

June 11, 2018

Regan A. Smith  
General Counsel and Associate Register of Copyrights  
U.S. Copyright Office  
Library of Congress  
101 Independence Avenue SE  
Washington, DC 20559

Re: Docket No. 2017-10  
Exemptions to Prohibition Against Circumvention of Technological  
Measures Protecting Copyrighted Works

Dear Ms. Smith:

Thank you for this opportunity to explain further why screen capture is not a sufficient alternative to circumvention for educational uses of “short portions of motion pictures” beyond film studies or other courses requiring close analysis of film and media excerpts. We hope our response will be helpful to you, and we welcome any further questions you may have.

1. Most commercially released videos now block screen capture programs, rendering them ineffective.<sup>1</sup> Thus, the viability of screen capture as a sufficient alternative is a moot issue.

2. The distinction between courses that require close analysis of film excerpts and those that do not is artificial. A wide range of instructors have pedagogical reasons for using an excerpt, regardless of whether they are teaching a film course or a psychology course. The quality of the excerpt inevitably has an impact on whether the pedagogical purpose will be met.

Moreover, the highest quality video ensures the highest level of student engagement, no matter the nature of the course. Students are exposed to high-quality video in all aspects of daily life, and thus naturally expect high-quality video in the educational context. Lower-quality video distracts students and prevents them from fully respecting and engaging the material presented.

3. In previous rulemaking cycles, we have demonstrated that screen capture programs produce deficient excerpts, and we have provided examples of how such deficient

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<sup>1</sup> See Reply Comment of Authors Alliance et al., Docket No. 2017-10, 16–17 (Mar. 14, 2018), [https://www.copyright.gov/1201/2018/comments-031418/class1/Class\\_01\\_Reply\\_Authors\\_Alliance\\_et\\_al\\_.pdf](https://www.copyright.gov/1201/2018/comments-031418/class1/Class_01_Reply_Authors_Alliance_et_al_.pdf) (“2018 Reply Comment”).

excerpts do not meet the needs of courses far beyond film studies.<sup>2</sup>

Footage obtained with screen capture technologies from DVDs contains many imperfections, including interlacing, dropped frames, frame rate issues, insufficient resolution, and artifacting. Moreover, screen capture is not capable of accurately capturing clips of the large files on Blu-ray discs or other high definition sources.<sup>3</sup>

In the 2015 cycle, we provided the example of the shortcomings of screen capture technology experienced by Kevin Platt, a Professor of Russian and East European Studies at the University of Pennsylvania. In a course he taught titled “Russian and Soviet Culture and Its Institutions: Media, Publics, Genres,” Prof. Platt depended on a clip he used 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 Professor Platt tried to extract this clip using screen capture, the resulting resolution was so poor that it was nearly impossible to discern the difference between the two images, making the clip unusable.

Another example involving Russian history concerns a Russian history professor who wants to show a clip from the early Soviet newsreel and documentary filmmaker Dziga Vertov as examples of Soviet propaganda. Vertov’s experiments with editing include the use of single frames. Even with fast computer processors and video cards, screen capture programs will drop frames, potentially leaving out key elements of Vertov’s message and technique. We can imagine many classes that would want to investigate the history of Russian propaganda in light of today’s headlines. *The Exorcist* also used single frames, as do many avant-garde films. These may be used in classes focusing on perception and cognition or on subliminal messages.

Screen capture is inadequate to meet the needs of science courses. A biology professor might want to use PBS science videos to demonstrate plant cell biology. Even very small details need to be rendered correctly to show the microscopic functioning of cells. Jagged edges, artifacting, color distortion, and blurry and soft images are all common in screen captures and have the potential to confuse students about the parts of a cell or stand between them and complete understanding of what they are observing.

A language instructor might use a short portion of a video to demonstrate gesture, the movement of face and mouth, and the sound of particular words. Screen capture programs distort images and sound, sometimes changing the speed of soundtracks and falling out of synchronization with images. The same language instructor might also

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<sup>2</sup> See, e.g., Reply Comment of Authors Alliance et al., Docket No. 2014-07, 8–10 (May 1, 2015), [https://www.copyright.gov/1201/2015/reply-comments-050115/class%205/ReplyComments\\_LongForm\\_AuthorsAllianceEtAl\\_Class05.pdf](https://www.copyright.gov/1201/2015/reply-comments-050115/class%205/ReplyComments_LongForm_AuthorsAllianceEtAl_Class05.pdf).

<sup>3</sup> AACS admitted in the 2015 cycle that it is not aware of any screen capture technology capable of Blu-ray level quality, and nowhere in the current proceeding has it alleged that such capability now exists.

choose to copy short portions of a motion picture with all of the subtitle and dubbed tracks in tact so that students can switch between different versions as they acquire language skills. As its name suggests, screen capture can only record what is on the screen, losing the ability to toggle between text and audio channels.

Finally, authors of multimedia e-books may want to magnify parts of the frame in order to call attention to specific details that are the subject of criticism and commentary in their work. In our 2017 Comment, we shared the story of one author of fan fiction, who chose to remain anonymous.<sup>4</sup> The author wanted to create an e-book to explore and critique a little-discussed aspect of a major television series, and needed access to high quality footage to “highlight[] details within a larger setting such as a cradle or the baby in the cradle.”<sup>5</sup>

Similarly, the attorney and author Heidi Tandy, who writes fan fiction not only to create novel works but also to educate the public about fair use, hopes to create a multimedia fan fiction e-book offering analysis and commentary on the long-running television series *Supernatural*.<sup>6</sup> To do so, she needs to capture small details from the television show, such as a set artifact or a character’s fleeting facial expression, and then blow up these details to analyze and comment on them.<sup>7</sup>

Given the well-documented flaws and degradation present in all screen-capture software, a screen capture requirement would prevent or severely hinder each of these authors’ ability to make fair use using e-book technology.<sup>8</sup>

Not every problem occurs with every screen capture. But as a rule, screen capture programs are unreliable and almost without fail introduce inaccuracies that change the image and soundtrack in ways that can have a deleterious effect for teaching in a range of fields.

These examples are all equally applicable in a middle school classroom, a PhD seminar, and an online course.

4. The use of screen capture technology can be much more resource-intensive than circumvention. Faculty, students and authors should not be expected to acquire professional-grade products to engage in the audiovisual equivalent of quoting text in a

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<sup>4</sup> See Comment of Authors Alliance et al., Docket No. 2017-10, 18–19 (Dec. 18, 2017), <https://www.copyright.gov/1201/2018/comments-121817/class1/class-01-initialcomments-authors-alliance-et-al.pdf> (“2017 Comment”).

<sup>5</sup> *Id.* at 19.

<sup>6</sup> *Id.* at 20–22; 2018 Reply Comment at 9–10.

<sup>7</sup> 2017 Comment at 21.

<sup>8</sup> As the attached letter from Jim Morrisette demonstrates, the video presentations submitted by the AACS-LA do not undermine this conclusion. In particular, the video presentation submitted at the Section 1201 Roundtable in Washington, D.C. on April 11, 2018, would not provide sufficient quality for use by Ms. Tandy in creating her e-book.

term paper or a PowerPoint slide, especially when circumvention is so much more convenient.

In particular, screen capture technology is far more expensive than ripping software. Sarah Jane O'Brien, an English professor at the University of Virginia, reports that:

The most significant reason to use ripping software rather than screen capturing software is cost. [...] [A]n educational license for Camtasia currently costs \$169, which is prohibitively expensive for students, particularly those who are not pursuing film or media studies degrees and who will thus have limited use for the software. Free, open-access screen-capturing options do exist, but they are difficult to use and frequently place watermarks on footage. In comparison, Handbrake, the free, open-access software that is most frequently used to rip DVDs, is easier to use and provides high-quality footage without a watermark.

Likewise, Fang Yi, an Educational Technologist at the University of Virginia Library who provides tech support to courses where students make remixes, states that screen capture software is inferior to ripping software in terms of resolution, convenience, and cost.

Screen capture software usually does not produce as good resolution as those original files ripped from DVDs. [...] Screen capture software is also time consuming. You can't do anything when the computer[] is doing the recording. However, when ripping DVDs, it is much faster and allows you to do other things with your computer. [...] Usually good screen capture software cost money. Even though Mac has Quick Time which can do screen recording for free, you need to install another 3rd party software and do a lot of audio setting adjustments to be able to record both original audio and the screen at the same time. For students who are not technical savvy, it could take some time to learn. [...] Camtasia is certainly a good software for screen recording, but it is very costly... [and] it is not just a screen capture software. It also has editing functionality. So technically it can be a bit too complicated for just screen capture.

With respect to the need for high quality video in student remixes in non-film courses, Fang Yi explains that "we'd like highest resolution possible to make sure students videos are presentable and professional looking."

5. The films we seek to use in educational settings often reflect enormous creativity. They typically are expressive works that convey complex ideas with subtlety and nuance, by combining sound and moving image to produce the quintessential art form of our time. The author's intention is taught in a wide range of fields, from literature to fine arts to history to communications. Relying on an imperfect copy of a film is like forcing students to look at a painting with flakes of paint artificially removed or a still photograph through an intentionally cracked piece of glass. Respecting the integrity of these works is critical to effective teaching and learning.

6. Opponents of exemptions for the use of video clips in educational settings have repeatedly raised screen capture technologies in the triennial review, and we have repeatedly shown that these technologies are inadequate for the needs of instructors and students in the 21<sup>st</sup> century. The references to screen capture in the exemptions issued by the Librarian have sown confusion among would-be exemption users. Particularly now that many commercially-released videos block screen capture software, limitations relating to screen capture should be removed from the exemptions. Further, the Office should make clear that it will no longer entertain exemption opponents raising the vague prospect of a viable screen capture option without addressing in concrete terms how it actually would serve as an alternative to circumvention to engage in the proposed conduct.

We are happy to respond to any additional questions you may have.

Respectfully submitted,

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Authors Alliance

Peter Decherney  
Joint Educators

Jonathan Band  
Library Copyright Alliance

Jack Lerner  
on behalf of Heidi Tandy and Organization for Transformative Works



Regan A. Smith  
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June 8, 2018

To Whom It May Concern:

This letter presents an opportunity for me to respond to the two videos submitted by opposition to Section 1201 Proposed Class 1 Audiovisual Works—Criticism and Comment—E-Books and Filmmaking. I was on the panel in Washington, D.C. on April 11, 2018 and spoke about the need to renew the existing exemption in order to give filmmakers access to high quality video clips to make Fair Use in productions which must meet highest technical quality available for Broadcast, PBS, Netflix, and theatrical distribution.

Counsel for AACSLA showed two videos—one at the hearings in Washington, D.C. on April 11, 2018<sup>1</sup> and a different one at the Los Angeles hearing on April 24, 2018.<sup>2</sup> Both were apparently introduced in support of the point that computer screen capture software was a viable alternative to circumvention.

### **Analysis of the Video Introduced in Washington, D.C. Focused on iTunes E-Book Author Software**

This was a demonstration of screen capture using Apple's iBooks Author software. Screen capture was used to grab a movie clip from an existing file, and then use it in an iBook creation. The quality, image size, and file data rate were nowhere near the technical requirements of the distribution options that filmmakers need to pass quality control standards. Because the software is free to use, it has major limitations: only small file sizes are allowed, resulting in very drastic image compression.<sup>3</sup> Regardless of whether iTunes accepts low quality footage in an e-book—and Apple's own standards indicate that it does not<sup>4</sup>—such footage will not work for filmmakers

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<sup>1</sup> See Exhibit 1-B, Docket No. 2017-10 (2018), [https://www.copyright.gov/1201/2018/exhibits-043018/class1/Ex.%201-B%20\(DVD%20CCA\\_AACS%20LA\).mp4](https://www.copyright.gov/1201/2018/exhibits-043018/class1/Ex.%201-B%20(DVD%20CCA_AACS%20LA).mp4).

<sup>2</sup> See Exhibit 1-H, Docket No. 2017-10 (2018), [https://www.copyright.gov/1201/2018/exhibits-043018/class1/Ex.%201-H%20\(DVD%20CCA%20AACS%20LA\).mp4](https://www.copyright.gov/1201/2018/exhibits-043018/class1/Ex.%201-H%20(DVD%20CCA%20AACS%20LA).mp4).

<sup>3</sup> The iBooks Store limits the size of an entire e-book, including all videos, to 2GB. See *iBooks Author Help: Publish a Book to the iBooks Store*, APPLE, <https://help.apple.com/ibooksauthor/mac/#/blscb0e718b>.

<sup>4</sup> On Apple's minimum video standards, the iBooks Store lists as one common reason for an e-book's correction or rejection: "16.1. Quality. Your book's media can't have skips, static, corrupted files, pixelation, or other quality

with any broadcasters, distributors, or theatrical exhibitors.

### **Analysis of the Video Introduced in Los Angeles Focused on Fixing Problem Videos Using Adobe Premiere Pro.**

This video states that it was produced by an InCode technician who does work for Discovery Channel. She demonstrated, using Adobe Premiere Pro software, how to “fix” a video clip that was the wrong frame size and frame rate. It was not clear whether this existing movie clip was produced by screen capture or acquired in some other way.

Screen capture technology is not made to reproduce exact frame-by-frame High Definition (HD) video capture. At Kartemquin, we are quite familiar with Adobe Premiere Pro. Adobe Premiere software simply cannot fix many of the problems associated with screen capture, such as dropped frames or repeated frames.

The video simply does not support the assertion that Adobe Premiere can be used to fix problems created during screen capture.

### **Summary**

Screen capture technology is incapable of supporting the needs of filmmakers and e-book authors, and it is not a viable alternative to circumvention. The videos shown in Washington, D.C. and Los Angeles did not adequately address or contradict these points.

As technology evolves, audiences have come to expect HD production values, and broadcasters and distributors demand it. Today, high-quality video clips are widely available on DVDs, Blu-Ray discs, and through online video downloads. There are times when only low-quality footage exists—such as when filmmakers work with archival footage—but filmmakers and publishers of e-books must not be limited as a whole to low-quality production values. This is why it is so crucial that the current exemption, allowing access to HD quality video for purposes of Fair Use, be renewed.

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