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CPSC 610: Topics in Computer Science and Law

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May 15, 2021

The DMCA and Consumer-Based Copyright:  
An Analysis of Fair Use, Liability, and Anti-Circumvention

**I. Overview**

*To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries<sup>1</sup>*

The first article of the Constitution gives Congress the power to establish a system of copyright and ever since its first statute in 1790, copyright law has been a central fixture of American law. Copyright only applies to original works of authorship fixed in any tangible medium of expression and does not extend to ideas, procedures, processes, systems, concepts, principles, or discoveries.<sup>2</sup> It provides an incentive to authors – inventors, scientists, artists, etc. – to create original works by guaranteeing them a temporary monopoly over their work. Being a copyright holder entitles the holder to the exclusive right to reproduce their work, prepare derivative works from it, sell or license the use of their work, and the right to the public performance and public display of their work.<sup>3</sup>

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<sup>1</sup> “Article I.” *Legal Information Institute*, Legal Information Institute.

<sup>2</sup> 17 USC §102

<sup>3</sup> 17 USC §106

This paper aims to argue that modern digital copyright fails to meet its constitutional purpose. Under the DMCA it has been weaponized against consumers and competitors and has failed in its intended objective of promoting the progress of science and arts. It currently favors copyright holders at the expense of the broader public. According to *Wheaton v. Peters*, copyright should not be treated as property in the traditional sense because it is an entitlement the government chose to create in the name of societal progress.<sup>4</sup> The DMCA has strengthened those entitlements and slowed progress. The scope and nature of copyright is a policy choice and the DMCA's provisions are choices aimed at dealing with "long gone business and technological problems"<sup>5</sup>. They hinder the modern marketplace through their effective dismissal of fair use and their enabling of the abuse of anti-circumvention provisions to hinder both research and competition.

## II. The DMCA

The Digital Millennium Copyright Act (DMCA) was passed in 1998 in order to implement two international treaties signed with the World Intellectual Property Organization in 1996 to extend and enforce protections for copyright holders abroad. The DMCA overall made it a criminal act to disseminate copyrighted works and extended copyright protections to works copyrighted outside the US. The DMCA's goal was to promote a robust digital economy and encourage cooperation between rights holders and digital online service providers (OSP) to find solutions to online theft.<sup>6</sup> Furthermore, due to the concerns over new digital technologies and

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<sup>4</sup> *Wheaton v Peters*, 33 U.S. 591 (1834)

<sup>5</sup> A. Abbott, et. al., "Creativity and Innovation Unchained: Why Copyright Law Must be Updated for the Digital Age by Simplifying It", released by the Regulatory Transparency Project of the Federalist Society, October 27, 2017.

<sup>6</sup> *United States. Congress. Senate. Committee on the Judiciary. (1998). The Digital Millennium Copyright Act of 1998 : report together with additional views [to accompany S. 2037].*

their ability to pirate content through peer-to-peer file sharing, the DMCA added “anti-circumvention” and “safe harbor” provisions.

Section 1201, the anti-circumvention provision, made it a criminal act to circumvent access controls on copyrighted works regardless of whether it resulted in copyright infringement while section 1202, the trafficking provision, made it a criminal act to produce and disseminate devices, services, or technology that evaded measures controlling access to copyrighted works.<sup>7</sup> This allowed for copyright holders to implement technological protection measures (TPM) to control access to copyrighted content in an effort to reduce infringement.

Section 512, the safe harbor provision – or the Online Copyright Infringement Liability Limitation Act – made it such that internet service providers (ISP) and their intermediaries were not directly or indirectly liable for any copyright infringement that occurred through the use of their services as long as they blocked or removed infringing material whenever they received notice of infringement.<sup>8</sup> This shifting of liability away from platforms was enacted to protect emerging OSPs and foster the growth of new and emerging digital services. Section 512 also created the “notice-and-takedown” system. Under that system, a copyright holder can submit a notice if they believe someone has infringed on their copyright and want it removed from a digital platform. Takedown notices require contact information of the originator, identifying the suspected copyright infringement, a statement that the notice is filed in good faith and all information in the notice is accurate, and under penalty of perjury, the originator of the notice is entitled to act on said copyright.

### **III. Fair Use**

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<sup>7</sup> 17 USC §1201, 17 USC §1202

<sup>8</sup> 17 USC §512

To understand how the DMCA undermines fair use, it is important to first define it. Fair use is a legal doctrine that promotes freedom of expression by permitting the unlicensed use of copyright-protected works under certain circumstances, normally including: criticism, commentary, news reporting, teaching, scholarship, and research.<sup>9</sup> Fair use is usually determined on a case-by-case basis and is dependent on four factors: 1) the purpose and character of the use of the copyrighted-work (is the work transformative in nature?), 2) the nature of the copyrighted work, 3) the amount and substantiality of the portion of the copyrighted-work used in relation to the copyrighted-work as a whole, and 4) the effect of use of the copyrighted-work on the potential market for or the value of the copyrighted work.<sup>10</sup> The two legal cases we will use to analyze the relationship between the DMCA and fair use are the following: *Tuteur v. Crosley-Corcoran* and *Lenz v. Universal Music Corp.* *Tuteur v. Crosley-Corcoran* stated that takedown notices only require copyright owners to affirm that the material being used is being used without permission. It consequently concluded that the burden of proof for a defense of fair use rests on the accused infringer as an affirmative defense.<sup>11</sup> It prioritizes the right of copyright owners to control their works over by effectively assuming infringement unless fair use is proved. On the other hand, *Lenz v. Universal* held that the DMCA requires copyright-holders to consider fair use before sending takedown notices in order for those notices to be in good faith and that fair use was not “infringement to be excused” but rather not infringement in the first place.<sup>12</sup> It prioritizes the expressive and creative benefits of fair use creators. While both cases

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<sup>9</sup> 17 USC §107

<sup>10</sup> Stim, R., & Law, R. S. A. at. (2019, December 4). *Measuring Fair Use: The Four Factors*. Stanford Copyright and Fair Use Center. <https://fairuse.stanford.edu/overview/fair-use/four-factors/>.

<sup>11</sup> *Tuteur v. Crosley-Corcoran*, 961 F. Supp. 2d 333 (D. Mass. 2013)

<sup>12</sup> *Lenz v. Universal Music Corp.*, Case No. C 07-03783 JF (PVT) (N.D. Cal. Oct. 22, 2010)

affirm that fair use is not infringement on copyrighted works, they approach fair use from radically different philosophical camps.

**a. Philosophy of Copyright and Approaches to Fair Use**

The philosophy of copyright lies in two camps: the idea of copyright as a natural right inherent in the law or the idea of copyright as an economic right recognized by a statute. In approaching copyright as a natural right, an author's relationship with their work is essential and unrestricted, and thus, any unauthorized copying or adaptation of copyrighted works (including fair use) is inconsistent with this approach, as is an open marketplace of ideas.<sup>13</sup> Copyright maximalists fall in line with the idea of copyright as a natural right and aim to maximize the rights of copyright-holders over their works. Copyright pragmatists on the other hand, argue that rights of copyright-holders are determined by what protections are useful to society and the primary purpose of copyright is to further the progress of science and useful arts. Copyright maximalism, like *Tuteur v. Crosley-Corcoran*, assumes fair use as an exception to infringement and places the burden of proof on the accused. Copyright pragmatism, like *Lenz v. Universal*, argues a broader approach to fair use and places more burden on copyright-holders to consider it. The DMCA's notice-and-takedown system leans towards a copyright maximalist approach. It takes down allegedly infringing material and forces its owner to send counter-notices in order to restore it rather than forcing the copyright holder to prove copyright infringement first. In doing so, it implicitly endorses a copyright owner's absolute right to their content and allows Section 512 to "trump the fair use doctrine."<sup>14</sup> This approach to fair use suppresses creativity, speech, criticism, and the Constitution's mandate to further the progress of science and useful arts.

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<sup>13</sup> Jon M. Garon, *Normative Copyright: A Conceptual Framework for Copyright Philosophy and Ethics*, 88 CORNELL L. REV. 1278 (2003).

<sup>14</sup> *Id.*

## **b. Notice-and-Takedown Approach and Abuse**

Section 512 is a major factor in the DMCA's negative impact. Its liability scheme requires platforms to quickly act whenever a DMCA takedown notice is filed and to enact reasonable policies against repeat infringers. Platforms are thus incentivized to take down first and investigate fair use claims later. While the notice system set up by the DMCA equally protects all copyright-holders – meaning a DMCA takedown notice by a small, independent creator and another from a large corporation like Universal Music Corp. would be treated with equal weight and cause the same reaction, it does so at the expense of fair use and sometimes even competition. Takedown notices are assumed to be in good faith and to have already considered fair use (as per *Lenz v. Universal*), but good faith is subjective and bad faith difficult, often impossible, to prove. The First Amendment and fair use arguments do not provide the grounds or protections against DMCA takedowns or subpoenas.<sup>15</sup> Creators must prove that their content is fair use, and risk having to do so in a court of law which not many can afford as court cases are long and costly. The fear of liability causes both platforms and users to give into the demands of false or bad faith copyright takedown notices.<sup>16</sup> By erring on the side of guilt (assuming fair use is not the case and that infringement was committed), the DMCA is subject to abuse by copyright holders to suppress speech, criticism, and fair use, as in the case of YouTuber Lindsay Ellis.<sup>17</sup>

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<sup>15</sup> Gellis, Catherine R., 2013 State of the Law Regarding Internet Intermediary Liability for User-Generated Content (November 1, 2013).

<sup>16</sup> Barker, D. (2005). Defining the Contours of the Digital Millennium Copyright Act: The Growing Body of Case Law Surrounding the DMCA. *Berkeley Technology Law Journal*, 20(1), 47-63.

<sup>17</sup> *A Wolf in Sheep's Clothing: How the DMCA Is Used To Inhibit Free Expression on the Internet*. Public Knowledge. (n.d.). <https://www.publicknowledge.org/video/a-wolf-in-sheeps-clothing-how-the-dmca-is-used-to-inhibit-free-expression-on-the-internet/>.

Copyright maximalists argue that the DMCA does not create a framework of shared responsibility between copyright-holders and OSP since it actually burdens copyright holders by forcing them to be responsible for noticing possible copyright infringement rather than allowing platforms to do the bare minimum to avoid liability.<sup>18</sup> However, because the system functions as per *Tuteur v. Crosley-Corcoran*, fair use is an affirmative defense relegated for when users can afford to take copyright-holders to court. Allowing for marginalizing of fair use creates a copyright law which protects the interests of the wealthy and large corporations at the expense of fair use, and thus, at the expense of the general public whose interests copyright is meant to protect. This unequal distribution of power over information and information production, prohibits the dissemination of any information (discourse, criticism, etc.) that is detrimental to the interests of copyright holders.<sup>19</sup> The DMCA only has counter notices as a way to contest flawed takedown notices, but counter notices are rarely used and even if they are, are usually rejected and fail to properly protect user rights and fair use.<sup>20</sup> Thus, protections are not granted to fair use under the DMCA and the lack of incentive for non-liable parties who are only responsible for taking down the supposed infringement means that fair use is easily suppressed and only protected through an abundance of resources and possible legal action.

**c. Algorithmic Approach: copyright filtering**

Current algorithmic approaches to copyright protections by platforms have been attempted in an effort to further secure safe-harbor protections and protect the interests of large

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<sup>18</sup> *Id.* Abbott. [5]

<sup>19</sup> España, M. (2003). The Fallacy that Fair Use and Information Should be Provided for Free: An Analysis of the Responses to the DMCA's Section 1201. *Fordham Urban Law Journal*, 31, 135.

<sup>20</sup> Jennifer M. Urban, Joe Karaganis, & Brianna Schofield, Notice and Takedown in Everyday Practice 44 (UC Berkeley Public Law Research Paper No. 2755628, Mar. 24, 2017).

copyright-holders with lobbying power. Most notably, YouTube's Content ID system is an example of an automatic copyright filter which uses a database to scan all user-generated content for possible infringement and automatically send copyright infringement notices. However, copyright filters cannot scan for fair use due to current technological limitations (current algorithms cannot scan for context) and instead use their database to match audio and visuals from copyrighted work. But this type of automated system lacks transparency as matches can be made based on seconds of material, creating unstable environments for small independent creators who depend on said platform to share their work.<sup>21</sup> Furthermore, only "those who 'own a substantial body of original material that is frequently uploaded by the YouTube creator community'" can add to YouTube's Content ID database, prioritizing large copyright-holders and corporations and effectively replacing legal fair use with harsh copyright maximalism.<sup>22</sup> The DMCA's section 512 provision allows platforms like YouTube to further the rights of copyright-holders at the expense of users generating content. While some may argue that automated copyright filtering is the future of copyright protections, it allows for further abuse of DMCA takedowns to silence fair use.

The DMCA's notice-and-takedown system fails to properly protect fair use through fault of both easily abused notice system which makes it near impossible to contest or prove bad faith takedowns and the lack of incentives for platforms to protect anyone beyond copyright-holders due to Section 512. The shifting of liability forces the burden of fair use to be on users who generate content and usually lack the resources to sue large copyright holders or fight against

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<sup>21</sup> Trendacosta, K. (2020, December 11). *Unfiltered: How YouTube's Content ID Discourages Fair Use and Dictates What We See Online*. Electronic Frontier Foundation. <https://www.eff.org/wp/unfiltered-how-youtubes-content-id-discourages-fair-use-and-dictates-what-we-see-online#fn16>.

<sup>22</sup> Id



takedowns. I argue that since copyright's purpose is to promote the progress of creativity, suppressing fair use in the ways the DMCA does fundamentally works against copyright's intended purpose. Until we start treating fair use as a right rather than an affirmative defense or an exception to infringement, large copyright-holders and wealthy investors will be able to control and stanch creativity, criticism, and speech.

#### **IV. DRM's and Anti-Circumvention**

The DMCA further impedes the constitutional purpose of copyright through its anti-circumvention clauses. These clauses criminalize attempts to circumvent digital rights management (DRM), a systematic approach to copyright which works to prevent the unauthorized distribution of copyrighted media and restrict copying of content by consumers. It essentially acts as encryption on digital mediums, and can be applied to both copyrighted and public domain content. It sharply limits users' rights and closes off works not normally subject to copyright protections, such as works in the public sphere. This also sways towards the philosophy of copyright maximalism, prioritizing the private interests of copyright holders. It risks creating a "pay-per-use" world of information and allowing the restriction of public works and works not usually subject to copyright protections.<sup>23</sup>

##### **a. DMCA's Effects on Research**

According to most understandings of copyright law, academic research is exempt from copyright infringement since research spreads information to the public and furthers the progress of science. Encryption research is an exemption to the DMCA's anti-circumvention rule if it is 1) conducted in "good faith," 2) provided that the copyrighted work is lawfully obtained, 3) the act of circumvention is necessary to the research, and 4) the researcher made a good faith effort to

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<sup>23</sup> Id España [19]

obtain permission from the copyright owner before engaging in research.<sup>24</sup> Despite this exemption that theoretically does not prevent research, the DMCA's anti-circumvention and copyright provisions have been used to slow down, threaten, and most importantly, regulate research, as shown by the below cases.<sup>25</sup>

***Felten, et al., v. RIAA, et al.***<sup>26</sup>

This case concerned the recording industry's newest SDMI watermarking technology which was meant to protect music from being copied. The RIAA issued a public challenge inviting individuals to try and crack the technology. Researchers from Princeton and Rice were able to remove the watermarks. When they tried to publish their findings, the RIAA threatened liability under the DMCA and forced them to withdraw their paper from an academic conference. Similar DMCA threats have been presented by HP, Blackboard, and SunnComm against researchers looking to publish work detailing vulnerabilities in technology.<sup>27</sup>

**Dmitry Sklyarov Arrest**<sup>28</sup>

Sklyarov was a Russian programmer who discovered a way to circumvent the TPMs used by Adobe to control access to copyrighted content in eBooks. The Russian company he worked for distributed this circumvention measure software over the internet. Despite the fact that said research was not used to infringe on

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<sup>24</sup> Liu, Joseph P., *The Dmca and the Regulation of Scientific Research*.

<sup>25</sup> *Id.*

<sup>26</sup> *Felten, et al., v. RIAA, et al.* Electronic Frontier Foundation. (2012, August 14).  
<https://www.eff.org/cases/felten-et-al-v-riaa-et-al>.

<sup>27</sup> Elec. Frontier Found., *Unintended Consequences: Sixteen Years Under the DMCA* (Sep. 2014).

<sup>28</sup> *Id.*

copyright and had legitimate uses, Sklyarov was arrested and detained in the United States for many months after speaking at a conference. After this incident, multiple scientists, including Fred Cohen, Dug Song, and Niels Ferguson, a Dutch cryptographer, have decided to withhold security research findings (including weaknesses in current commercial systems) in fear of DMCA liability and prosecution.<sup>29</sup> This has also prompted foreign scientists to avoid the United States in fear of possible DMCA liability and subsequent charges.<sup>30</sup>

In both of these examples, zealous enforcement of the anti-circumvention clause has had a chilling effect on cryptographers, programmers, and other security researchers. With fewer scientists willing to publish work on current security threats, and threats of lawsuits against those who do, users only become more vulnerable. At best, this employment of anti-circumvention suits would dramatically slow research into TPM cracking and related fields. At worst, it would halt it entirely.

#### **b. DMCA Exemptions**

The DMCA's only recourse against its anti-circumvention measures is exemptions. DMCA exemptions are ways to protect certain actions from copyright infringement and circumvention liability. Exemptions are reviewed every three years, which allows for exemptions to keep up with ever-changing technology and implement exceptions for new developments while discarding exemptions based on obsolete technology. However, exemptions are not guaranteed, rather they are reviewed every three years and are not guaranteed to carry over in the next cycle, forcing researchers to face uncertainty and possible liability.<sup>31</sup> Exemptions do not

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<sup>29</sup> Niels Ferguson, *Censorship in Action: Why I Don't Publish My HDCP Results*. 2001.

<sup>30</sup> *Id.* EFF [27]

<sup>31</sup> *Id.* EFF [27]

properly protect research from the threat of the DMCA and instead hinder and regulate it further by introducing legal uncertainty, two things that copyright is not meant to do. The censoring of security research weakens overall security for all devices by preventing security concerns to be published.

### **c. Disruptive Technologies**

The anti-circumvention clause and TPMs can further be used in conjunction to limit potential competitors. Because TPMs can prevent products and services from interacting without the explicit permission of the creator, they can be used to limit adversarial interoperability.<sup>32</sup> Adversarial interoperability is essential to the consumer-based approach to copyright. It is when new market entries create products or services that work in concert with an incumbent's existing product without the incumbent's permission. This challenges existing offerings and allows for the disruption of market domination.<sup>33</sup> But the DMCA and TPMs can be used to hinder adversarial interoperability and maintain monopoly power<sup>34</sup> by forcing consumers to be locked in, forcing consumers to be dependent on a single manufacturer or supplier and unable to move to another vendor without substantial costs. The creation and commercialization of disruptive technologies also depend on the exemption framework of the DMCA; some exemptions like the legalization of jailbreaking one's phone – the process by which a device's OS is modified to give the user greater control – is undercut by a lack of exemptions for similar technologies such as mod chips (which allow the jailbreaking of video game consoles), video game hacks and

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<sup>32</sup> Tyler Fabbri, *The Best Laid Plans: How DMCA sec. 1201 Went Awry, Smothering Competition and Creating Giants, and Where We Go Now*, 28 J. Intell. Prop. L. 153 (2021).

Available at: <https://digitalcommons.law.uga.edu/jipl/vol28/iss1/6>

<sup>33</sup> Id. EFF [27]

<sup>34</sup> Iwahashi, R. (2011). How to Circumvent Technological Protection Measures Without Violating the DMCA: An Examination of Technological Protection Measures Under Current Legal Standards. *Berkeley Technology Law Journal*, 26(1), 491-526.

enhancements, and video enhancing products.<sup>35</sup> Despite these hindrances to competition, the anti-circumvention provision has not been overturned or amended for the sake of interoperability even though it serves to protect the “walled gardens” of technological giants at the expense of consumers.<sup>36</sup>

The anti-circumvention measures of the DMCA criminalize technological inventions and research even when the circumvention of TPMs alone does not constitute as copyright infringement. Fair use, freedom of information, and innovation become the price to further protections of copyright-holders under a copyright-maximalist DMCA. DRMs are an outdated measure, created as a reaction to piracy concerns of the late 90’s and used now to hinder progress in encryption and security research and the innovation of disruptive technologies.

## **V. Current Legislative Landscape**

The DMCA has not been modified or amended through legislation since its passing in 1998. Many bills have been introduced to Congress, such as but not limited to: the Digital Media Consumers’ Rights Act of 2002, the Consumer Technology Bill of Rights, the Copyright Office for the Digital Economy Act of 2015, the CASE Act of 2016, the Fairness for American Small Creators Act of 2016, and the Online Content Policy Modernization Act of 2019. All these bills which have aimed to rethink digital copyright in the modern age have been introduced to Congress but have not moved past that. Only recently in 2020 was the Protecting Lawful Streaming Act passed to close the enforcement gap between the new marketplace reality and

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<sup>35</sup> Id. EFF [27]

<sup>36</sup> Tsalikis, C., Tworek, H., Etlinger, S., more, R. G. D. K. S. S., Haggart, B., Renieris, E. M., ... Hirsh, J. (2019, September 18). *Tearing Down a Tech Giant's Walled Garden*. Centre for International Governance Innovation. <https://www.cigionline.org/articles/tearing-down-tech-giants-walled-garden>.

existing copyright law.<sup>37</sup> It was the first attempt to modernize criminal copyright by changing illegal streaming from a misdemeanor to a felony while protecting individual users by focusing on large criminal enterprises. The PLSA proves that the modernization of digital copyright law while protecting individual consumers is possible as a future model of legislation.

More recently, Senator Thom Tillis of North Carolina has drafted a bill to modernize the DMCA in its entirety; the discussion draft, titled the Digital Copyright Act of 2021, aims to rework the DMCA with an understanding of its provisions and consequences as they interact with the digital landscape now. The bill aims to 1) increase the role of federal agencies in establishing regulations such as mandatory technical measures OSPs must follow to retain safe harbor protections, 2) implement a notice-and-staydown system, 3) create a copyright small claims tribunal as per the CASE Act of 2016, 4) limit liability for good faith users infringing on copyright of orphaned works, 5) establish the Copyright Office as an executive branch agency with a presidentially appointed register, 6) modernize exemptions for circumventions within the security and encryption research fields and add permanent exemptions, 7) streamline the process for the creation of temporary exemption, 8) expand the scope of temporary exemptions with the assistance of third-parties, and 9) create a right of action for authors when someone removes or alters copyright management information on their works.<sup>38</sup> Some of these proposals ensure that the copyright system provides incentives for authors while protecting individual users and consumers. For instance, increased regulation and a small claims tribunal would move the

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<sup>37</sup> The Regulatory Review. (2021, May 7). *The Dawn of a New Era for Copyright Online*. The Regulatory Review. <https://www.theregreview.org/2021/04/12/slater-watts-dawn-new-era-copyright-online/>.

<sup>38</sup> *Senator Tillis Releases Draft DMCA Modernization Bill*. IPWatchdog.com | Patents & Patent Law. (2020, December 23). <https://www.ipwatchdog.com/2020/12/22/tillis-draft-modernize-dmca/id=128552/>.

system away from a reliance on courts and ease communication between copyright-holder and infringer. And making certain exemptions permanent would erase the uncertainty which currently hinders researchers and innovators. But other proposals such as a notice-and-staydown system and the creation of mandatory technical measures might increase reliance on automated copyright filters and other technologies which do not (because they cannot) analyze for fair use and might create a burden on smaller platforms who might lack the resources necessary to implement technological measures and requirements. While Tillis' proposal begins to propose fixes to the DMCA's failings, it does fail consumers in some crucial areas.

## **VI. Conclusion**

The conventional wisdom behind copyright law is that without it, no one will innovate because others will freely be able to copy their work and as such, it works to protect both creativity and innovation. Copyright law should promote progress, but progress in the digital age is not only served by providing authors with incentives to produce new works, but is achieved through wide participation of individuals and requires public access to these works because the public's relationship with a work is what extracts value from it.<sup>39</sup> As such, a consumer rights approach to copyright expands consumer rather than copyright-holder protections under digital copyright. The DMCA's flaws lie in its lack of this approach as it prioritizes protecting copyright-holder rights at the expense of fair use and the public good. The DMCA does not need to be amended, but completely reworked and rewritten with the modern digital age and technologies in mind. Section 512 and 1201 were originally created to address piracy problems which are largely irrelevant in 2021 and are used to hinder the progress copyright is meant to protect. More broadly, copyright as conceptualized in the modern age needs to be reimaged for

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<sup>39</sup> Elkin-Koren, Niva, Making Room for Consumers Under the DMCA. Berkley Technology Law Journal, Vol. 22, No. 3, 2007.

the digital age. Copyright fundamentally changes when working with “de-materialized” works in digital forms because the traditional ideas of reproduction and distribution become obsolete in the digital era.<sup>40</sup> Digitization breaks down the distinction between the phases of conception, production, distribution, and access and the length of copyright protections hinders the progress of rapid-fire digital and technological innovation. Digital copyright protections need to be conceptualized and approach from a consumer and user-based prioritization that treats copyright as a means to protect and further progress in science and arts, rather than a furthering of protections of rights-holders.

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<sup>40</sup> *Challenges in the Enforcement of Protection of Copyrights Laws in the Digital Era*. Law Gupshup. (2017, December 6). <https://lawgupshup.com/2017/12/challenges-in-the-enforcement-of-protection-of-copyrights-laws-in-the-digital-era/>.



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