

Before the

United States Copyright Office

Library of Congress

In the Matter of)

Exemption to Prohibition on)
Circumvention of Copyright Protection)
Systems for Access Control Technologies)

) Docket No. 2014-07
)
)
)

REPLY COMMENT

OF

AUTHORS ALLIANCE

AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS

SOCIETY FOR CINEMA AND MEDIA STUDIES

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I. Proposed Class 5: Audiovisual Works—Derivative Uses—Multimedia E-Books.

Audiovisual works that are lawfully made and acquired from DVDs protected by the Content Scramble System and Blu-Ray discs protected by the Advanced Access Content System. Alternatively, if the motion picture is not reasonably available in sufficient audiovisual quality on DVD or Blu-Ray, then from digitally transmitted video (“DTV”) protected by various encryption measures, when circumvention is accomplished solely in order to incorporate portions of motion pictures into new works for the purpose of fair use, and when the person engaging in circumvention reasonably believes that circumvention is necessary to obtain the motion picture for multimedia e-book authorship.

II. Introduction

The Authors Alliance, American Association of University Professors, Society for Cinema and Media Studies, University Film and Video Association, Bobette Buster, and Mark Berger respectfully submit this Reply Comment in support of the proposed Class 5 exemption to the Digital Millennium Copyright Act (“DMCA”). The proposed exemption would grant multimedia e-book authors access to motion pictures and other similar audiovisual works obtained from lawfully acquired DVDs, Blu-Ray discs, and digitally transmitted video for fair use purposes.

We have met and surpassed our burden of proving that the proposed exemption is warranted. As the Register has noted, the use of motion picture material for criticism, commentary, and education is a quintessential noninfringing use.¹ But because DVDs, Blu-Ray discs, and digitally transmitted video are protected by technological protection measures (“TPMs”), the prohibition on circumvention deprives authors of their ability to access necessary material for use in their works.² This bar on access to requisite high-quality video causes substantial adverse effects on multimedia e-book authors’ ability to make fair use. Nothing in the comments filed by the Advanced Access Content System Licensing Administrator, the DVD Copy Control Association, or the Joint Creators and Copyright Owners (collectively, “the opposition”) calls into question these conclusions.

The evidence favoring an exemption is not limited to our submissions. The record as a whole reflects widespread public support for the proposed exemption, ranging from

¹ See, e.g., First Anticircumvention Rulemaking, 65 Fed. Reg. 64,556 (Oct. 27, 2000); Second Anticircumvention Rulemaking, 68 Fed. Reg. 62,011 (Oct. 31, 2003); Third Anticircumvention Rulemaking, 71 Fed. Reg. 68,472 (Nov. 27, 2006); Fourth Anticircumvention Rulemaking, 75 Fed. Reg. 43,825 (Jul. 27, 2010).

² Recommendation of the Register of Copyrights, at 126 (Oct. 12, 2012) [hereinafter 2012 Recommendation]. (“It is well established, and the record confirms, that . . . AACCS is a measure that controls access to motion pictures on Blu-Ray discs.”); see also Notice of Inquiry and Request for Petitions, 79 Fed. Reg. 55,687 (Sept. 17, 2014).

comments by the Music Library Association to the Free Software Foundation to more than 1,400 individual submissions.³

We submit this reply in order to clarify several important points—each of which favors granting our proposed exemption. First, multimedia e-book technology is revolutionizing the ways in which readers experience books and will continue to do so in the next exemption period. Second, because HD is now the baseline of acceptable quality for multimedia e-books, e-book authors cannot make fair use without access to high quality formats—particularly Blu-Ray discs and digitally transmitted video. Third, the proposed alternatives to circumvention are unworkable, unduly burdensome, and cost-prohibitive for many e-book authors. Finally, the requested exemption is narrowly tailored within the existing framework and poses no credible risk of misuse. In order to resolve concerns about the scope of the exemption, the Copyright Office should structure the exemption in a way that permits circumvention “for the purpose of fair use” along with the other requirements in the language we proposed.

As rightsholders, multimedia e-book authors respect and rely on the protections afforded by copyright. We seek to work within the existing framework to craft a narrow exemption seeking circumvention of selected formats, where the footage is lawfully acquired, and where the underlying use of the work is fair. We therefore respectfully request that the Register recommend adoption of our proposed Class 5 exemption.

III. The DMCA’s anticircumvention provisions are undermining the revolutionary potential of e-book technology.

It is undisputed that e-book technology has taken us to the brink of a new era of multimedia content, self-publication, and interactivity. As we demonstrated in our February 6, 2015 comment, the DMCA’s anticircumvention provisions are limiting the potential and promise of this era by unfairly restricting what authors can comment on or otherwise lawfully use.⁴ The result is that a potential revolution in authorship could be delayed or curtailed.

Nor is there any question that the growth of the e-book industry provides essential context for this rulemaking. The multimedia e-book industry is growing rapidly, changing the very conception of a book and compelling both authors and readers to rethink how they create and experience books. These changes are projected to increase dramatically over the next several years as technological advancements continue.

³ Together with these commenters, we demonstrate that access controls that protect DVD, Blu-Ray, and DTV prohibit e-book authors from creating new works that would otherwise be lawful pursuant to fair use. See 2015 Comments, Proposed Classes 1–4, 7–10, 24, Copyright Office, <http://copyright.gov/1201/2015/comments-020615/> (last visited Apr. 24, 2015).

⁴ See generally Comment of Authors Alliance et al., Docket No. 2014-07 [hereinafter 2015 Comment].

A. The e-book industry boasts rapid growth and potential to revolutionize the reading experience.

The opposition does not dispute the staggering data on the e-book industry's growth and the ongoing revolution in digital publishing, which provides critical context for this rulemaking. As our Comment discussed, e-books stand to redefine books, authorship, storytelling, and the ways in which readers consume the written word.⁵ In 2012 alone—the year the current DMCA exemptions went into effect—the domestic e-book market grew by 41–47%.⁶ In the next two years, e-books are projected to account for 22.5% of all domestic consumer book sales.⁷ By 2018, the e-book market is predicted to quadruple its 2011 revenue over \$22 billion.⁸ Moreover, by 2020, e-books are projected to overtake printed books in both market share and total publishing revenue share.⁹

Meanwhile, technological innovations in the last several years are helping e-books realize their potential.¹⁰ After Steve Jobs stated that printed textbooks were “ripe for destruction,” Apple launched iBooks Author, a self-publishing platform, and iBooks 2, an updated e-books publishing format that allows authors to embed high-quality multimedia

⁵ See generally Appendix A, Peter Brantley Statement. [hereinafter “Brantley Statement”].

⁶ See Nate Hoffelder, *AAP: eBook Sales Up 41% in 2012 as Growth Slows Down*, The-Digital-Reader.com (Apr. 11, 2013), <http://the-digital-reader.com/2013/04/11/aap-ebook-sales-up-41-in-2012-as-growth-slows-down/>; see also Nate Hoffelder, *70%, 47%, and Why Even Agency Didn't Stop Amazon*, The-Digital-Reader.com (Jan. 30, 2013), <http://the-digital-reader.com/2013/01/30/70-36-and-why-even-agency-didnt-stop-amazon/>.

⁷ See *E-book share of total consumer book sales in the United States from 2009 to 2015*, STATISTA.COM, <http://www.statista.com/statistics/190847/ebook-share-of-total-consumer-book-sales-in-the-us-till-2015/> (last visited Apr. 24, 2015).

⁸ See *Revenue from e-book sales in the United States from 2008 to 2018 (in billion U.S. dollars)*, STATISTA.COM, <http://www.statista.com/statistics/190800/ebook-sales-revenue-forecast-for-the-us-market/> (last visited Apr. 24, 2015); see *Kobo thinks the global eBook market is worth \$14.5bn, but what do other sources say?*, PublishingTechnology.com, <http://www.publishingtechnology.com/2014/12/kobo-thinks-the-global-ebook-market-is-worth-14-5bn-but-what-do-other-sources-say/> (last visited Apr. 24, 2015).

⁹ See Mark Coker, *2015 Book Publishing Industry Predictions: Slow Growth Presents Challenges and Opportunities for Authors*, HuffingtonPost.com (Mar. 7, 2015, 5:59 AM), http://www.huffingtonpost.com/mark-coker/2015-book-publishing-indu_b_6407812.html; see Stephen Heyman, *In Europe, Slower Growth for e-Books*, N.Y. Times, Nov. 12, 2014, <http://www.nytimes.com/2014/11/13/arts/international/in-europe-slower-growth-for-e-books.html>.

¹⁰ Until a few years ago, e-books were simply text that had been converted and rendered for reading on electronic devices. Even the most sophisticated e-books only offered simple software improvements like page turning and word searching. See Robert J. Glushko, Adjunct Professor, UC Berkeley School of Information, Lecture at iConference2015 (Mar. 24, 2015); see also Catherine C. Marshall, *Reading and Writing the Electronic Book* (2009) (stating that E-books have been focused on reading for fun, have not given attention to other books in the design space); see generally Hugh McGuire, *Book: A Futurist's Manifesto: Why Books and the Internet will Merge* (2012) (noting that while we can copy, paste, link, search, and comment online – we cannot do so by utilizing e-books).

content.¹¹ Soon thereafter, the release of two new formats—Kindle Format 8 (“KF8”) and ePub Version 3 (“EPUB3”)—echoed similar market needs by enabling the embedding of high-quality video and audio content in e-books.¹²

It is also undisputed that aspiring authors now face the lowest barriers to entry since the invention of publishing—and that as a result, more authors than ever before have begun to self-publish their works.¹³ The number of self-published e-books is steadily increasing and will likely account for more than 50 percent of e-book sales by 2020.¹⁴ And new publishing platforms and formats have enabled e-book authors to embed high-quality video clips into e-books with ease.¹⁵ Given these developments and the high definition capability of most e-book readers, self-publishing authors are increasingly seeking to make criticism, commentary, educational uses, or other fair uses of high-definition video content in their e-books.¹⁶

Similarly, the opposition does not dispute that e-books are poised to implement reader interactivity in a manner previously unimagined. Empirical evidence suggests that readers benefit from multimedia enhancements to text, and such enhancements are now available on e-books.¹⁷ In addition, e-book software is now capable of assessing a reader’s eye movements, page-turning speed,¹⁸ and other markers; and adjusting to suit the reader’s needs, thoughts, or emotions in a given moment.¹⁹

Multimedia e-book authors want to utilize this exciting new technology to criticize, comment on, and educate their readers on important issues affecting our society. To do so, e-book authors must retain the ability to make fair use of high-quality video. The opposition

¹¹ See Rüdiger Wischenbart et al, *Global eBook: A report on market trends and developments*, at 97–98, Wischenbart.com, available at http://www.wischenbart.com/upload/1234000000358_04042014_final.pdf.

¹² See *How to produce illustrated, multimedia ebooks*, DigitalPublishing101.com (last visited Apr. 24, 2015), <http://digitalpublishing101.com/how-to-produce-illustrated-multimedia-ebooks/>.

¹³ Self-published e-book authors currently represent 11% of the e-book market. See *supra* note 11, at 108; see also Avi Itzkovitch, *Interactive eBook Apps: The Reinvention of Reading and Interactivity*, UXMagazine (Apr. 12, 2012), <http://uxmag.com/articles/interactive-ebook-apps-the-reinvention-of-reading-and-interactivity>.

¹⁴ See Mark Coker, *10 Reasons Self Published Authors Will Capture 50 Percent of the Ebook Market by 2020*, HuffingtonPost.com (May 7, 2014, 5:59 AM), http://www.huffingtonpost.com/mark-coker/10-reasons-self-published_b_4915694.html.

¹⁵ See Avi Itzkovitch, *Interactive eBook Apps: The Reinvention of Reading and Interactivity*, UXMagazine (Apr. 12, 2012), <http://uxmag.com/articles/interactive-ebook-apps-the-reinvention-of-reading-and-interactivity>.

¹⁶ See *infra* Part III.A.

¹⁷ See generally Russell N. Carney & Joel R. Levin, *Pictorial Illustrations Still Improve Students’ Learning from Text*, 14 Educ. Psychol. Rev. 1, 5 (2002); see generally Professor Glushko, Adjunct Professor, UC Berkeley School of Information, Lecture at iConference2015 (Mar. 24, 2015); see also Appendix A, Brantley Statement at 20.

¹⁸ See Appendix A, Brantley Statement at 20–21; see generally Professor Glushko, Adjunct Professor, UC Berkeley School of Information, Lecture at iConference2015 (Mar. 24, 2015).

¹⁹ See Appendix A, Brantley Statement at 20–21; see also Molly Robinson and Barbra Rosario, “Future of Ebooks” seminar at UC Berkeley (Youtube video)

never questions these important considerations. Nevertheless, they are critical for the Register to consider during this rulemaking.

To further aid the Register in her consideration of the context in which we are proposing this exemption, we have attached a statement by Peter Brantley, Director of Digital Library Applications for The New York Public Library. In his statement, Mr. Brantley draws an analogy between the moment of today's e-books and the early days of cinema:

Just as early movies utilized existing theater practices as a scaffolding on which they could slowly learn the new medium's capabilities, e-book designers are beginning to build new architectures on the historical basis of the print book. Hence, while print books continue to serve an important role in society, multimedia e-books offer a revolutionary alternative in which readers can interact with the material. More importantly, these recent technological advancements allow e-books to incorporate the rich media experience that once existed exclusively on the web.²⁰

B. The DMCA's anticircumvention provisions are causing substantial adverse effects to fair use in multimedia e-book authorship.

The opposition does not dispute that multimedia e-book authors rely on the ability to criticize and comment on copyrighted audiovisual material to a much greater extent than traditional authors.²¹ But the DMCA's prohibition on circumvention prevents authors from making fair use of important audiovisual material, thereby harming the creative vision of storytellers and preventing the e-book community from flourishing. As the Register explained in 2010, a motion picture clip used for the purpose of criticism and commentary is "a form of quotation, long recognized as paradigmatic productive use with respect to textual works, which is at the core of fair use's function as a free-speech safeguard."²² As such, preserving multimedia e-book authors' right to make fair use of important audiovisual material is essential to supporting their creative vision and to the craft as a whole. For faculty in colleges and universities, such fair use rights enhance their academic freedom to engage in research and publication.

The opposition also does not dispute that multimedia e-book authors make fair use.²³ Instead, the opposition proposes several alternatives to circumvention that, as we discuss in

²⁰ Appendix A, Brantley Statement, at 3–4.

²¹ 2015 Comment at 10.

²² Recommendation of the Register of Copyrights, at 50 (Jun. 11, 2010), *available at* <http://www.copyright.gov/1201/2010/initialed-registers-recommendation-june-11-2010.pdf> (hereinafter 2010 Recommendation).

²³ *See* 2015 Comment of The Joint Creators and Copyright Owners Comment, Docket No. 2014-07, at 3 ("[E]-book authors likely often engage in fair uses of materials from motion pictures . . ."); *see also* AACCS Comment at 4 ("Multimedia e-book authors that appropriate short movie clips for the specific purpose of film criticism or comment may be able to claim fair use.").

Part IV below, are untenable. Our proposed exemption will facilitate the continued growth of digital authoring and allow authors to escape the captivity of printed, static text by making fair use of high quality materials, as required by the high definition capabilities of e-book reader technologies and an emerging high definition standard in the e-book industry.²⁴ Furthermore, our comment described in detail why e-book authors require HD quality.²⁵ Professor Pamela Samuelson and Professor Bobette Buster exemplify this need. Both are unable to create such works without access to HD audiovisual material, because standard definition quality cannot convey the detail, clarity, and content that their work requires.²⁶ Failure to grant our proposed exemption, on the other hand, would prevent or deter authors such as these from making fair use as they exploit these new technologies.

IV. Multimedia e-book authors require Blu-ray content that cannot reasonably be obtained elsewhere.

The opposition contends that multimedia e-book authors need not circumvent Blu-Ray to criticize and comment on reality in their works because they can instead turn to proposed alternatives to circumvention.²⁷ This argument fails because the proposed alternatives are costly, unworkable, and unduly burdensome. E-book authors require high quality material, and only an exemption covering AACS on Blu-Ray discs in appropriate circumstances will preserve multimedia e-book authors' fair use rights.

A. An exemption covering AACS on Blu-ray discs is essential to fair use in e-book authorship.

The opposition fails to address several important considerations warranting an exemption that includes AACS on Blu-Ray discs. We demonstrated in our comment—and the opposition does not dispute—that high definition (“HD”) has become the prevailing standard for rendering video on modern e-reader devices.²⁸ E-readers are optimized for displaying and storing high-definition audiovisual content.²⁹ In addition, most contemporary e-readers arrive in the market equipped with high-resolution screens and boast ever-improving quality that is at HD levels or above.³⁰ Market trends show that the standard for

²⁴ See *supra* Part III.A.

²⁵ See 2015 Comment, at 12–13 (explaining why Professors Pamela Samuelson and Bobette Buster require HD Blu-Ray media).

²⁶ *Id.*

²⁷ Comment of The Advanced Access Content System Licensing Administrator LLC (“AACS LA”) [hereinafter “AACS Comment”], Docket No. 2014-07, at 9; Comment of The DVD Copy Control Association (“DVD CCA”) [hereinafter “DVD CCA Comment”], Docket No. 2014-07, at 8.

²⁸ 2015 Comment at 12.

²⁹ See Appendix A, Brantley Statement.

³⁰ The entire lineup of Apple’s iPads has screens with resolutions of HD quality, 768x1024, or higher, 1536x2048. Compare iPad Models, Apple.com, *available at* <https://www.apple.com/ipad/compare/#comparison-chart> (comparing the entire range of available iPads, including the iPad mini, iPad mini 2, iPad mini 3, iPad Air, and iPad Air2, all of which offer HD quality high-resolution screens) (last visited Apr. 16, 2015); The Amazon Kindle Fire HD 7 is sold at an HD quality screen resolution of 800x1280. Fire HD— Amazon’s Official Site, *available at* <http://www.amazon.com/Fire-HD-Display-Wi-Fi-GB/dp/B00IKPYKWG> (last visited Apr. 16,

HD quality resolution will only increase with time as e-reader and tablet technologies continue to develop.³¹ Because HD is now the baseline of acceptable quality for multimedia e-books, e-book authors cannot make fair use viably without access to HD content.

The opposition does not dispute that Blu-Ray is the primary source for HD quality motion picture material. Instead, it contends that an exemption covering Blu-Ray discs is unnecessary because authors can find the same material on DVDs and DTV.³² But while a particular multimedia clip might be available from sources like DVD and DTV, the clips derived from DVDs are not HD quality and many DTV sources are often not HD quality;³³ moreover, Blu-ray is the only reliable HD source (and often the only HD source) for

2015); Barnes & Noble's Samsung Galaxy Nook Tablets also have an HD quality resolution of 800x1280. Barnes & Noble, *available at* <http://www.barnesandnoble.com/u/nook-tablets/379004191/> (last visited Apr. 16, 2015); *see Kobo Unveils New E-Reader to Take on Kindle Voyage*, DBW, *available at* <http://www.digitalbookworld.com/2015/kobo-unveils-new-e-reader-to-take-on-kindle-voyage/> (discussing Kobo's recent press release unveiling its Glo HD e-reader) (last visited Apr. 16, 2015) [hereinafter "DBW Article"]; in September 2014, Amazon released its Kindle Voyage e-reader, which boasts a resolution of 1080x1430 and 300 pixels per inch. Kindle Voyage e-reader – Amazon's Official Site, *available at* <http://www.amazon.com/Amazon-Kindle-Voyage-Special-Offers/dp/B00IOY8XWQ> (last visited Apr. 16, 2015); just last month, Kobo announced the May 2015 release of its second generation e-reader, the Glo HD, which has a resolution of 1072x1448 and the same pixel density as the Kindle Voyage. Kobo Glo HD, *available at* <https://www.kobo.com/koboglohd#techspecs> (last visited Apr. 16, 2015); *see also* DBW article. Both devices have taken the marketplace by storm and generated critical acclaim. *See, e.g.*, Dieter Bohn, *The new Kindle Voyage e-reader is shockingly good*, The Verge, (Sept. 17, 2014), *available at* <http://www.theverge.com/2014/9/17/6353785/amazon-kindle-voyage-e-reader-price-announcement>; *see also* Paul Sawers, *The Kobo Glo HD e-reader could be a Kindle Voyage-killer, launching May 1 for \$130*, VentureBeat (Apr. 7, 2015), *available at* <http://venturebeat.com/2015/04/07/kobo-announces-the-high-res-glo-hd-e-reader-a-kindle-voyage-killer-launching-may-1-for-130/>.

³¹ For example, in September 2014, Amazon released its Kindle Voyage e-reader, which boasts a resolution of 1080x1430 and 300 pixels per inch. Kindle Voyage e-reader – Amazon's Official Site, <http://www.amazon.com/Amazon-Kindle-Voyage-Special-Offers/dp/B00IOY8XWQ> (last visited Apr. 16, 2015). Six months later, in April 2015, Kobo announced the release of its second generation e-reader, the Glo HD, which has a resolution of 1072x1448 and a pixel density of 300 pixels per inch, and will be released in the United States on May 1, 2015. Kobo Glo HD, <https://www.kobo.com/koboglohd#techspecs> (last visited Apr. 16, 2015); *see also* DBW article. Both devices have taken the marketplace by storm and generated critical acclaim. *See, e.g.*, Dieter Bohn, *The new Kindle Voyage e-reader is shockingly good*, The Verge, (Sept. 17, 2014), <http://www.theverge.com/2014/9/17/6353785/amazon-kindle-voyage-e-reader-price-announcement>; *see also* Paul Sawers, *The Kobo Glo HD e-reader could be a Kindle Voyage-killer, launching May 1 for \$130*, VentureBeat (Apr. 7, 2015), <http://venturebeat.com/2015/04/07/kobo-announces-the-high-res-glo-hd-e-reader-a-kindle-voyage-killer-launching-may-1-for-130/>.

³² AACS Comment at 7.

³³ DVDs have a maximum resolution of only 720x480, compared to Blu-ray's 1920x1080. *See Technology Archives*, Creighton University School of Medicine, <http://medschool.creighton.edu/medicine/admin/tech> (last visited Apr. 24, 2015); *see also* Robert Silva, *How Does Standard DVD Upscaling Compare to Blu-ray and HD-DVD?*, About.com, <http://hometheater.about.com/od/blurayandhddvd/f/blurayhddvd2.htm> (last visited Apr. 24, 2015). For Digitally Transmitted Videos, not all contents are available for HD streaming. *See Streaming Netflix in HD*, Netflix.com, <https://help.netflix.com/en/node/13844> (last visited Apr. 24, 2015).

materials e-book authors need to access.³⁴ Nor, as we explain below in Section V, do proposed workarounds present a viable alternative.

Finally, the opposition argues that e-book authors seek access to the protected formats at issue here as a matter of mere convenience.³⁵ But as we have shown, HD is not an aesthetic preference; it is the minimum standard for today's multimedia e-book technology.³⁶ Furthermore, the difference between a requirement and a "convenience" is by nature subjective, and has no statutory basis in copyright law. Rather, the proper inquiry for this rulemaking is whether the DMCA is or is likely to cause adverse effects to e-book authors' noninfringing fair use rights.

B. An exemption covering AACIS on Blu-ray discs would not cause harm.

As it has done repeatedly in previous rulemakings, the opposition argues, without evidence, that an exemption would cause harm to the relevant market.³⁷ But the record demonstrates that while similar exemptions covering DVDs have existed for nearly nine years, not a single rightsholder has come forward in that time with tangible evidence of a DVD exemption leading to infringement of any kind.³⁸

In any event, our proposed exemption is narrowly tailored; it seeks to cover only the lawful exercise of fair use such as criticism, commentary, and education in the context of multimedia e-book authorship. More importantly, it will preserve fair use for the thousands of authors, scholars, educators, and innovators who seek to explore the enormous potential of the multimedia e-book market and usher in a new era of authorship.

V. The opposition's proposed alternatives to circumvention would not remedy the substantial adverse effects of TPMs on e-book authors.

The opposition suggests that parts of the proposed exemption should be rejected because alternatives to circumvention are available. We consider these alternatives in turn.

³⁴ Between two available HD formats, Blu-ray and HD DVD, Blu-ray has become the industry standard for HD playback. See Richard Lawler, *Format Wars: Blu-ray vs. HD DVD*, Engadget.com, (Jun. 7, 2014, 1:00 PM) <http://www.engadget.com/2014/06/07/format-wars-blu-ray-vs-hd-dvd>.
³⁵ See AACIS Comment at 8–9. In making this argument, the DVD CCA and AACSLA rely heavily on dicta *Universal City Studios v. Corley*, 273 F.3d 429 (2d Cir. 2001). *Corley* considered a constitutional challenge to the DMCA, but we do not challenge the constitutionality of the DMCA. Rather, we seek to work within the DMCA's existing framework by requesting a narrowly tailored exemption to remedy adverse effects on fair use in multimedia e-book authorship—exactly the type of situation Congress anticipated when it set up the § 1201 rulemaking process. In any event, given that *Corley* and the other cases DVD CCA and AACIS cite are over ten years old, they have little relevance to this question given the technological advances in the last decade.

³⁶ See discussion *supra*, Part IV.A.

³⁷ See AACIS Comment at 14; DVD CCA Comment at 12.

³⁸ See 2012 Recommendation at 65263.

A. Licensing and other proposed alternatives to circumvention are insufficient to remedy the DMCA's substantial adverse effects on e-book authors' ability to make fair use.

Licensing as a proposed alternative to circumvention is cost-prohibitive, impracticable, and unduly burdensome for multimedia e-book authors. For example, teachers seeking to use video clips in their e-books as part of their curriculum often lack the funding and technical expertise to do so. An exemption recognizing licensing as an alternative would, in effect, limit the value that such teachers could contribute to their classrooms and academia as a whole. Moreover, the Supreme Court has rejected licensing as an alternative to fair use, holding that it is unlikely that “creators of imaginative works will license critical reviews or lampoons of their own productions.”³⁹ Finally, The Register’s previous conclusion is as sound today as it was three years ago: “clip licensing is not a reasonable alternative.”⁴⁰ Thus, an exemption that recognizes licensing as an alternative would not remedy the DMCA’s substantial adverse effects on e-book authors’ ability to make fair use.

Licensing can further be unduly burdensome for many self-publishing multimedia e-book authors, as they are often unable to find the rightsholder, receive permission, or create a legally binding agreement.⁴¹ As such, requiring authors to obtain a license would create a pay-per-use system that would chill innovation and creation of multimedia e-books. In addition, a failure to grant this exemption because of the availability of licensing would contravene the very policy behind the DMCA by enabling rightsholders to use the DMCA to contract around fair use—a right guaranteed by the First Amendment.⁴² We therefore respectfully request that the Register reject licensing as a proposed alternative to circumvention.

B. Screen capture software is not a viable alternative to circumvention and is especially problematic for e-book authors.

The opposition’s suggestion that screen capture software can be an alternative to circumvention should be rejected. Screen capture software is impracticable for e-book purposes, is riddled with logistical obstacles, and fails to provide the minimal level of quality necessary for rendering of multimedia e-book content.

The Register herself has suggested that that screen capture programs are unsuitable substitutes for circumvention unless their own operation involves no circumvention. For example, under the current exemption, screen capture is only available where “screen capture technology . . . is reasonably represented and offered to the public as enabling the

³⁹ *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 594 (1994) (holding that rightsholders have no “derivative market” for commentary and criticism of their copyrighted works).

⁴⁰ Recommendation of the Register of Copyright, 2012, at 131.

⁴¹ See generally 2015 Comment, Appendix B, Buster Statement; see also Russell N. Carney & Joel R. Levin, *Pictorial Illustrations Still Improve Students’ Learning from Text*, 14 Educ. Psychol. Rev. 1, 5 (2002).

⁴² See 17 U.S.C. § 1201(c) (“Nothing in this section shall affect rights, remedies, limitations, or defenses to copyright infringement, including fair use, under this title.”).

reproduction of motion picture content *after such content has been lawfully decrypted.*⁴³ With just one exception, none of the opposition’s proposed software products makes this representation. It is problematic for e-book authors who have no legal or technical experience to attempt to determine whether such representations have been made, and thus whether they are allowed to use this software. Furthermore, we note that the website of one of the software products recommended by the Advanced Access Content System Licensing Administrator and the DVD Copy Control Association, Camstudio, was blocked by our web browsers because it is a known source of malware.⁴⁴ This, of course, is also problematic for e-book authors who may not have technical expertise to determine which software is legal, viable, and not harmful to their computer.

In any event, most screen capture programs, including those cited by the opposition, are not designed to provide the high quality image needed by multimedia e-book authors, nor are they capable of doing so, and thus are not alternatives to circumvention. For example, the website for WM Capture suggests that the software may not even work with many types of TPMs. The manufacturer states that its products “locat[e] unencrypted media, and download[] that media as it is transmitted, in order to enable the user to view the content at a later time and/or on another device.”⁴⁵ Greenshot is self described as a “light-weight” software that “[q]uickly create[s] screenshots of a selected region, window or full screen.”⁴⁶ Through this description, it is unclear whether Greenshot is capable of capturing moving images and audio from audiovisual works and whether it is adequate for the purposes prescribed by the opposition. It is clear, however that these capabilities are not enough to provide authors with the high quality videos needed for e-books. As such, the programs do not aid authors in creating multimedia e-books and are in no way acceptable alternatives to circumvention.⁴⁷

Nor can screen captured footage be reasonably processed without degrading the quality of the video resolution or audio. Many authors—especially those who self-publish—cannot engage in such measures because they require time, technical expertise, and expensive equipment that many authors simply do not have. If such a requirement were imposed (or if

⁴³ 2012 Recommendation at 140 (emphasis added).

⁴⁴ See CamStudio Video/Screen Capture FREE., <http://camstudio.org/> (last visited Apr. 30, 2015); see also *When good software goes bad: the sad saga of camstudio*, One More Tech, <https://onemoretech.wordpress.com/2014/04/01/when-good-software-goes-bad-the-sad-saga-of-camstudio/> (discussing malware concerns in the operation of screen capture software such as CamStudio) (last visited Apr. 30, 2015).

⁴⁵ See WM Capture – Legal FAQ, <http://wmrecorder.com/support/legal-faq> (last visited Apr. 29, 2015).

⁴⁶ See Greenshot – a free screenshot tool optimized for productivity, <http://getgreenshot.org> (last visited Apr. 29, 2015).

⁴⁷ As we explained in 2012, it is not clear how these programs work and it is not reasonable to expect e-book authors to reverse engineer these programs. See Reply Comment of Mark Berger and Gene Rosow, Docket No. RM 2011-07 at 3 (2012). In fact, the opposition’s own *Matrix Reloaded* example runs counter to its proposition. See AACS Comment at 10. The clip taken from *Matrix Reloaded* was obtained from a DVD, and not a Blu-Ray, because the screen capture software was not equipped to handle Blu-Ray technology. See *id.*

the exemption were denied for Blu-Ray), the result would be a substantial adverse effect to fair use in the multimedia e-book environment.

C. Analysis of the section 1201(a)(1)(C) factors favors the requested exemption.

The opposition suggests that the Register will presume that TPMs increase the availability of works under factor (i)—“the availability for use of copyrighted works.”⁴⁸ Yet again, the opposition provides no evidence of any relationship between TPMs and an increase in the availability of new works. What is clear, however, is that TPMs *limit access* to many new works, effectively hindering criticism, commentary, and other fair uses of those works. The Register herself has stated—and the opposition never disputes—that CSS, AACs, and the encryptions on digitally transmitted video are each mixed access and use controls.⁴⁹ In addition, the opposition never disputes that a significant amount of the copyrighted works that multimedia e-book authors seek to criticize, comment on, or educate others about are distributed with TPM-restricted access. Given the importance of these facts, we respectfully request that the Register analyze them under factor (v) of the Section 1201(a)(1)(C) factors—“such other factors as the Librarian considers appropriate.”⁵⁰ Viewed in this context, an analysis under Section 1201(a)(1)(C) favors our exemption.

VI. Concerns about the scope of the exemption are best resolved by structuring the exemption to permit circumvention “for the purpose of fair use.”

The opposition incorrectly focuses on the length of video clips to be embedded into e-books instead of the more important issue of whether the use of such clips constitutes fair use. In order to resolve any concerns about the scope of the exemption, the Copyright Office should simply structure the exemption to permit circumvention “for the purpose of fair use”—as proposed in our Comment.⁵¹ Contrary to the opposition’s allegations, we are not seeking a broad expansion of the length of video clips to be embedded in e-books. We readily acknowledge that most uses for fair use purposes such as criticism and commentary will be relatively short.⁵² But there is no “bright line” rule for fair use.⁵³ Instead, courts

⁴⁸ See 2015 Comment at 3.

⁴⁹ See 2012 Recommendation at 126.

It is well established, and the record confirms, that CSS is a technological measure that controls access to motion pictures on DVDs, and that AACs is a measure that controls access to motion pictures on Blu-Ray discs. In addition, proponents assert that the various systems that protect motion pictures available via online distribution services also constitute access controls within the meaning of Section 1201(a).

⁵⁰ 17 U.S.C. § 1201(a)(1)(C)(v).

⁵¹ See 2015 Comment at 2.

⁵² *Response of Kartemquin Educational Films and the International Documentary Association*, at 3 (2009), available at http://www.copyright.gov/1201/2008/answers/9_21_responses/doc-flmmkrs.pdf.

⁵³ See Copyright Office – FAQ, <http://www.copyright.gov/help/faq/faq-fairuse.html#howmuch> (“[T]here are no legal rules permitting the use of a specific number of words, a certain number of musical notes, or percentage of a work”); Copyright Office – Fair Use,

conduct both a quantitative and a qualitative analysis to evaluate the “amount and substantiality” factor under 17 U.S.C. § 107(3).⁵⁴ Furthermore, what may in practice be considered short in length for a documentary film may not qualify as short for a multimedia e-book. For example, and as outlined in our February comment, Professor Bobette Buster wishes to make fair use of video clips to bring her in-depth multimedia lectures to the e-book format.⁵⁵ Subjecting such uses to a length requirement could chill the ability of authors like Bobette Buster to make fair use. Such a requirement is unnecessary when copyright law already evaluates the “amount and substantiality” used when considering whether a use is fair. In other words, the proper analysis for this rulemaking is not the length of the clip used, but whether the underlying use for the circumvention is fair use. We reflected this language in our Comment by requiring the exemption be “for the purpose of fair use.”⁵⁶

It is also crucial to emphasize that fair uses under 17 U.S.C. §107 can extend beyond criticism and commentary to include news reporting, teaching, scholarship, and research.⁵⁷ As long as a multimedia e-book author utilizes a video clip for one of these purposes in his or her work in a way that constitutes fair use, such use is noninfringing and merits coverage under our proposed exemption. Because we have sufficiently demonstrated that multimedia e-book authors only seek to make fair use in the form of criticism, commentary, and education of lawfully acquired DVDs, Blu-Ray discs, and DTV, we respectfully request that the Copyright Office recommend our proposed exemption.

<http://www.copyright.gov/fls/fl102.html> (“There is no specific number of words, lines, or notes that may safely be taken without permission.”).

⁵⁴ See, e.g., *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 564–65 (1985) (rejecting fair use claim on the basis that material used was an insubstantial portion of the work but “essentially the heart of the book”); *New Era Publ’n Int’l, ApS v. Carol Publ’g Group*, 904 F.2d 152, 158 (2d Cir. 1990) (“This factor has both a quantitative and a qualitative component.”).

⁵⁵ 2015 Comment, Appendix B, Buster Statement.

⁵⁶ See 2015 Comment at 2.

⁵⁷ Educators like Bobette Buster may be unable to make fair use of *short* movie clips used in their live lectures. For example, Ms. Buster states that she often teaches “in TED-talk like settings,” where she speaks for “live before an audience . . . and [e]ach talk is taped for later viewing on the event holder’s website.” 2015 Comment, Appendix B, Buster Statement, at 2. Problematically, Ms. Buster’s talks are not available for recording and later viewing unlike those of her colleagues, because she cannot make fair use of the high-definition video clips she used for educational purposes. As a result, Ms. Buster’s fair use of the materials in her lectures is negatively affected by her inability to reach a wider viewing audience. Exempting educational content featuring high-definition video content will encourage future creation of original and derivative works under fair use – a doctrine that should be the cradle of creative expression for authors like Ms. Buster. By actively disassociating technological innovation from fair use, the status quo is dangerously inhibiting the evolution of arts and sciences in the United States. See Letter from Lawrence E. Strickling, Adm’r, Nat’l Telecomm. and Info. Admin. to Maria Pallante, Register of Copyrights, Library of Copyrights (Sept. 21, 2012), at 22 n.133, *available at* http://copyright.gov/1201/2012/2012_NTIA_Letter.pdf.

VII. Conclusion

For the reasons set forth above and in our long comment, we respectfully request that the Register recommend to the Librarian of Congress that our proposed exemption be granted:

Audiovisual works that are lawfully made and acquired from DVDs protected by the Content Scramble System and Blu-Ray discs protected by the Advanced Access Content System, or, if the motion picture is not reasonably available in sufficient audiovisual quality on DVD or Blu-Ray, then from digitally transmitted video protected by various encryption measures, when circumvention is accomplished solely in order to incorporate portions of motion pictures into new works for the purpose of fair use, and when the person engaging in circumvention reasonably believes that circumvention is necessary to obtain the motion picture for multimedia e-book authorship.⁵⁸

DATED: MAY 1, 2015

Respectfully submitted,

UCI Intellectual Property, Arts, and Technology Clinic
Samuelson-Glushko Technology Law & Policy Clinic

⁵⁸ 2015 Comment at 2.

APPENDIX A

STATEMENT OF PETER BRANTLEY

Background and Experience

My name is Peter Brantley. I currently serve as Director of Digital Library Applications for The New York Public Library. I also serve as a contributing editor to *Publishers Weekly*, where I write about topics such as internet publishing, libraries, and copyright. I am also the convener of the Books in Browsers (“BiB”) conference—an annual conference for internet publishing companies focusing on developers and designers who are building and launching tools for online storytelling, expression, and art.

I have previously served as the Director of Scholarly Communications at Hypothes.is, the Director of the Bookserver Project at the Internet Archive, and the Executive Director of the Digital Library Federation. I have also served on technical committees for the Open e-book Forum, the predecessor of the International Digital Publishing Forum (“IDPF”), which manages the open-source EPUB e-book format. In addition, I served as an IDPF board member in the period of 2007–2009.

Introduction

Multimedia e-books serve as the 21st century embodiment of the traditional exercise of authorship, permitting readers to engage in and interact with sustained scholarship in a never-before-available manner. Modern e-book technology and market factors have enabled institutions, scholars, and authors to provide the public with works that use high-quality video, in addition to static images, to communicate their messages and arguments.

Modern authors are increasingly interested in building, creating, and publishing multimedia e-books. But the anti-circumvention provisions of the Digital Millennium Copyright Act serve as an enormous roadblock to their ability to take advantage of this innovative technology. Like filmmakers, multimedia e-book authors seek to use high quality video and images from DVD, Blu-Ray, and digital video to obtain important material to conduct criticism and commentary, educate their readers, and demonstrate or illustrate their points. As such, to avoid stifling this innovative and promising form of expression, multimedia e-book authors require an exemption to the DMCA.

Background on Multimedia E-Books

The description of e-books I provided in the statement I submitted in the 2011-2012 round of this proceeding is still accurate. In that statement, I said:

An e-book is essentially a set of digital media assets, including text and audiovisual components, which are encapsulated in a file that can be viewed offline. To be more specific, an e-book consists of a set of HTML tags that mark up text and other forms of content in compliance with a set of specifications and additional instructions for how an application should display the content to the reader. This application might exist self-contained within an e-book reader device (e.g., Apple iPad, Amazon Kindle Fire, or Barnes & Noble Nook Tablet). However, it can also be in the form of software installed on an Apple iPad or iPhone, an Android tablet or mobile phone, or a standalone computer. For the foreseeable future, e-books will be self-contained digital files that can be viewed offline on a device with supporting software. This distinguishes e-books from websites and other media that can distribute files over a network, such as the World Wide Web, and dynamically update the content, even though e-books are based on the coding language and specifications developed for the web.

The most common e-book formats utilize the standard “Zip” container format often used for file archives to contain all HTML content within a single file package, including text, images, and video; the display and formatting instructions; table of contents; and descriptive data about the book. E-book reading applications understand how to unzip an e-book and then display the book for the reader. Because every content asset of the book is contained within the zip archive, the book can be read offline, or moved from one device to another.

Because e-books utilize HTML, they can intersperse a wide variety of content, such as text, images, video, and audio—similar to websites. Although authors and publishers have long incorporated graphs, charts, maps, and photographs into print books, the use of audio and video was not feasible before the development of e-books. Furthermore, e-book content is inherently capable of being resizable or reflowable—it can adjust the spacing of the content depending on the size of the display.

After EPUB became the dominant e-book format, the first multimedia experiments involved publishers adapting an existing text-based book and inserting additional media elements into it, such as short videos. The term “enhanced book” is often used to describe these resulting products, which typify a simple manipulation of the original book. However, as it has become easier to imagine and work with more complex creative products for textbooks, children’s books, non-fiction narratives,

game-based storytelling, cookbooks, and other markets, the publishing community is starting to refer to these products as “multimedia books” or even “transmedia books.”⁵⁹

Multimedia e-book technology has the potential to change how authors engage in storytelling, comment on reality, and connect with their audiences.

Recent Advances in E-Book Technology

Recent software enhancements allow for significant improvements to the multimedia e-book experience, including seamless playback of embedded video and greater standardization across e-book files. EPUB3, for example, facilitates the embedding of flash and other rich media formats that enable reader interactivity. Because EPUB3 includes support for HTML5, scholars, authors, and other professionals will be able to create written materials that rely on video segments to engage their audiences.

EPUB3 is increasingly used in mainstream retail distribution by the large trade publishers, as well as establishing a foundation for reflowable educational materials, through the EDUPUB initiative.⁶⁰ In collaboration with DAISY and IDPF, the technical publisher O’Reilly Media has already published the second installment of the EPUB 3 Best Practices book.⁶¹ EPUB3 will also serve as a universal distribution standard in the e-book supply chain, potentially prevailing over proprietary formats espoused by Amazon.⁶² This, coupled with the ubiquity of e-reader-friendly tablets such as Apple’s iPad, will encourage authors to produce e-books containing audio, visual, and interactive elements.

In light of evolving e-book technology, the nature of storytelling is changing in response to a more interactive user experience. Educators and storytellers are experimenting with new and mixed media experiences, using web and media technology to share information in new ways. Just as early movies utilized existing theater practices as a scaffolding on which they could slowly learn the new medium’s capabilities, e-book

⁵⁹ See Statement of Peter Brantley, Comment of Mark Berger, et al., at 24–25 (2011).

⁶⁰ See EPUB EDUPUB Profile, idpf.org, <http://www.idpf.org/epub/profiles/edu/spec/> (last accessed Apr. 29, 2015); see also Sanders Kleinfeld, *O’Reilly’s journey to EPUB 3*, Tools of Change for Publishing <http://toc.oreilly.com/2013/02/oreillys-journey-to-epub-3.html> (Feb. 7, 2013) (discussing EPUB3’s adoption by O’Reilly).

⁶¹ *Id.*; see also EPUB 3 Best Practices – O’Reilly Media, <http://shop.oreilly.com/product/0636920024897.do> (last accessed Apr. 14, 2015) (discussing the new accessible EPUB 3 - Best Practices for Creating Universally Usable Content book, which takes readers inside the EPUB 3 format and shows, through practical tips and examples, how publishers now have the means to create a single rich data source for audiences of all reading abilities).

⁶² Accessible EPUB 3 book now available at O’Reilly website | International Digital Publishing Forum, <http://idpf.org/news/accessible-epub-3-book-now-available-at-oreilly-website> (last accessed Apr. 14, 2015).

designers are beginning to build new architectures on the historical basis of the print book. Hence, while print books continue to serve an important role in society, multimedia e-books offer a revolutionary alternative in which readers can interact with the material. More importantly, these recent technological advancements allow e-books to incorporate the rich media experience that once existed exclusively on the web.

E-Book Technology Offers New Opportunities for Artistic Expression and Analysis

E-book technology offers expanding capabilities for fair use in artistic expression. For example, multimedia e-book technology has revolutionized art history by facilitating the creation of expressive online art catalogues. Large museums have relied on e-book design technology to create expressive online art catalogues such as the *Getty Online Scholarly Catalogue Initiative Toolkit*.⁶³ An open-source project of the Indianapolis Museum of Art, the toolkit creates a suite of tools that facilitates the publishing and broad dissemination of online scholarly catalogues for art history.⁶⁴

The first iteration of the initiative originated from prototype software developed at the direction of the Art Institute of Chicago during the initial OSCI grant cycle from 2009–2011.⁶⁵ The Institute had engaged the Indianapolis Museum of Art in 2010 to create prototype software for an online catalogue of works by Monet and Renoir in the Institute’s collection.⁶⁶ Envisioning the catalogue as a tool for art historians and other scholars, the Institute took inspiration from existing printed materials with the goal of adding “the best interactive features of the web without compromising the scholarly nature of the text.”⁶⁷ Incorporating this technology, the Institute in 2011 released new scholarship highlighting Claude Monet’s *Beach at Sainte-Adresse*⁶⁸ and *Cliff Walk at Pourville* in addition to Pierre-August Renoir’s *Laundress*⁶⁹.

Multimedia e-book technology has further provided for expanding capabilities for artistic analysis and education by creating automated media production tools for online

⁶³ See *Osci Toolkit* by IMAMuseum, <http://www.oscitoolkit.org/about.html> (last accessed Apr. 14, 2015).

⁶⁴ See *id.* This project is a part of a broader initiative by the Getty Foundation aiming to create replicable models for museum collection catalogues in the online environment. See *Online Scholarly Catalogue* (Getty Foundation), <http://www.getty.edu/foundation/initiatives/current/osci/> (last accessed Apr. 14, 2015).

⁶⁵ See *Online Scholarly Catalogues* | The Art Institute of Chicago, <http://www.artic.edu/collections/books/online-scholarly-catalogues> (last accessed Apr. 14, 2015).

⁶⁶ See *id.*

⁶⁷ See *supra* note 63.

⁶⁸ *Monet Paintings and Drawings at the Art Institute of Chicago*, The Art Institute of Chicago, <https://publications.artic.edu/monet/reader/paintingsanddrawings#section/135470> (last accessed Apr. 19, 2015).

⁶⁹ *Renoir Paintings and Drawings at the Art Institute of Chicago*, The Art Institute of Chicago, <https://publications.artic.edu/renoir/reader/paintingsanddrawings#section/138973> (last accessed Apr. 19, 2015).

artwork exhibitions. For example, in 2006, Wooloo Productions created *Equilibrium MediaRich* for Linux in order to automate media delivery for online exhibitions.⁷⁰

Using e-book technology in this manner allows for promising new ways to catalogue, research, and engage scholars and spectators in art.

E-Book Technology Supports the Use of High Quality Video in E-Books

E-book customization software now allows users to select and assemble customized e-books that include high-quality video and images. For example, *EBook Evolution* by the Big Brand System⁷¹ is a program enabling authors to create their own file packages and integrate content of their choosing into e-books. Companies like Blurb⁷² and Vjua⁷³ have created easy-to-use desktop-publishing software and e-book authoring tools to help authors create professional e-books with embedded content without requiring the author to hire a designer, learn to code, or purchase expensive software. In addition, companies like Red Jumper Limited have created low-cost and user-friendly mobile applications to support the creation of e-books with embedded video and images.⁷⁴

In light of technologically innovative tools such as those mentioned above, individual authors now more than ever have the ability to design and create e-books with embedded multimedia content at a low cost and with ease.

⁷⁰ Wooloo Productions implements *Equilibrium MediaRich* for Linux to Automate Media Transformations, *Equilibrium*, (May 22, 2006) <http://www.equilibrium.com/news/wooloo-productions-implements-equilibrium-mediarich-for-linux-to-automate-media-transformations-and-dynamically-deploy-artwork-for-online-exhibitions/>.

⁷¹ *Ebook Evolution - Big Brand System*, <http://www.bigbrandsystem.com/ebook-evolution/> (last accessed Apr. 14, 2015).

⁷² *BookWright/ Powerful book publishing software | Blurb*, <http://www.blurb.com/bookwright> (last accessed Apr. 14, 2015) (discussing the only desktop publishing software purpose-built for creating professional-looking print books, magazines, and e-books, where an author need not hire a designer, know a line of code, or buy expensive software to create own e-book); *see also* *BookSmart/ Free & easy to use book making tool | Blurb*, <http://www.blurb.com/booksmart> (last accessed Apr. 14, 2015). (discussing a free book-making tool that allows authors to create customized e-books with ease).

⁷³ *See* *Kotobee - Multiplatform interactive ebook authoring software to Android, iOS, Windows, Mac*, <http://www.kotobee.com> (last accessed Apr. 14, 2015) (discussing a multiplatform interactive desktop ebook authoring software that lets authors design and create interactive ebooks, which run on smart devices, web, and desktop platforms like Android, iOS, Windows, and Mac).

⁷⁴ *Book Creator - create and publish ebooks to the iBooks Store or Google Play Store, Red Jumper Limited*, <http://www.redjumper.net/bookcreator/> (last accessed Apr. 14, 2015) (discussing an e-book creation app for ipad or Android enabling authors to add their own text, images, video, music and narration and use all of their content to “tell [their] whole story”).

E-Book Technology Allows for a Revolutionary Interactive Reading Experience

New formats such as EPUB3 enable authors to pack multiple expressions in one book, allowing a user to experience a narrative flow. In other words, one e-book package could contain multiple interactive experiences. As such, reading will no longer serve as a form of passive consumption. Rather, it can become an interactive experience offering feedback between the author and reader. In addition, EPUB3 can give authors the ability to incorporate multiple language translations.

Recent innovations to e-book technology are poised to pave the way for enhanced environmental awareness and capabilities, allowing readers to sense and give feedback in order to change the story. For example, devices that record and store intimate data, such as health and fitness data, will soon be incorporated into multimedia e-book platforms. In addition, software made by Fitbit⁷⁵, Garmin⁷⁶, Nike Fuel⁷⁷, and Jawbone⁷⁸ can measure a user's activity level, sleep quality, calories burned, and distance traveled; they also sync wirelessly to the user's mobile device.

Along similar lines, we may soon see e-books with narratives that can change according to data collected from the user—such as a romance novel that changes based on whether one is reading with a partner. Already, researchers are utilizing sensor data from smartphones to generate new music recommendations based on a user's activities and moods.⁷⁹ Companies like Mediaboom have already begun using e-book technology in this manner.⁸⁰ In addition, e-book technology has enabled textbooks that alter the speed at which content is delivered based on tracking the reader's reading speed and analyzing the reader's responses to questions.⁸¹ Companies specializing in children's literature, such as A-Z Learning, have already begun developing such software.⁸²

⁷⁵ Fitbit Official Site for Activity Trackers & More, <http://www.fitbit.com/> (last accessed Apr. 14, 2015).

⁷⁶ Garmin, <http://www.garmin.com/en-US> (last accessed Apr. 14, 2015).

⁷⁷ Nike FuelBand, http://www.nike.com/us/en_us/c/nikeplus-fuelhttp://www.nike.com/us/en_us/c/nikeplus-fuel (last accessed Apr. 14, 2015).

⁷⁸ Jawbone Up, <https://jawbone.com/up> (last accessed Apr. 14, 2015).

⁷⁹ See, e.g., *Music Search and Recommendation from Millions of Songs*, UC Berkeley Sch. of Info. <http://www.ischool.berkeley.edu/newsandevents/events/deanslectures/20150408lanckriet> (last accessed Apr. 29, 2015).

⁸⁰ Mediaboom, *RomanceNovelYourself*, <http://romancenovelyourself.com>. In addition, websites such as *SilkWords* or *Happily Ever Afters* offer short, interactive romance e-books that allow readers to choose how stories proceed. *SilkWords*, <https://www.silkwords.com/about> (last accessed Apr. 14, 2015); *Happily Ever Afters*, Ebooks and Interactive Media, <http://happily-ever-afters.net><http://happily-ever-afters.net> (last accessed Apr. 14, 2015).

⁸¹ Alexandra Alter, *Your E-Book Is Reading You*, Wall St. J. <http://www.wsj.com/articles/SB10001424052702304870304577490950051438304> (Jul. 19, 2012).

⁸² RazKids, A-Z Learning, <https://www.raz-kids.com/main/HeadSproutTeacher/View/HeadSproutFluencyBuilding>.

The Importance of a DMCA Exemption to Multimedia E-book Technology

The DMCA poses a significant impediment to the development and growth of the promising technologies I have outlined above. Many authors seeking to create multimedia e-books are likely to rely on their ability to make fair use of material from formats such as DVD, Blu-Ray, or digital video. Encryption, however, prohibits authors and publishers from accessing this material.

Without the ability to access content from DVD, Blu-Ray, and digital video, many authors will be unable to create multimedia e-books to tell their stories and make their points. In light of these harsh realities, an exemption to the DMCA covering multimedia e-books is necessary in order to ensure that this technology flourishes.