

June 29, 2015

Ms. Jacqueline Charlesworth  
General Counsel and Associate  
Register of Copyrights  
U.S. Copyright Office  
Library of Congress  
101 Independence Ave., SE  
Washington, DC 20559

**Re: Docket No. 2014-7 Exemptions to Prohibition  
against Circumvention of Technological  
Measures Protecting Copyrighted Works**

**Subject: Class 3**

Dear Ms. Charlesworth:

On behalf of DVDCCA and AACLS LA, I am submitting the following response to the below post-hearing questions to Proposed Class 3: Audiovisual works—educational uses—massive open online courses (“MOOCs”).

**Questions:**

1. At the hearing and in written submissions, participants discussed 17 U.S.C. § 110(2), or the “TEACH Act,” which addresses distance learning. While the TEACH Act enables the digital transmission of copyrighted works, it also requires the application of technological protection measures (“TPMs”) to protect such digital transmissions. Please describe, with specificity, the types of TPMs that could be applied to digital transmissions made pursuant to the TEACH Act.
2. Please provide information regarding whether and how Coursera, EdX, Udacity, and/or other distance education platforms have implemented or are able to implement TPMs to protect copyrighted content. The Office is particularly interested in the feasibility of implementing TPMs to protect content included in online course offerings. The Office is also interested in learning whether the aforementioned platforms (or others) have signaled a willingness or refusal to implement TPMs, along with any supporting rationale.

**Response:**

Massive Open Online Courses (MOOCs) have several options available with regard to implementing technological protection measures (TPMs) to protect clips of copyrighted movies incorporated into online courses. As described more fully below, there are DRM providers that assist universities in complying with the TEACH Act, and some MOOCs are working with DRM providers to protect electronic textbooks. Consequently, there are market solutions available to assist MOOCs in complying with TPM requirements for any newly created exemption. But even if DRM providers do not directly respond to a newly created regulatory mandate for MOOCs to protect clips of copyrighted movies, MOOCs could avail themselves of DRM technologies more widely employed to protect downloaded or streamed content.

## Background

Based on our research (which did not include direct discussions with representatives of MOOC providers, since we were unable to locate suitable representatives with whom to speak concerning this issue), except as noted below, the three major MOOC providers, Coursera, EdX, and Udacity, generally do not employ TPMs on their online courses. Each of the providers' websites provides detailed instructions on how to download the online courses. To download a course, each of the three providers requires an Internet user to create a free account with the provider, but only Coursera and EdX require the Internet user to register specifically for the course that the user seeks to download.<sup>1</sup> Since the downloading process does not appear to require any special software or to make use of any DRM-enabling platforms, our understanding is that the existing MOOC offerings are not generally protected against copying or other unauthorized uses, except in the recent, limited cases discussed below related to copyrighted textbook materials.

DRM providers generally provide TPMs to online content, available either through download or streaming, on a platform level.<sup>2</sup> So some magnitude of scale in number of offerings or in the number of distributions, or both, is required to make a DRM scheme economically viable.

## TEACH Act DRM Providers

DRM providers have responded to the TEACH Act by developing business lines that assist educational institutions in complying with the TEACH Act. One such provider is MediaCAST Cloud & Mobile Learning Application,<sup>3</sup> which provides a secure platform for institutions to distribute online courses to students' desktops and mobile devices.

Once students have downloaded the MediaCAST app to their computer or mobile device, students may sync their course list with the platform's server to download certain authorized content and acquire the necessary electronic license to play back the content exclusively within the player environment.<sup>4</sup> An Internet connection is required only to sync the app with the platform (i.e., to obtain the content and the license). In between syncs, the student may play the content as much as desired without any connection to the Internet.<sup>5</sup>

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<sup>1</sup> See <https://www.edx.org/about/student-faq> ("I live somewhere YouTube is not available. How can I watch the videos"), <https://www.udacity.com/wiki/downloads> (All course materials are available to registered users), <https://learner.coursera.help/hc/en-us/articles/201211979-Downloading-and-Watching-Videos>.

<sup>2</sup> Platform-based products include *Marlin* founded by Intertrust, Panasonic, Philips, Samsung and Sony; Microsoft's *PlayReady*; Adobe's *Access/Primerime*; and Google's *Widevine*.

<sup>3</sup> See <http://www.inventivetec.com/higher-education/digital-content-management> and <http://www.inventivetec.com/higher-education/copyright-compliance>.

<sup>4</sup> See <http://www.inventivetec.com/mobile-learning-package-1>.

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

MediaCAST also provides educators with a significant amount of control over the downloaded content. Educators may determine which students are authorized to view what content and how long the content remains accessible to the student by setting an expiration date. Expired content is automatically rendered inaccessible from the student's desktop or device even if the device is not connected to the Internet.<sup>6</sup>

MediaCAST's technology also allows educators to manage the licensing of content on an individual level. For example, if an institution has acquired licenses for ten users, then MediaCAST will create a waiting list for the additional users, and make the license available to those users on the waiting list once a user returns the content or time limitations associated with the content expires.

### MOOC/DRM for Electronic Textbooks

In 2013, Coursera partnered with several textbook publishers to enable the free use of TPM-protected electronic textbooks for its courses via the Chegg e-reader platform.<sup>7</sup> As part of the partnership, Chegg provides software, integrated into the Coursera website, that allows students to view certain textbooks as supplemental material. In order to access these materials, students follow a link on the course home page directing them to a site where they can view the authorized materials through a web browser using Chegg's e-reader. Students are only able to view the authorized materials through a web browser and cannot download and retain copies of the materials. Further, students' access to these free materials is restricted to the duration of the course.

In 2014, EdX entered into a similar partnership to provide free TPM-protected textbooks in certain courses on the Vital Source Bookshelf e-reader platform.<sup>8</sup> The partnership closely resembles the partnership between Chegg and Coursera. Vital Source provides EdX with the technical capability to deliver publisher content on a restricted basis. As with the Coursera partnership, students are linked to the materials from the course homepage and may only view the content through a web browser, it cannot be downloaded and retained.<sup>9</sup> Students' free access to the materials is also limited to the duration of a course, as in the Coursera partnership.<sup>10</sup>

The announcements for both partnerships cite the abilities of Chegg and Vital Source to provide content on a DRM-restricted basis as an important aspect of delivering this content to MOOC students. It is unlikely that the MOOC providers would be able to deliver such content if they insisted on an unprotected platform.

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<sup>6</sup> *Id.*

<sup>7</sup> See <http://blog.coursera.org/post/49930827107/collaborating-with-publishers-to-bring-courserians>.

<sup>8</sup> See <https://www.edx.org/blog/vital-source-edx-bringing-education>.

<sup>9</sup> See <https://www.edx.org/about/student-faq> ("Can I download the book for my course?").

<sup>10</sup> See <https://courses.edx.org/courses/HarvardX/SW25x/1T2014/6e3700312b034f5ebef77c7bf6e10c6c/>.

## DRMs Used for Downloaded Content

TPMs commonly employed to protect downloaded content often impose time period restrictions on playback or otherwise restrict playback of content to licensed players. For example, Apple's iTunes allows downloaded content to be stored on consumers' machines but only permits the licensed content to be played back with the iTunes video player or Apple's Quicktime Player through FairPlay DRM technology, which manages licenses for the content.<sup>11</sup> The user may effectively license up to ten authorized devices, including five computers.<sup>12</sup> The content will only play back on these ten devices. While FairPlay does not prevent copying the content to additional devices,<sup>13</sup> the content will not be accessible without a valid FairPlay license. Consequently, a consumer would have to deactivate one of the existing licensed devices before the "eleventh" device will be able to playback the content.

CastLabs offers a system that enables the flexibility of supporting multiple DRMs, acting as a trust authority to support encryption of content and distribution of encrypted content and necessary decryption keys to a variety of users each of whom may have a different DRM platform enabled on his/her device.<sup>14</sup> Its product, DRMtoday, provides both encryption and license-management technology across the major DRM platforms including *PlayReady*, *Access*, *Marlin*, and *Widevine*, for those companies that have either limited offerings or distributions or that lack the capabilities to develop their own content protection platform.<sup>15</sup> The product allows content producers to encrypt content and create the licensed keys to decrypt the content. See Attachment A. The licensed keys are uploaded to the DRMtoday database. When a user downloads the encrypted content from the content provider, the user must use a licensed player to authenticate the key with the DRMtoday database. Authentication will allow the player to playback the content as much as the user desires and subsequent playback will not be dependent upon an Internet connection. See Attachment B.

## DRM for Streaming Content

DRM providers for streaming video include Marlin, Adobe Primetime, Microsoft PlayReady, and Google Widevine.<sup>16</sup> These DRM systems are designed for use in conjunction with customizable media players like Adobe Flash or Microsoft Silverlight.<sup>17</sup> Playback is

<sup>11</sup> See <https://support.apple.com/en-us/HT204370> (Question 18: "Can I watch the movie in Quicktime Player?").

<sup>12</sup> See <https://support.apple.com/en-us/HT204074>.

<sup>13</sup> See <https://support.apple.com/en-us/HT201251>.

<sup>14</sup> See <http://castlabs.com/company>.

<sup>15</sup> See <http://drmtoday.com/how-it-works> (describing how DRMtoday works) and <http://drmtoday.com/platforms> (detailing the compatibility of platforms supported by DRMtoday).

<sup>16</sup> See [http://www.marlin-community.com/technology/how\\_marlin\\_works](http://www.marlin-community.com/technology/how_marlin_works); <http://www.adobe.com/solutions/primetime/digital-rights-management.html>; <https://www.microsoft.com/playready/overview>; and [https://www.widevine.com/wv\\_drm.html](https://www.widevine.com/wv_drm.html).

<sup>17</sup> See <http://www.streamingmedia.com/Articles/Editorial/Featured-Articles/The-Changing-Face-of-DRM-Where-Do-We-Stand-in-2015-101319.aspx> (section header "A DRM-Capable Player").

therefore possible on mobile devices, set-top boxes, smart TVs, or traditional web browsers, which support these media players. On these platforms, the TPMs encrypt and hide the source files for the content streamed to the player so that a user cannot directly download and retain a copy of the source file for on the user's desktop or device.<sup>18</sup>

Several DRM providers offer these platforms for companies that do not either have the scale in offerings or distributions or have the capabilities to deploy such a scheme on their own. Those providers include:

- EZDRM.com, which lists prices on its website ranging from \$20 to \$70 per month for the different platforms and levels of protection.<sup>19</sup>
- Expressplay.com, which offers a pay-as-you-go pricing model ranging from \$10 to \$2000 per month, based on the number of “tokens” used by the content provider.<sup>20</sup> One token appears to correspond to one purchased “view” of a piece of media.
- BuyDRM.com and Verimatrix.com offer similar services<sup>21</sup> but do not list any pricing information.

## Conclusion

In light of the foregoing, MOOC providers have a number of options for applying TPMs to courses that may include short clips of copyrighted movies. DVDCCA and AACCS object to the creation of an exemption for this class for those reasons stated in their submissions and at the hearing. Nevertheless if the Register were inclined to extend the exemption for the circumvention of DVDs to this proposed class, then any newly created exemption, consistent with the TEACH Act, must require MOOC providers (as well as course creators) to protect the movie clip from any unauthorized copying and redistribution.

Sincerely,

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<sup>18</sup> *Id.* (section header “What is Full DRM: Encryption”).

<sup>19</sup> See [http://www.ezdrm.com/html/drm\\_options.asp](http://www.ezdrm.com/html/drm_options.asp).

<sup>20</sup> See <http://www.expressplay.com/pricing>.

<sup>21</sup> See <http://buydrm.com/products> and <http://verimatrix.com/solutions/verimatrix-multirights>.