

Simon Carless  
Brewster Kahle  
on behalf of The Internet Archive  
P.O. Box 29244, The Presidio of San Francisco  
116 Sheridan Avenue, San Francisco, CA 94129  
<<http://archive.org/>>

Office of the General Counsel  
Copyright Office, L-M 403, James Madison Memorial Building  
101 Independence Avenue, SE., Washington, DC 20024-0400

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**Re: RM 2002-4 – 17 USC § 1201 Exemptions Notice of Inquiry**

*1) Literary works, including computer programs and databases, protected by access control mechanisms that fail to permit access because of malfunction, damage or obsolescence.*<sup>1</sup>

Thank you for this opportunity to write in reply to the above proposed exemption from Section 1201 of the Digital Millennium Copyright Act.

I have recently started volunteering at The Internet Archive to help the Archive preserve software representing breakthroughs in the art and science of programming. Many of these breakthroughs are in the process of becoming lost to history as the media on which they are stored degrade and the platforms for which they were written disappear.<sup>2</sup> For that reason, the Internet Archive has begun to collect breakthrough programs by means of donation and purchase, transfer them to modern media, access them to ensure proper transfer and make them available to others within the confines of copyright law as historic artifacts.

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<sup>1</sup> This class was proposed in the following comments to this rulemaking: *Comments of Shawn Hernan on behalf of CERT Coordination Center*, Comment No. 29, Class 4; *Comments of Samuel Greenfeld*, Comment No. 32, Class 2; and, *Comments of Arnold P. Lutzker on behalf of the American Association of Law Libraries, American Library Association, Association of Research Libraries, Medical Library Association, and Special Libraries Association*, Comment No. 33, Class 1.

<sup>2</sup> As discussed in the Internet Archive's comments, preservation of digital works poses a unique challenge because of the quick deterioration of digital media and the rapid obsolescence of digital formats. See *Comments of Brewster Kahle, et al. on behalf of the Internet Archive*, Comment No. 25 ("Archive Comments") § 1.2.

If this exemption is not extended in this rulemaking, Section 1201's prohibition on access control circumvention will be a barrier to preserving the class of computer software to which access is restricted by means of hardware dongle or similar device. It is for this reason that I write in support of this exemption.

- 1. Class of Works:** *Literary works, including computer programs and databases, protected by access control mechanisms that fail to permit access because of malfunction, damage or obsolescence.*

### *1.1. Summary of Argument*

Computer programs are literary works. Many of these works are protected by access control systems that prohibit access based on what is known in the industry as a "hardware dongle." Dongle-based access control prohibits access to a work on any device on which the appropriate hardware dongle is not present. Some of these works are priceless and irreplaceable markers of computer history that should be preserved, and their preservation is protected under Sections 107, 108 and 117 of the Copyright Act. To preserve these works, they must be transferred to new media and accessed on modern devices. Unfortunately, Section 1201's prohibition on the circumvention of access controls makes preservation of these works impossible. Extension of the proposed exemption will allow for these works to be preserved so that they may be available to future generations.

### *1.2. Access control*

The hardware dongle access control system works by requiring the presence of a particular piece of hardware in order to be able to access software. It is used by software manufacturers to limit the effect of copying their software since, without the dongle, the copied software cannot be accessed. The hardware dongle is difficult to replicate making the underlying software more difficult to pirate. However, a side effect of dongle-based access control is that

legitimate access to the software may be prevented if the dongle is lost, malfunctioning, damaged or obsolete. In the previous 1201 rulemaking, Joseph Montoro discussed the problems damaged or malfunctioning dongles cause consumers attempting to legitimately access purchased software.<sup>3</sup> Because the Internet Archive seeks to archive old software, including software built for obsolete platforms, our concern for this class is over the problems caused by dongle-based access control systems designed for obsolete systems or for use with obsolete hardware dongles.

Examples of such computer programs include:

**Robocop 3:** Written for the Commodore Amiga, *Robocop 3* is an early three-dimensional game using polygons to simulate three-dimensional objects. It was produced by a flight simulator company called “Digital Image Design” and is notable for having early “First Person” game play elements. It is protected by a hardware dongle and thus cannot be archived without circumventing the dongle-based access control.

**Wordcraft:** Wordcraft is a word processing program that was launched in or around 1980. It was one of the first wave of word processors for home computers, predating even Microsoft Word for DOS, which launched in 1983. Anyone studying the evolution of writing implements from the typewriter to the modern word processing program would be especially interested in Wordcraft. Not even its descendents are commercially available today. The original version of Wordcraft, however, uses a hardware dongle.

**Leaderboard:** The original Commodore 64 version of one of the leading sport simulators of all time, Leaderboard was published by Access Software in 1986. It employs a dongle-based access control that connected to the joystick port of the Commodore 64.

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<sup>3</sup> See *Comments of Joseph V. Montoro*, Comment No. 199 to 2000 Rulemaking.

**Nite-Lite BBS:** The Nite-Lite bulletin board system (“BBS”) is a message-board program. It is an early example of the software used to exchange files and messages before widespread Internet use. It was originally written for the Atari computer system and according to the Atari 8-Bit Frequently Asked Questions file, original copies were equipped with dongle-based access control systems.<sup>4</sup>

### *1.3. The Proposed Exemption Allows Non-Infringing Use*

As argued in the Internet Archives’ previous comments in this rulemaking, reproduction of and access for archival purposes is explicitly exempted from copyright liability under Sections 108 and 117 of the Copyright Act governing archiving and libraries.<sup>5</sup> Furthermore, even without Sections 108 and 117, the Internet Archive’s use of this computer software is protected by Section 107’s exemption for fair uses.<sup>6</sup>

### *1.4. The Exemption Satisfies the Statutory Categories of 1201(a)(1)(C)*

Congress has directed the Copyright office to recommend exemptions to 1201(a)(1) by examining the impact of any exemption on:

- (i) the availability for use of copyrighted works;
- (ii) the availability for use of works for nonprofit archival, preservation, and educational purposes;
- (iii) the impact that the prohibition on the circumvention of technological measures applied to copyrighted works has on criticism, comment, news reporting, teaching, scholarship, or research;
- (iv) the effect of circumvention of technological measures on the market for or value of copyrighted works; and
- (v) such other factors as the Librarian considers appropriate.<sup>7</sup>

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<sup>4</sup> See *Atari 8-Bit FAQ*, § 10.2, available at <<http://www.faqs.org/faqs/atari-8-bit/faq/section-58.html>>.

<sup>5</sup> See *Archive Comments* §§ 1.3.1 and 1.3.2.

<sup>6</sup> See *id.*, § 1.3.3.

<sup>7</sup> 17 USC § 1201(a)(1)(C).

The renewal of this exemption will increase the availability of copyrighted works; ensure their availability for non-profit preservation, education, scholarship and research; and allow preservation of works subject to extinction due to irreparable harm, damage or obsolescence. Importantly, extending this exemption does not have any impact on the market for copyrighted works.

#### 1.4.1. Availability for use of copyrighted works

Without an operable hardware dongle or an act of circumvention, a work protected by dongle-based access control is unusable. Where the dongle itself or the platform for which it was designed are obsolete, there is no mechanism for replacing the dongle to restore access to the original work. Thus, in the case of each of the software programs discussed above, the program is inaccessible and the availability of the copyrighted software program is next to nil.

As explained in the Internet Archive's previous comments in this rulemaking, without the ability to access software once it is transferred to modern media, the software cannot be effectively preserved.<sup>8</sup> Thus, as the media on which older software programs are stored degrade, if archivists cannot access their reproductions of the software, then the software cannot be preserved and the lack of availability may be irreversible. If the exemption is extended, archivists will be able to continue attempting to save these works and make them available for the future.

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<sup>8</sup> See *Archive Comments* § 1.2.2.

1.4.2. The availability for use of works for nonprofit archival, preservation, and educational purposes

As stated above, without the extension of the exemption of this class of works these works will not be available for archival and preservation purposes. Furthermore, without the ability to access a work it will not be available for educational purposes.

1.4.3. The impact that the prohibition on the circumvention of technological measures applied to copyrighted works has on criticism, comment, news, reporting, teaching, scholarship, or research

Every year many print publishers go out of business. Their works, however, may be archived by libraries and private collectors because they are printed in hard copy form. The equivalent is not true for software programs. As many software companies cease to exist every year, many of their copyrighted software programs cannot be easily preserved. Section 1201(a)(1) effectively prohibits preservation of software protected by obsolete access control systems.

If software is not preserved, it will not exist as a primary source for scholarship, research, criticism, comment or teaching. The only record of such software will be the secondary sources that were derived from the original software while it was still accessible.

1.4.4. The effect of circumvention of technological measures on the market or value of copyrighted works

The exemption has no adverse effect on the market for copyrighted works. In the case of an obsolete device, which the Copyright Office has defined by reference to Section 108 of the Copyright Act, any negative commercial impact is minimal. By definition, the software product, its required hardware, or the hardware dongle necessary for its access are “no longer manufactured or are no longer reasonably available in the commercial marketplace.” The market for such works does not exist.

As explained in the Internet Archive's previous comments in this rulemaking, in order for a work to pass productively into the public domain, it must survive the long term of its copyright.<sup>9</sup> Even if the media on which a work is stored could survive, the technology required to read the media, make sense of the format and access the work would not, thereby rendering the software useless to the public. The only value lost will be the value to future generations who will have no access to these works if this exemption is not extended.

### *1.5. Conclusion*

In addition to the many reasons raised in the first round of comments in this rulemaking, extending this exemption is important because it will allow groups such as the Internet Archive to preserve historic computer programs protected by dongle-based access controls. It is a narrowly drawn class that does not pose a significant threat to copyright holders or the market for copyrighted works, and provides for the long term availability of these copyrighted works for scholarship, research and teaching. For these reasons, the exemption for "*Literary works, including computer programs and databases, protected by access control mechanisms that fail to permit access because of malfunction, damage or obsolescence*" should be extended.

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<sup>9</sup> See *id.*, § 1.4.4.