PASSING THE GLOBAL TEST:[1] DMCA §1201 AS AN INTERNATIONAL MODEL FOR TRANSITIONING COPYRIGHT LAW INTO THE DIGITAL AGE

1. During the 2004 presidential debates, John Kerry, the democratic presidential nominee, controversially responded to a question regarding preemptive war by stating that the United States had to pass a "global test". *See* Commission on Presidential Debates, The First Bush-Kerry Presidential Debate (2004), http://www.debates.org/pages/trans2004a.html. The United States, in enacting the DMCA, has taken preemptive action in enforcing digital business models. This Comment finds that in doing so, the United States passes the global copyright test and, in fact, the DMCA should serve as a model for international copyright law.

I. INTRODUCTION

The Internet allows hundreds of millions of people across the globe to communicate instantaneously.[2] It erases geographical boundaries and provides a global civic center for individuals to share their culture, knowledge, and resources. Along with these possibilities, the Digital Age spurs numerous challenges to the existing ordered society. One challenge involves adapting business models designed for the analog world to a digital world. Another difficulty, the result of the current *laissez-faire*

2. Over one billion people use the Internet. *See* Internet World Stats, Internet Usage Statistics – The Big Picture, http://www.internetworldstats.com/stats.htm (last visited Jan. 24, 2006).

landscape of the Internet,[3] is to provide a system in which individuals' and entities' rights are protected from one another, including copyrights.

Digital Rights Management (DRM) enables copyright holders to accomplish both of these goals for their works. The usage of the term DRM varies in the literature;[4] however, the central concept behind DRM, as one commentator explains, is to "[allow] a copyright holder to define a set of rules attached to a work in a digital format that controls consumer access, use, and manipulation of that work."[5] In other words, DRM allows the copyright holder to control the ways consumers access and use the holder's work once the work is made available in a digital format. With that control, a right holder is able to both offer a uniquely efficient business model and to protect his work from infringing uses.[6] DRM alone, however, cannot fully realize these aims because it is vulnerable to the hacker community which is able to circumvent DRM protections.[7] Thus, the force of the law is needed to prevent circumvention, which, in turn, bolsters DRM technology. Enter the World Intellectual Property Organization Copyright Treaty (WCT) as the law that provides

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3. *See* Glenn O. Robinson, *Regulating the Internet* (1999), http://papers.ssrn.com /sol3/papers.cfm?abstract_id=205038 (discussing the current unregulated nature of the Internet). The Author uses the term *laissez faire* in this sense to portray the current unregulated nature of the Internet, at least in comparison to the analog world.

4. There are other terms used in the literature that encompass the same general concept as DRM including: Automated Rights Management (ARM), *see* Tom W. Bell, *Fair Use vs. Fared Use: The Impact of Automated Rights Management on Copyright's Fair Use Doctrine*, 76 N.C. L. REV. 557, 564-67 (1998); Technological Protection Measures (TPMs), *see* Kimberlee Weatherall, *Before the High Court: On Technology Locks and the Proper Scope of Digital Copyright Laws—Sony in the High Court*, 26 SYDNEY L. REV. 613, 617 (2004); Copy Protection Controls, *see* Matthew Scherb, Comment, *Free Content's Future: Advertising, Technology, and Copyright*, 98 NW. U. L. REV. 1787, 1822 (2004). The Author employs the term DRM because it amplifies the digital nature of these protections.

5. Paul Petrick, *Why DRM Should be Cause for Concern: An Economic and Legal Analysis of the Effect of Digital Technology on the Music Industry*, BERKMAN CENTER FOR INTERNET & SOCIETY, at 5 (RESEARCH PUBLICATION NO. 2004–09 2004), http://ssrn.com/abstract=618065.

6. *See infra* Parts II, IV.

7. *See, e.g.*, Paul Thurrott, *Hacker Breaks DRM, Microsoft Looks into Legal Action*, WINDOWS IT PRO, Oct. 23, 2001, http://www.windowsitpro.com/Article/ArticleID/ 23000/23000.html.

such support against circumvention.[8]

The WCT anticircumvention provision was passed in 1996 at the World Intellectual Property Organization (WIPO) conference in Geneva.[9] The signatory countries to the WCT recognized the immediate need for international digital protection of copyrighted works.[10] The WCT specifically directs the countries that adopt it to provide protection against circumvention of technological protections.[11] It is clear that the WCT intended to take a minimalist approach to the issue of anticircumvention,[12] allowing member countries to use this baseline as a means of further developing their own interests in dealing with DRM.

The Digital Millennium Copyright Act (DMCA), the United States' implementation of the WCT anticircumvention obligations,[13] has not been received without debate.[14] Critics of the DMCA argue that its strong protection of DRM technology will lead to a "digital lock-up"[15] in which content providers have total control over the way consumers interact with creative

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8. World Intellectual Property Organization Copyright Treaty art. 11, Dec. 20, 1996, http://www.wipo.int/treaties/en/ip/wct/trtdocs_wo033.html [hereinafter WCT].

9. *Id*.

10. *See* Scott W. Pink, *Publishing in the Digital Age*, 15 TRANSNAT'L LAW. 305, 307 (2002).

11. WCT, *supra* note 8.

12. *See* Pamela Samuelson, *Intellectual Property and the Digital Economy: Why the Anti-Circumvention Regulations Need to be Revised*, 14 BERKELEY TECH. L.J. 519, 530 (1999).

13. Digital Millennium Copyright Act, Pub. L. No. 105–304, 112 Stat. 2860 (1998) (codified as amended at 17 U.S.C. §§ 1201–1205, 1301–1322, and 28 U.S.C. § 4001 (2000)) [hereinafter DMCA].

14. *See, e.g.*, Alice Ritchie, *Hanging in the Balance: Fair Use for Digital Works*, 9 U. BALT. INTELL. PROP. L.J. 29, 44 (2000) (intimating that the DMCA has the potential to upset the balance of copyright); John R. Therien, Comment, *Exorcising the Specter of a "Pay-Per-Use" Society: Toward Preserving Fair Use and the Public Domain in the Digital Age*, 16 BERKELEY TECH. L.J. 979, 1043 (2001) (concluding that the DMCA does not adequately protect fair use and the public domain); Carla Meninsky, Comment, *Locked Out: The New Hazards of Reverse Engineering*, 21 J. MARSHALL J. COMPUTER & INFO. L. 591, 626 (2003) (showing the adverse effects of the DMCA on reverse engineering); Edward Lee, *The Public's Domain: The Evolution of Legal Restraints on the Government's Power to Control Public Access Through Secrecy or Intellectual Property*, 55 HASTINGS L.J. 91, 182 (2003) (labeling the DMCA as "democracy-disabling").

15. *See* Neil Weinstock Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing*, 17 HARV. J.L. & TECH. 1, 7, 77–80 (2003).

works. This, the critics propose, will freeze innovation and leave the purpose of copyright law, "to promote the progress of science and useful arts,"[16] in jeopardy of being eradicated.[17]

These critics fail to recognize the evolving landscape of copyright law. The power of digital technology erases many of the constraints that exist in an analog copyright world in the same way it erases the geographical boundaries that have historically isolated countries and continents. Arguing from the premise that all analog rights must necessarily exist in a digital world fails to realize the fresh opportunities that a digital world provides. The United States, in implementing its WCT obligations, recognized the needed transition that copyright is currently facing.[18] The DMCA assures copyright holders that their works will be adequately protected from piracy in the digital context.[19] More distinctively, it provides the framework to support a new system of copyright in which works are more freely distributed and consumers have more use options.[20] Without these DMCA protections, copyright would be unable to progress into this Brave New World.[21]

There are two concerns that this Comment will address. One concern is that while DMCA-type legislation addresses the realities of copyright in a digital world, it does not go far enough. The reason explicitly lies in the previous statement—it is a digital *world*, not distinct countries like the analog world. The Internet connects individuals globally without respect to political boundaries. Thus, when a copyright holder makes his content available on the Internet, the world is his marketplace[22]

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16. U.S. CONST. art. I, § 8, cl. 8.

17. *See* Peter K. Yu, *The Escalating Copyright Wars*, 32 HOFSTRA L. REV. 907, 912–13 (2004); Melissa A. Kern, Note, *Paradigm Shifts and Access Controls: An Economic Analysis of the Anticircumvention Provisions of the Digital Millennium Copyright Act*, 35 U. MICH. J.L. REFORM 891, 935 (2002).

18. *See infra* Parts IV, V.

19. *See infra* Part III.

20. *See infra* Part IV.

21. *See generally*, Aldous Huxley, BRAVE NEW WORLD (First Perennial Classics ed., Harper Perennial 1998) (1932).

22. Note that this is generally true, but in some cases sellers could hypothetically limit delivery to certain countries thereby excluding other countries from their marketplace.

(and hopefully his oyster). Any law that protects digital content in an international marketplace must address this reality. The DMCA, while protecting U.S. copyright holders from U.S. citizens, does not protect U.S. copyright holders from foreign injury. Therefore, DMCA-type legislation needs to be implemented globally, such as by amending the WCT which spurred the DMCA.

An additional concern with DMCA-type legislation is that, while it does protect copyright owners, it does not equally protect consumers. Specifically, the DMCA currently does not require that copyright distributors notify consumers as to when and to what extent content is restricted.[23] If consumers are informed about the terms of the limitations that attach to the content, they can then influence the degree of restrictions in the marketplace by choosing restricted content that matches their value.[24] Without such notice, consumers will make ill-informed decisions, and the extent to which content is restricted will not sufficiently reflect consumer value. Therefore, immediate legislation requiring notice of content restriction needs to be enacted. Again, because of the global nature of the marketplace, content notice legislation should be implemented internationally so that U.S. consumers are protected globally.

Part II of this Comment addresses the factors that led to the initial development of DRM. Part III discusses the WCT and DMCA anticircumvention provisions that provide support for DRM. Part IV explains how and why the United States went beyond its WCT requirements in enacting the DMCA. Part V shows the global inconsistency in anticircumvention legislation and proposes an adoption of an international agreement consistent with the advanced protections in the DMCA. Part VI briefly discusses the importance of consumer notice in dealing with digital technologies and proposes an international consumer notice provision. Part VII concludes that the DMCA provides an international model to propel copyright law into the Digital Age both by protecting copyright holders from digital

23. *See* 17 U.S.C. § 1201 (2000).

24. This assumes a competitive marketplace in which consumers have access to adequate alternatives. Modern analysis finds that consumers do have access to adequate alternatives for most copyrighted content. *See* Petrick, *supra* note 5, at 18.

piracy and by enforcing digital business models.

II. DRM DEVELOPS AS A TOOL TO PROTECT COPYRIGHT IN THE DIGITAL AGE

A. Digital Piracy

Digital technology enables exact duplication of a creative work and the Internet allows for rapid distribution of such a copy on a global scale.[25] As a result, conditions are ripe for copyright holders to introduce their content into a global marketplace. Currently, however, that global marketplace—the Internet—is largely unregulated, at least in comparison to the analog business world.[26] Therefore, along with the opportunity for copyright holders to reach an expansive marketplace comes the risk of decreased protection for copyrights when entering that marketplace. Copyright holders and distributors have felt the weight of this risk in dealing with illegal file-sharing.[27]

File-sharing, in its original form, was not designed for illegitimate purposes.[28] The Napster revolution, however, soon transformed file-sharing networks into global forums where creative works were traded, often illegally.[29] One of the network

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25. For example, the Mp3 music file format allows for an unlimited number of exact copies of a music file to be distributed digitally. *See* David R. Johnstone, Note, *The Pirates Are Always With Us: What Can and Cannot be Done About Unauthorized Use of Mp3 Files on the Internet*, 1 BUFF. INTELL. PROP. L.J. 122–23 (2001).

26. *See* Robinson, *supra* note 3.

27. The use of the term "sharing" exposes the public misunderstanding of the illegality of unauthorized distribution of copyrighted content. While some analog fair use rights may allow for the limited sharing of copyrighted content, *see* 17 U.S.C. § 107 (*de minimis* sharing may be allowed under the fair use provision as a noncommercial use), mass distribution of copyrighted digital files clearly violates a copyright holder's rights. *See* Cynthia M. Ho, *Attacking the Copyright Evildoers in Cyberspace*, 55 SMU L. REV. 1561, 1569 (2002) (stating that individuals are often liable for illegal file-sharing).

28. *See* Howard P. Goldberg, Note, *A Proposal For an International Licensing Body to Combat File Sharing and Digital Copyright Infringement*, 8 B.U. J. SCI. & TECH. L. 272, 275 (2002). Sun Microsystems first developed file-sharing for its UNIX system. *Id*.

29. *See Filesharing- Napster- History*, http://wiki.media-culture.org.au/ index.php/ Napster (last visited Jan. 24, 2006) (discussing how Napster developed a program that revolutionized file-sharing technologies and the music industry). It is important to note, however, that there is also some degree of authorized and beneficial file-sharing activity on these networks. For example, many have attributed the popular success of the band

formats that Napster used, and that many networks currently use, is a peer-to-peer network.[30] The format of the peer-to-peer network makes it much harder to pinpoint liability on the software provider.[31] Napster was eventually shut down as a result of its centralized file-indexing nature,[32] but as the Phoenix rises, a whole new generation of decentralized peer-to-peer networks[33] arose specifically designed to evade copyright infringement.[34] These decentralized networks have thus far escaped liability in the United States[35] and abroad.[36] Unable to pursue the software providers,[37] the content industry has more

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Wilco to their public release of the album *Yankee Hotel Foxtrot* on free file-sharing networks. *See*, Xeni Jardin, *Music Is Not a Loaf of Bread*, WIRED NEWS, Nov. 15, 2004, http://www.wired.com/news/culture/0,1284,65688,00.html.

30. *See Peer-to-Peer*, WIKIPEDIA, http://en.wikipedia.org/wiki/Peer-to-peer (last visited Jan. 24, 2006). Note that while the exact contours of what defines a peer-to-peer network is imprecise, generally speaking, it is a system in which each computer acts as both the server and the client. *Id*.

31. *See id.;* Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd., 380 F.3d 1154, 1163–66 (9th Cir. 2004) (holding that peer-to-peer file-sharing service was not liable for contributory infringement).

32. A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004, 1011–29 (9th Cir. 2001) (affirming that Napster had facilitated copyright infringement); *Peer-to-Peer*, *supra* note 30. Napster has since reorganized as a subscription service. *See* Napster, Inc., http://www.napster.com/ (last visited at Mar. 3, 2005). A centralized file-indexing network is one in which an index of the files are contained on a central server. *See Grokster*, 380 F.3d at 1158.

33. A decentralized network is one in which each peer on the network hosts a list of its own files only. *See Grokster*, 380 F.3d at 1158–59. Another variation on the centralized index is the supernode system "in which a select number of computers act as indexing servers." *Id*. at 1159.

34. For example, the defendant in the Grokster case (who escaped liability) used the decentralized index form. *Id*. at 1159–60.

35. *Id*. at 1160, 1167. The Supreme Court recently ruled that the Grokster defendant network could be held liable for infringement if they promoted using the network to infringe copyrights–an "inducement rule." Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd., 125 S. Ct. 2764, 2780 (2005). The Court remanded the case for further determination as to whether Grokster had indeed induced infringement. *Id*. at 2783.

36. *See* Seagrumn Smith, *From Napster to Kazaa: The Battle Over Peer-to-Peer File-Sharing Goes International*, 2003 DUKE L. & TECH. REV. 0008, ¶ 2 (2003), *available at* http://www.law.duke.edu/journals/dltr/articles/2003dltr0008.html.

37. Even if these decentralized peer-to-peer networks are held liable for infringement domestically, there still lacks cogency in the international community as to software provider liability. *See id*. Because of the global exposure of digital works, this form of combating piracy, suing the software provider domestically, is an ineffective

recently focused on other measures to curb illegal file-sharing.[38] Most of these measures have proven ineffective in minimizing digital piracy because of practical limitations and their failure to realize the international dimension of digital piracy.[39] While the current effect of peer-to-peer networks on the content industry's revenues is debatable,[40] most authorities conclude that if a system which allows illegal trading of virtually perfect copies of copyrighted works is left unchecked, the balance of copyright—to provide incentives for creators while facilitating future creation through public access to works[41]—will eventually be endangered. Therefore, an effective tool needs to be developed to maintain this balance.

B. DRM Combats Digital Piracy

DRM provides a realistic means to limit digital piracy while recognizing the global nature of file-sharing. It must be noted that the aim of content providers is not to eliminate digital piracy;[42] such a goal would be unrealistic. Instead, content providers want to limit piracy to a sustainable level.[43] Below are

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measure. *See id*.

38. Examples of these measures include: lawsuits directly against file-sharers, *See* Robert J. Delchin, *Musical Copyright Law: Past, Present and Future of Online Musical Distribution*, 22 CARDOZO ARTS & ENT. L.J. 343, 392 (2004); legislative proposals, *id*. at 395–96; education initiatives to inform consumers that file-sharing is both harmful and illegal, *id*. at 396; and legal action against ISP's, *see* Jennifer Bretan, *Harboring Doubts About the Efficacy of § 512 Immunity Under the DMCA*, 18 BERKELEY TECH. L.J. 43, 45–46 (2003).

39. David L. Clark, *Digital Millenium Copyright Act: Can it Take Down Internet Infringers?*, 6 COMP. L. REV. & TECH. J. 193, 217 (2002); Johnstone, *supra* note 25, at 125–26.

40. *See Napster*, 239 F.3d at 1016–17 (plaintiff argued that Napster's free file-sharing network has an adverse affect on the Recording Industry Association's market for digital music); *but see Study: File Sharing No Threat to Music Sales*, WASH. POST, Mar. 29, 2004, http://www.freepress.net/news/article.php?id=2935.

41. *See, e.g.*, William F. Patry, *Copyright and Computer Programs: It's All in the Definition*, 14 CARDOZO ARTS & ENT. L.J. 1, 14 (1996).

42. See Ken Kerschbaumer, *Sound Protection: Report Shows Way to Prevent Piracy – and Make Money*, 135 BROADCASTING & CABLE 18, 18 (2005).

43. *Id*.

two common DRM technologies that help to accomplish this goal.[44]

1. Watermarking

Watermarks are digital identifications that can be inserted into a work,[45] akin to Digital ID badges. Watermarks either function as tracking devices,[46] or they can serve to restrict access to copyrighted content.[47] An example of watermarks that serve a tracking function are those that are embedded in a copyrighted work so that the work can be identified on a peer-to-peer network.[48] In this context, watermarks are often used in conjunction with web crawlers, which are programs that search the Internet for specified material (such as a watermark ID) and report when and where that material is found.[49] This allows the copyright holder to identify and take action against an infringer.[50]

The Secure Digital Music Initiative (SDMI) exemplifies another function of watermarking, which is restricting access to copyrighted content.[51] The idea behind SDMI is to attach watermark IDs to all music files and require that all audio players recognize the IDs.[52] Therefore, the technologies are bound together—digital players can only play watermarked

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44. Note that this Comment provides only a minor glimpse of the capabilities of DRM technologies. The Author intends to use the listed technologies only as a vehicle to express the possibilities that DRM provides. A more thorough examination of DRM can be found at http://books.nap.edu/books/0309064996/html (last visited Jan. 24, 2006).

45. *See* Digimarc Corp. http://www.digimarc.com/products/support/faqs.asp#quest1 (last visited Jan. 24, 2006).

46. *See* Dominic Bencivenga, *Protecting Copyrights, Law and Technology Out of Sync in Digital Age*, N.Y. L.J., Oct. 16, 1997, at 5.

47. *See* Kimberly D. Richard, *The Music Industry and Its Digital Future: Introducing MP3 Technology*, 40 IDEA 427, 444 (2000).

48. *See* Therien, *supra* note 14, at 988.

49. *Id*. at 988–89.

50. *See Piracy versus Disintermediation* (2005), http://bigpicture.typepad.com/comments/2005/06piracy_versus_d.html. Subsequent action includes removing the work from the network, spoofing (flooding the network with fake files), legal action against the user, etc.

51. *See* Richard, *supra* note 47, at 443.

52. *Id*. at 444.

digital files and digital files can only be played on players that recognize those digital watermarks.[53] Thus, if a file is not watermarked (because it has been obtained illegally on a file-sharing network), the audio player will not be able to read and subsequently play the file.[54] Through tracking and restricting access functions, watermarks provide a realistic means to combat digital piracy.

2. Encryption

Encryption is essentially a "digital lock."[55] An encrypted work requires an access key or password to open the lock and access the work contained therein.[56] It prevents piracy by only revealing the key or password to an authorized user.[57] For example, many e-Books require an access key to view the writing.[58] Without the key, pirates are unable to access the work if it is made available on a network,[59] thus restricting access only to authorized users.

C. Hackers

The problem with DRM is that it alone cannot prevent piracy. Hackers can easily circumvent most of the technologies.[60] For example, encryption is limited by the fact that it can be decrypted using certain mathematical algorithms,[61] and once decrypted, a creative work is left completely unprotected.[62] Some

53. *Id*. at 445.

54. *Id*. at 444.

55. Clark, *supra* note 39, at 202.

56. *See id*.

57. *See* Bob Pimm, *Riding the Bullet to the eBook Revolution*, 18 ENT. & SPORTS L. 1, 19–20 (2000).

58. *Id*.

59. *Id*.

60. One extreme example of circumvention is Sony's Key2audio copy protection which was easily circumvented with a felt-tip pen. *See* Eleanor M. Lackman, Note, *Slowing Down the Speed of Sound: A Transatlantic Race to Head Off Digital Copyright Infringement*, 13 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1161, 1192 (2003).

61. *See* Clark, *supra* note 39, at 202.

62. *See* Yu, *supra* note 17, at 919. Note that a work can be decrypted legally (that is by an authorized user) or illegally. In either case, the decrypted work can be passed on to others without restriction. *Id*.

have envisioned the battle between those who create protections and those who crack the protections as a perpetual digital "arms race"[63] in which the only winner is the DRM industry.[64] Thus, a legal framework was needed to protect DRM from being compromised by hackers seeking to illegally access and distribute copyrighted works. In realizing this need, it became clear to policymakers that such a legal framework should not be limited by geographical boundaries because file-sharing is not limited by such boundaries. If the United States alone enacted legislation protecting DRM, U.S. copyright holders would still face the possibility of DRM-protected work being circumvented on foreign soil and distributed globally via file-sharing (including to U.S. citizens). With that in mind, the WIPO member nations sought to provide an international scheme for the protection of susceptible DRM technologies.

III. ANTICIRCUMVENTION LAW

A. WCT Article 11

In December of 1996, WIPO adopted the WCT,[65] which was generally aimed at adapting copyright law to the Digital Age.[66] Article 11 of the WCT provides that:

> Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which

63. *See, e.g.*, Brian Krebs, *Copyright in the Digital Age: Online Piracy Spurs High-Tech Arms Race*, WASH. POST, June 26, 2003, http://www.washingtonpost.com/ac2/wp-dyn/A34439-2003Jun26.

64. The DRM industry has become a lucrative sector. It is estimated that the DRM industry (referred to in the article as the "digital content protection" industry) will generate revenues of nearly $2 billion by 2009. *Digital Content Protection Will be $2 Billion Business in 2009, Says DTC* (Feb. 22, 2005), TEKRATI RESEARCH NEWS, http://www.tekrati.com/T2/Analyst_Research/ResearchAnnouncementsDetails.asp?Newsid=4560.

65. WCT, *supra* note 8.

66. *See* Pamela Samuelson, *The U.S. Digital Agenda at WIPO*, 37 VA. J. INT'L L. 369, 378 (1997).

> are not authorized by the authors concerned or permitted by law.[67]

Short but sweet, Article 11 provides a uniform plan to combat digital piracy. It requires that every signatory country to the WCT enact legislation protecting DRM technologies.[68]

B. DMCA § 1201

The United States enacted the DMCA to fulfill its obligations under the WCT.[69] The DMCA provides a realistic solution to protect DRM and combat digital piracy. It contains an access-controls provision and a rights-controls provision.[70] Not surprisingly, access controls are any controls restricting or preventing access to copyrighted content.[71] Under the access provisions, individuals are prohibited from both directly circumventing an access control[72] and from trafficking[73] devices enabling circumvention of an access control.[74] For example, if a copyright holder encrypted a DVD so that only a certain DVD player could decrypt and play the DVD, an individual would be

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67. WCT, *supra* note 8, art. 11.

68. *Id*. The list of signatory countries can also be found on the Treaties Database, Contracting Parties, http://www.wipo.int/treaties/en/ShowResults.jsp?country_id= ALL& start_year=ANY&end_year=ANY&search_what=C&treaty_id=16 (last visited March 3, 2005).

69. DMCA, *supra* note 13, at preamble.

70. R. Anthony Reese, *Will Merging Access Controls and Rights Controls Undermine the Structure of Anticircumvention Law?*, 18 BERKELEY TECH. L.J. 619, 622–23 (2003).

71. *Symposium, The Law and Technology of Digital Rights Management*, 18 BERKELEY TECH. L.J. 760 (2003) [hereinafter Symposium]; *see also* 17 U.S.C. § 1201(a)(1)(A)(2000) ("No person shall circumvent a technological measure that effectively controls access to a work . . . .").

72. 17 U.S.C. § 1201(a)(1)(A) (2000).

73. *Id*. § 1201(a)(2). In addition to trafficking, a "manufacture, import, offer to the public, or [provision]" of any circumventing device is prohibited. *Id*.

74. More specifically, the statute prohibits the trafficking of any technology that:

> (A) is primarily designed or produced for the purpose of circumventing a technological measure . . . ; (B) has only limited commercially significant purpose or use other than to circumvent a technological measure . . . ; or (C) is marketed by that person or another acting in concert with that person with that person's knowledge for use in circumventing a technological measure . . . .

Id.

liable if he or she either decrypted the DVD to play on a DVD player other than the intended player, or if he or she were found "trafficking" a device that enabled such decryption.[75]

How does this prevent piracy? Continuing with the DVD example, the right holder could limit access of the content to a certain DVD player (that is, by using encryption)[76] and exclude players that are compatible with pirated content. Anyone who circumvents that restriction or traffics a device enabling such circumvention would likely be liable under the DMCA.[77]

A rights control is a control on a use that would affect a right of the copyright holder.[78] It essentially controls the way users interact with rightfully accessed content. The DMCA has no restriction on the direct circumvention of a rights control; however, the DMCA does prohibit the trafficking of any device used to circumvent a rights control.[79] Congress found that a DMCA prohibition on the direct circumvention of rights controls was unnecessary because those acts were already prohibited by existing copyright law.[80]

So under the rights-controls provision, a consumer who purchases a CD that is copy-protected may circumvent that protection to make personal copies,[81] but may not traffic a device that enables copies to be made.[82] Of course, that same consumer may still be liable if any traditional copyright law is violated.[83]

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75. *See, e.g.*, Universal City Studios, Inc. v. Corley, 273 F.3d 429, 460 (2d Cir. 2001) (holding that the posting, on a website, of a computer program which was designed to circumvent a DVD encryption technology violates the DMCA).

76. *See id*. at 436–37 (defendant's CSS system used encryption to limit access to certain DVD players).

77. *See id*. at 441.

78. Symposium, *supra* note 71.

79. 17 U.S.C. § 1201(b)(1). The rights control provision prohibits the same type of trafficking activity that the access control provision prohibits. *See id*. § 1201(a)(2)(A)–(C).

80. Ritchie, *supra* note 14, at 34.

81. This assumes that the technological protection which copy-protects is construed by a court as a rights control and not as an access control. If construed as an access control, then such an act would clearly be prohibited. *See* 17 U.S.C. § 1201(a)(1)(A). Assuming this is a rights control, the DMCA would not apply, *Id*. § 1201(b)(1). In that case, traditional copyright law would apply including any fair use defenses. H.R. REP.NO. 105–551, at 18.

82. 17 U.S.C. § 1201(b)(1).

83. It is debatable whether traditional copyright law actually allows for personal

For instance, if the consumer enabled the copying of the CD in order to sell those copies for a profit, the consumer would be liable for violating the copyright holder's reproduction right.[84] The effect of this provision, as with the access-controls provision, is that it eliminates the widespread distribution of tools that can be used to violate a copyright. Thus, circumvention, when allowed,[85] is limited to a consumer-level rather than allowing for the commercialization of circumvention. Restricting circumvention to certain personal uses minimizes[86] copyrighted works' exposure to peer-to-peer networks.[87]

IV. THE BEAT GOES ON WITH DIGITAL BUSINESS MODELS: DRM ENABLES, THE DMCA PROTECTS

Congress had two principle goals when it implemented the DMCA anticircumvention provisions. First, it wanted to protect digital works from the increasing risk of piracy.[88] In addition, Congress sought to provide the legal framework necessary for business models designed for the analog world to adapt to the digital world.[89] Protecting digital works from piracy was not a

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copying of CD's. *See* Stephen M. Kramarsky, *Copyright Enforcement in the Internet Age: The Law and Technology of Digital Rights Management*, 11 DEPAUL-LCA J. ART & ENT. L. 1, 20-22 (2001) (discussing conflicting views of courts on whether personal copying of a CD is allowed).

84. *See* 17 U.S.C. § 106(1) (1994).

85. Again, circumvention is only allowed for rights controls and when it does not violate a traditional copyright. *See supra* notes 78–82 and accompanying text.

86. Note again, the purpose of DMCA is to minimize piracy, not eliminate it. *See* Kerschbaumer, *supra* note 42, at 18.

87. Restricting circumvention to personal use limits the works' exposure to peer-to-peer networks because if a work is made available on a peer-to-peer network, it will not be considered a personal use, thus creating liability for the individual who made the work available. *See Napster*, 239 F.3d at 1013–15 (finding that those who had uploaded music on peer-to-peer networks were directly infringing copyrights). This added layer of liability will further minimize the dangers of digital piracy.

88. *See* S. REP. NO. 105–190, at 2 (1998), *quoted in* David Nimmer, *A Riff on Fair Use in the Digital Millennium Copyright Act*, 148 U. PA. L. REV. 673, 681 (2000) (stating that the DMCA was designed "to make digital networks safe places to disseminate and exploit copyrighted materials.").

89. June M. Besek, *Anti-Circumvention Laws and Copyright: A Report from the Kernochan Center for Law, Media and the Arts*, 27 COLUM. J.L. & ARTS 385, 474 (2004) ("In other words, providing copyright owners with the ability to preclude unlimited access was a goal of the DMCA, not just an unforeseen and unfortunate consequence.").

novel concept when the DMCA was implemented—it was the central aim of the WCT anticircumvention provision.[90] The vision of the DMCA, however, went beyond the minimalist requirements set out in the WCT by providing a framework to transition copyright into the Digital Age.[91]

The United States reached a novel result in implementing a law that allowed right holders to adapt business models to the Digital Age.[92] The theories below that show how the United States reached this result rely heavily on economic concepts and contractual theory. Debating the ultimate normative implications of these theories would take volumes of treatises to explore. This section takes a more pragmatic approach by applying these economic concepts to digital-copyright technology and law. The theories will be briefly explained and then directly applied to real-world DRM technologies to provide tangible evidence of the possibilities that digital-rights management provides.

A. DRM-Enabled Price Discrimination

1. Price Discrimination

Price discrimination occurs when different prices are charged for the same product despite a constant cost for that product, or it occurs when the price difference between two versions of the same product exceed the cost difference between those versions.[93] A senior citizens' discount on a movie ticket is an example of price discrimination: the senior citizen receives the exact same product (the movie) as other consumers, but pays a lower price.[94] Alternatively, monopolistic pricing occurs when the price of a good is constant;[95] that is, if only the regular

90. *See* Shahram A. Shayesteh, *High-Speed Chase on the Information Superhighway: The Evolution of Criminal Liability for Internet Piracy*, 33 LOY. L.A. L. REV. 183, 208 (1999).

91. *Id*.

92. *See* Besek, *supra* note 89, at 474.

93. *See* Michael J. Meurer, *Copyright Law and Price Discrimination*, 23 CARDOZO L. REV. 55, 58 (2001).

94. *Id*. at 67–68.

95. Wendy J. Gordon, *Intellectual Property as Price Discrimination: Implications*

admission price was available for the movie ticket.

The exact normative implications of price discrimination used for copyrighted works are debatable;[96] however, it is clear that price discrimination can potentially be valuable to both consumers and sellers for certain copyrighted works.[97] The utility in price discrimination is that it allows a seller to fine-tune the product and its price to the value level of the consumer.[98] Consumers with a high value for the product or who are better able to afford it can be charged a higher price, while consumers with a lower value for the product or who are less able to afford it can be charged a lower price.[99] This appropriates a value level to the specific consumer while allowing the seller to maximize profit.

For instance, a senior citizen may have a lower value for the movie than the remainder of the population because he or she may have less income or would simply rather rent a movie.[100] If a monopolistic price is charged, the senior citizen would probably not enter the market while those who have a high value for the movie would still attend.[101] If a senior citizen discount is given (price discrimination), then seniors are more likely to attend the movie because the price more closely matches their value.[102] In addition, the high value movie-goers will still attend the movie as they did before the discount was

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for Contract, 73 CHI.-KENT L. REV. 1367, 1368–69 (1998) [hereinafter Gordon, *Intellectual Property as Price Discrimination*] (discussing a one-price monopoly system).

96. *See, e.g.*, Meurer, *supra* note 93, at 80; Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799, 1801–05 (2000); William W. Fisher III, *Property and Contract on the Internet*, 73 CHI.-KENT L. REV. 1203, 1237–40 (1998); Gordon, *Intellectual Property as Price Discrimination*, *supra* note 95, at 1368-69; Michael J. Meurer, *Price Discrimination, Personal Use and Piracy: Copyright Protection of Digital Works*, 45 BUFF. L. REV. 845, 849 (1997) [hereinafter Price Discrimination]; Glynn S. Lunney, Jr., *Reexamining Copyright's Incentives-Access Paradigm*, 49 VAND. L. REV. 483, 520–21 (1996).

97. *See* Meurer, *supra* note 93, at 88 (noting that price discrimination can be effective for some copyrighted works); Lionel S. Sobel, *DRMs as an Enabler of Business Models: ISPs as Digital Retailers*, 18 BERKELEY TECH. L.J. 667, 670 (2003).

98. *See* Meurer, *supra* note 93, at 67.

99. Sobel, *supra* note 97, at 88.

100. Meurer, *supra* note 93, at 67.

101. *Id*.

102. *Id*.

given to the senior citizens, assuming the discount does not have a noneconomic effect on them (i.e., it does not offend them), because there is no adverse price change to them.[103] Thus, more consumers are able to access the product while the seller maximizes profits.[104] Other examples of price discrimination in the copyright world abound: Hardcover v. Paper-Back versions of a book;[105] Full-featured versions of computer software v. 'Lite' versions;[106] 'Single' versions of an album v. full-length albums; and special-edition v. regular-edition DVD's to name a few.

2. DRM Enables Price Discrimination in the Digital Domain

DRM facilitates price discrimination in the digital context.[107] One of the main examples of DRM facilitation of price discrimination is the so called "pay-per-use system"[108] in which copyrighted works, such as movies or music, are accessible for a limited time period or number of uses[109] and then are terminated by the DRM technology. The advantage that pay-per-use systems offer is that "they afford users the opportunity to read, view, or experience the materials they seek without imposing the costs of an unlimited-access option."[110] In other words, they allow for price discrimination which reaches low-value consumers. More specifically, it allows a low-value consumer to access the work at a lower cost than what would be available under an unlimited-use system.[111]

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103. *Id*.

104. *See* Fisher, *supra* note 96, at 1239–40 (arguing that price discrimination increases access for low-value consumers).

105. Sobel, *supra* note 97, at 670.

106. *Id*. at 671.

107. Michael J. Meurer, *Too Many Markets or Too Few? Copyright Policy Toward Shared Works*, 77 S. CAL. L. REV. 903, 963 (2004) [hereinafter Copyright Policy Toward Shared Works].

108. R. Anthony Reese, *The First Sale Doctrine in the Era of Digital Networks*, 44 B.C. L. REV. 577, 617–18 (2003) [hereinafter First Sale Doctrine]. The term "Pay-per-use" has been attributed to former Senator John Ashcroft. *See* Therien, *supra* note 14, at 984 n.26.

109. First Sale Doctrine, *supra* note 108, at 617–18.

110. Besek, *supra* note 89, at 474.

111. *See id*.

For example, say Jimi (a low-value consumer) is unsure if he likes the band *The Rolling Stones*. Jimi can purchase and download the band's album *Beggars Banquet* at a reduced cost for a short time period, at the end of which the album will erase itself from Jimi's computer memory.[112] If Jimi likes the album, he may then purchase it at the higher unlimited-usage cost.[113] If he does not, he has saved the additional cost of the unlimited-usage album. In a world without DRM, such a scenario would be impossible. The monopolistic price of the unlimited-use album would be beyond Jimi's spending preference, which would prevent him from experiencing the music. DRM allows for multiple price points so that Jimi can experience the music.[114]

As mentioned, DRM is a vulnerable technology. Many of the safeguards can easily be disabled or circumvented.[115] In the instance of pay-per-use systems, hackers have found ways to trick the technology by resetting the counter[116] on the DRM program to ensure that the usage limit is never reached.[117] In fact, the possibility of circumvention is almost a constant with DRM technologies.[118] Therefore, legislation is required to immunize DRM from these weaknesses.

3. The DMCA Protects DRM-Enabled Price Discrimination

DRM protections that facilitate varied price points for copyrighted works are buttressed by the DMCA. In the case of hackers who have found a way to thwart the pay-per-use systems, there are various ways their conduct is discouraged by

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112. For example, the revamped version of Napster (now a pay service) features an option whereby listeners can "sample" 30- second bits of songs. *See Napster Tutorial, Buying Music*, http://www.napster.com/tutorial/buying_music.html (last visited Jan. 24, 2006).

113. Napster also features unlimited-purchase options. *See id*.

114. Not to be confused with the Jimi Hendrix *Experience*. Jimi Hendrix, *Jimi Hendrix: Experience* (Universal Music & Video Distribution 2001) (1968).

115. *See infra* subpart II.C.

116. Pay-per-use systems often integrate a counter into the creative work which allows the system to keep track of the amount of uses, thus informing the program when the usage limit has been reached. *See* Price Discrimination, *supra* note 96, at 76 n.76.

117. *Id*.

118. *See* Dan L. Burk, *Muddy Rules for Cyberspace*, 21 CARDOZO L. REV. 121, 172 (1999).

the DMCA. First, the act of resetting the counter on the program could constitute circumvention of an access control under § 1201(a).[119] Access controls not only include limits on initial access to the work, but also on the number of times or duration that the work can be accessed.[120] Thus, a circumvention of the counter would probably qualify as a circumvention of an access control under § 1201(a).[121] In addition, the likelihood of an every-day Joe having the ability to circumvent the technology is very low. The only likely way that such an individual could disable the program is if he or she used a device that facilitates circumvention. Looking at the language of the DMCA, it is clear that an individual or entity that provides the device to that every-day Joe will be liable as a trafficker of a circumvention-enabling device.[122] Therefore, because it prohibits both circumvention and trafficking of circumvention devices, the DMCA acts as a strong deterrent to would-be circumventors of price-discriminating technologies.

B. DRM and Market Failures

1. Market-Failure Fair Uses

Certain fair-use defenses have been described as a response to market failures.[123] In the analog world, acquiring licensing rights from a copyright holder for certain uses of copyrighted works entails higher transaction costs than are of value to the user.[124] In other words, these uses are cost prohibitive. The

119. *See* Besek, *supra* note 89, at 450 (discussing how pay-per-use system limits on duration are considered access controls).

120. *Id*.

121. 17 U.S.C. § 1201(a) (2000).

122. *Id*. § 1201(b)(1)(A)–(C).

123. *See generally* Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors*, 82 COLUM. L. REV. 1600 (1982) [hereinafter Gordon, *Fair Use as Market Failure*] (Gordon's article is the seminal work on the theory of fair use as a response to market failure).

124. Gordon provides specific examples of uses with high transaction costs that fair use allows, including: personal copies such as photocopies, "home uses" of audio tape recorders, and VCR uses. *Id*. at 1628, 1655–57. A more recently recognized fair use in which the use had high transaction costs is the "space-shifting" fair use. *See* Recording Indus. Ass'n. of Am. v. Diamond Multimedia Sys., Inc., 180 F.3d 1072, 1079 (9th Cir.

market-failure theory posits that because of these inefficient transaction costs, the law simply allows for the use for free,[125] despite that use encroaching on the copyright holder's rights.[126] If the user were required to negotiate for authorization of that use, an economically rational user would never do so because such a transaction would be economically inefficient.[127] Therefore, to alleviate certain cost-prohibitive uses, the law creates a default rule for allowing the use.[128]

The fair-use defense for photocopying illustrates this point.[129] Suppose that Carlos is reading his favorite book, "The Old Gringo." One day his friend, Gabriel, notices Carlos reading the book and asks if it would be worthwhile for him to read it. Carlos decides to photocopy the first chapter of the book to give Gabriel a taste of the book. This use is probably allowed for by the fair-use defense.[130] If it were not allowed, Gabriel would face high transaction costs—such as time spent contacting the publisher to obtain a license or purchasing a new copy—in negotiating for this right relative to the value of that right to Gabriel. Thus, Gabriel would likely forego sampling the novel. The law provides for such a sampling because it seeks to promote a "creative commons"[131] to a certain degree without burdening society with inefficient use costs. But what if such a sampling could occur with minimal transaction costs?

1999) (holding that the transfer of music from a CD to a Mp3 player, a "space-shift", was a fair use).

125. Gordon, *Fair Use as Market Failure*, *supra* note 123, at 1657.

126. *Id*. at 1600. The use technically infringes on a right of a copyright holder but is permitted for certain equitable purposes. *Id*. Fair use is an affirmative defense. CRAIG JOYCE, ET AL., COPYRIGHT LAW 839 (6th ed. 2003).

127. Gordon, *Fair Use as Market Failure*, *supra* note 123, at 1629.

128. *Id*. at 1657.

129. Alfred C. Yen, *What Federal Gun Control Can Teach Us About the DMCA's Anti-Trafficking Provisions*, 2003 WIS. L. REV. 649, 678 (2003) (describing photocopying for personal use as "something that is supposed to be free").

130. *Id*.

131. Larry Lessig describes this "creative commons" that copyright seeks to promote as "a resource from which anyone can draw and add and build upon because the Constitution guarantees the law's protection will end." Lawrence Lessig, *The Creative Commons*, 55 FLA. L. REV. 763, 764 (2003).

2. DRM Cures Market Failures

DRM significantly reduces transaction costs for acquiring many use rights.[132] It does this in two interrelated ways. First, it automatically[133] sets the terms of the copyright by integrating restrictions around the content. As Lawrence Lessig has famously pointed out, "code is law".[134] A limited-duration CD, such as one the pay-per-use system provides, sets the terms of that CD by automatically restricting the length of access. Technology combined with words like "automatic" and "restricting" might lead some to envision a *2001: A Space Odyssey* scenario complete with cold, soulless computers determining the fate of human existence.[135] Such a draconian outcome is unlikely. The more likely scenario is that technology will reflect consumer demand. Technology that over-restricts content will be pushed out of the marketplace by technology that meets consumer demands.[136]

In addition to creating automatic copyright restrictions, DRM allows for various use and price options for the same content. An individual who does not want to purchase a limited-duration CD can buy an unlimited-duration version of the CD at a higher price.[137] Using our earlier example but fast-forwarding to the Digital Age, if Gabriel wants to sample "The Old Gringo" at a minimum cost, Carlos could download an e-Book version of the novel that allows for printing.[138] Gabriel could then sample

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132. Bell, *supra* note 4, at 583 (referring to DRM as "automated rights management" (ARM)).

133. The automatic nature of DRM is explicitly reflected in the term ARM. *See id*.

134. LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 66 (1999).

135. In the movie *2001: A Space Odyssey*, a talking computer, HAL 9000, attempts to exterminate the astronauts on the ship he is programmed to control. 2001: A SPACE ODYSSEY (Turner Entertainment Co. 1968).

136. *See, e.g.*, Katie Dean, *Disposable DVDs at Crossroads*, WIRED NEWS, Feb. 7, 2005, http://www.wired.com/news/digiwood/0,1412,66513,00.html?tw=wn_tophead_3 (discussing how Disney's EZ-D technology has not been embraced by the market).

137. *See generally supra* subpart IV.A.2.

138. *See generally Visualization and Imagery Solutions, Inc.*, http://www.vizsolutions.com/Merchant2/merchant.mv?Screen=PROD&Product_Code=BPTVE&Category_Code=B (last visited Oct. 8, 2005) (demonstrating price discrimination of an e-Book based on extent of use). e-Book services sometimes provide a read-only

the printed version of the novel[139] to decide if he wants to purchase his own e-Book version.[140] He would then avoid the inefficient transaction costs associated with sampling the work that exist in the analog world.[141]

In the digital world, automated copyright restrictions and varied use/price options produce a more efficient transactional-cost system. Continuing with the market-failure theory, because of the decrease in transaction costs in the digital world, a fair-use defense for those unauthorized uses that are inefficient to negotiate in the analog world[142] would become less applicable in the digital domain where those costs have been made efficient. Indeed, the Clinton Administration Working Group on Intellectual Property Rights recognized this conclusion in its White Paper report, observing that rights management should "lead to reduced application and scope of the fair-use doctrine."[143] The White Paper was the basis for the enactment of the DMCA.[144]

(nonprintable) version, or they offer a printable version at a higher price. *Id*. The higher price that Carlos pays here would hypothetically be worked out between Carlos and Gabriel at a much lower cost than any such transaction in the analog world.

139. Presumably this use is allowed under the traditional fair-use doctrine as a noncommercial use. *See* 17 U.S.C. § 107 (2000). No circumvention is involved here so this use would not violate the DMCA. *See* 17 U.S.C. § 1201 (2000).

140. Admittedly, Gabriel could simply read the entire e-Book as printed. However, after sampling the low-quality printed version of the e-Book, most users would probably want to purchase a higher-quality version, such as an e-Book version or a bound copy of the novel, because the higher-quality version more closely matches the users' higher value after sampling.

141. To reiterate, the transaction costs are inefficient because the analog world does not provide a low-value-use option for the low-value user such as Gabriel. *See supra* subpart IV.B.1.

142. *See supra* subpart IV.B.1.

143. WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS, U.S. DEP'T OF COMMERCE, INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE: THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS (1995) [hereinafter WHITE PAPER].

144. Symposium, *Beyond Napster: Debating the Future of Copyright on the Internet*, 50 AM. U. L. REV. 355 (2000) [hereinafter Napster Symposium].

C. *The Nexus of Price Discrimination, DRM and the Elimination of Market Failures*

Price Discrimination can directly assist in eliminating market-failure-type fair uses.[145] This notion was implicitly presented earlier as a *function* of DRM's ability to eliminate market failure,[146] but the direct implication is worth amplifying. One of the conditions for eliminating market failures caused by high transaction costs is providing a variety of use and price options, including prices that will reach low-value users who are pushed out of the market by the otherwise high transaction costs.[147] In the case of Gabriel, the e-Book format provides a low-cost option that is not available in the analog world. Price discrimination enables such low-cost options.[148] Logic follows that price discrimination, as an enabler of multiple price points, including price levels that can reach low-value users, should diminish the importance of fair use as a response to market failure. The nexus between price discrimination and the elimination of market failures is bound together in the digital context by DRM, which is the backbone for a varied usage and pricing scheme of copyrighted works.

The nexus, however, unravels when DRM is circumvented. Circumvention of DRM can lead to arbitrage of price discrimination.[149] Arbitrage is essentially when high-value users take advantage of the price-discrimination system.[150] For example, our low-value user, Jimi, could purchase the limited-use album at a low price and then circumvent the use restriction allowing for unlimited use of the album. Jimi could then sell the transformed unlimited-use album to a high-value user at a lower cost than that high-value user would have to pay under the

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145. See William W. Fisher III, *Reconstructing the Fair Use Doctrine*, 101 HARV. L. REV. 1659, 1782 (1988) (stating that increased price discrimination weakens the fair-use defense).

146. *See supra* subpart IV.B.2.

147. *See supra* subpart IV.B.2.

148. *See supra* subpart IV.A.1.

149. DRM facilitates price discrimination. *See supra* subpart IV.A.2. Thus, a circumvention of that DRM leaves price discrimination vulnerable to arbitrage.

150. *See* Michael J. Meurer, *Vertical Restraints and Intellectual Property Law: Beyond Antitrust*, 87 MINN. L. REV. 1871, 1877–78 (2003).

price-discrimination scheme. Alternatively, the high-value user could purchase the limited-use album and circumvent that limitation himself.

In either scenario, the high-value buyers are removed from the market because they are able to attain use at a low value. As a result, a monopolistic price market is created because no reasonable buyer who is able to circumvent DRM would pay for the higher price. The seller will then have to raise the price of the product to recover the profits lost from the removal of the high-value users from the market, thus creating one high monopolistic price. Low-value users will once again be pushed out of the market.

Some commentators[151] and legislators[152] support the circumvention of DRM for any fair-use purpose. Legislators argue that circumvention of DRM should be allowed if "such circumvention does not result in an infringement of the copyright in the work."[153] These legislators posit that fair use, as a traditional affirmative defense to circumventing a technological measure, would fall under the scope of such an allowance.[154] Importantly, many of these commentators do not distinguish between market-failure-related fair uses and fair use generally,[155] thus bringing market-failure fair uses under

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151. *See*, *e.g.*, Ritchie, *supra* note 14, at 44; Therien, *supra* note 14, at 1043; Raymond Shih Ray Ku, *Consumers and Creative Destruction: Fair Use Beyond Market Failure*, 18 BERKELEY TECH. L.J. 539, 542 (2003); Pamela Samuelson, *Copyright and Freedom of Expression in Historical Perspective*, 10 J. INTELL. PROP. L. 319, 342–43 (2003) [hereinafter Copyright and Freedom].

152. For example, H.R. 107, titled the "Digital Media Consumers' Rights Act," was introduced in 2003 and proposed two "Fair Use Amendments" to the DMCA. Digital Media Consumers' Rights Act of 2003, H.R. 107, 108th Cong. § 5(b)(1)–(2) (2003). The first part would allow for circumvention any time "such circumvention does not result in an infringement of the copyright in the work." *Id*. at § 5(b)(1). The second amendment would essentially insert the *Sony* standard into the DMCA allowing for anticircumvention devices when "capable of enabling significant noninfringing use of a copyrighted work." *Id*. § 5(b)(2).

153. *Id*.

154. As evidenced by the label "Fair Use Restoration" for the DMCRA's proposed amendments to the DMCA. *Id*. H.R. 107(b).

155. *See generally supra* note 14; Copyright and Freedom, *supra* note 151, at 342–43; Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 814 (2001).

the broad umbrella of proposed permitted defenses to the DMCA.

These arguments imply that the structure of traditional copyright law, law designed for an analog setting, should simply be imprinted onto the digital domain. Such an argument, however, does not recognize that the digital domain, specifically DRM, has the unique capability to eliminate the market failures that originally begot certain fair uses. These market failures can only be eliminated if price-discriminating DRM is enforced.[156] Price discrimination is arbitraged when circumvention is permitted to allow for fair uses.[157] A cyclical relationship forms. Enforcement of price discrimination provides the outlet.

Some might respond that market failures are equally eliminated by the fair-use doctrine in that the inefficient transaction costs associated with certain uses are removed by the default fair-use rule.[158] In other words, the inefficient costs are eliminated by simply removing any costs for the buyer. While this conclusion is true, the fallacy of such an analysis lies in the presumption that "fair use and information should be provided for free."[159] The market-failure theory sheds light on the fact that certain fair uses are only justified as being provided for free because there is no other alternative.[160] If the use were not free, many economically-rational-low-value users would forego that use because the transaction costs outweigh the value of the use.[161]

When the high transaction costs are eliminated from this analysis, however, the presumption of free use falls on its face. DRM provides precisely such a system through price discrimination. Technology, such as the pay-per-use system,

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156. *See supra* subpart IV.C (discussing how circumvention of DRM-enabled price discrimination can lead to arbitrage).

157. *See supra* subpart IV.C.

158. *See, e.g.*, Gordon, *Fair Use as Market Failure*, *supra* note 123, at 1657 (arguing that fair use eliminates high transaction costs).

159. Mauricio Espana, Note, *The Fallacy that Fair Use and Information Should be Provided for Free: An Analysis of the Responses to the DMCA's Section 1201*, 31 FORDHAM URB. L.J. 135, 208 (2003).

160. *See* Gordon, *Fair Use as Market Failure*, *supra* note 123, at 1657.

161. *See id*. at 1629.

allows usage to be fine-tuned to the value of the consumer. Therefore, low-value users will have a price option that meets their low value. In a digital world where consumers have access to price options that match their value, those consumers should be required to compensate the copyright owner for that fair use.[162]

D. The DMCA's View of Fair Use

The DMCA responds by providing authors compensation for certain traditionally held fair uses.[163] The DMCA was passed with the intention of facilitating price discrimination[164] and reducing the role of fair use.[165] As mentioned earlier, the Clinton Administration's White Paper was the inspiration for the passage of the DMCA.[166]

The White Paper discussed the increasingly significant role that rights-management technologies would play in protecting copyrighted works.[167] The paper suggested that the relevance of fair use should shrink as DRM becomes an increasingly realistic approach to protecting copyrights.[168] The paper further pointed out that fair use "does not require a copyright owner to allow or to facilitate unauthorized access or use of a work."[169] Thus, the free, unauthorized uses[170] that proponents of fair use support were clearly designated by the White Paper as standing on thin

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162. Fair use is used here in the sense that, in a price-discrimination scheme, the copyright owner fairly provides a use option matching the value of a low-value user.

163. For example, noncommercial photocopying is probably permissible under fair use. *See* Yen, *supra* note 129, at 677–78. On the other hand, circumventing a read-only version of an e-Book to make personal copies would likely be a violation of the DMCA. *See generally* United States v. Elcom Ltd., 203 F. Supp. 2d 1111 (N.D. Cal. 2002) (holding that a software provider of technology that circumvented Adobe's use restrictions on Adobe Acrobat PDF files and files formatted for the Adobe e-Book Reader was liable under the DMCA).

164. *See supra* note 88 and accompanying text.

165. *See* WHITE PAPER, *supra* note 143.

166. Napster Symposium, *supra* note 144, at 359–60.

167. *See* Bell, *supra* note 4, at 572.

168. *See id*. at 573.

169. WHITE PAPER, *supra* note 143, at 231.

170. Keep in mind that many "fair uses" are actually an infringement on the copyright holder's rights. *See supra* note 125 and accompanying text. The law allows for these uses because of narrowly tailored policy concerns, including market failures.

ice in the digital domain. These unauthorized uses are tenuous because DRM provided, for the first time, the opportunity to compensate authors for those traditionally free fair uses while not burdening consumers.

In fact, fair use generally is not a defense to the DMCA anticircumvention provisions.[171] The statute does lay out specific exemptions to circumvention liability,[172] but the justification for those allowed uses lies beyond a market-failure analysis.[173] DMCA § 1201(c)(1) also states that the DMCA does not affect the fair-use defense;[174] however, this allowance has been narrowly interpreted.[175]

Thus far, courts that have addressed this fair-use defense allowance have held that while fair use as a defense is generally not eliminated by the DMCA, it is prevented from being used as a defense to the anticircumvention provisions under § 1201.[176] For example, the Second Circuit held that the DMCA does not prevent someone from recording a digital movie on a camcorder or copying the text of an electronic writing by hand.[177] The court noted that while these traditional fair-use copies may not be as good as those that circumvention yields, the law has never

171. *See* Besek, *supra* note 89, at 415–16.

172. *See* 17 U.S.C. § 1201(d)–(j) (2000).

173. *See infra* subpart V.B (discussing how some fair use justifications are outside the scope of market failure analysis and this Comment).

174. 17 U.S.C. § 1201(c)(1).

175. *See* Besek, *supra* note 89, at 415–16; *see also* David Nimmer, *How Much Solicitude for Fair Use is There in the Anti-Circumvention Provision of the Digital Millennium Copyright Act?*, *in* THE COMMODIFICATION OF INFORMATION 193, 214 (Niva Elkin-Koren & Neil Weinstock Netanel, eds. 2002).

176. *See, e.g.*, *Elcom*, 203 F. Supp. 2d at 1131 (stating that while fair use is not eliminated by the DMCA, it does not allow for circumvention); *see also* Universal Studios, *Corley*, 273 F.3d at 458–59; *see also* 321 Studios v. Metro-Goldwyn-Mayer Studios, Inc., 301 F. Supp. 2d 1085, 1102 (N.D. Cal. 2004). Note that the *Skylink* court (the same court as the *Corley* court) offered some strong language indicating the possibility for reading fair use into the DMCA. *See* Chamberlain Group, Inc. v. Skylink Tech., Inc., 381 F.3d 1178, 1202 (Fed. Cir. 2004) ("We conclude that §[1201] prohibits only forms of access that bear a reasonable relationship to the protections that the Copyright Act otherwise affords copyright owners."). The court, however, clearly stated that it was not creating a fair use defense to the DMCA anticircumvention provisions. *Id*. at 1200 n.14. ("We leave open the question as to when [fair use] might serve as an affirmative defense to a prima facie violation of [the DMCA].").

177. *See Corley*, 273 F.3d at 459.

guaranteed the finest quality copy, just an adequate one.[178] The courts have taken into account the purposes of the DMCA, such as those outlined in the White Paper, in holding that market-failure fair uses, while not dead, will not be transported into the digital domain.

As carefully noted in this Comment, DRM and the DMCA weaken *some* fair-use defenses. Fair use is an amorphous term as used in the copyright literature. This Comment uses the term to encompass only those fair-use rights that have been directly associated with market failures resulting from inefficient transaction costs.[179]

This theory does not include those fair-use rights that have broader policy foundations, such as parody and criticism rights,[180] and the exemptions included in the DMCA.[181] These rights clearly have moral or social implications that extend beyond the more tangible economic justification of certain market-failure fair uses.[182] The Author leaves open the issue of whether all fair use rights not related to market failures have been accounted for by the DMCA. In the event that the DMCA does not adequately account for a right, that right should be narrowly exempted, rather than allowing for a general fair-use defense.[183]

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178. *Id*.

179. For example, most of the personal uses that copyright allows for have been associated with the market-failure theory. *See, e.g.*, Gordon, *Fair Use as Market Failure*, *supra* note 123, at 1628, 1655 (associating the market-failure theory with the right to make personal photocopies and home uses of audio tape recorders); David H. Kramer, Note, *Who Can Use Yesterday's News?: Video Monitoring and the Fair Use Doctrine*, 81 GEO. L.J. 2345, 2358–60 (1993) (noting that the time-shifting allowed for in *Sony* was justified because of market failure); Copyright Policy Toward Shared Works, *supra* note 107, at 907 n.18 (including space-shifting in his discussion of market failures).

180. Note that parody and criticism rights are often seen as another type of market failure in that the copyright holder is often unwilling to negotiate for these rights because they don't want their works to be compromised. Robert Merges, *Are You Making Fun of Me?: Notes on Market Failure and the Parody Defense in Copyright*, 21 AIPLA Q.J. 305, 307 (1993). This type of market failure is not addressed by this Comment.

181. *See* 17 U.S.C. § 1201(d)–(j) (2000).

182. For instance, it would be difficult to argue that the DMCA exemptions for library uses are closely tied to market failures resulting from high transaction costs.

183. *See infra* subpart V.A–B (discussing price discrimination as the presumption rather than fair use).

V. THE DMCA'S PRESUMPTION OF PRICE DISCRIMINATION AS A TEMPLATE FOR INTERNATIONAL COPYRIGHT LAW

The DMCA acts as a workable template of how copyright law, specifically with respect to rights management, will be ushered into the Digital Age. While the DMCA is not without its faults,[184] it succeeds by generally presuming that DRM will balance the need for various use options to reach both low-value and high-value consumers while fully compensating copyright owners.[185] In this respect, the DMCA accomplishes the aim of copyright law by providing incentives for authors to create,[186] while allowing for future creation by maintaining a "creative commons."[187] The DMCA can be tempered when experience proves necessary; however, the presumption it creates provides a real chance for copyright law to progress into the Digital Age.

The nature of the digital environment, though, does not allow domestic copyright holders to rest easy with the protections of the DMCA. A copyright holder who makes his or her creative works available on the Internet must worry about protection on a global scale because the Internet marketplace respects no political boundaries. Numerous countries recognized the global nature of digital copyright in adopting the WCT anticircumvention provisions during the 1996 WIPO convention.[188]

Unfortunately, the imminent threat of digital piracy at the time of the convention distracted the assembly from further realizing the significance of protecting digital business models.[189] This is evidenced by the fact that many of the signatory countries' anticircumvention provisions fall short of the protection needed to enforce price discrimination.[190] Without

184. *See infra* subpart V.B (discussing concerns with DMCA).

185. As evidenced by the fact it protects DRM-enabled price discrimination while generally not allowing for fair use as a defense to circumvention. *See supra* subpart IV.D.

186. Patry, *supra* note 41, at 14 (describing the balance of copyright).

187. *See supra* note 131 and accompanying text.

188. *See* Treaties Database, Contracting Parties, http://www.wipo.int/treaties/en/index.jsp (last visited Oct. 8, 2005).

189. Samuelson, *supra* note 12, at 527–34 (noting the minimalist approach that WIPO took in adopting the anticircumvention provision).

190. *See infra* subpart V.A.

international protection, digital business models face the uncertainty of being compromised depending on each country's anticircumvention law. Therefore, unified requirements for protecting digital business models need to be enacted on a global scale. The DMCA provides a tentative framework for such requirements.

A. International Inconsistency in Protecting Business Models

1. Australian Digital Agenda

Australia's implementation of its WCT obligations, the Digital Agenda Act,[191] only prohibits the trafficking of circumvention devices.[192] There are no direct prohibitions on the act of circumvention. The danger to digital business models from such a structure is manifest. Any individual who has the capability to do so may circumvent a technological protection for any purpose, including to disable a digital business model. For example, our hacker who circumvented the counter on the pay-per-use system, allowing for unlimited access, would probably escape liability in Australia. The result is that the DRM-enforced price discrimination becomes vulnerable to arbitrage.[193]

As discussed earlier, arbitraged price discrimination leads to a monopolistic pricing scheme that results in low-value users being pushed out of the marketplace.[194] When low-value users are restricted from the marketplace, fair uses must be provided to maintain the creative flow towards those users.[195] Again, why not simply enforce price discrimination and allow those low-value users to enter the marketplace?

Of course, this analysis assumes that enough users capable of circumventing the controls exist to affect the price-discrimination scheme. Even if price discrimination is not

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191. Copyright Amendment (Digital Agenda) Act 2000, c.3 (Austl.) (amending Copyright Act (1968)), http://scaletext.law.gov.au/html/comact/10/6223/top.htm. [hereinafter Digital Agenda Act].

192. *Id*. § 116A(1).

193. *See supra* subpart IV.C (discussing how circumvention leads to arbitrage).

194. *Id*.

195. *See generally* Gordon, *Fair Use as Market Failure*, *supra* note 123, at 1656–57.

substantially affected, another question must be asked. Why should some individuals be permitted to gain unauthorized access[196] to content simply because they have the ability to do so, while others are limited to accessing only what they paid for? The problems with such a system are numerous,[197] but it is clear that the Digital Agenda Act, as created, does not adequately promote price discrimination.

2. European Union Copyright Directive

The European Union (EU) implemented some general mandates for its member countries regarding anticircumvention of DRM in its 2001 Copyright Directive (Directive).[198] The Directive generally maps the DMCA in its provisions—prohibiting the circumvention of technological devices and the trafficking tools used to circumvent such devices.[199] The Directive's disconnect from the DMCA exists in its fair-use-by-mandate provision.[200]

Essentially, this provision requires copyright holders to provide the means necessary for users to avail themselves of certain traditional limitations to European copyright law.[201] If the copyright holder fails to do so, the respective country must provide such means.[202] Some of the limitations to copyrights in

196. Clearly the access is unauthorized when the copyright holder puts a restriction on the content to prevent against that access (i.e., a pay-per-use function).

197. Another problem with the Digital Agenda Act is the regulated circumvention devices provision which allows for circumvention devices to be used by certain "qualified person[s]" if they are properly registered. Digital Agenda Act, *supra* note 191, § 116A(3). This clearing-house approach, while provocative, would be difficult to administer in the United States and would clearly leave business models vulnerable to those seeking to take advantage of the law.

198. *See* Council Directive 2001/29, 2001 O.J. (L 167) 10-19 (EC).

199. *See* Besek, *supra* note 89, at 393, 426–27. Note, that this provision is actually broader in some respects than the DMCA because it does not limit circumvention to access controls. *See* Aashit Shah, *UK's Implementation of the Anti-Circumvention Provisions of the EU Copyright Directive: An Analysis*, 2004 DUKE L. & TECH. REV. 3, ¶5–6 (2004), http://www.law.duke.edu/journals/dltr/artilces/2004dltr0003.html. The effect these broader provisions have on price discrimination should be observed to see if they are worthwhile.

200. *See* Besek, *supra* note 89, at 492.

201. *See id*.

202. *Id*.

EU countries are similar to traditional U.S. market-failure-related fair uses, including the right to make personal copies.[203]

Presumably, in a country employing the EU fair-use-by-mandate provision with respect to personal copies, a copyright holder would not be allowed to offer a strictly copy-protected CD.[204] In such a system, the right holder would be forced into offering only one option, thus defeating price discrimination between a low-value copy-protected CD and a higher-value copy-enabled CD.

The result is less options for consumers, less low-value users being reached legitimately, and less compensation for right holders.[205] A system that not only encourages but also mandates market-failure fair uses when there is the possibility for eliminating those market failures without those mandates,[206] is clearly flawed. Notably, the EU fair-use-by-mandate provision does not apply to pay-per-use-type technologies,[207] but it does affect certain technologies that stand to benefit from the price-discrimination design.[208]

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203. *Id*. Many of the EU member states have a fair-use exception for private uses. *See*, *e.g.*, 2 ITA Int'l Copyright Law and Practice (MB) § 8 (2004) (discussing Italy's fair–use/private-use exception); 2 POL Int'l Copyright Law and Practice (MB) § 8 (2004) (discussing Poland's fair-use/private-use exception). An exemption to the anticircumvention provisions for this type of fair use is *permissible*—not required—under the Directive. Besek, *supra* note 89, at 492. Member states have chosen to employ this exemption, *see generally*, *e.g.*, Wencke Basler, *Technological Protection Measures in the United States, the European Union and Germany: How Much Fair Use do We Need in the "Digital World"?*, 8 VA. J.L. & TECH. 3 (2003) (discussing Germany and its private use exemption). Thus, the arguments below still apply.

204. If the copyright holder does not facilitate personal copying, then the respective countries must provide means by which users can copy. Besek, *supra* note 89, at 492. For instance, Germany provides a cause of action to users when they are prevented from making personal copies. Basler, *supra* note 203, at ¶ 48.

205. *See supra* subpart IV.A.1 (discussing how price discrimination reaches more consumers, and sellers more fully maximize profits than in a monopolistic pricing system).

206. *See supra* subpart IV.B.2 (discussing how price discrimination eliminates market failures).

207. Besek, *supra* note 89, at 428.

208. *See*, *e.g.*, Basler, *supra* note 203, ¶56 (discussing permissible exemptions of photocopying and copying for private use).

3. Japan Anti-Circumvention Law

Japan also amended its copyright law to satisfy the WCT requirements.[209] Japan's provision on prohibition of anticircumvention devices is substantially similar to the DMCA.[210] With respect to direct circumvention, however, Japanese law only prohibits commercial circumvention.[211]

The prohibition on circumvention devices will considerably limit the circumvention of price-discriminating DRM because it is likely that most individuals do not have the capacity to circumvent without the help of a device. Additionally, the ban on commercial circumvention will further protect price-discriminating DRM on a macro level. When considering the opportunities that price-discriminating DRM presents, however, the question arises as to why consumers are also not prevented from disabling those price-discriminating mechanisms. The DMCA provides a more realistic framework to protect price-discriminating DRM both on a private and commercial level.[212]

B. Tentative Proposal for an International DMCA-type Framework

The inconsistency with which the WCT signatory countries address the issue of DRM protection for digitally-enabled price discrimination leaves copyright holders with little assurance that their business models will be effective in a global digital market. Price discrimination's potential to reach more users at lower values, while providing the copyright holder with more compensation for those uses,[213] makes it clear that a cohesive international system needs to be enacted to affect that potential. After the need for such a system is realized, the issue becomes what model will be used to implement such a system.

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209. Masanobu Katoh, *Intellectual Property and the Internet: A Japanese Perspective*, 2002 U. ILL. J.L. TECH. & POL'Y 333, 338 (2002).

210. *See* Besek, *supra* note 89, at 435.

211. *Id*.

212. *See* 17 U.S.C. § 1201(a)(1) (2000) (prohibition not limited to "commercial" circumvention).

213. *See supra* subpart IV.A.1 (describing the potential of price discrimination).

The DMCA's beauty lies in the presumption it creates. It presumes that by providing copyright holders relative *carte blanche* to facilitate varied use and price options for consumers, more consumers will be able to access creative works, and copyright holders will be more appropriately compensated than in a fair-use-for-one-and-all system.[214] The digital domain creates the potential for those varied use and price options, and the DMCA makes it a reality. In contrast, other countries' anticircumvention provisions rely on analog constructs of copyright law, such as market-failure fair use, and thus fall short of recognizing price discrimination's ability to move copyright law forward.

In order to thrust copyright law into the Digital Age, an international agreement is due, in accordance with the DMCA presumption of price discrimination. The proposal here is relatively simple: enable price discrimination and diminish the role of market-failure-related fair uses on an international level. This general proposition has numerous implications.

Specifically, any international agreement should include both a provision protecting against the direct circumvention of a technological protection[215] and a provision protecting against the trafficking of devices enabling circumvention of any technological protection of a copyrighted work.[216] The agreement should further eliminate those fair uses that can be directly tied to analog market failures,[217] but that have been made economically feasible in the digital domain. The agreement should also account for those fair uses having a more readily

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214. This means that fair use is generally allowed rather than being provided for in specific instances. In other words, fair use, instead of price discrimination, is the presumption.

215. Such a provision should be included, regardless of whether that circumvention is for commercial or noncommercial purposes.

216. This Comment only suggests prohibiting circumvention and devices enabling circumvention for technological protection on *copyrightable* works. The value of prohibiting technological protections on noncopyrightable works is not addressed by this Comment.

217. These are fair uses that are economically inefficient in the analog context because of high transaction costs. For a discussion on fair uses that are not directly tied to market failures, *see infra* subpart IV.D.

apparent moral or social-welfare foundation.[218] In addition, there are some legitimate concerns that must be addressed before moving forward.

These concerns include, but are not limited to, the privatization of public-domain works;[219] merged controls that combine access-control and rights-control features to gain a windfall from the anticircumvention provisions;[220] and the extension of DMCA protection to noncopyrightable content.[221] Rather than throwing the baby out with the bathwater by allowing a general fair-use defense to circumvention, these concerns should be addressed on an *ad hoc* basis, allowing for exceptions when experience proves necessary. The presumption that price discrimination reaches more users while providing more compensation to right holders should be given its fair chance in the Digital Age. The presumption of free fair use is no longer needed.

Some have carped that digital protections and the laws that bolster those protections create a copyright system that will "primarily serve private interests."[222] These commentators use emotionally loaded rhetoric in describing a "digital lock-up"[223] or a copyright "dystopia,"[224] in claiming that "information wants to be free,"[225] and by declaring "[c]opyright is dead."[226] The overriding theme in these criticisms is that the DMCA gives too much power to copyright holders to determine when and how

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218. *Id*.

219. *See* Therien, *supra* note 14, at 994–95; Jason Cohen, *Endangering Research: The Proliferation of E-Books and Their Potential Threat to the Fair Use Clause*, 9 J. INT. PROP. L., 163, 174–78 (2001).

220. *See* Reese, *supra* note 70, at 647.

221. *See* Daniel C. Higgs, Note, *Lexmark International, Inc. v. Static Control Components, Inc. & Chamberlain Group, Inc. v. Skylink Technologies, Inc.: The DMCA and Durable Goods Aftermarkets*, 19 BERKELEY TECH. L.J. 59, 77 (2004).

222. Lunney, *supra* note 155 at 814–15.

223. *See* Netanel, *supra* note 15, at 77.

224. *See* Margaret Jane Radin, *Regulation of Computing and Information Technology: Property Evolving in Cyberspace*, 15 J.L. & COM. 509, 513–14 (1996).

225. *See* David Stipp, *The Electric Kool-Aid Management Consultant*, FORTUNE, Oct. 16, 1995, at 166 (characterizing this phrase as the "cyberhacker rallying cry").

226. Lunney, *supra* note 155, at 814.

consumers interact with creative works.[227]

The problem is that these commentators fail to acknowledge consumers' bargaining power in determining the level of restriction on the content of creative works. Copyright markets are not generally monopolistic.[228] While there may be no perfect substitute for a creative work, there are usually several adequate alternatives.[229] In a marketplace with competitive alternatives, consumers have the power to determine the level of restriction on content.[230] In fact, the marketplace has reflected consumer demand since the passage of the DMCA. Technologies have surfaced that did not meet consumer demands and have failed as a result.[231] Other technologies have fulfilled consumer demand and have flourished in the marketplace.[232]

There is one assumption underlying this analysis that is currently not adequately addressed by the law. That assumption is that consumers must be adequately informed as to when their content is being restricted and to what extent. It is a truism that

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227. *See*, *e.g., id*. at 919 ("Although constitutionally constrained to serve the public interest, Congress has nevertheless embraced a strong encryption-based approach to preventing private copying and has thereby turned its responsibility for defining the proper scope of protection for creative works over to the copyright industries.").

228. Some dated theories contend that copyright, as a nonrivalrous good, is by its nature a monopolistic good. *See, e.g.*, Jeffrey L. Harrison, *Rationalizing the Allocative/Distributive Relationship in Copyright*, 32 HOFSTRA L. REV. 853, 854 n.10 (2004). These theories do not adhere to modern thought which has shown that creative works exist in a monopolistically competitive market in which there are imperfect yet adequate alternatives to a creative work. *See id*. at 854–55. Economists have shown that price discrimination does not require an absolute monopoly, but can exist under monopolistic competition. Meurer, *supra* note 93, at 61.

229. *See* Harrison, *supra* note 228, at 854. For example, if the band *Oasis* is selling its latest album for $20, a reasonable consumer might purchase the newest *Blur* album for $15.

230. As Tom Bell put it, "Absent proof of a very narrow category of circumstances, such as duress or misrepresentation, we can assume that contracts under fared use reflect the interests of those who choose to enter into them." Bell, *supra* note 4, at 591.

231. *See, e.g.*, Dean, *surpa* note 136 (discussing how this technology has not been embraced by the market). *See also* Reuters, *Sony's User-Friendly Copy-Block*, WIRED NEWS, Nov. 10, 2003, http://www.wired.com/news/digiwood/0,1412,61161,00.html (discussing the consumer backlash from the 1st generation copy-protected CD's).

232. *See generally* Melinda Newman & Brian Garrity, *Apple's Service Tests Music Biz*, BILLBOARD, May 10, 2003, at 80 (discussing the recent success of the Apple iTunes digital music service).

the marketplace will only reflect consumer demand when the consumers are adequately informed. The fact is that U.S. (or international) law does not currently ensure that consumers will be informed about the extent to which digital works are rights-managed.[233]

VI. NOTICE FOR RESTRICTED CONTENT

The nature of some DRM technologies is such that consumers are often unaware that the content they purchase is restricted. An anecdote often referenced in the literature regarding the dangers of these latent restrictions involves copy-protected CDs.[234] Apparently, consumers, unaware of the restrictions on the content, attempted to use the CDs on their computers only to have the restricted content cause their computers to crash.[235] While this type of malfunction is rare, it does signal a need for consumer notice of restriction on the content they purchase.

A more serious threat involves the DRM system known as Trusted Computing.[236] Trusted Computing is an initiative led by Microsoft, with Intel and other major technology companies in tow, which combines software and hardware systems in computers to create a secure environment.[237] The controversy surrounding this technology involves *what* exactly is being secured.

Microsoft, which will introduce aspects of the system in its upcoming version of Windows,[238] states that the purpose of the

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233. The DMCRA, discussed earlier in the context of fair use, proposes that all copy-protected CDs provide labels notifying consumers of the copy-protection. H.R. 107, 108th Cong. § 24(A) (2003). Such a proposal is far too limited in its scope. Additionally, the DMCRA is unlikely to move forward because of its Fair Use Restoration provision discussed earlier. *Id*.

234. *See, e.g.*, Lackman, *supra* note 60, at 1192–93.

235. *See id*.

236. For a thorough discussion of the technology of Trusted Computing, *see* Chad Woodford, Note, *Trusted Computing or Big Brother? Putting the Rights Back in Digital Rights Management*, 75 U. COLO. L. REV. 253, 254–55 (2004).

237. *See id*. at 279–82.

238. Microsoft's next generation operating system has eliminated all but two of the Trusted Computing technologies. *See* John Clyman, *Microsoft Unleashes Longhorn*, PC MAGAZINE, Aug. 9, 2005, at 93 (Microsoft has dubbed the Trusted Computing platform

system is to secure its clients' computers from viruses, hackers, and other vulnerabilities.[239] Cynics of the system claim that Trusted Computing's real purpose is to secure only authorized copyrighted content to an individual's computer.[240] The problem, if the cynics are correct, is that consumers are unlikely to be aware that they are purchasing products that limit their access to content, especially considering the surreptitious nature of those restrictions.[241]

Information is essential in a free-market system. Information allows consumers to choose content that accurately reflects their value. Content that does not reflect consumer value will be pushed out of the marketplace.[242] Without such information, however, the market will be ill-informed as to the extent that consumers truly value a creative work.

If technology, such as Trusted Computing, restricts content without consumers' knowledge, then consumers may be burdened with unforeseen transaction costs that could cause the ultimate cost of the work to exceed the value they have for the work.[243] Thus, actual consumer value would not match the value of the work, and effective price discrimination is not achieved.[244] Therefore, in order to ensure that DRM-protected works

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"Longhorn"). The initial release will still contain the automatic volume encryption technology as well as secure startup technology. *See id*. Secure startup is a feature that protects computers during their boot process. *See id*.

239. *See* Bill Gates, *Trustworthy Computing*, MICROSOFT, July 18, 2002, http://www.microsoft.com/mscorp/execmail/2002/07-18twc.asp.

240. *See* Woodford, *supra* note 236, at 253–57.

241. *See* RICHARD M. STALLMAN, FREE SOFTWARE, FREE SOCIETY: SELECTED ESSAYS OF RICHARD M. STALLMAN 115–17 (Joshua Gay ed., Gnu Press 2002) (offering hidden agendas for the Trusted Computing platform).

242. *See, e.g.*, Dean, *supra* note 136 (discussing how Disney's EZ-D technology was not embraced by the market).

243. Examples of unforeseen transaction costs include restricted access and technology malfunctions (that is, a computer crash). *See* John Schwartz, *Honest, a Balky PC Is Not a Pop Star's Fault*, N.Y. TIMES, May 20, 2002, at C3.

244. *See* Meurer, *supra* note 93, at 67–68 (describing that the extent of effectiveness of price discrimination depends on the specificity with which consumer value can be matched with product value). Optimal price discrimination is achieved when no buyer is made worse off and more buyers are reached and made better off than without price discrimination. *See id*. at 91. When buyers are burdened with high unforeseen transaction costs that outweigh their value of the work, such as those Trusted Computing arguably creates, clearly they are not made better off.

accurately respond to consumer value, legislation needs to be implemented that requires distributors of those works or any technology restricting creative works[245] to provide notice as to the terms of restriction on copyrighted content.

A modest example of such legislation is the requirement in Australia that all copy-protected CDs be clearly labeled designating their copy-preventing nature.[246] A similar proposal has been introduced in the United States but has failed to progress past committees because it has been jumbled with impractical proposals.[247] A notice provision for restrictions on copyrighted content should be given immediate attention.

The Author realizes that contract law is directly implicated concerning these notice requirements[248] and defers to scholars with more knowledge on the subject to flesh out the details of such a notice requirement. The key issue is that because of the complex and latent nature of these advancing DRM technologies, many consumers may purchase products uninformed about the *direct effect those products have on restricting copyrighted content*. Consumers need to be made explicitly aware of the effect that technology, such as Trusted Computing, has on copyrighted content so that the DRM market will accurately reflect consumer value. Again, because of the

245. Note that technology, such as Trusted Computing, is not directly attached to the works it restricts when it is acquired. For instance, Trusted Computing would be integrated into an operating system, which does not necessarily involve creative works. *See* Joris Evers, *Microsoft to Offer a Peek at Palladium* (Mar. 26, 2003), PC World at http://www.pcworld.com/news/article/0,aid,109997,00.asp (last visited Jan. 24, 2006). Only when creative works have been acquired and the operating system interacts with the creative works does restriction take place. *See* Woodford, *supra* note 236, at 282–84. The effect is still the same—creative works restricted by technology. Therefore, consumers need to be aware of the possible copyright restrictions resulting from any technology.

246. Grace J. Bergen, *The Napster Case: The Whole World is Listening*, 15 TRANSNAT'L LAW. 259, 274 (2002).

247. H.R. 107, 108th Cong. § 24(A) (2003). The impractical proposals referred to are those attempting to integrate fair use into the DMCA. *See supra* note 153.

248. The Author, however, does not believe that shrink-wrap agreements, such as those that accompany software, provide sufficient notice to the consumer concerning the effect of the technology on copyrighted content, especially considering the complex nature of these technologies.

global nature of digital technology, such legislation should be presented on an international level.

VII. CONCLUSION

The truth is that copyright *is* dead.[249] The traditional business models and fair-use arguments that exist in the analog copyright world will give way to the digital revolution ushered in by DRM. The new business models facilitated by the digital context, such as price discrimination, will provide consumers with increasingly varied access and use options, while fully compensating copyright owners for those uses. Before copyright holders forge headlong into the Digital Age, however, they must be assured that their works will be protected from the vulnerabilities of the burgeoning digital frontier.

The digital frontier knows no political boundaries; therefore, any copyright law seeking to bolster digital works must be addressed internationally. The WCT is effective in addressing one of the vulnerabilities of digital works by protecting those works from digital piracy. Unfortunately, the WCT's minimalist approach to DRM leaves digital works susceptible to another threat—preventing those works from capturing the advantages of digital price discrimination.

Traditional copyright law models, including fair uses tied to market failures, should not survive in the Digital Age when the possibility exists for eradicating the shortcomings that led to those models. DRM-enabled price discrimination provides a real opportunity to affect that possibility. The DMCA recognizes DRM's potential to move copyright forward in creating the presumption that price discrimination, not fair use, will more fully achieve the delicate balance of copyright law. The DMCA's presumption should be implemented internationally so that domestic copyright holders can rest assured that, when they enter the digital marketplace, the prospect that their digital

250. *See* Lunney, *supra* note 155, at 814.

business models create will not be circumvented by analog notions of copyright law.

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