no impact on the incentives for creating music." *Id.* at 308. The motion picture industry can also derive alternative incentives from secondary markets. *See id.* at 323 ("Arguably, the creation of television programming and motion pictures, like music, may not require additional funding, because it is already adequately funded through advertising revenue, programming subscriptions, and box office ticket sales."). Furthermore, as long as artists retain the right to license derivative works and trademarks and to endorse products and services, substantial incentives can be derived from markets for derivatives of original content. *See id.* at 309 ("[P]opular artists will still be able to earn significant income from the licensing and sales of tie-in products . . . [as well as] from endorsements, advertising, and public appearances.").

143. *See generally id.* at 324 (raising rhetorical questions concerning problems with implementing creative destruction of copyright); Docherty, *supra* note 132 (discussing pragmatic obstacles to implementing intellectual property education programs).

tional approach argue that “[m]oral education programs have little or no positive effect upon moral behavior, achievement or anything else.”¹⁴⁴ Another criticism of the educational approach is that its teachings would be based on laws that are not only controversial, but also constantly changing.¹⁴⁵

The “creative destruction” approach to copyright is clearly controversial.¹⁴⁶ Implementation of this approach would essentially destroy the distribution functions of the software, recording and motion picture industries.¹⁴⁷ Considering implementation of this approach would involve fundamental legislative changes, the immense lobbying power of these industries is an insurmountable obstacle.¹⁴⁸

144. See Docherty, *supra* note 132 (quoting professor James Davison Hunter). The Drug Abuse Resistance Education (DARE) program is one example of a failed moral education program. See *id.* (commenting on ineffectiveness of DARE program). In 2001, DARE administrators admitted that the nation’s largest and most expensive drug prevention program was ineffective. See Dawn MacKeen, *Just Say No to DARE* (Feb. 16, 2001), at <http://archive.salon.com/mwt/feature/2001/02/16/dare/print.html> (discussing failure of DARE program). Furthermore, research indicates that the program actually contributed to increasing drug use by high school students. See *id.* (indicating past research has found DARE program may have played role in increasing rates of drug use by high school students).

145. See Docherty, *supra* note 132 (noting that intellectual property education in schools may be inappropriate because laws are in flux and hotly contested). As one student commentator aptly put it, “[o]ver-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.” Pantages, *supra* note 39, at 183 (citing Docherty, *supra* note 132).

146. See Ku, *supra* note 28, at 324 (“There will of course be opposition to this vision.”).

147. See *id.* (“Just as Gutenberg’s printing press threatened the dominance of scribes, peer-to-peer networking and MP3s clearly threaten the recording industry, whose business depends upon manufacturing and distributing old bottles.”). Professor Ku uses the following analogy to demonstrate the obsolescence of middlemen in digital content distribution:

[D]igital representation frees content from the need for a tangible medium to distribute it. In the past, content could be conveyed to the public only through physical media such as film, paper, plastic, etc., and the physical media limited its distribution and copying. Distributing copyrighted works in the form of books, CDs, and videos was similar to the distribution of wine. In order to distribute wine to the public, one needed bottles. Even if wine was plentiful, bottles were not. In contrast, the data representing a recent hit song, a newborn’s picture, or a scholar’s work in progress no longer need to be carried in plastic or on paper. Digital information can be conveyed without the need for a bottle. Reduced to ones and zeros, digital information can be transmitted through the radio waves of the electromagnetic spectrum, as electrical impulses through telephone and cable wires, and as light across fiber optic networks with the information alone traveling to the recipient.

Id. at 270-71.

148. See generally JESSICA LITMAN, *DIGITAL COPYRIGHT* 22-32 (Prometheus 2001) (discussing lobbying power of entertainment industry with respect to copyright law).

C. *Market Approaches*

Market approaches to combating digital piracy involve technological and content-oriented methods.¹⁴⁹ These approaches derive their methodology from principles of economics and the nature of consumer behavior in the private sector.¹⁵⁰

One common market approach to digital piracy is copy-protection technology.¹⁵¹ As discussed above, the motion picture industry has had limited success with this approach in the implementation of CSS technology on DVDs.¹⁵² This encryption technology was designed to regulate access to and prevent copying of content on DVDs.¹⁵³ The technology “requires the use of appropriately configured hardware such as a DVD player or a computer DVD drive to decrypt, unscramble and play back, but not copy, motion pictures on DVDs.”¹⁵⁴ Because only DVD players containing appropriate keys can decrypt and play CSS-protected DVDs, manufacturers must license the technology to make their players compatible with commercial DVDs.¹⁵⁵

149. For a further discussion of market approaches to digital piracy, see *infra* notes 150-96 and accompanying text.

150. See Manjoo, *supra* note 1 (recognizing that justification for market-based solutions to digital piracy derive from principle that “‘consumers set the tone for the marketplace’”) (quoting music industry analyst Aram Sinnreich).

151. See Declan McCullagh, *House Rep’s Rap: Unshackle the CD* (Mar. 7, 2002), at <http://www.wired.com/news/print/0,1294,50886,00.html> (“The notion of copy protection is certainly not new to the entertainment industry. Even computer software already employ various technology protections as appropriate for their marketplace and their consumers.”) (quoting Recording Industry Association of America CEO Hilary Rosen).

152. For a further discussion of CSS technology, see *supra* note 43 and *infra* notes 153-55 and accompanying text.

153. See *Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp. 2d 294, 309 (S.D.N.Y. 2000) (stating that motion picture studios required such technology to stem high risk of DVD piracy). The motion picture studios realized that the risk of DVD piracy was very high because the digital nature of the content allowed for easy copying without degradation. See *id.* (discussing need for copy-protection system on DVDs). Consequently, CSS was developed by Matsushita Electric Industrial Company and Toshiba Corporation in 1996, one year prior to the initial release of DVDs containing motion pictures in digital format. See *id.* at 309-10 (explaining development and use of CSS technology).

154. *Id.* at 308. Specifically, a DVD player decrypts a CSS-protected DVD with a decryption algorithm derived from a series of keys stored on the DVD and DVD player. See *id.* at 310 (describing functioning of CSS).

155. See *id.* at 310 (explaining that “manufacturers may not, consistent with their licenses, make equipment that would supply digital output that could be used in copying protected DVDs”). To prevent the technology from becoming publicly available and used to copy content, CSS is licensed under strict security requirements. See *id.* (clarifying need for manufacturers to license technology). To maximize the ubiquity of CSS as the standard copy-protection system on commercial DVDs, the technology is licensed on a royalty-free basis. See *id.* (detailing licensing of CSS). Originally licensed by Matsushita and Toshiba, its creators, CSS is now licensed by the DVD Copy Control Association. See *id.* at 310 n.60 (explicating licensing of CSS).

Recognizing the effectiveness of copy-protection technology in securing content on DVDs, the recording industry is currently experimenting with copy-protection technology on CDs to prevent the copying of digital music.¹⁵⁶ Indeed, copy-protected CDs have already been released in European and Asian markets, but have had a slower introduction to the American market.¹⁵⁷ Part of the reason why the technology has not seen widespread deployment in the United States is because it has not been completely successful in foreign markets.¹⁵⁸ When copy-protected CDs were initially released by BMG, a major record label, in Germany, three to four percent of the 100,000 sold were returned because they would not play in several types of CD players, including car CD players.¹⁵⁹ The incompatibility of the CDs with standard players was a surprise to the company, having successfully tested the CDs on a thousand different players prior to release.¹⁶⁰ The company also experienced similar problems in Great Britain.¹⁶¹ Despite these compatibility problems, BMG planned to work with Midbar, the Israeli software firm that had developed the copy-protection system, to improve the technology.¹⁶² Ideally, the record company would like to implement a copy-protection system that allows for a single copy of a CD, made for a consumer's personal use, but would otherwise not allow repeat copying.¹⁶³

156. See Cohen, *supra* note 34 ("Each of the five major [record] labels is now experimenting with anti-piracy technology that prevents computer CD-ROM drives from playing or ripping music in the popular MP3 format.")

157. See *id.* (explaining that copy-protected CDs have spread rapidly in Europe and Asia, but have moved more slowly in America). As of June 2002, only four copy-protected CDs had been officially released in the United States: *The More Fast and Furious* soundtrack on Universal, hip-hop artist Pretty Willie's debut *Enter the Life of Suella* on Universal and releases by country artists Charley Pride and Len Doolin on Nashville indie labels. See *id.* (providing list of copy-protected releases in United States).

158. See Chris Oakes, *Copy-Protected CDs Taken Back* (Feb. 3, 2000), at <http://www.wired.com/news/print/0,1294,33921,00.html> (reporting problems with trial release of copy-protected CDs in Germany).

159. See *id.* (describing incompatibility of new CDs with CD players). The copy-protection technology was initially implemented on January 24, 2000 with the release of two rock CDs, one, made by the popular Finnish band HIM, immediately became the number one seller in Germany. See *id.* (detailing original release of copy-protected CDs in Germany). By the end of the first week after the release, the record company had to ship additional orders of CDs without the copy-protection to salvage sales. See *id.* (explaining that company was mindful of consumer frustration with incompatible CDs).

160. See *id.* (stating that CDs had been tested for compatibility prior to release).

161. See Cohen, *supra* note 34 (describing BMG's recall of copy-protected CDs in Britain when Natalie Imbruglia's *White Lilies Island* would not play in regular CD players).

162. See Oakes, *supra* note 158 (reporting plans to improve compatibility of Midbar's Cactus Data Shield technology).

163. See Cohen, *supra* note 34 ("Record companies say new CDs may allow for a single copy to be made, but will be in a locked format to prevent repeat copying and burning."). Record labels believe such a system is needed to provide "a mini-

A newer, more creative market approach to digital music piracy is MP3 "spoofing."¹⁶⁴ As discussed above, the non-centralized nature of today's most popular P2P networks makes regulation of copyright infringement extremely difficult.¹⁶⁵ Without central servers to threaten with legal action, the recording industry is currently trying to fight digital music piracy by flooding P2P networks with spoofed MP3s.¹⁶⁶ Record labels contract with firms like New York's Overpeer to create and inundate P2P networks with looped, silent and distorted versions of the labels' most popularly traded files.¹⁶⁷ The strategy is to make obtaining a decent copy of a file so frustrating that network users will give up and buy a legitimate copy of the music.¹⁶⁸

While this spoofing strategy has undoubtedly achieved some success, it will most likely be transient as P2P networks are already promising that new upgrades will have anti-spoof features.¹⁶⁹ This tactic is also criticized for its potential to anger both artists, who suffer the corruption of their work,¹⁷⁰ and music fans, who comprise the consumers that keep record labels in business.¹⁷¹

Another commonly suggested market approach to digital music piracy is the creation of commercial P2P networks that offer legal MP3s of copyrighted material at a reasonable cost.¹⁷² Proponents of this approach

mal degree of copy protection to slow down frictionless trading of music.'" *Id.* (quoting EMI Vice President of New Media Ted Cohen).

164. See David Kushner, *The Digital Beat: MP3 Spoofs Are Stoopid*, ROLLING STONE, July 23, 2002, available at <http://www.rollingstone.com/news/newsarticle.asp?nid=16321> (explaining recording industry's latest attempt to hamper peer-to-peer digital music trading).

165. For a further discussion of non-centralized P2P networks, see *supra* notes 35-37 and accompanying text.

166. See Kushner, *supra* note 164 (describing MP3 spoofing).

167. See *id.* (reporting that music by Eminem, Alanis Morissette and P. Diddy are among most spoofed MP3s). Overpeer has recently applied for a patent on "spoofware" that works by "'deteriorating or damaging a sound quality of an original music file of a record of a cooperating record corporation.'" *Id.* (quoting patent application abstract). The patent application was filed Oct. 15, 2001. See U.S. Patent Application Number 20020082999, June 27, 2002, available at <http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=ptO1&Sect2=HITOFF&d=PG01&p=1&u=/netahtml/PTO/srchnum.html&r=1&f=G&l=50&s1='20020082999'.PGNR.&OS=dn/20020082999&RS=dn/20020082999> (providing patent application for spoofware).

168. See Kushner, *supra* note 164 (elucidating MP3 spoofing strategy).

169. See *id.* (providing that Morpheus has announced plans to include anti-spoof software in its next upgrade and KaZaA and BearShare already employ user ratings of files that undermine spoofs).

170. See *id.* (wondering how groups such as the "[Red Hot] Chili Peppers feel about having their music butchered in the name of commerce").

171. See *id.* ("Once again, rather than creatively exploiting the passion of music fans online, the labels are pissing off the very consumers who keep them in business.").

172. See Manjoo, *supra* note 1 (suggesting that because copyrighted material is increasingly difficult to download on popular P2P networks, record labels would

argue that consumers are getting increasingly frustrated with using current free P2P networks due to such hassles as unreliable connections to other network users, unpredictable quality of MP3s, prevalence of spoofed MP3s and annoying ad- and spy-ware bundled with P2P applications.¹⁷³ Furthermore, research suggests that consumers are willing to pay for digital music services, provided such services offer all of the benefits with none of the frustrations of a free network.¹⁷⁴

As a result, some recording industry companies have initiated subscription services.¹⁷⁵ These services, however, have not been seriously competitive with free networks because they lack “the range and flexibility of the free file traders.”¹⁷⁶ At least one music industry analyst has argued that a successful subscription service needs to offer four features: music from all five major record labels, the capacity to play songs from multiple computers, CD burning and unlimited access to songs.¹⁷⁷ Although some of the subscription services are beginning to offer these features, rules and

be extraordinarily successful in offering more efficient downloading of legitimate MP3s at reasonable cost).

173. *See id.* (“The process [of downloading music from free P2P networks i]s fraught with the usual hassles of trading—the songs are there but the downloads hang, terminate inexplicably or, if they come through, sound as if they were recorded on wax cylinders.”). Manjoo describes “adware, spyware, Trojan software, and even possible security holes” as “increasing, and increasingly annoying, concerns posed by the file-trading applications themselves.” *Id.* *See generally* Damien Cave, *The Parasite Economy* (Aug. 2, 2001), at http://archive.salon.com/tech/feature/2001/08/02/parasite_capital/print.html (last visited Jan. 7, 2003) (discussing problems associated with software bundled with P2P network applications).

174. *See* Manjoo, *supra* note 1 (arguing that subscription P2P networks could be commercially viable if they offered enough to consumers). Independent music industry analyst Aram Sinnreich maintains that there is “‘overwhelming year-over-year survey data’ to show that people will pay for a subscription service that has all the perks, and none of the hassles, of a free system.” *Id.*

175. *See id.* (identifying Listen.com, MusicNet and Pressplay as leading digital music subscription services). For example, Listen.com’s Rhapsody service, offers unlimited streaming of an extensive catalog of CDs for less than ten dollars a month. *See* Listen.com, *FAQs and Help*, at <http://www.listen.com/faq.jsp?sect=main> (last visited Jan. 7, 2003) (discussing subscription plans and operation of service). A subscription to Rhapsody’s AllAccess catalog gives a user access to unlimited streaming of thousands of CDs and fifty commercial-free Internet radio stations at a cost of \$9.95 per month. *See id.* (detailing AllAccess subscription plan). Other similar services include Pressplay and MusicNet. *See* Pressplay, *About Us*, at <http://www.pressplay.com/aboutus.html> (last visited Jan. 7, 2003) (explaining that Pressplay is joint venture by Universal Music Group and Sony Music Entertainment); MusicNet, *About Us*, at <http://www.musicnet.com/> (last visited Jan. 7, 2003) (explaining that MusicNet is joint venture by Warner Music Group, BMG Entertainment, EMI Recorded Music, Sony Music Entertainment, Universal Music Group, Zomba, Ritmoteca and Sanctuary).

176. Manjoo, *supra* note 1 (reporting that less than five million people have tried subscription services).

177. *See id.* (quoting Aram Sinnreich, independent music industry analyst in Los Angeles).

licensing complications have crippled their initial effectiveness in enticing users away from free P2P networks.¹⁷⁸

A fairly recent market approach to software piracy is the implementation of activation schemes.¹⁷⁹ Under an activation scheme, shortly after installing software on a computer, the user must contact the publisher for an activation number to continue using the software.¹⁸⁰ This method is most notably incorporated in Microsoft's Office XP and Windows XP titles.¹⁸¹ Microsoft's scheme allows one to use Windows XP for thirty days or Office XP for fifty days after installation before the software requires an activation number to continue functioning.¹⁸² Multiple activations of one copy of a program indicate potential piracy.¹⁸³ At this stage, the newness of activation schemes makes evaluating their effectiveness in preventing software piracy difficult.¹⁸⁴ Microsoft has reported, however, that despite initial complaints from users and the press, customers have generally accepted the activation process.¹⁸⁵

Finally, a logical and effective market approach to all forms of digital piracy is to increase the product value of legitimate forms of copyrighted content by offering consumers an element or feature that cannot be pirated and distributed with primary content.¹⁸⁶ One way to increase the value of legitimate versions of content is to issue limited editions or otherwise make the content collectable.¹⁸⁷ Another way is to bundle merchan-

178. *See id.* (stating that services' limitations are result of "different labels releas[ing] different catalogs to different services, with varying restrictions and at confusing price scales").

179. *See* Washington, *supra* note 23, at 11C (reporting that nation's largest software makers have recently developed activation schemes to curtail software piracy).

180. *See id.* (explaining operation of activation scheme).

181. *See id.* (describing Microsoft's use of activation schemes in XP series).

182. *See id.* (discussing operation of Microsoft's activation schemes).

183. *See id.* (elucidating operation of activation scheme).

184. *See id.* (explaining that activation scheme's success in stemming piracy is "hard to evaluate" at this point) (quoting Microsoft attorney Tim Cranton).

185. *See id.* (reporting that activation scheme has generally been accepted by customers despite early criticism).

186. *See* David Kushner, *The Digital Beat: Eminem's Sorry MP3 Show*, ROLLING STONE, June 10, 2002, available at <http://www.rollingstone.com/news/newsarticle.asp?nid=16081> (arguing that faced with rampant piracy, digital music producers need to "cop to the Internet and pursue more forward-thinking strategies—such as finding new ways to make people want to buy CDs"). Kushner posits that increased legitimate product value is "the oldest trick in the book, but it works like gold: Toss something in that makes the consumers feel like he's [sic] getting something cool for free." *Id.* This reasoning also underlies Aram Sinnreich's requirements for a successful digital music subscription service: "[Y]ou [content providers] have to make them [consumers] feel like they're getting a lot." Manjoo, *supra* note 1.

187. *See* Kushner, *supra* note 186 (applauding Interscope's inclusion of free DVD with first 2 million copies of Eminem's *The Eminem Show*).

dise with the primary content.¹⁸⁸ Interscope Records recently combined both of these methods in the marketing of Eminem's *The Eminem Show* by including a complimentary DVD containing live performances and interviews with the first two million copies sold.¹⁸⁹

Indeed, the release of *The Eminem Show* is the perfect example of how record labels can successfully utilize market approaches to combat the effects of digital piracy.¹⁹⁰ Prior to the release of the album, Interscope had taken unprecedented steps to keep music from the album off P2P networks, to maximize initial record sales.¹⁹¹ Despite efforts to control access to the album prior to release, music was eventually leaked and played on a nationally broadcast radio program.¹⁹² Consequently, the label scrapped its multimillion-dollar marketing plan and released the album six days early.¹⁹³ Despite the leak, the album debuted at number one, sold more than 280,000 copies on the first day and grossed more than 1.3 million copies by the end of the first week.¹⁹⁴ As journalist David Kushner aptly put it: "The Internet didn't kill the radio star—it helped him sell a lot of records."¹⁹⁵ The reason the album did so well despite leaks to P2P networks is simple: Music fans still want authentic CDs.¹⁹⁶

188. *See id.* (encouraging record companies' inclusion of extra merchandise with CDs and providing example of Interscope's inclusion of complimentary DVD with Eminem's *The Eminem Show*, which featured bonus performances and interviews).

189. *See id.* (discussing strategic marketing of Eminem's *The Eminem Show* to minimize effect of pre-release piracy).

190. *See generally id.* (describing success of *The Eminem Show*).

191. *See id.* (explaining that rather than sending out advance copies, Interscope assembled reviewers for listening parties). The label wanted to avoid what had happened to Madonna's *Music*, Oasis's *Heathen Chemistry* and Korn's *Untouchables*, all of which suffered leaks to P2P networks prior to their official releases. *See id.* (discussing effect of leaks of other albums to P2P networks prior to official release).

192. *See id.* (explaining that DJs Opie and Anthony broadcast parts of album and taunted Interscope by reading on air cease-and-desist letter sent by label).

193. *See id.* ("Fed up, Eminem decided to toss the multimillion-dollar marketing plan out the window and release the album six days early, on May 28th.").

194. *See id.* (reporting success of album's release).

195. *Id.*

196. *See id.* (rationalizing album's success). Kushner explains: Ironically, Eminem's MP3 show has only underscored the importance of peer-to-peer sites in the new economy. Listen up Interscope et al: Music fans want the CDs! They want the packaging! They want the versatility of discs—the ease of play, of popping the music into car stereos, portable players, home entertainment centers. Walk into the room of any fourteen-year-old Eminem fan and you'll see just how much disposable income she blows on merchandise. If she's willing to spend ten bucks on a poster, believe me, she's going to own a copy of the disc.

Id. One reason Professor Stan Liebowitz suggests why the recording industry is not suffering as much as it should be from digital piracy on P2P networks is that consumers like the tangibility of CDs. *See* Damien Cave, *File Sharing: Innocent Until Proven Guilty* (June 13, 2002), at <http://www.salon.com/tech/feature/2002/06/>

VI. CONCLUSION

Digital piracy is clearly a constant menace to the entertainment industry.¹⁹⁷ Rivalled with piracy efforts that grow more sophisticated as new technologies emerge, the entertainment industry has struggled to devise enduring anti-piracy methods.¹⁹⁸ Legal approaches, while popular with the recording and motion picture industries, provide only limited success and threaten to backfire as they become more insular in their protection of copyright owners.¹⁹⁹ Social approaches, by changing society's attitude toward copyright either through education or elimination, propose a very effective means of minimizing digital piracy, but remain largely ideological and, consequently, face overwhelming obstacles in reduction to practice.²⁰⁰ Ultimately, it appears that market approaches offer the most successful immediate remedies, but depend upon constant evolution and innovation to sustain anything beyond an ephemeral solution.²⁰¹ For long-term success, the entertainment industry must utilize its complete arsenal in its war on digital piracy. Only by balancing prudent legal approaches, feasible social approaches and adaptable market approaches can the software, recording and motion picture industries hope to gain ground in their epic battle against digital copyright infringement.

Matthew C. Mousley

13/liebowitz/print.html (“They [consumers] like *holding* these things [CDs].”) (quoting Professor Stan Liebowitz) (emphasis in original).

197. For a further discussion of the effects of digital piracy on the entertainment industry, see *supra* notes 14-56 and accompanying text.

198. For a further discussion of approaches to digital piracy, see *supra* notes 104-96 and accompanying text.

199. For a further discussion of legal approaches to digital piracy, see *supra* notes 107-30 and accompanying text.

200. For a further discussion of social approaches to digital piracy, see *supra* notes 131-48 and accompanying text.

201. For a further discussion of market approaches to digital piracy, see *supra* notes 149-96 and accompanying text.

