



**In the Matter of Section 1201 Exemptions to
Prohibition Against Circumvention of Technological
Measures Protecting Copyrighted Works**

Docket No. 2014-07

Comment of

- **Peter Decherney, Professor of Cinema Studies and English, University of Pennsylvania,**
- **Michael X. Delli Carpini, Professor and Dean, Annenberg School for Communication, University of Pennsylvania,**
- **American Association of University Professors,**
- **College Art Association,**
- **International Communication Association,**
- **Library Copyright Alliance, and**
- **Society for Cinema and Media Studies.**

**Requested Class of Work for Exemption – Proposed Class 1 (Audiovisual Works—
Educational Uses—Colleges and Universities)**

Audiovisual works embodied in physical media (such as DVDs and Blu-Ray Discs) or obtained online (such as through online distribution services and streaming media) that are lawfully made and acquired and that are protected by various technological protection measures, where the circumvention is accomplished by college and university students or faculty (including teaching and research assistants) for the purpose of criticism or comment.

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I. Commenter Information

This Comment is submitted on behalf of Peter Decherney, Professor of Cinema Studies and English at the University of Pennsylvania, Michael X. Delli Carpini, Professor and Dean of the Annenberg School for Communication at the University of Pennsylvania, the American Association of University Professors (AAUP), the College Art Association (CAA), the International Communication Association (ICA), the Library Copyright Alliance (LCA), and the Society for Cinema and Media Studies (SCMS). Parties interested in contacting the submitter should contact Sarah O'Connor and Mark Patrick at (202) 274-4148 or by email at mso6921a@student.american.edu or mp9853a@student.american.edu.

The joint petitioners filing this comment represent over 360,000 artists, art historians, curators, critics, collectors, educators, librarians, publishers, professors, scholars, professional university staff, and professionals in the visual arts, all interested in improving the quality of higher education in the United States. The AAUP is an organization of university faculty whose purpose is to advance academic freedom and shared governance, to define fundamental professional values and standards for higher education, and in general increase the usefulness and advance the standards, ideals, and welfare of the profession. The College Art Association (CAA) is a professional association that promotes excellence in scholarship and teaching in the history and criticism of the visual arts and in creativity and technical skill in the teaching and practices of art. The College Art Association (CAA) is a professional association that promotes excellence in scholarship and teaching in the history and criticism of the visual arts and in creativity and technical skill in the teaching and practices of art. The International Communication Association (ICA) is an academic association dedicated to the study, teaching, and application of human and mediated communication. The Library Copyright Alliance (LCA) consists of three major library associations—the American Library Association, the Association of Research Libraries, and the Association of College and Research Libraries—with a unified goal of fostering global access and fair use of information for creativity, research, and education. The Society for Cinema and Media Studies (SCMS) is an organization dedicated to the study of the moving image. The AAUP, ICA, and SCMS were all petitioners in the corresponding 2012 request for

exemption,¹ and their involvement in this Comment is a testament to the continued importance of this process.

II. Overview

The DMCA's prohibition on circumvention of technological protection measures is a barrier to the fair use of audiovisual works for educational purposes. The exemptions granted in the past, permitting circumvention to access motion pictures on DVDs or acquired via online distribution services, have proved invaluable and allowed educators to keep pace with technology. The previous exemption must be renewed and expanded to allow college and university students and faculty to engage critically with audiovisual materials. The exemption must be expanded to include all audiovisual works² in all courses and to include high definition formats such as Blu-ray discs protected by the Advanced Access Content System.

College and university students and faculty have come to rely on the integration of audiovisual works in their lectures and coursework. The types of audiovisual works being used in classrooms and for scholarship have expanded beyond motion pictures to include other audiovisual works, such as slide presentations and video games, which together make up the category of audiovisual works. Professors use audiovisual works for presentations, compilations, montages, and other projects requiring analysis; students also use these works for assignments including video essays, media analysis, multimedia presentations, and the production of documentary videos.

Without the renewal and expansion of these exemptions, college and university students and faculty will continue to face adverse effects negatively impacting the educational experience. College and university faculty have limited class time. When

¹ 2011 Comment of Peter Decherney, et al.

² 17 U.S.C. § 101 (2010) (defining "audiovisual works" as "works that consist of a series of related images which are intrinsically intended to be shown by the use of machines, or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied").

they fumble with audiovisual materials during lecture, they lose valuable teaching time and risk losing their students' attention. Furthermore, the anticircumvention exemptions do not currently extend to high definition materials, precluding professors and students from using works that have otherwise become the standard. Preventing the use of these works may also result in the loss of an intended message by the creator of the content, or an unintentional bias implicit in the inferior format. Finally, proposed alternatives do not serve as effective substitutes. Screen capture technology imposes an unnecessary time and cost related burden and results in an end product of degraded quality. Licensing also threatens loss of valuable time and is a permissive system that may cause some uses to be blocked for political reasons.

For the abovementioned reasons, an exemption must be renewed and expanded to include audiovisual works accessed by college and university professors, students, and staffs of all disciplines.

III. Technological Protection Measures and Methods of Circumvention

Access to motion pictures and other audiovisual works is controlled by numerous technological protection measures (TPMs). For instance, DVDs are protected by entirely different TPMs than those that protect Blu-Ray Discs, and audiovisual works distributed online are protected by almost as many TPMs as there are online distribution platforms, from Amazon to iTunes to Steam.

Almost all DVDs employ the Content Scramble System (CSS), for which the Library of Congress granted exemptions in the previous three iterations of this proceeding. The encryption scheme in CSS employs an algorithm configured by a set of security "locks" to encrypt a DVD's contents. The video content is rendered unusable and unplayable unless the content is decrypted with CSS "keys." Manufacturers of DVD players are authorized to utilize CSS technology under the CSS License Agreement. Millions of DVD players and computers worldwide implement CSS technology, and it is used to protect the content on hundreds of millions of DVDs.

The Advanced Access Content System (AACS) is the successor to CSS and is the standard TPM on Blu-Ray Discs. AACS encrypts discs using title locks. These title locks can only be decrypted using a media key in combination with the Volume ID of the

media itself. Decryption keys are distributed over a broadcast channel, which enables licensors to “revoke” access to individual Blu-Ray players. AACS also incorporates “traitor tracing” techniques, which allow short sections of movies to be encrypted with different keys so that if a key is compromised, it can be identified and revoked without disrupting access completely.

A variety of entirely different TPMs protect audiovisual works distributed online through distribution services or streaming media. For example, Protected Streaming is a TPM developed by Adobe and employed by various online distribution services. Protected Streaming utilizes both encryption and Small Web Format (SWF) Verification to protect audiovisual works. Other examples include Microsoft PlayReady and Apple’s FairPlay.

Circumvention is accomplished in a variety of ways. The most common method of circumvention for educational use is through software programs that disable the various TPMs referenced above. These programs are able to rewrite the desired portion of a protected work with the exact same frame rate, preserving content and maintaining the same resolution. The techniques used may differ widely based on the experience and sophistication of the student or faculty attempting to use the copyrighted work for any of the fair uses described below.

IV. Asserted Noninfringing Uses

College and university faculty and students have come to rely on the current exemption to make use of short clips of audiovisual works in the classroom and for assignments and projects that involve commentary and criticism. However, the current exemption limits access to important additional materials, forcing faculty and students to reduce the quality of education or break the law. Accordingly, this request for exemption seeks to allow for the circumvention of TPMs on DVDs and Blu-ray discs or acquired via TPM-protected online distribution services when the circumvention is undertaken to make use of short portions of audiovisual works for educational uses, such as for criticism or comment, when the circumvention is performed by college and university faculty and students. This includes the use of all audiovisual works in all college and university courses for which short clips from audiovisual works are incorporated into

lectures, assignments, presentations, or other coursework. This requested exemption also includes all educational uses of these audiovisual works by college and university faculty and students.

A. Proposed Uses Are Lawful Fair Uses

Section 107 of the Copyright Act provides that the fair use of a copyrighted work “for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright.”³ The statute instructs courts to consider four factors in deciding whether a use is fair: “(1) the purpose and character of the use; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work.”⁴ Each of these factors weighs in favor of the uses sought under this exemption.

The first factor weighs heavily in favor of a fair use finding. The proposed class of uses is strictly educational. Additionally, the audiovisual works would be repurposed for criticism or commentary, in addition to the overarching purpose of teaching. Even audiovisual works that are factual or educational in nature are subject to the critical interpretation of faculty members or students through arrangement, accompanying message, and overall effect. This repurposing renders the uses transformative.⁵ When a use is transformative, it strongly favors a finding of fair use.⁶

³ 17 U.S.C. § 107 (2010).

⁴ *Id.*

⁵ *See* *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579 (1994) (distinguishing a transformative use that “adds something new, with a further purpose or different character, altering the first [work] with new expression, meaning, or message” from a use that “merely supersedes the objects of the original creation”).

⁶ *See id.* (holding that transformative works “lie at the heart of the fair use doctrine’s guarantee of breathing space within the confines of copyright”).

The second factor focuses on the nature of the work, specifically whether it is the kind of work that copyright law tends to favor. This factor calls for recognition that some works are closer to the core of intended copyright protection than others. The exemption requested in this Comment applies to audiovisual works that range in subject matter from fictional to factual. While the second factor generally will not favor fair use for uses where the underlying work is highly creative, courts have found that the second factor “may be of limited usefulness where the creative work of art is being used for a transformative purpose.”⁷ And of course, highly creative works are often the subjects of criticism and commentary, so there must be room for fair use of such works in appropriate circumstances.⁸

Regarding the third factor, circumvention is necessary to allow college and university faculty to seamlessly incorporate portions and still images from works directly into lectures and presentations. The excerpts will by definition be tailored and limited in amount and substantiality. A primary purpose of the exemption is to prevent faculty and students having to use an entire copyrighted work and to allow them to assign for review or incorporate into presentation just the segment needed for a specific purpose. However, even the use of a full work may be justified when the other factors considered together weigh in favor of fair use.⁹ As such, the amount and substantiality of the portion of the copyrighted work used would favor a finding of fair use.

Finally, the fourth factor weighs in favor of finding fair use since the uses have no effect on the potential market for or value of the copyrighted work itself. The uses are

⁷ *Bill Graham Archives v. Dorling Kindersley Ltd.*, 448 F.3d 605, 612 (2d Cir. 2006).

⁸ *See, e.g., Sundeman v. Seajays Soc’y Inc.*, 142 F. 3d 194 (4th Cir. 1998) (scholar’s use of excerpts from unpublished novel in written and oral critiques was fair use).

⁹ *See Authors Guild, Inc. v. HathiTrust*, 755 F.3d 87, 98 (2d Cir. 2014) (“For some purposes, it may be necessary to copy the entire copyrighted work, in which case Factor Three does not weigh against a finding of fair use.”); *Bill Graham Archives v. Dorling Kindersley Ltd.*, 448 F.3d 605, 613 (2d Cir. 2006) (noting that “courts have concluded that [copying of an entire work] does not necessarily weigh against fair use because copying the entirety of a work is sometimes necessary to make a fair use of the image”).

transformative in that they are for a different purpose and for a different audience. Therefore, the uses do not act as mere substitutes in the original markets for the work.¹⁰ Furthermore, allowing these uses makes DVDs more valuable, making libraries more inclined to buy them, and perhaps even to pay more for them.

B. Professors Across Disciplines Make Use of the Exemption

Following the grant of the 2012 exemption, professors in many fields and film and media studies students have used the exemption in a variety of different ways. Renewal of this exemption will allow professors and students to continue to realize the benefit of short clips of motion pictures from DVDs in an academic context. Furthermore, an expansion of this exemption to high definition media will broaden the resources available to faculty and students for use in and out of the classroom.

From our correspondence with professors and students in a variety of fields, including Art, Biology, Communication, English, Film and Cinema Studies, Foreign Language and Literature, and Music, we have learned that many disciplines have made use of the 2012 exemption. Anne-Marie Bouche, Associate Professor of Art History at Florida Gulf Coast University, spoke to the benefit of the current exemptions.¹¹ “Having media in courses has been a huge improvement pedagogically over the traditional textbook approach we used to use, and we would like to keep doing this. Making digital materials more accessible . . . would greatly assist the development of more such courses in the future.”¹²

Many professors use audiovisual clips to create compilations or montages. Circumventing TPMs allows them to incorporate short clips from several multimedia works into one presentation and show them back-to-back without switching discs,

¹⁰ See *Author’s Guild, Inc. v. HathiTrust*, 755 F.3d 87, 99 (2d Cir. 2014) (“[A]ny economic ‘harm’ caused by transformative uses does not count because such uses, by definition, do not serve as substitutes for the original work”).

¹¹ Written Response of Anne-Marie Bouche, Associate Professor of Art History at Florida Gulf Coast University, to Online Survey (Dec. 1, 2014).

¹² *Id.*

queuing up streams, sitting through the advertisements that precede videos on discs and online, maximizing both time and students' attention. For example, Professor Meta Mazaj of the University of Pennsylvania spoke about the importance of an exemption in her Cinema Studies classes, stating, "Without the ability to make and use short clips, I cannot imagine teaching any more. Especially when referencing several films during a single lecture, browsing through videos to access those clips would waste too much precious class time. It's also a huge distraction and disrupts the flow."¹³

However, access to the full range of audiovisual works with educational benefit is not currently granted because professors cannot circumvent TPMs on high definition formats. Dr. Carol Muller, Professor of Ethnomusicology at the University of Pennsylvania explained that the use of clips from audiovisual works is extremely important for providing context in various courses she teaches, such as *World Music* and the *Music of Africa*.¹⁴ Dr. Muller often does not use clips that she would otherwise use due to constraints created by the DMCA. Even at a well-funded institution that provides extensive media support to its teachers, the prohibition on circumvention forces Dr. Muller to send her students to outside sources like iTunes for high definition clips, inadvertently diverting their attention and wasting valuable time.

Many faculty use audiovisual works to demonstrate processes and concepts. Professor Michael Solomon uses extensive clips and stills from audiovisual works in the classes he teaches on Spanish and Latin American Cinema. He describes this process as "visual grounding."¹⁵ The clips provide visual representation of abstractions that would otherwise be little more than words on a page. According to Professor Solomon,

¹³ Email from Dr. Meta Mazaj, Senior Lecturer in Cinema Studies at the University of Pennsylvania (Jan. 17, 2015).

¹⁴ Phone call with Dr. Carol Muller, Professor of Ethnomusicology at the University of Pennsylvania (Jan. 16, 2015).

¹⁵ Email from Professor Michael Solomon, Professor at the University of Pennsylvania (Jan. 25, 2014).

“Teaching a history or film course without clips would be like teaching a micro-biology course without access to microscopes or specimens.”¹⁶

In fact, microbiology teachers need televisions as well as microscopes. Dr. Phil Rhea uses audiovisual works to illustrate complex cellular processes in the courses he teaches at the University of Pennsylvania in Biochemistry and Molecular Biology. He utilizes the exemption to incorporate clips into multimedia presentations that help him teach a variety of phenomena, such as how a particular enzyme harvests energy to make ATP. Dr. Rhea told us that audiovisual aids are crucial to his teaching: “There is no other way to show that dimensionality and the dynamic of what is going on in that piece of molecular machinery.”¹⁷

Dr. David Wallace, the Judith Rodin Professor of English at the University of Pennsylvania echoed the usefulness of the exemption enabling the incorporation of audiovisual works to demonstrate an abstract concept. In his courses on Medieval literature and culture, Dr. Wallace uses the exemption to show film clips or longer extracts from films in medieval settings, animations of historical events or objects, medieval music, and amateur performances of medieval drama. After being asked how he would be affected if the uses made possible by the exemption were not available, Dr. Wallace responded, “Teaching would be impoverished; it would be harder to keep the attention of students if they had to focus only on medieval texts—visual is their native medium.”¹⁸ Students still need full access to texts in their best format for close study. English professors have always been able to employ excerpts from the best editions of

¹⁶ Id.

¹⁷ Phone call with Dr. Phil Rhea, Professor of Biochemistry and Molecular Biology at the University of Pennsylvania (Jan. 14, 2015).

¹⁸ Email from Dr. David Wallace, Judith Rodin Professor at the University of Pennsylvania (Jan. 17, 2015).

literary works and examine them closely with students; faculty likewise needs to do the same with audiovisual works.¹⁹

Foreign language and literature professors have also come to rely on the use of audiovisual works in the classroom. Dr. Kevin Platt, Professor of Slavic Languages and Literature at the University of Pennsylvania, uses the exemption to incorporate audiovisual works in his classroom to demonstrate storytelling, historical re-enactments, and geographical representations.²⁰ Where previously a professor might rely on text and still images to give students context for a history lecture, they can now use a variety of audiovisual works that provide students with realistic, three dimensional depictions. Dr. Platt relies on the exemption because screen capture techniques have previously proved ineffective, resulting in a degraded end product with a much lower resolution than the original work.²¹

C. Exemption Must be Expanded to Include Students Across All Disciplines

The current exemption must be expanded so that students in all disciplines can make use of audiovisual works in their assignments and projects, just as faculty in all disciplines have been able to do since 2009. Film and media studies faculty have made use of the current exemption to assign projects like clip analysis, video essays, multimedia projects, and even the production of documentary films. These kinds of projects have value for students in every discipline. Manipulating content and incorporating media into presentations is an important skill for all students, regardless of subject matter.

¹⁹ See, e.g., 2011 Comment of Peter Decherney, et al. at 6-7 (providing telling example from Dr. David Wallace of how he has utilized the exemption to compare a passage from Geoffrey Chaucer's "Pardoner's Tale" with a clip from the film *Zoolander* to discuss theories of performance).

²⁰ Phone call with Dr. Kevin Platt, Professor of Slavic Languages and Literature at the University of Pennsylvania (Jan. 14, 2015).

²¹ See *infra* Part V.D.I.A.1 (discussing the failure of screen capture to serve as a viable alternative to circumvention).

Dr. Muller, referenced above, assigns students in her course to build a playlist project incorporating audiovisual clips and other elements from genres of music studied in her course.²² However, the exemption does not currently apply to students in her course so they are very limited regarding which audiovisual works they can incorporate. More broadly, when students see high definition video in every other aspect of their lives and watch lower quality video in the classroom, we signal that time in the classroom is less important than time spent on the treadmill or the orthodontist's waiting room.

Without these exemptions, the DMCA will chill research and analysis. International students participating in the International Media program at the American University School of Communication told us that students from other countries face particular difficulty using the full range of works, especially those not exempted like Blu-ray, for fear of violating the law, saying that they would rather abandon a research idea altogether than risk punishment.²³ One student reported that some students simply choose not to use materials for which an exemption is unclear for fear that they would be in violation of the law and thus have their legal status and educational opportunity in the United States revoked.

D. Exemption Must be Expanded to Include All Audiovisual Works

The renewed exemption should also be expanded to include all audiovisual works, including video games and slide presentations. Video games have become the subject of serious study and a tool for teaching in the classroom:

Just like a shovel works better than digging with only your hands, game-based teaching tools will enable teachers to reach students in ways we can only begin to imagine Video games may be indicative of a shift in the way we construct narrative. A good argument could even be made that video games are the new mythology, a kind of non-linear interactive storytelling that shapes the conscious attitudes of today's youth.

²² See *supra* note 14 and accompanying text.

²³ Interview with Stephanie Brown, Daniel Farber-Ball, Daniela Pérez Frias, International Media students at American University (Dec. 10, 2014).

Video games might even represent the modern examples of storytelling that will eventually become the classics of literature in hyper-connected centuries to come.²⁴

However, because video games are not currently included in an exemption, professors are unable to incorporate short clips from a simulation during lecture. This limits the development of classrooms where video games studies are aimed at critical thinking and analysis rather than programming or design. Jordan Shapiro, who teaches in Temple University's Intellectual Heritage Department, explained how he uses video games as a tool to incite analysis and draw comparisons to literature and culture:

In my undergraduate college classroom, I sometimes require all of my students to play a popular game in the weeks immediately following a unit on Freud. I challenge them to analyze the game like a dream. I ask them to identify the latent content. We identify gender biases, the subtle differences between games aimed at boys and games aimed at girls. What skills are these games teaching? What conceptions of reality are they privileging?²⁵

A broad exemption that includes all audiovisual works will clear the way for faculty and students to study video games on an equal footing with motion pictures and other works.

V. Asserted Adverse Effects

Without these exemptions, students and professors' participation in the highest quality instruction, analysis, commentary, and criticism would be extremely diminished. Dr. Karen Petruska, Project Lead at the Connected Viewing Initiative at the University of California, Santa Barbara described the stakes of this rulemaking eloquently: "It is an interesting future to contemplate wherein 'teaching the canon' may become a matter of teaching what is accessible, not what is moving, or provocative, or value-laden, or

²⁴ Jordan Shapiro, *How Teachers Can Use Video Games In The Humanities Classroom*, MINDSHIFT (July 17, 2014), <http://blogs.kqed.org/mindshift/2014/07/how-teachers-can-use-video-games-in-the-humanities-classroom/>.

²⁵ Id.

inspiring for our future artists, creators, leaders, and citizens While the world is increasingly global in many ways, there are profound barriers to teaching media in the typical classroom.”²⁶

We describe three varieties of harm to higher education associated with TPMs. First, without an exemption, professors, students, and staff would struggle against strict limits on time. Second, low quality video would undermine a variety of learning goals. Third, streaming content providers are developing award-winning proprietary programming that is unavailable for in-class discussion without circumvention. Finally, we show that none of the available alternatives to circumvention is adequate.

A. Time Constraints Continue to Necessitate an Exemption

Professors have benefited greatly from the previously granted exemptions, which have saved time and helped teachers control the flow of their lectures in the classroom. American University Professor Patricia Aufderheide describes part of a professor’s role as similar to that of the conductor of an intricate symphony, designed and performed to engage students in the learning experience.²⁷ She explained that presenting material in a lecture without undue pauses or delays tremendously aids in keeping students’ attention and facilitating active discussion in the classroom.²⁸ Without these exemptions, professors would be forced to scrub through DVDs to find the short excerpt they need, wasting valuable classroom time and potentially losing the attention of students. A representative from the Duke University Center for Documentary Studies spoke to the mitigating effects the exemption has had on wasted time in the classroom:

Short video clips from longer films save a tremendous amount of time in the classroom; it enables the professor to immediately make their point and efficiently re-

²⁶ Written Response of Dr. Karen Petruska, Project Lead at the Connected Viewing Initiative House at the University of California, Santa Barbara, to Online Survey (Dec. 10, 2014).

²⁷ Interview with Professor Patricia Aufderheide, Professor of Communication Studies in the School of Communication at American University (Dec. 10, 2014).

²⁸ *Id.*

screen the clip for further analysis and discussion. Inserting multiple DVDs, fast-forwarding, rewinding, pausing at the right moment drains precious energy, focus and time from the students and professor.²⁹

The problem of limited time is not only relevant to professors but to students as well. Stephanie Brown, a graduate student in International Media at American University's School of Communication explained that in order to produce an assignment using audiovisual works the student must consider not only how long it will take to conceive and plan the assignment, e.g., making a video essay that analyzes a series of related clips, but must also take into account how long it will take to find the exempted formats and clip them.³⁰

B. Students Expect High Resolution Material

With the widespread adoption of high-definition televisions and HD-capable media players like Blu-ray players, cable set-top boxes, and streaming boxes, most people experience most audiovisual content in high definition.³¹ The U.S. Congress foresaw the importance of high definition to the continuing relevance of over-the-air broadcast television more than a decade ago and invested millions of dollars in facilitating the digital TV transition.³² A primary reason for the digital transition was to encourage over-the-air broadcasters to develop high-definition programming:

²⁹ Written Response of Anonymous Representative of the Duke University Center for Documentary Studies (Dec. 10, 2014).

³⁰ Interview with Stephanie Brown, International Media student at American University (Dec. 10, 2014).

³¹ As the Blu-ray Disc Association notes on its website, "In the U.S., over seven million digital televisions (DTVs) have already been sold. Demand for HD programming is rapidly growing. Digital TV is currently established in the U.S., with 85% household penetration by 2010." BLU-RAY DISC ASSOCIATION—CONSUMER ELECTRONICS, <http://www.blu-raydisc.com/en/AboutBlu-ray/BenefitsfortheIndustry/ConsumerElectronics.aspx> (last visited Feb. 5, 2015).

³² At the outset of the transition, the Government Accountability Office estimated that support for the transition in the form of consumer converter boxes would cost between \$460 million and \$10.6 billion, depending on demand and other variables. *Digital*

PBS debuted its HDTV service in November 1998 with a visually bountiful documentary on Dale Chihuly's glassblowing tour. It was produced by Seattle's KCTS, which has been using HDTV for years to make a popular series of aerial travelogues, even though the full quality won't be seen by home viewers until they buy HDTV sets. Experienced HDTV producers urged TV producers to begin making programs suitable for future digital broadcast, at least conforming to the shape of DTV's 16:9 wide-screen picture, if not also providing high resolution.³³

Since that transition in 2009, "Most of the television we watch is available free, over the air and in high definition to boot."³⁴ From May 2008 through May 2012 the number of HDTV channels grew from 1,300 to nearly 5,000 worldwide. Approximately 70% of these channels serve the Americas.³⁵ Additionally, producers of audiovisual equipment are investing substantial time and energy to develop high definition capable devices. For example, smart phones increasingly market and distinguish themselves by reference to the resolution of their screens.³⁶

Broadcast Television Transition: Estimated Cost of Supporting Set-Top Boxes to Help Advance the DTV Transition, U.S. GOVERNMENT ACCOUNTABILITY OFFICE (Feb. 17, 2005), available at <http://www.gao.gov/products/GAO-05-258T>.

³³ Public TV Goes Digital and High-Definition, CURRENT.ORG (Oct. 7, 2002), <http://www.current.org/wp-content/themes/current/archive-site/dtv/>.

³⁴ Kevin Sintumuang, *Cutting the Cord on Cable*, THE WALL STREET JOURNAL (Jan. 7, 2012), available at <http://www.wsj.com/articles/SB10001424052970203550304577138841278154700>.

³⁵ *State of the Satellite Industry Report*, SATELLITE INDUSTRY ASSOCIATION (Sept. 2012), available at <http://www.sia.org/wp-content/uploads/2012/06/Final-2012-State-of-Satellite-Industry-Report.pdf>.

³⁶ Jessica Dolcourt, *ABCs of Smartphone Screens: 1080p and More (Smartphones Unlocked)*, CNET (July 13, 2013), <http://www.cnet.com/news/abcs-of-smartphone-screens-1080p-and-more-smartphones-unlocked/>.

Producers and consumers choose high definition because the difference is significant and immediately perceptible. The Blu-ray Disc Association³⁷ explains on its website that, “[N]o other format can offer the capacity of Blu-ray Disc, and no other format allows for the same high quality video . . . to create the ultimate user experience.”³⁸ The visceral experience of a high definition audiovisual work is part of the author’s intent. Many documentaries are filmed to be shown in high definition and lose their intended meaning and effect when presented in other formats. *Planet Earth* is an 11-part BBC series that was the most expensive nature documentary series ever commissioned and also the first to be filmed in high definition. As a part of the process, BBC spent 5 years in production, with over 2,000 days in the field, using 40 cameramen filming across 200 locations, and shot the documentary entirely in high definition.³⁹ *Planet Earth* is perfectly suited for a wide variety of educational uses, from biology professors demonstrating avian courtship to students in video art classes studying animal physiology. Currently the DMCA prohibits the effective use of high definition excerpts from these videos in classroom lectures or multimedia student assignments.

Students notice the difference when audiovisual materials are not in high definition. Pat Aufderheide, a Professor of Communication Studies in the School of Communication at American University describes the role of a professor in the classroom as the master of ceremonies. Every time Professor Aufderheide uses media in her classroom, she is creating an experience for her students, who lose focus when there is a visible lack of quality in the material. Carol Muller, Ethnomusicology Professor at the University of Pennsylvania, has been dealing with the question of variation in quality for years, using many cultural products in the classroom that have never been released in

³⁷ BLU-RAY DISC ASSOCIATION—ASSOCIATION, <http://www.blu-raydisc.com/en/association/GeneralInfo.aspx> (last visited Feb. 5, 2015) (“[A] voluntary membership group open to any corporation or organization with an interest in creating, upholding and/or promoting the BD formats.”).

³⁸ *Welcome to Blu-ray*, BLU-RAY DISC NEW USER, http://us.blu-raydisc.com/html5/new_users.php (last visited Feb. 5, 2015).

³⁹ *Id.*

high quality formats. Dr. Muller voiced concerns that using less than the highest quality picture can result in an unintended bias: “If we can only use a low quality picture of an aboriginal performance because that is what is available under the exemption, we are communicating an implicit bias that the subjects of these works have less value, and when you have people in a global classroom, you have to be very careful about these things.”⁴⁰ She struggles in teaching these materials, because she knows that lower quality can convey a series of implied messages to her students: that the depicted groups and practices are less contemporary, less valuable, or simply more alien compared to the groups and practices they see depicted in high quality media outside the classroom. The effect of these implicit messages is not only loss of attention, but also loss of appreciation and understanding.

High definition video contains information that standard definition does not. The Blu-ray Disc Association explains on its website that Blu-ray discs are designed to convey much more visual information than DVDs: “Due to the fact that the data layer on a Blu-ray disc is placed much ‘closer’ to the laser lens than in DVD, there is less distortion . . . [h]ence more precision.”⁴¹ *Planet Earth* relied on high definition to capture footage that had never before been obtainable. Jeff Wilson, *Planet Earth* field director, has said that the use of high definition to film birds of paradise during a courtship display in Papua New Guinea was revolutionary: “When people have come here in the past and used super-16 or 35mm film to shoot these birds, they’ve come away with very dark, grainy images. In low light, you wouldn’t see the beautiful, iridescent colours of their wings. With HD, you can capture everything.”⁴² American University International Media student Stephanie Brown participated in a film course that asked students to

⁴⁰ Phone call with Dr. Carol Muller, Professor of Ethnomusicology at the University of Pennsylvania (Jan. 16, 2015).

⁴¹ *What is the difference between Blu-ray disc and DVD?*, BLU-RAY DISC FAQs, <http://us.blu-raydisc.com/faqs.php>.

⁴² Chris Evans, *Nature Filmmaking: Ready for Their Close-Up*, THE INDEPENDENT (Nov. 7, 2007), <http://www.independent.co.uk/news/science/nature-filmmaking-ready-for-their-closeup-399342.html>.

perform a random clip analysis, looking at still images of clips taken from one film at random intervals and to draw some kind of inference, analysis, or argument based on the varying frames captured. Although students could choose whatever interval they wanted, Ms. Brown chose to use even increments to select the clips. She described the importance of quality to this project, stating, “The slightest difference in facial expression can have a huge impact on the analysis of the clip, and this often cannot be discerned or expressed in a lower resolution.”

Co-petitioner Peter Decherney is a Professor of Cinema Studies and English at the University of Pennsylvania. He uses still images made from discs in his lectures on film history. TPMs block screen capture tools, so it is necessary to circumvent the encryption on discs in order to create still images. He describes still images made from DVDs as “muddy” compared to the crisp high definition still images that can be made using Blu-ray discs.

In a recent reissue of the *Wizard of Oz* on Blu-Ray, “[y]ou can see the cables pulling up the Lion's tail, the doors on the backdrops, and a lot of other small details that make it really enjoyable and almost stage-like” Other users identified films like Disney’s *The Little Mermaid*, where you can see brush strokes in Ariel’s hair, and John Carpenter’s *Halloween*, where the difference in high definition actually added interesting facts to the storyline of the film.

In the classroom scene where Laurie looks out the window and sees Michael you can clearly see that he already has the Kirk mask on. It was never clear before and I've seen it projected on film at least once. This creates a slight continuity issue because it isn't established until later in the film that masks and other items had been stolen from the local hardware store (after she's finished school, walked home, napped, etc.).⁴³

⁴³ *What Is Something I Can See Only on a Blu-ray DVD That I Otherwise Would Not Be Able to See in Standard Definition?*, R/Movies, http://www.reddit.com/r/movies/comments/2uophf/what_is_something_i_can_see_only_on_a_bluray_dvd/ (last visited Feb. 5, 2015).

High definition can bring to light the smallest perceivable differences, which can provide new material for academic analysis.

Audiovisual works in high definition formats must become part of the exempted class. HD has become the standard, and its dominance is only growing. Use of lower-quality materials in the classroom sends harmful and inaccurate implicit messages about the content and the course. Artists increasingly rely on high definition as part of their intended message. Finally, high definition video contains information that is simply lost in standard definition, and that information can be grist for fruitful analysis.

C. Proprietary Programming On Streaming Platforms Is Unavailable for Teaching

Streaming media providers like Netflix, Amazon, YouTube, and Yahoo are developing high quality, provocative programming that is available exclusively on their respective platforms. *House of Cards*, *Orange Is the New Black*, and *Transparent* are examples of critically-acclaimed, award-winning programs that are available exclusively via streaming providers. Unless faculty and students can circumvent the TPMs on these works, they will be almost completely unavailable for classroom uses and for student assignments requiring clips.

Streaming directly from these platforms in class is not a viable alternative. To begin with, connectivity in the classroom can be unreliable or non-existent. For the same reasons faculty cannot fumble with DVD players without losing valuable time and attention, they cannot scrub through online programs and wait for streams to buffer. Another reason that commercial streaming media is inappropriate for the classroom is that it often requires viewers to sit through 30 to 120 seconds of advertising before a clip is available. This not only deducts valuable classroom time, but it hijacks it for advertisers.

Finally, the DRM on some streams blocks the connection of certain cords and peripherals, such as VGA cables and projectors. If a professor is teaching from an iPad, for example, he or she cannot project Amazon or Hulu streaming media, because Apple's TPMs block the projection of many of its competitors' video programs. So, even where the faculty member is confident she can cue the appropriate clip and stream reliably from

the in-class internet connection, she will not be able to stream programs from these services in class.

D. Lack of Viable Alternatives to Circumvention

The oft-suggested alternatives to circumvention are expensive and inadequate to the needs of faculty and students. The lack of viable alternatives continues to serve as an adverse effect meriting the need for a renewed and expanded exemption.

1. Screen Capture Degrades Quality and is Limited by Hardware

Screen capture technology is not a viable alternative to the circumvention of technological protection measures. Screen capture technology continues to result in a noticeable lack of quality, and quality is one of the most essential elements to analysis in instruction and education.⁴⁴ Screen capture also results in a loss of valuable information, including even single frames, which can be essential to rigorous analysis. Just as a book would be incomplete with missing pages, words, and phrases, so would an audiovisual work with missing frames.

Professor Kevin Platt of the University of Pennsylvania has experienced first-hand the shortcomings of screen-capture technology. In a course he teaches titled, “Russian and Soviet Culture and Its Institutions: Media, Publics, Genres,” Prof. Platt depends on a clip he uses each semester depicting the engineered famine of 1942 from the documentary film, *The Soviet Story*. In that clip is an especially powerful scene in which an image of a young girl standing by a field full of ripe corn is depicted, followed by the sound of a gunshot, and then the merging of that image with one of the young girl lying dead on the ground. When Prof. Platt tried to extract this clip using screen capture,

⁴⁴ See *supra* Part V.B (discussing the importance of using high definition and high quality audiovisual works in the classroom and the adverse effects posed by a lack thereof).

the resulting resolution was so poor that it was nearly impossible to discern the difference between the two images, making the clip unusable.⁴⁵

The use of screen capture technology also requires high-end hardware and can be much more resource-intensive than circumvention. For example, Nvidia's SDI Quadro is one of the only screen capture cards capable of maintaining the integrity of quality and frame rate, but retails for approximately \$2,999.99.⁴⁶ Faculty and students should not be expected to acquire professional-grade hardware to engage in the audiovisual equivalent of quoting text in a term paper or a PowerPoint slide, especially when circumvention is so much more convenient.

2. Licensing Nullifies the Meaning and Purpose of Fair Use

Licensing does not suffice as a valid circumvention alternative. Anne-Marie Bouche, Associate Professor of Art History at Florida Gulf Coast University, found it virtually impossible to seek permission to use material in a course she co-developed.

We wanted to include a major discussion of the work of the environmental artist Andy Goldsworthy, including an excerpt from a video documentary of his work called *Rivers and Tides*. We obtained the DVD and made several attempts to get permission to use an excerpt but could not even identify or get into contact with the holder of the rights. We would have needed to “unlock” I suppose, if we had ever gotten permission, but we didn't get that far. So instead we are forced to link to inferior copies on YouTube, which change every semester.”⁴⁷

Professors creating these kinds of courses would like to use more audiovisual materials, but the expense and complexity of licensing has proved prohibitive.

⁴⁵ Phone call with Dr. Kevin Platt, Professor of Slavic Languages and Literature at the University of Pennsylvania (Jan. 14, 2015).

⁴⁶ *PNY NVIDIA Quadro SDI Capture Card Video Card*, CDW, <http://www.cdw.com/shop/products/PNY-NVIDIA-Quadro-SDI-Capture-Card-Video-Card/1937380.aspx> (last visited Feb. 5, 2015).

⁴⁷ Response of Anne-Marie Bouche, Associate Professor of Art History at Florida Gulf Coast University, to Online Survey (Dec. 10, 2014).

Requiring professors to license clips for use in class would endanger academic freedom. Licensing agreements, along with the associated time and cost accompanying the process, undermine the very meaning and purpose of fair use. Licensing is a permission system, which results in unequal access to obscure works and enables censorship where rightsholders disapprove of the licensor's intended use. An essential and specifically enumerated purpose of fair use is to provide for commentary and criticism, activities that presume independence from the subject of critique. Some works are simply not available to license. Orphan works for which the rights holder cannot be identified or located would be inaccessible under a system where a license is required. And finally, negotiating a license takes time, making it difficult for professors to make spontaneous and flexible choices about media in response to students' needs.

For these reasons, licensing cannot constitute an alternative to circumvention when the circumvention is completed for the purposes of teaching, criticism, and commentary—three core principles codified in § 107 of the Copyright Act describing fair use.

3. DVD Jukeboxes and Other Hardware Upgrades are Prohibitively Expensive and Do Not Remedy Adverse Effects

As we have argued in previous proceedings, DVD jukeboxes do not provide a viable alternative for students and professors. These machines can cost in the thousands of dollars⁴⁸ and would require additional servers and systems to be capable of use in more than one location. In fact, they do not even serve the primary purpose of circumvention. Jukeboxes store and catalog audiovisual materials, but they do not allow for the manipulation of clips that would allow professors to show the clips in a sequence. Jukeboxes fail to be a viable alternative, causing unnecessary disruption in the classroom and imposing substantial expense on the institution.

⁴⁸ *ProServer 3500 XR CD/DVD Server-Loader*, AMAZON.COM, http://www.amazon.com/ProServer-3500-DVD-Server--Loader/dp/B00BPEN2PA/ref=sr_1_1?s=electronics&ie=UTF8&qid=1422854676&sr=1-1&keywords=dvd+jukebox (last visited Feb. 6, 2015).

TPMs also make it impossible to project streamed films in class without special equipment. Bill Kirkpatrick, a professor at Denison University, spoke to the cost of upgrading equipment to overcome this issue:

The DRM that protects streaming video is able to detect the projector type and block the video output accordingly. This means that many colleges and universities around the country that use VGA connectors are prevented from displaying legally acquired works in the classroom Without the ability to legally circumvent such DRM, cash-strapped institutions are required to upgrade their classroom technology at extraordinary expense, simply to accommodate the DRM and allow professors to exercise their fair use rights.⁴⁹

Accessing legally acquired streamed media should not require infrastructure upgrades at colleges and universities around the country.

VI. Statutory Factors

The proposed class of works and its uses qualify for an exemption under the factors enumerated in § 1201(a)(1)(C), as described below.

(i) the availability for use of copyrighted works

This comment and request for exemption is not premised upon a general lack of availability of works, but rather on the unavailability of works stored on certain TPM-encumbered formats for specific educational uses.

(ii) the availability for use of works for nonprofit archival, preservation, and educational purposes

Many courses in colleges and universities across the country rely heavily on the assistance of audiovisual works as teaching tools. As a result of this reliance, college and university libraries and programs across the country have developed extensive collections of audiovisual works in DVD and Blu-ray formats, as well as subscribing to TPM-protected online distribution services. Thus, the issue is not the actual availability of copyrighted works, but rather the faculty and students' access to use these resources in a

⁴⁹ Written Response of Bill Kirkpatrick, Associate Professor of Communication at Denison University, to Online Survey (Dec. 1, 2014).

meaningful way. Unless an exemption is granted for college and university faculty and students, the countless audiovisual works collected by colleges and universities will dramatically decrease in educational value as faculty and students would not be able to utilize them in a way that was intended when they were added to the institution's collection.

(iii) the impact that the prohibition on the circumvention of TPMs applied to copyrighted works has on criticism, comment, news reporting, teaching, scholarship, or research

The prohibition on circumvention limits both students' and professors' participation in the highest quality instruction, analysis, commentary, and criticism—activities all favored and encouraged as fair use.

When professors are unable to circumvent TPMs, they must employ methods of capturing the content that result in low-quality images and or to resort to the manual scrubbing through discs to reach desired content. The time associated with this process has a chilling effect on the academic use of audiovisual works. Although certain commercial alternatives like screen capture software exist, the output of this process is of unacceptably low quality. In addition, professors often use the clips they make in a transformative way, such as incorporating multiple clips on a single slide or adding audio commentary to video clips. These activities necessarily require copying and editing protected works, which in turn requires circumvention of the relevant TPMs. Students and faculty have also been adversely affected by their lack of permission to access high-definition formats. Without access to the highest quality images available, certain modes of analysis are unavailable to professors and students who seek to examine any number of things best revealed (or only revealed) by high definition images and clips. Online media services are also increasingly developing proprietary and exclusive programming. Without the permission to circumvent the full range of protection measures employed by online media services, faculty and students will be precluded from incorporating an entire group of works into their teaching, research, illustration, and scholarship. This in turn restricts use of information that is not otherwise available in unprotected formats.

(iv) the effect of circumvention of TPMs on the market for or value of copyrighted works

The use of this form of circumvention, should an exemption be granted, would be strictly limited to minimize the potential effect on the market or value of copyrighted works. The exemption is limited to the educational uses outlined above, which are fair uses that require no additional payment or permission. Clips copied from works in this context are to be used exclusively for educational purposes, and it is unlikely that they would be used by those accessing them for other purposes. Even should it occur, it would be unlikely to affect the value of the work from which the clip was sampled, as the clips are limited in duration and not likely to serve as a substitute for the entire work.

Additionally, the market for audiovisual works that exists through college and university libraries will be diminished were an exemption for DVD and Blu-ray formats denied because libraries will have no incentive to keep buying discs once they are no longer useful.

VII. Conclusion

For the foregoing reasons, we respectfully seek the following:

- Renewal of the previously granted DMCA exemption for motion pictures on DVDs and acquired via online distribution services when circumvention is undertaken to make use of short portions of the motion pictures for the purpose of criticism or comment for educational purposes in film studies or other courses requiring close analysis of film and media excerpts by college and university faculty and students,
- An expansion of the same to include all audiovisual works,
- An expansion of the same to include Blu-ray discs protected by the Advanced Access Content System, and
- An expansion of the same to include other courses that do not necessarily require close analysis of film and media excerpts.

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