

OVERREACHING TECHNOLOGICAL MEANS FOR PROTECTION OF COPYRIGHT: IDENTIFYING THE LIMITS OF COPYRIGHT IN WORKS IN DIGITAL FORM IN THE UNITED STATES AND THE UNITED KINGDOM¹

This Note examines the purpose of copyright law, the application and scope of copyright legislation in the United Kingdom and the United States, and the nature and function of Digital Rights Management Systems (DRMS).² The analysis suggests that DRMS have the potential to upset the balance of interests that copyright law seeks to preserve. It concludes that: (1) providing a legal cause of action against those who circumvent DRMS is justifiable only insofar as DRMS preserve rights afforded to the copyright owner by law; and (2) that the laws proscribing circumvention

1. Much of the intellectual property law of the United Kingdom has its origins in European Union law. This Note focuses on the copyright law of the United Kingdom, rather than European Union law more generally, because copyright law in the European Union is the area of intellectual property law which is, at present, the least harmonized. ANDREW GOWERS, H.M. TREASURY, THE GOWERS REVIEW OF INTELLECTUAL PROPERTY 18 (2006), *available at* http://www.hm-treasury.gov.uk/media/6/E/pbr06_gowers_report_755.pdf (noting the disharmony except for important features of copyright law such as the term of copyright protection and the maximum scope of exceptions to copyright protection). Additionally, it is useful, in the context of a European framework constructed through directives that permit flexibility in implementation, to select a single jurisdiction and focus upon that jurisdiction's experiences. Imposition of legal norms by the European Union through the mechanism of this directive system permits a degree of variation in the implementation of a directive. Moreover, the United Kingdom has a long history of copyright protection and European influence has already been injected into an existing and sophisticated framework of law which justifies this Note's focus on U.K. copyright law.

2. DRMS refers to the technological methods used by copyright owners to control access to, and the use of, copyrighted works in digital format. They are essentially methods of protecting copyrighted materials, designed by the copyright owner to prevent unauthorized duplication of the work.

DRMS are means used to identify and control usage of digitally stored material:

From a functional perspective, DRM means many things to many people. For some it is simply about the technical process of securing content in a digital form. To others, it is the entire technical process of supporting the exchange of rights and content on networks like the Internet. For convenience, DRM is often separated into two functional areas. [1] The identification and description of intellectual property, rights pertaining to works and to parties involved in their creation or administration (digital rights management); [and] [2] [t]he (technical) enforcement of usage restrictions (digital management of rights).

DRM may therefore refer to the technologies and/or processes that are applied to digital content to describe and identify it and/or to define, apply and enforce usage rules in a secure manner.

JEFFREY P. CUNARD ET AL., WORLD INTELLECTUAL PROPERTY ORGANIZATION, STANDING COMMITTEE ON COPYRIGHT AND RELATED RIGHTS, CURRENT DEVELOPMENTS IN THE FIELD OF DIGITAL RIGHTS MANAGEMENT 4 (2003), *available at* http://www.wipo.int/documents/en/meetings/2003/sccr/pdf/sccr_10_2.pdf.

of DRMS should not extend protection to those systems that seek to restrict lawful use of copyrighted works.

THE PURPOSE OF COPYRIGHT

Copyright law encourages authors³ to create and share so that society may benefit from their works. Such protection provides incentives to create things that fall within the class of copyrighted works.⁴ This goal is achieved by granting an author a limited monopoly over the use of her works of authorship. The most fundamental example of such a monopoly is an author's exclusive right to duplicate her copyrighted works.

Historically, enforcement of a copyright owner's interests occurred in the courts as a reaction to the unauthorized acts of third parties which encroached upon the interests of the copyright owner. Thus, the enforcement of rights against a determined infringer entailed all the disadvantages of litigation. Technological advances, however, now provide copyright owners with alternative means that help ensure that their rights are not infringed. Consequently, it is becoming more commonplace for copyright owners to prevent infringement by making acts that would constitute copyright infringement impossible, or at least less feasible, through the use of certain technological barriers.

Copyright owners will presumably be able to effectively manage their rights by linking the means of copyright protection to the work of authorship itself⁵ so that unauthorized uses may either be prevented or

3. In this Note "authors" is used as a generic description for the creators of copyrighted works.

4. Copyright law should balance the interest of authors to control and exploit their creations with the interest of consumers to make legal use of copyrighted works and to freely access rich public domains. JESSICA LITMAN, *DIGITAL COPYRIGHT* 15 (2001).

While the absence of adequate financial incentives may dissuade a potential artist from entering the creative process, any restrictions on the access to inspirational material may have an equally pernicious effect. Arguably, copyright, as a form of intellectual property, should be exploitable in any manner that the owner desires. Likewise, the principles that underpin copyright law should not be construed in such a manner as to impose any limitation upon the copyright owner's conduct. Indeed, if a consumer is willing to purchase a copyrighted work that cannot be resold, lent, copied in whole or in part under any circumstances, and viewed and/or listened to once, then the law would be overstepping its legitimate bounds when it interferes with such a transaction. Such a perspective is not adopted in this Note and the focus on the goals and policy of copyright is intended to emphasize the importance of maintaining a fair balance between the rights of the copyright owner and the freedom of those who wish to enjoy copyrighted works.

5. No encryption-based copyright protection system can be absolutely secure as these systems are vulnerable to being hacked. *See* Clare Sellars, *Digital Rights Management Systems: Recent European Issues*, 14 ENT. L. REV. 5 (2003). As these systems become more sophisticated, an increasingly small number of persons will have the skill necessary to circumvent DRMS themselves. *See id.* at 6. While DRMS may be circumvented and the copyrighted work then distributed free of restrictions, this would be an infringement of copyright law beyond any of the defenses provided for

more easily detected. While these alternative means are usually circumventable,⁶ and occasionally idiotic,⁷ as DRMS become more sophisticated, more people using copyrighted works will be bound by the restrictions that DRMS impose.

Yet, it is clear that the underlying policy behind the act of copyrighting unique works is not solely to provide a pure reward for the creator; it also endeavors to improve society as a whole.⁸ As digital media proliferates,

under either the United States doctrine of fair use or the United Kingdom's doctrine of fair dealing. Gideon Parchomovsky & Kevin A. Goldman, *Fair Use Harbors*, 93 VA. L. REV. 1483, 1483 (2007) (“[T]he [fair use] doctrine provides no defense for those seeking to make fair uses of material protected by anticircumvention measures.”); BRITISH LIBRARY, *INTELLECTUAL PROPERTY: A BALANCE 2* (2006), <http://www.bl.uk/news/pdf/ipmanifesto.pdf> (“DRMs are given close to total legal protection within the UK, with no practical processes allowing for legal circumvention . . .”). Thus, the average consumer would be required to either tolerate any restrictions imposed or violate the law.

6. Nick Hanbidge, *Protecting Rights Holders' Interests in the Information Society: Anti-Circumvention; Threats Post Napster; and DRM*, 12 ENT. L. REV. 223, 225 (2001) (“[I]t seems unlikely that any DRM developer will be able to market a system that is 100 percent hacker-proof . . .”). In the realm of digital music, Apple uses the AAC file format and a DRMS called FairPlay to prevent the illegal use of music files downloaded from the iTunes store. Steve Jobs, *Thoughts on Music* (Feb. 6, 2007), <http://www.apple.com/hotnews/thoughtsonmusic>. However, there are web sites offering means of circumventing Apple's DRMS. For example, the Hymn Project web site provides free software designed to strip the DRMS from Apple's AAC files while preserving sound quality. Hymn Project asserts that its purpose “is to allow you to exercise your fair-use rights under copyright law.” Hymn Project, <http://hymn-project.org> (last visited Nov. 17, 2007). Alternatively, if a user is willing to accept a slight loss of quality, the restrictions of Apple's DRMS can be avoided by simply burning the AAC files to audio CD and then converting the songs on that CD into MP3 or an equivalent file format.

Prior to the launch of Amazon.com's DRM-free music download services, music downloads sites that eschewed DRMS were few and far between and not supported by large record labels. Several Russian MP3 download sites sold DRMS-free music from major record labels at a fraction of the price for which the music is available from similar United States and United Kingdom-based services. One such web site claimed to operate legally by virtue of its licensure with Russian music licensing authorities. Keith Bottomly, *ALLOFMP3.com-The Legality of Russia's Online Black Market*, 18 ENT. L. REV. 212, 213 (2007). However, where these Russian download sites have not been taken down entirely, access to them from foreign jurisdictions has been limited. One of the earliest indirect attacks on ALLOfMP3 was the blocking of payments to ALLOfMP3 and affiliated secure payment services by major credit card companies. *Credit Card Firms Shun MP3 Site*, BBC, Oct. 19, 2006, <http://news.bbc.co.uk/2/hi/business/6065492.stm>.

7. In 2005, Sony BMG released approximately 50 music titles containing a copy protection system called MediaMax. A MediaMax CD, when inserted into a personal computer, automatically and without user permission installed software that created a security vulnerability that could have been exploited by malicious hackers. *Anti-Piracy CD Problems Vex Sony*, BBC, Dec. 8, 2005, <http://news.bbc.co.uk/2/hi/technology/4511042.stm>. It was later learned that virus writers were able to use the MediaMax software to hide viruses from anti-virus software. *Viruses Use Sony Anti-Piracy CDs*, BBC, Nov. 11, 2005, <http://news.bbc.co.uk/2/hi/technology/4427606.stm>. The MediaMax experiment ultimately resulted in lawsuits against Sony. *Sony Sued Over Copy-Protected CDs*, BBC, Nov. 10, 2005, <http://news.bbc.co.uk/2/hi/technology/4424254.stm>.

8. “The predominant philosophical framework undergirding American copyright law . . . is utilitarian.” ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 325 (3d ed. 2003). Merges recognizes the limitations of copyright law: Certainly, copyright law has a reward component, which aims to incentivize authors to produce works of authorship. Nonetheless, the

the internet's reach expands, and the communication infrastructure becomes capable of handling larger amounts of data, the disparity between the interests of the creator and society will likely become more pronounced. While an author's active enforcement of her rights enhances the reward objective that underlies copyright law, the broader purpose of copyright law that aims to enrich society becomes unduly threatened when copyright owners implement technological copyright protection mechanisms, which provide broader protection than provided for under copyright law. Do we then need additional legislation to protect consumers from the potentially restrictive effect and overreaching purpose of these technologies, or should copyright owners be free to impose whatever restrictions they please upon the use of their intellectual property?

The shift in consumer preference away from less flexible storage media, such as compact discs (CDs) and digital versatile discs (DVDs), towards more flexible file formats has increased the ease with which copyrighted works may be reproduced and transmitted. Combined with ever-increasing access to the internet, this flexibility presents a real threat to copyright owners.⁹ In the worst case scenario—disregarding consumer morality and their understanding of copyright law—a copyrighted work would be paid for only once.¹⁰ Indeed, when the copyrighted work is released from the owner's control a single buyer could reproduce it immaculately,¹¹ as many times as desired, and transfer it to every other consumer for free.¹²

grant of a copyright is limited in scope for the benefit of those authors who would draw upon the works of those who came before them. *Id.* This Note does not consider the natural rights justification for copyright protection.

9.

The combination of powerful computers, content that can be ripped, very large storage media and file sharing has conspired to produce an extremely difficult situation for rights holders. All content is now vulnerable to illegal copying and distribution over the Internet, irrespective of media type. What began with the infringement of CD-Audio has now spread to films, books and any other type of content that can be digitized. The situation has become critical for many companies, as they see their revenue decline in the face of widespread, consumer piracy.

CUNARDE ET AL., *supra* note 2, at 9.

10. One of the features that distinguishes intellectual property from tangible forms of property is that it is non-rivalrous. Intellectual property may be enjoyed without impeding the use and enjoyment of the same intellectual property by others. In contrast, tangible property will generally be dominated or diminished in value when use is made of it. GOWERS, *supra* note 1, at 11. The fact that tangible property can be enjoyed by only a few avoids the difficult issues that arise in relation to intellectual property. *Id.* When a singular work can be enjoyed by many without any compromise of its integrity, legal mechanisms are required to ensure that individuals have sufficient incentive to create new and better works. "Ideas are expensive to produce but cheap to copy." *Id.* at 12.

11. Although digitization can permit lossless reproduction, it is often undesirable to have digital files of excessive size. Therefore, compression technologies are frequently used in an effort to

Understandably, this easily foreseeable scenario caused much anxiety within the music and film industries. In fact, this anxiety proved to be well-founded as illegal download and file-sharing systems rapidly emerged on the internet.¹³ Files containing copyrighted works became available through newsgroups,¹⁴ peer-to-peer networks,¹⁵ and bit-torrent clients.¹⁶

In response to this activity, the Record Industry Association of America (RIAA) began to vigorously campaign against this form of piracy, while regularly instituting legal proceedings challenging this file-sharing activity. These suits allege that illegal file-sharing results in massive financial losses to the music industry.¹⁷ Like the RIAA, the

minimize the space required to store digital material. However, when reproduction involves continued compression and decompression, a detectable loss of quality may result. The deterioration of quality that occurs when a copy is made from an original, and then subsequent copies are made from those copies, *ad infinitum*, is called "generation loss." Alliance for Telecommunications Industry Solutions, http://www.atis.org/tg2k/_generation_loss.html (last visited Nov. 19, 2007). Generally, this loss of quality is not perceptible to the human senses, but in instances where the loss of quality is perceptible, the file often maintains a quality which is satisfactory to the average user. *See id.*

12. "[T]he digitisation of information and the ability to store it electronically has made it far easier to copy, distribute and reverse engineer products." GOWERS, *supra* note 1, at 26.

13.

[T]he ability to copy and distribute information at virtually zero cost has also made it much easier to copy that information without permission from the copyright owner. 'Piracy' of protected material has always been a concern for rights holders. However, the unprecedented technological advances of the last decade or so mean that it has become an even more pressing threat. Downloading music and films from the Internet is now the most common legal offence committed by young people aged between 10 and 25 in the UK. Up to 80 per cent of music downloads are not paid for even though most consumers recognise it to be illegal. According to a report commissioned by the British Phonographic Industry (BPI), file-sharing cost the music industry £414 million in lost sales in 2005, on total retail sales of £1.87 billion. These losses have risen steeply from £278 million in 2003.

Id. at 27 (footnotes omitted).

14. *See* Hanbidge, *supra* note 6, at 224.

15. The first and most infamous file-sharing network, Napster, commenced operations in 1999. The company provided a service whereby users were able to download software enabling them to exchange music files with other users free of charge. This was an early peer-to-peer service, in which music files were indexed on Napster's servers, allowing users to be directed to the source file. Napster was seen as the pioneer of such peer-to-peer services.

CUNARD ET AL., *supra* note 2, at 8.

16. The Gowers Review notes that copyright law lacks "public legitimacy." GOWERS, *supra* note 1, at 39. Copyright law is generally viewed as too restrictive, leading some to believe that copyright infringement is not wrongful. *Id.*

17. University of South Florida, What the RIAA is Doing About Piracy, <http://security.usf.edu/copyright/copyrightmusic.php> (last visited Nov. 17, 2007).

It is estimated that such illegal product costs the music industry more than 300 million dollars a year domestically. The RIAA pursues a global policy comprised of education, enforcement, developing technologies, and when necessary, litigation.

The RIAA assists authorities in identifying music pirates and shutting down their operations. In piracy cases involving physical product, the RIAA works with federal, state,

British Phonographic Industry (BPI) has adopted a similar hard-line stance towards file-sharing. By the end of 2005, the BPI had instituted more than 150 law suits against internet users who were accused of illegally sharing music files.¹⁸

DRMS not only seek to preempt copyright infringement, but also prevent a consumer from using a work of authorship in a manner permitted by law. The ability of copyright owners to control digital copyrighted works to any extent may effectively negate the balancing of the interests that underlie copyright law. This state of affairs becomes especially dismal if we accept that the interests of society are paramount.¹⁹ However, it might be argued that this balance of interests, which tends to

and local law enforcement agencies and prosecutors' offices to coordinate seizures of pirated product. The RIAA-assisted raids have closed down hundreds of U.S. and overseas manufacturing and distributing operations, and significantly reduced illegal CD and cassette vending around the country.

In cyberspace, the RIAA's team of Internet Specialists, with the assistance of a 24-hour automated webcrawler, helps to stop Internet sites that make illegal recordings available.

Based on the Digital Millennium Copyright Act's (DMCA) expedited subpoena provision, the RIAA sends out information subpoenas as part of an effort to track and shut down repeat offenders and to deter to those hiding behind the perceived anonymity of the Internet. Information subpoenas require the Internet Service Provider (ISP) providing access to or hosting a particular site to provide contact information for the site operator. Once the site operator is identified, the RIAA will take steps to prevent repeat infringement. Such steps range from a warning e-mail to litigation against the site operator. The RIAA then uses that information to send notice to the site operator that the site must be removed. Finally, the RIAA requires the individual to pay an amount designated to help defray the costs of the subpoena process.

Every year, by assisting in criminal trials and initiating civil litigation, RIAA wins hundreds of guilty pleas from, or convictions of, music pirates, plus scores of settlements and judgments.

Id. The music industry's initial response to the digital format was condemnation. LITMAN, *supra* note 4, at 155. The MP3 file format was characterized as a tool of pirates. *Id.*

18. Julie Cullen, *Digital Piracy Rife*, BBC, Dec. 20, 2005, http://www.bbc.co.uk/6music/news/20051220_download.shtml. Half of those sued paid up to £6,500 (in excess of \$12,000) to avoid court action. *Id.*

19. Adobe e-book formats have been criticized for imposing excessive restrictions on use of the e-book. For example, one writer listed restrictions on the use of Adobe's Glassbook that he deemed outrageous: "Copy: No text selections can be copied from the book to the clipboard. Print: No printing is permitted on this book. Lend: This book cannot be lent or given to someone else. Give: This book cannot be given to someone else. Read Aloud: This book cannot be read aloud." Robert Menta, *Read an E-Book to Your Child, Go to Jail?*, MP3 NEWSWIRE.NET, Dec. 26, 2000, <http://www.mp3newswire.net/stories/2000/ebook.html>.

Proceedings were instituted under the DMCA's anti-circumvention provisions against a Russian software developer, Dmitry Sklyarov, because he designed software that translated Adobe's secure eBook format into Portable Document Format (PDF) in the course of his employment. BROADBAND STAKEHOLDER GROUP, DIGITAL RIGHTS MANAGEMENT: MISSING LINKS IN THE BROADBAND VALUE CHAIN 29 (2003), available at http://www.broadbandkuk.org/component/option,com_docman/task,doc_view/gid,55.

favor society's interest, must change to accommodate the needs of modern society if we recognize that technological advances have made it necessary to be more protective of intellectual creations.²⁰

Placing an unrestricted power to control the use of copyrighted works in the hands of the copyright owner presents an obvious problem. Copyright owners may distribute copyrighted works in such an encumbered form that these owners impede the legitimate uses of the copyrighted work. There is a clear financial incentive for such a course of conduct since encumbering the copyrighted work would inevitably reduce piracy. Conversely, compelling consumers to buy multiple copies of a copyrighted work if they wish to use that work in different storage formats is a financial incentive of dubious legitimacy.²¹

Currently, there is no incentive for those who design and implement DRMS to link the functionality of the system to the term of copyright protection. After the exclusive rights of the copyright owner evanesce, DRMS continue to function and bar certain uses of the copyrighted work.²² Additionally, there is presumably no incentive to provide access to the extent that copyright law permits.

To state the purpose of copyright law more directly, copyright protection gives the public the benefits of artistic creation by providing incentives in the form of a limited degree of control over use and exploitation of artistic works.²³

Copyright benefits society, and the author's reward merely secures this benefit.²⁴ With this in mind, the following question is presented: to what

20. The Gowers Review notes the importance of striking the right balance of interests so that "economic incentives to innovate" are maintained, while "monopoly prices" are not permitted to cause unacceptable "welfare losses." GOWERS, *supra* note 1, at 35.

21. "Format shifting," where a user tries to use a single copyrighted work in multiple devices by changing its format, is a violation of copyright law under the United Kingdom's current legislative framework.

22. One commentator notes that "[DRMS] can't be circumvented for disabled access or preservation, and the technology doesn't expire In effect, it's overriding exceptions to copyright law This is a global, international issue." Tom Espiner, *British Library Calls for Digital Copyright Action*, ZD NET NEWS, Sept. 25, 2006, http://news.zdnet.com/2100-9588_22-6119043.html (quoting Lynne Brindley, CEO of the British Library).

23. MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT, § 1.03[A] (2006) (citing *New York Times Co. v. Tasini*, 533 U.S. 483, 519 (2001)).

24. The United States Supreme Court held that:

The primary objective of copyright is not to reward the labor of authors, but '[t]o promote the Progress of Science and useful Arts.' To this end, copyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work. This result is neither unfair nor unfortunate. It is the means by which copyright advances the progress of science and art.

Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 349-50 (1991).

extent should society tolerate being deprived of certain benefits of artistic creation by allowing the copyright owner's use of extra-legal technological self-help? More specifically, should the owner of a copyrighted work be permitted to secure for herself greater protection than afforded by law through the use of technological means that restrict the consumer's use of a copyrighted work?

DRMS

DRMS encompass technological means used to identify and to control access to or use of digital data or hardware.²⁵ DRMS include but are not limited to copy protection and technical protection measures.²⁶ Access to digital content can be restricted by encrypting the information. Once encrypted, the copyright owner can exercise a large amount of control over how the copyrighted work is used.²⁷

The DRMS create an issue regarding the use of a copyrighted work that is no longer restricted by a legal framework. They give copyright owners the ability to define what may and may not be done with a copyrighted work.²⁸ The system may impose total or partial restrictions on printing, manipulating, lending, copying, or saving copyrighted works in digital form.²⁹ There is also no limit on the restrictions that may be imposed,

25. CUNARD ET AL., *supra* note 2.

26. Use of technology to protect copyrighted works has been commonplace since the 1970s. Videotapes, for example, were produced so that copies made from an original videotape would possess inferior picture and sound quality. Paul Ganley, *Access to the Individual: Digital Rights Management Systems and the Intersection of Informational and Decisional Privacy Interests*, 10 INT'L J.L. & INFO. TECH. 241, 242 (2002).

27. *Id.* at 244.

[A]t the heart of any DRMS is two modules: a content module and a licensing module The content module contains . . . digitised [sic] media . . . which have been securely packaged using encryption The licensing module generates digital licenses which automatically grant end-user access to content by way of *usage rights or business rules*.

Id. at 243–44 (citation omitted).

28. See JANE RADIN ET AL., INTERNET COMMERCE THE EMERGING LEGAL FRAMEWORK 701 (2d ed. 2006).

Others maintain that permitting the use of trusted systems upsets the delicate balance between ownership rights and public access created by the law of copyright, shifting the balance in favor of copyright owners at the expense of the public by allowing owners to prevent uses that the law permits—for example, use of material that is not copyrightable or whose copyright has expired, or use of copyrighted material that is within fair use.

Id.

29. Ryan Roemer, *Locking Down Loose Bits: Trusted Computing, Digital Rights Management, and the Fight for Copyright Control on Your Computer*, 7 UCLA J.L. & TECH. 8 (2003).

other than the fact consumers may not tolerate a certain level of restriction on access to a copyrighted work.³⁰

DRMS can limit uses that are outside a copyright owner's exclusive rights. For example, United States law includes the first sale doctrine.³¹ Once an individual has purchased a copy of a copyrighted work, he may then resell the copy to another and the owner of the copyright cannot object.³² However, if a song in digital file format is purchased from an online seller, the purchaser may be prevented from selling the song file, because a potential buyer would not be able to play the song without circumventing the DRMS.

In the United Kingdom and the United States, the duration of copyright protection for a copyrighted work created by an individual is generally the life of the author plus seventy years. DRMS do not have to be linked to the copyright term and may perpetuate exclusive rights, even though the law no longer recognizes these rights. In the context of libraries and archives, the collecting of digital material may be prohibitively expensive when legal uses are obstructed.³³

COPYRIGHT IN THE UNITED KINGDOM

Copyright first appeared in statutory form in the United Kingdom in The Copyright Act of 1709, commonly known as the Statute of Anne.³⁴

30. Hanbidge, *supra* note 6, at 225. "Rights holders might implement DRMS systems in an inappropriately oppressive manner . . . rights holders should understand what their consumers are willing to tolerate, and implement DRMS systems with priority consideration given to the non-infringing consumer." *Id.*

31. 17 U.S.C. § 109 (2006).

32. *Id.* Courts have noted, however, that the use of licenses impacts the first sale doctrine. *See ProCD v. Zeidenberg*, 86 F.3d 1447, 1450 (7th Cir. 1996).

33. "The fact that technology enables copyright owners to exercise more complete control is no reason to modify copyright law to facilitate it." LITMAN, *supra* note 4, at 14.

34. The Statute of Anne was enacted April 10, 1710. Anne was the Queen of Great Britain and Ireland at the time the statute was enacted. The long title of the statute reveals the purpose behind the law: "An act for the encouragement of learning, by vesting the copies of printed books in the authors or purchasers of such copies, during the times therein mentioned." Copyright Act, 1709, 8 Ann., c.19 (Eng.).

Before the enactment of the Statute of Anne, it was the printers, not the authors, in whom the reproduction monopoly vested. *Id.* The Statute of Anne made the term of the copyright twenty-one years for those works already in print, and fourteen years for those works published after the enactment of the statute, subject to the author fulfilling of certain formalities. *Id.* In addition, the statute provides that a copyright could be assigned. *Id.* After expiration of the fourteen-year term, whether or not the copyright was assigned, the author, if living, would be entitled to another fourteen-year term. *Id.*

Today, the United Kingdom's law of copyright is found in the Copyright, Designs and Patents Act of 1988 (CDPA 1988).³⁵

The CDPA 1988 gives the creators of literary, dramatic, musical or artistic works, sound recordings, broadcasts, films and typographical arrangement of published editions, rights to control the ways in which their material may be used.³⁶ The rights cover: broadcast³⁷ and public performance,³⁸ copying,³⁹ adapting,⁴⁰ issuing, renting and lending copies to the public.⁴¹ In many cases, the creator will also have the right to be identified as the author and to object to distortions of his work.⁴²

The United Kingdom's analog to the United States doctrine of fair use⁴³ is called fair dealing⁴⁴ and has the same objectives as the doctrine of fair use.⁴⁵ The United States fair use doctrine offers a flexible and pragmatic test for determining whether a particular use of a copyrighted work should be tolerated. By contrast, the United Kingdom's doctrine of fair dealing is remarkably narrow.⁴⁶ Section 29(1) of the CDPA 1988

35. The Copyright, Designs & Patents Act, 1988, c.48 (Eng.) [hereinafter "CDPA 1988"]. The CDPA 1988 represented a significant change from the previous copyright regime under the Copyright Act of 1956 (c.74). The CDPA 1988 extended copyright protection to bring the law of the United Kingdom into line with the Berne Convention and introduced moral rights which, prior to the enactment of the CDPA 1988, had been confined to certain nations on Continental Europe. Similarly, the United States Copyright Act also recognizes limited moral rights. 17 U.S.C. § 106A (2006).

36. CDPA 1988, *supra* note 35.

37. *Id.* c. II, § 16(1)(d).

38. *Id.* c. II, § 16(1)(c).

39. *Id.* c. II, § 16(1)(a).

40. *Id.* c. II, § 16(1)(e).

41. *Id.* c. II, § 16(1)(b).

42. Chapter 4 of the CDPA 1988 enumerates an author's moral rights, which include the right to be identified as the author, the right to object to derogatory treatment of the copyrighted work, the right to object to false attribution of the work and the right to privacy in certain photographs and films. *Id.* c. IV. See also The United Kingdom Copyright Service, *Fact Sheet No. P-01 (Apr. 2000)*, http://www.copyrightservice.co.uk/copyright/p01_uk_copyright_law.

43. 17 U.S.C. § 107 (2006). The statute requires the balancing of the following factors: the purpose and character of use; the nature of the copyrighted work; the amount and substantiality of the portion of the copyrighted work used; and the effect of the use on the potential market value of the copyrighted work. *Id.*

44. Fair dealing in the context of United Kingdom copyright law should not be confused with the United States concept of good faith and fair dealing.

45. For example, fair dealing reduces transaction costs by guaranteeing that certain acts are legal, in that the user of a copyrighted work is spared the expense of having to clear the use with the copyright owner. GOWERS, *supra* note 1, at 47.

46. GOWERS, *supra* note 1, at 62. The Gowers Review notes that "there is concern that, at present, the UK exceptions, are too narrow and that this is stunting new creators from producing work and generating new value." *Id.* In addition, it refers to *Field v. Google, Inc.*, 412 F. Supp. 2d 1106 (D. Nev. 2006) (holding that Google, by automatically caching web sites was not directly infringing copyright in the content of the websites, but was engaging in a fair use and was protected by the safe harbor provisions of the Digital Millennium Copyright Act). *Id.*

reads: “Fair dealing with a literary, dramatical, musical or artistic work for the purposes of research or private study does not infringe any copyright in the work or, in the case of a published edition, in the typographical arrangement.”⁴⁷ The CDPA 1988 contains no definition of fair dealing, though the terminology is linked to certain activities, and, in addition, the following categories of fair dealing are identified within the CDPA 1988: fair dealing for the purposes of criticism or review⁴⁸ and fair dealing for the purposes of reporting current events.⁴⁹

Other exceptions to the exclusive rights of the copyright owner exist and are not couched in terms of fair dealing. These exceptions permit incidental inclusion of a copyrighted work in an artistic work, sound recording, film, broadcast, or cable program.⁵⁰

The Gowers Review acknowledges Google’s assertion that the flexible fair use doctrine found in the law of the United States may be the reason that search engines developed in the United States, rather than in the United Kingdom, where the acts of search engines would be deemed copyright infringement. *Id.* This seems to be a compelling argument for the economic importance of balanced and carefully considered exceptions to the rights of the copyright owner.

47. CDPA 1988, *supra* note 35, c. III § 29(1). The CDPA 1988 contains provisions permitting fair dealing in the context of criticism or review: “Fair dealing with a work for the purpose of criticism or review, of that or another work or of a performance of a work, does not infringe any copyright in the work provided that it is accompanied by sufficient acknowledgement.” *Id.* c. II § 30(1). There are also specific provisions for the transfer of works in electronic form:

(1) This section applies where a copy of a work in electronic form has been purchased on terms which, expressly or impliedly or by virtue of any rule of law, allow the purchaser to copy the work, or to adapt it or make copies of an adaptation, in connection with his use of it.

(2) If there are no express terms—

(a) prohibiting the transfer of the copy by the purchaser, imposing obligations which continue after a transfer, prohibiting the assignment of any licence or terminating any licence on a transfer, or

(b) providing for the terms on which a transferee may do the things which the purchaser was permitted to do, anything which the purchaser was allowed to do may also be done without infringement of copyright by a transferee; but any copy, adaptation or copy of an adaptation made by the purchaser which is not also transferred shall be treated as an infringing copy for all purposes after the transfer.

(3) The same applies where the original purchased copy is no longer usable and what is transferred is a further copy used in its place.

(4) The above provisions also apply on a subsequent transfer, with the substitution for references in subsection (2) to the purchaser of references to the subsequent transferor.

Id. c. III § 56.

48. *Id.* c. III, § 30(1).

49. *Id.* c. III, § 30(2).

(1) Fair dealing with a work for the purpose of criticism or review, of that or another work or of a performance of a work, does not infringe any copyright in the work provided that it is accompanied by a sufficient acknowledgement and provided that the work has been made available to the public.

Id. c. III, § 30.

50. *Id.* c. III, § 30. *See also id.* c. III, §§ 32–67.

One exception to the exclusive rights of the copyright owner absent from the United Kingdom's copyright regime but taken for granted in the United States⁵¹ is a general private copying exception. Under the United Kingdom's copyright law, there is no format shifting exception to the exclusive rights of the copyright owner.⁵² In the United States, however, such activities constitute fair use.⁵³

The owner of a copy of a copyrighted work cannot engage in format shifting in the United Kingdom.⁵⁴ Thus, it is illegal to make a copy of a copyrighted work for the purpose of using the copyrighted work on a device that reads a different format.⁵⁵ An individual who purchases a music CD, the content of which is protected by copyright, cannot convert

51. There is no United States court opinion stating unequivocally that format shifting is legal, but the nature of the fair use factor test makes it highly likely that format shifting is indeed a fair use. *See e.g.*, *Sony Corp. of Am. v. Universal City Studios*, 464 U.S. 417, 455 (1984). Consider also, that most popular software for organization and playback of digital music files incorporate features which permit users to convert their audio CDs into digital file formats. This list includes iTunes and Microsoft's Windows Media Player.

52. GOWERS, *supra* note 1, at 6. The Gowers Review has recommended adopting a format shifting exception. *Id.* Such an exception would allow individuals in the United Kingdom to, for example, change an audio CD into MP3 format. *Id.* at 5. This process is, in the United States, currently a popular way to obtain MP3 or equivalent files that are not restricted by DRMS. Therefore, there is an alternative for consumers dissatisfied with DRMS in the context of digital music files. When CDs become obsolete, it remains to be seen whether consumers will take to the digital file formats and tolerate the restrictions on use, or whether a minority will continue to attempt to circumvent DRMS and illegally share music. Further, it remains to be seen whether a consumer backlash will force the industry to reassess the restrictions it imposes on the use of its copyrighted music.

53. 17 U.S.C. § 107 (2006).

54. GOWERS, *supra* note 1, at 62. The Gowers Review states that private copying is "an entirely legitimate activity." *Id.* at 63. Recommendation eight of the Gowers Review provides: "[i]ntroduce a limited private copying exception by 2008 for format shifting for works published after the date that the law comes into effect. There should be no accompanying levies for consumers." *Id.* at 63. The absence of a right to format shift is but one example of the narrowness of the United Kingdom's exceptions to copyright owners' exclusive rights. This narrowness is more appreciable when additional proposals of the Gowers Review are considered.

Many of the exceptions to copyright owners' exclusive rights that have long been accepted under United States law do not have an analog under the law of the United Kingdom. Consequently, the Gowers Review recommends the broadening of fair dealing in other areas, including: extending to all classes of copyrighted work fair dealing for the purposes of non-commercial research and private study (the exceptions currently excludes sound recordings and movies); extending to all classes of copyrighted work the right of libraries and archives to copy in order to preserve copyrighted works (the exception currently excludes sound recordings and movies); permitting libraries to format shift; introducing an exception permitting the creation of transformative works; and introducing an exception for caricature, parody or pastiche. *Id.* at 63–68. All of these recommendations seek to introduce exceptions to the exclusive rights of the copyright owner that are either explicitly recognized under United States law, or would be likely to qualify as fair use under the four factor test in § 107 of the Copyright Act. 17 U.S.C. § 107 (2006).

55. Examples include converting an audio CD into a compressed file format such as MP3 and vice versa, converting a movie contained in a DVD to a file format such as AVI and vice versa, and converting a paper text into PDF format and vice versa.

the content of the CD into an MP3 or equivalent file format without infringing on the copyright. The illegality of ripping CDs and DVDs has been criticized, but the current legislative framework in the United Kingdom is consistent with DRMS that prevent ripping and burning of CDs and DVDs.⁵⁶ In the United Kingdom, purchasers of copyrighted content are more restricted in what they may legally do with the products they have purchased. However, wherever the boundaries of copyright lie, the nature of DRMS make it possible to impose additional restrictions.

The British Library, which represents itself as an impartial voice in the copyright debate, has unequivocally stated that DRMS should not be allowed to interfere with fair dealing.⁵⁷

COPYRIGHT IN THE UNITED STATES

Copyright law is explicitly recognized by the United States Constitution.⁵⁸ The Copyright Act of 1790 granted copyright protection to authors for fourteen years and permitted an additional fourteen years of protection if the copyright was renewed.⁵⁹ Though initially limited to books, the law expanded to encompass prints, musical compositions,

56. Attempts to implement technologies impeding ripping of audio CDs have been fraught with problems. *See supra* text accompanying note 5. For example in 2002, Sony BMG released audio CDs that contained technology that prevented the CDs from being played on a personal computer. *Dion's CD Can Crash PCs*, BBC ONLINE, Apr. 5, 2002, <http://news.bbc.co.uk/2/hi/entertainment/1912466.stm>.

57. British Library, Intellectual Property: A Balance 2, *available at* <http://www.bl.uk/news/pdf/ipmanifesto.pdf> (last visited Feb. 25, 2008). The British Library, as a publisher and archive, is interested in both effective legal protection of intellectual property and reasonable access to creative works. In addition to concerns about DRMS, the British Library has raised concerns about contractual restrictions on the use of intellectual property:

As the Library prepares for legal deposit of digital items we are discovering that DRMS can pose a real, technical threat to our ability to conserve and give access to the nation's creative output now and in the future. Contracts can also prevent users' legitimate access to databases. In fact, twenty eight out of thirty licences [sic] offered to the British Library and selected randomly were found to be more restrictive than the rights that currently exist within copyright law. It is of concern that unchecked, this trend will drastically undermine public access, thus significantly undermining the strength and vitality of our creative and educational sectors.

Id. Focusing on DRMS, the British Library's primary concerns are that DRMS are given extensive legal protection, but users are currently given no legal way to circumvent such technologies so as to enable them to make legitimate uses the copyrighted work. *Id.* The British Library's final recommendation is that DRMS should not be allowed to undermine long standing exceptions to the copyright owner's rights; presumably this would be achieved through additional legislation. *Id.*

58. "The Congress shall have the power . . . to promote the progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective writings and discoveries." U.S. CONST. art. I, § 8, cl. 8. This clause is the basis for federal regulation of both copyright and patent law.

59. MERGES ET AL., *supra* note 8, at 321.

dramatic works, photographs, artistic works, and works of sculpture.⁶⁰ Section 102 of the Copyright Act defines the subject matter of copyright as “original works of authorship fixed in any tangible medium of expression”⁶¹ and includes: literary works,⁶² musical works,⁶³ dramatic works,⁶⁴ pantomimes and choreographic works,⁶⁵ pictorial graphic and sculptural works,⁶⁶ motion pictures and other audiovisual works,⁶⁷ sound recordings,⁶⁸ and architectural works.⁶⁹

The exclusive rights of the copyright owner are defined in § 106 of the Copyright Act and include: the right to reproduce,⁷⁰ the right to produce derivative works,⁷¹ the right to distribute to the public,⁷² the right to perform certain works publicly,⁷³ the right to display certain works publicly,⁷⁴ and the right to broadcast sound recordings by digital audio transmission.⁷⁵

United States law provides various exceptions to the exclusive rights of the copyright owner. These exceptions are designed to permit uses of a copyrighted work that do not have an unreasonable negative effect on the rights of the copyright owner, and are beneficial to society.

Determining whether the use of a copyrighted work is a fair use requires weighing four factors: (1) the purpose and character of use; (2) the nature of the copyrighted work; (3) the amount and substantiality of

60. *Id.*

61. 17 U.S.C. § 102(a) (2006).

62. *Id.* § 102(a)(1). Software code may fall within the literary work category if original and fixed. *Lexmark Int’l, Inc. v. Static Control Components, Inc.*, 387 F.3d 522, 533 (6th Cir. 2004). The definition of literary works found in § 101 is broad enough to support this position: “works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.” 17 U.S.C. § 101 (2006).

63. *Id.* § 102(a)(2). The protection extends to accompanying words. *Id.*

64. *Id.* § 102(a)(3). The protection extends to accompanying music. *Id.*

65. *Id.* § 102(a)(4).

66. *Id.* § 102(a)(5).

67. *Id.* § 102(a)(6).

68. *Id.* § 102(a)(7).

69. *Id.* § 102(a)(8).

70. *Id.* § 106(1).

71. *Id.* § 106(2).

72. *Id.* § 106(3).

73. *Id.* § 106(4).

74. *Id.* § 106(5).

75. *Id.* § 106(6). Commenting on the scope of copyright, the Committee on the Judiciary noted: “These exclusive rights, which comprise the so-called ‘bundle of rights,’ that is a copyright, are cumulative and may overlap in some cases.” H.R. REP. NO. 94-1476. at 61 (1976). 17 U.S.C. § 106A introduces moral rights.

the portion used; and (4) the effect of the use upon the potential market for and value of the copyrighted work.⁷⁶

The Digital Millennium Copyright Act⁷⁷ (DMCA) contains detailed provisions regarding the circumvention of technological measures controlling access to protected works.⁷⁸ While the DMCA prohibits “cracking,” a technological measure used to control the access to and perhaps the use of a copyrighted work, it does not address copyright owners who attempt to overreach.⁷⁹ Courts have stated that nothing contained in the DMCA is to affect fair use.⁸⁰ Questions arise as to what is

76. 17 U.S.C. § 107 (2006).

77. The DMCA has been the subject of fierce criticism. One such commentator surmises, [t]he Digital Millennium Copyright Act . . . a gift to the well-financed entertainment and software industries, trashed the public interest. It gave copyright owners the right to assert absolute control over copyrighted material, effectively allowing them to prevent the public from asserting a variety of traditional user’s rights, including the ‘fair use’ of making personal copies.

Dan Gillmor, *Arrest of Russian Programmer Shows Threat to Fair Use Rights*, SAN JOSE MERCURY NEWS, July 18, 2001, at C1.

78. It provides that “[n]o person shall circumvent a technological measure that effectively controls access to a work protected under this title.” 17 U.S.C. § 1201(a)(1)(A) (2006).

79. 17 U.S.C. § 1201(a).

80. “Nothing in this section shall affect rights, remedies, limitations, or defenses to copyright infringement, *including fair use*, under this title.” 17 U.S.C. § 1201(c)(1) (2006) (emphasis added). Courts have noted this section’s significance and have suggested that acts prohibited under section 1201 might nevertheless be legal if they qualify for exception under merger, scenes a faire, or fair use doctrines. *See Lexmark*, 387 F.3d at 522, 542, 544 (6th Cir. 2004). However, the Second Circuit has adopted a restrictive interpretation of this section and has stated that rather than extending fair use into the circumvention context, the section focuses on circumvention and does not purport to regulate use of the copyrighted content. *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 443 (2d Cir. 2001). The District Court for the Northern District of California also supports this position. That court opined that trafficking in tools for circumvention prohibited under section 1201 is not cognizable under section 1201(c)(1), because the tools for circumvention were provided so that fair use could be made of the protected copyrighted work.

It is the technology itself at issue, not the uses to which the copyrighted material may be put.

This Court finds, as did both the *Corley* and *Elcom* courts, that legal downstream use of the copyrighted material by customers is not a defense to the software manufacturer’s violation of the provisions of § 1201(b)(1).

321 *Studios v. MGM Studios Inc.*, 307 F. Supp. 2d 1085, 1097–98 (N.D. Cal. 2004). While these authorities appear to permit obstruction of fair use through the use of DRMS, one recent decision of the Federal Circuit pushes in the opposite direction and offers additional clarity into the fundamental nature of the anti-circumvention provisions of the DMCA.

The anticircumvention provisions convey no additional property rights in and of themselves; they simply provide property owners with new ways to secure their property. Like all property owners taking legitimate steps to protect their property, however, copyright owners relying on the anticircumvention provisions remain bound by all other relevant bodies of law. Contrary to Chamberlain’s assertion, the DMCA emphatically *did not* “fundamentally alter” the legal landscape governing the reasonable expectations of consumers or competitors; *did not* “fundamentally alter” the ways that courts analyze industry practices; and *did not* render the pre-DMCA history of the [garage door opener] industry irrelevant.

Chamberlain Group, Inc. v. Skylink Techs., Inc., 381 F.3d 1178, 1193–94 (Fed. Cir. 2004). Thus, it

meant by “access.” Is this different from “use”? What is the legal position of a consumer who, wishing to make a fair use of a copyright work, but prevented from doing so by a technological measure restricting access to that copyrighted work, circumvents the technological measure? Fair use may be preserved, but will this be meaningful when circumvention makes possible the desired fair use and the opportunity to make infringing use of the copyrighted work?

ANALYSIS

A thorough analysis of copyright issues requires understanding the tension between the creator’s incentive—which supports society’s interest in the continued production of works of authorship—and society’s countervailing interest in being able to use copyrighted works without having unreasonable restrictions imposed on that use. The extent to which copyright is protected by law should achieve a reasonable balance between these sometimes competing interests. When it comes to the form in which a copyright owner may present a copyrighted work when introducing it into the marketplace, does copyright law become irrelevant?

Copyright law, which merely defines what the owner of a copyrighted work may and may not sue for, creates a one-way legal regime wherein the owner of an original copyrighted work is always the plaintiff. Such a perspective finds some support in law: software licenses are commonplace and offer a means of protecting interests in copyrighted works by resorting to the law of contract rather than the strictures of the copyright legislation, which might prejudice the copyright owner’s legitimate interests in the context of computer software. However, the policies that have induced the United States and the United Kingdom to implement copyright protection regimes also consider the interests of those who wish to enjoy copyrighted works. While certain types of copyrighted work require heightened protection because of their nature, other copyrighted works that have

seems that the individual has a right to circumvent copyright protection systems for the purposes of making a fair use, but businesses may not seek to sell the tools of circumvention and rely on the DMCA’s preservation of fair use as a defense:

The inescapable conclusion from the statutory language adopted by Congress and the legislative history discussed above is that Congress sought to ban all circumvention tools because most of the time those tools would be used to infringe a copyright. Thus, while it is not unlawful to circumvent for the purpose of engaging in fair use, it is unlawful to traffic in tools that allow fair use circumvention. That is part of the sacrifice Congress was willing to make in order to protect against unlawful piracy and promote the development of electronic commerce and the availability of copyrighted material on the Internet.

United States v. Elcom Ltd., 203 F. Supp. 2d 1111, 1125 (N.D. Cal. 2002).

existed for centuries, but are now storable in more flexible forms, should be treated differently if we decide that society's interests are better served by augmenting the level of protection afforded to the copyright owners.

Though the dangers of copyright law violations are heightened in the digital age, copyright protection regimes in the United States and in the United Kingdom are generous to the copyright owner.⁸¹ DRMS that help copyright owners enforce their rights bestowed by law are not objectionable, but, in some instances, copyright owners may perceive that more restrictive DRMS are necessary either to secure the protections afforded by the law or to secure greater economic advantages. Some commentators maintain that the only reason that the content industries have not imposed a general pay-per-view approach to distribution is that digital formats were initially restricted and early attempts at imposing DRMS had limited success.

The laws of the United States and the United Kingdom differ significantly in relation to circumvention of DRMS. While United States copyright law forbids circumvention of technological protection measures, fair use is specifically preserved. While it is unclear in the context of circumvention of technological protection measures whether fair use will take on a different meaning, the legislative framework arguably permits circumvention where the objective is to make a fair use of a copyrighted work. The United Kingdom's law does not contemplate a fair dealing exception to anti-circumvention laws. If we are to take copyright law as an attempt to achieve the appropriate balance between the interests of the copyright owner and the interests of society, questions remain as to whether conduct by individual copyright owners that could upset this balance should be controlled by legislative intervention, or whether those who use copyrighted works that are fettered in such a way that lawful uses are impeded should have a right to remove the barriers to lawful use without fear of legal sanctions.

In light of the high degree of protection afforded to copyright owners by current legal frameworks, and recognizing the threat to the interests of copyright owners by the proliferation of digital technology and global communications networks, it is suggested that legal frameworks should

81. The term of copyright protection has been challenged as unconstitutional on grounds that the period of the author's life plus seventy years is excessive in light of the language found in the constitution authorizing Congress to grant copyright protection for "limited times." *Eldred v. Ashcroft*, 537 U.S. 186, 199 (2003). The United States Supreme Court rejected this argument, and, using a dictionary definition of the word "limited," determined that the period of protection need only be confined within certain boundaries, whatever those boundaries might be. *Id.*

adopt discriminatory protection of technological measures. Copyright owners should be able to implement technological protection systems that secure rights bestowed by law and have the law protect the integrity of those technological protection systems—but the law should prohibit circumvention of technological protection systems only insofar as they protect interests afforded to copyright owners by the law. DRMS that overreach by exceeding legitimate, statutorily defined interests should be legally circumventable to the extent necessary to protect lawful use of copyrighted works.

The policy of copyright law supports discriminatory treatment of DRMS, depending upon whether or not they prohibit lawful uses.⁸² A clear articulation of the law would encourage copyright owners to harmonize DRMS with the goals of copyright law, as DRMS not so tailored would be legally circumventable. While the author believes discriminatory protection of DRMS comports with the policy and goals of copyright law, counter-arguments are numerous. For example, existing DRMS could be retroactively stripped of protection offered by anti-circumvention laws. Businesses could be required to invest in redesigning DRMS systems, which might be onerous considering the complexity of copyright law. The expense of legal consultation to achieve lawful balance might also be prohibitive.

CONCLUSION

The United States and United Kingdom's regimes differ substantially in the way that copyrighted works in digital form and technological devices for protecting those works are treated. The ever-increasing interdependency of global economies makes uniformity of intellectual property protection particularly important. The foundations of the legal frameworks that attempt to deal with digital copyright and the internet support the content owner's ability to restrict commercially distributed content. If DRMS are permitted to expand the exclusive rights of the copyright owner, knowledge, information, and art will become increasingly commercialized, and access will become more restricted. As digital media proliferates, the author's control over use of the content

82. This is arguably the position under United States law in light of the explicit preservation of fair use in provisions of the Digital Millennium Copyright Act dealing with circumvention of copyright protection systems. 17 U.S.C. § 1201(c)(1) (2006). The courts have not yet viewed this provision as bestowing a right to circumvent copyright protection measures to make fair uses of the copyrighted work.

expands. While it is true that DRMS are part of the solution to the problem of piracy, ensuring fair access for content users is vital to maintaining the balance of authors' interests and broader societal interests. DRMS that are unduly restrictive should be discouraged in preserving this balance; discriminatory protection of DRMS may achieve this goal.

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