



**Testimony of Meredith Rose
Policy Counsel
Public Knowledge**

**Before the
Senate Committee on the Judiciary
Subcommittee on Intellectual Property**

“Is the DMCA's Notice-and-Takedown System Working in the 21st Century?”

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Introduction

Chairman Tillis, Ranking Member Coons, members of the committee, thank you for inviting me to testify today -- from an appropriate social distance -- on this timely and important topic.

This is not about content versus tech.

In the 22 years since Congress passed the Digital Millennium Copyright Act, copyright policy has fallen victim to a dangerous, reductionist narrative that it is a two-sided, profit-driven war between major entertainment industries and multibillion-dollar technology platforms. It is reductionist because it collapses the plurality of interests, actors, business models, and policy opinions on each side. It is dangerous because it explicitly overlooks both independent and small artists, as well as the more than 229 million American adults who use the internet as more than just a copyrighted content delivery mechanism.¹ In the current pandemic, every facet of our lives— from studying and working to buying food and paying utilities — occurs online. Every law that governs individuals' use of and access to the internet affects all of us.

Section 512² is one such law, and comprehensively evaluating it is a Herculean feat. The Copyright Office took nearly five years and 250 pages to cover the issue in its latest study, and even then was limited in its ability to cover every sub-debate that rages on the topic.³ While the Section 512 Report manages to cover a truly remarkable amount of ground, it consistently falls

¹ U.S. Census Bureau, *QuickFacts: United States*, (last visited June 1, 2020), <https://www.census.gov/quickfacts/fact/table/US/PST045219> (The total U.S. population is estimated at 328,239,523; 77.6%, or 254,713,870 are over 18.); Monica Anderson, Andrew Perrin, Jingjing Jiang & Madhumitha Kumar, *10% of Americans Don't Use the Internet. Who Are They?*, Pew Res. Ctr., (April 22, 2019) <https://www.pewresearch.org/fact-tank/2019/04/22/some-americans-dont-use-the-internet-who-are-they/> (If 10% of U.S. citizens over 18 do not use the internet, then 90% or 229,242,483 do).

² 17 U.S.C. § 512, <https://www.law.cornell.edu/uscode/text/17/512>.

³ U.S. Copyright Office, *Section 512 of Title 17: A Report of the Register of Copyrights* (May 2020) [hereinafter USCO § 512 Report], <https://www.copyright.gov/policy/section512/section-512-full-report.pdf>

into the same reductionist narrative of a dispute between two simplified equities -- "artists" on one side, "tech" on the other. Let us be clear: However you choose to define these two strawmen, they are vastly outnumbered by the 229 million Americans going about their lives online. We were upset, but not surprised, to see that the Section 512 Report not only declined to acknowledge users as an independent constituency, but actively dismissed the concerns that affect them directly, including the misuse of DMCA takedown notices to suppress speech unrelated to copyright.

What, then, do consumers want? Users benefit from a competitive online ecosystem with players large and small, for-profit and nonprofit. Users also benefit from a vibrant creative ecosystem, where artists have a variety of avenues for producing, distributing, and promoting their work. These two needs must coexist, and neither can survive if it means sacrificing the other.

However, in our nation's attempt to reconcile the legitimate needs of artists and digital platforms, what has developed is a legal regime that, for all its good intentions, allows private parties to censor one another's speech on any online platform, at any time, for any reason. The only recourse under current law for a party whose speech has been suppressed is to file a counter-notice, wait 14 days, and potentially expose herself to a frivolous lawsuit. Fourteen days can be lethal to time-sensitive speech including news reporting, documentation of human rights abuses, political speech, public debate, and critique--not to mention the loss of revenue for those individuals who rely on their speech for income. Despite this, certain stakeholders balk at the idea of introducing additional safeguards into this system. Instead, they insist that the targeted

speech must be removed faster,⁴ with a longer period before reinstatement,⁵ and the removal must be executed without any human oversight or verification of claims.⁶

More alarmingly, many stakeholders contend that portions of Section 512 give them the right to demand that an individual's access to the internet be terminated if they suspect that individual of infringing copyright. It goes without saying that Congress should not be making it easier for private actors to completely and unilaterally remove a person's ability to access the entire internet.

Musicians, digital platforms, large-scale commercial rightsholders, and internet users all face distinct challenges from the system created by Section 512. If we are to strike any sort of "new balance," it must keep our nation's 229 million internet users -- and the law's impact on their ability to speak -- at front of mind.

The Problem of Bad Notices

As with any enforcement regime, errors are inevitable. But the current DMCA notice-and-takedown system suffers from a disproportionate number of bad notices that affect the ability of users and creators to use the internet for free expression and creativity, and hide information from public view. After quantitatively examining a set of over 108 million takedown requests, researchers concluded that approximately 30% of the requests were "potentially

⁴ *Id.* at 159.

⁵ *See id.* at 162.

⁶ *Id.* at 152 n. 813.

problematic" and that 4.5 million of those requests were "fundamentally flawed."⁷ Bad notices are, by any measure, pervasive.

Bad notices stem from a variety of sources that range from banal errors to bad faith abuse. Generally, they can be broken down into four categories: abuse of copyright, abuse of the DMCA takedown procedure, technical flaws, and algorithmic defects. Similarly, the goals and motivations behind bad notices can range from censorship to innocent error to overzealous enforcement. Even at their most granular, each category still accounts for millions of problematic takedown notices.⁸ Any solution to address the bad notice problem requires an understanding of these categories and how they occur.

Copyright abuse occurs when a notice sender uses targeted DMCA takedowns to improperly remove content that incorporates or references their work, but is obviously noninfringing. The result is an abusive enforcement. For example, last year several unreleased seasons of Starz shows and three episodes of *American Gods* were leaked to the public on a Russian streaming site. Starz used the DMCA takedown process to remove tweets and articles that reported about the incident, even though the coverage did not itself contain any infringing material.⁹ Starz was able to leverage the DMCA process to force the erasure of legitimate journalism. This type of abuse also served as the catalyst for copyright law's most recent scandal—a feud between competing series which both pulled unprotectable scenes-a-faire

⁷ Jennifer M. Urban, Joe Karaganis, & Brianna Schofield, *Notice and Takedown in Everyday Practice 2* (March 22, 2017) (UC Berkeley Pub. L. Res. Paper No. 2755628) [hereinafter Urban Report], <https://ssrn.com/abstract=2755628>.

⁸ *Id.* at 96.

⁹ Ernesto, *Starz Goes on Twitter Meta-Censorship Spree to Cover Up TV-Show Leaks (Updated)* TorrentFreak (April 15, 2019) <https://torrentfreak.com/starz-goes-on-twitter-meta-censorship-spree-to-cover-up-tv-show-leaks-190415/>.

elements from the popular “omegaverse” trope in fanfiction.¹⁰ Author Addison Cain had her publisher send DMCA notices against her competitor’s work on several online retail sites. Cain claimed that she had a copyright interest in these stock elements--despite the fact that she had not created them.¹¹

In contrast, DMCA abuse occurs when a claimant uses the notice-and-takedown process to remove or temporarily disable unfavorable content for reasons wholly unrelated to copyright. One of the most notorious forms of this is a practice known as “backdating.” In order to remove or hide content, the actor will make a copy of the content and post it on an obscure site, backdating the copied material to a time before the original post. They will then file a DMCA takedown notice with OSPs like Google, forcing removal of the higher-profile result from search results, and burying the newer, obscure source far down the results. News outlet Benzinga was a victim of this exact practice after it published an article about the financial difficulties faced by Amira Nature Foods, a publicly traded company.¹² Other groups, including the Church of Scientology, have used false takedown claims to censor criticism and harass former members.¹³ Repressive regimes across the world, from Russia¹⁴ to Ecuador,¹⁵ have become adept abusers of

¹⁰ Alexandra Alter, *A Feud in Wolf-Kink Erotica Raises a Deep Legal Question*, N.Y. Times (May 23, 2020) <https://www.nytimes.com/2020/05/23/business/omegaverse-erotica-copyright.html>.

¹¹ See, e.g., *Atari, Inc. v. N. Am. Phillips Consumer Elecs. Corp.*, 672 F.2d 607, 616 (7th Cir. 1982); *Walker v. Time Life Films, Inc.*, 784 F.2d 44, 50 (2d Cir. 1986) (“Elements such as drunks, prostitutes, vermin and derelict cars would appear in any realistic work about the work of policemen in the South Bronx.”).

¹² Andrea Fuller, Kirsten Grind & Joe Palazzolo, *Google Hides News, Tricked by Fake Claims*, Wall St. J., May 15, 2020, <https://www.wsj.com/articles/google-dmca-copyright-claims-takedown-online-reputation-11589557001>.

¹³ Eva Galperin, *Massive Takedown of Anti-Scientology Videos on YouTube*, Electronic Frontier Found. (September 5, 2008), <https://www EFF.org/deeplinks/2008/09/massive-takedown-anti-scientology-videos-youtube>.

¹⁴ Fuller, *supra* note 12.

¹⁵ Alexandra Ellerbeck, *How U.S. Copyright Law Is Being Used to Take Down Correa’s Critics in Ecuador*, Comm. to Protect Journalists (January 21, 2016), <https://cpj.org/2016/01/how-us-copyright-law-is-being-used-to-take-down-co/>.

the DMCA notice-and-takedown regime to stifle critics and suppress coverage of human rights abuses.

Most bad notices are the result of technical errors. These errors implicate fundamental due process protections built in to the DMCA's notice-and-takedown requirements. Two of the most substantively important notice requirements—that there is sufficient information about the allegedly infringed work (“AIW”)¹⁶ and allegedly infringing material (“AIM”)¹⁷—are often inadequately addressed.¹⁸ The same study that found problems with 30% of all takedown notices also discovered that it was difficult to identify the AIM in 13.3% of requests, and difficult to identify the AIW in 6% of requests.¹⁹ When copyright owners send a notification that covers more than one infringing or infringed-upon work, they do not always provide clear details on where the works are located. This has resulted in substantial, costly litigation over whether rights-holders or OSPs bear the cost of identifying infringing work.²⁰

The rise of algorithmic systems to handle DMCA takedown notices and responses has resulted in a rise in bad notices due to algorithmic error. Recently, in what was widely considered a flaw of automated rights-monitoring, NBC issued takedown notices concerning NASA's livestream of the attempted SpaceX launch.²¹ In another case, algorithmic enforcement "blocked a 10-year-old boy's self-authored original video starring his LEGO mini-figures and

¹⁶ 17 U.S.C. § 512(c)(3)(A)(ii).

¹⁷ § 512(c)(3)(A)(iii).

¹⁸ Urban Report, *supra* note 7 at 93.

¹⁹ *Id.* at 94.

²⁰ *Id.* at 93; *see, e.g.*, Perfect 10, Inc. v. Google, Inc., No. CV 04-9484 AHM SHX, 2010 WL 9479060 (C.D. Cal. July 30, 2010), *aff'd*, 653 F.3d 976 (9th Cir. 2011).

²¹ Chris B - NSF (@NASASpaceflight), Twitter (May 28, 2020, 9:46 AM), <https://twitter.com/NASASpaceflight/status/1266002935051403264?s=20>

garbage truck despite the fact that he used royalty-free music."²² Ultimately, the detrimental cost to our online and creative ecosystems can no longer justify a system that skews so far to the side of those issuing takedown notices.

Given the known issues with deficient, inaccurate, or abusive takedown notices, as well as the functional dead-letter status of the safeguards outlined in Section 512(f),²³ some digital platforms have begun requesting that claimants submit additional information or respond to queries when issuing a takedown. Alarming, the Copyright Office's Section 512 study decides that these requests are sufficient to strip a platform of its safe harbor.²⁴ In short, this position holds that all notices, no matter how obviously spurious or in bad faith, must be honored without further inquiry.

It bears repeating: The DMCA's notice-and-takedown provisions are extraordinarily powerful tools with a documented history of weaponization. In the absence of meaningful statutory safeguards, platforms have stepped in to monitor for common errors, be they born from anticompetitive behavior, a misunderstanding of copyright,²⁵ or merely mistakes in automated enforcement monitoring. None of this diminishes the difficulty faced by artists attempting to police the use of their copyrighted content online; however, we must acknowledge the enormous power of these takedown notices, their documented history of misuse, and the profound effect of

²² Maayan Perel & Niva Elkin-Koren, *Accountability in Algorithmic Copyright Enforcement*, 19 Stan. Tech. L. Rev. 473, 476 (2016),

<https://law.stanford.edu/wp-content/uploads/2016/10/Accountability-in-Algorithmic-Copyright-Enforcement.pdf>.

²³ It is worth noting that the Copyright Office believes that the only case which provides even a modest nod toward § 512(f)'s enforceability—*Lenz v. Universal Music Group Corp.*, 815 F.3d 1145 (9th Cir. 2016)—was wrongly decided, as it placed an undue burden on rightsholders. *See* USCO § 512 Report, *supra* note 3 at 5.

²⁴ USCO § 512 Report, *supra* note 3 at 155.

²⁵ *See, e.g.*, Google, Additional Comments Submitted in Response to U.S. Copyright Office's Nov. 8, 2016, Notice of Inquiry 9–10 (February 21, 2017), <https://www.regulations.gov/document?D=COLC-2015-0013-92487> (“[W]e explain at the appropriate step in our form that merely being the subject of a photo does not give one a copyright interest in the photo. In our experience, this warning dramatically cut down on the number of misguided notices.”).

that misuse on lawful speech. Asking for faster, more powerful notices with fewer safeguards is akin to throwing aside a tank and asking for a nuke.

The internet is not a monolith, and neither are the communities within it. These communities, and the platforms on which they congregate, have different risk profiles for use (and misuse) of DMCA notices. For example, the Hugo Award-winning Archive of Our Own, maintained by the nonprofit Organization for Transformative Works, hosts more than four million works and has been constructed from the ground up by an army of volunteer fans, lawyers, and coders to reflect that community's priorities.²⁶ Other sites, such as TikTok, base their core functionality around users' ability to share, remix, and build upon one another's work, attracting users specifically because of that function. And some sites, such as ecommerce platforms, are more at risk for abusive or anticompetitive takedown notices that could

²⁶ See, e.g., Caitlin Busch, *An Archive of Our Own: How AO3 Built a Nonprofit Fanfiction Empire and Safe Haven*, Syfy Wire (February 12, 2019) <https://www.syfy.com/syfywire/an-archive-of-our-own-how-ao3-built-a-nonprofit-fanfiction-empire-and-safe-haven>; See also *The Digital Millennium Copyright Act at 22: What is it, why was it enacted, and where are we now? Before the Subcomm. on Intellectual Prop. of the S. Comm. on the Judiciary*, 116th Cong. 9 (2020) (Statement of Professor Rebecca Tushnet, Harvard Law School), <https://www.judiciary.senate.gov/imo/media/doc/Tushnet%20Testimony.pdf> (Archive of Our Own “receive[s] relatively few notices of claimed infringement, few of them are automated, and we subject them to individual review for validity. In the rare case that the notice complies with the DMCA and doesn't raise obvious fair use issues or assert non-copyright claims, our abuse team will remove the accused content and inform the user. Our experience with small-scale senders, consistent with the experience of many other OSPs, is that small-scale senders often consider DMCA claims to be a catch-all for objections such as that a work on the OTW's Archive has the same title as a different work they've published for sale or that they don't wish their name to be used in a work. Our experience with large-scale senders is that many are careful to avoid challenging non-exact copies, but unfortunately some do send takedown notices based on unhelpful metadata (e.g., title of a work even though the content is clearly different from that of the copyright claimant's work).”).

substantially prejudice the economic interests of merchants or artists using the platform.²⁷ In short, one size does not fit all.

The Limits of Private Enforcement Mechanisms

We cannot reasonably think about reforming Section 512 without understanding the private enforcement mechanisms that stakeholders have held out as possible solutions. Given the time and expense of federal litigation faced by rights-holders (and the pressures of operating at scale faced by platforms), it is unsurprising that many stakeholders have embraced the idea of technological solutions. But while automated private solutions “might sound good in theory,” the messy realities of implementation -- technological limitations, complex legal protections and provisions, and the influence of a designer’s commercial interests -- “raises a slew of questions regarding policy.”²⁸ Private enforcement “can have the same far-reaching effect as actual law,” including the ability to deprive users of legitimate income streams, “without any corresponding due process or accountability.”²⁹ Because they operate automatically, these algorithms have the remarkable power to almost instantaneously erase speech -- including political speech, education, news, and speech which supports the livelihoods of millions of creators who derive their primary income via platforms with algorithmic content matching.

²⁷ More than half of the DMCA takedown notices issued to Amazon’s Kindle Direct, for example, are attempts to deliberately suppress a competitor’s book from climbing the rankings. U.S. Copyright Office, *Section 512 Study: 9th Circuit Public Roundtable* 248 (May 13, 2016) (Testimony of Stephen Worth, Assoc. General Counsel of Amazon.com), https://www.copyright.gov/policy/section512/public-roundtable/transcript_05-13-2016.pdf (“[W]ith Kindle Direct publishing, authors routinely try to climb to the top spot in their category . . . by issuing bogus notices against higher ranking titles. And this for us actually accounts for more than half of the takedown notices that we receive.”).

²⁸ Lauren D. Shinn, *Youtube's Content ID as a Case Study of Private Copyright Enforcement Systems*, 43 AIPLA Q. J. 359, 372 (2015).

²⁹ *Id.*

The way in which these systems operate is determined by the particular needs, commercial interests, and resource limitations of the developer and any large stakeholders with which that developer is cooperating. Policymakers must grapple with what users and artists alike have understood for ages -- that the balance of equities in practice is determined less by the contours of law than by the aggregate results of numerous design choices which often have “more profitable” or “less profitable” answers, but rarely have clear right or wrong ones. An automated system which perfectly serves the needs of any one stakeholder -- be it platforms, commercial-scale rights-holders, users, or small artists -- invariably prejudices the interests of the remaining stakeholders.

Most private enforcement mechanisms today rely on algorithmic content identification. Some stakeholders have proposed systems, such as notice-and-staydown, which condition legal immunity on a platform implementing and expanding these systems to include identifying and filtering content at the point of upload. In order to understand the limits of those proposals, policymakers must first understand both how they work and how they can fail.

Algorithmic matching has numerous steps, which we will necessarily simplify here. First, the system designer must compile and maintain a database of known content to which the algorithm can refer. A robust database contains, among other things, a reference file and ownership information for each work. The algorithm then uses reference files to create digital “fingerprints,” which it compares against unknown media in an attempt to identify it.³⁰ When the algorithm returns a match, it provides rights-holders with a series of options. The scope and availability of these options depends on the design of the system, the level of access granted to

³⁰ See David Kravets, *YouTube Alters Copyright Algorithms, Will ‘Manually’ Review Some Claims*, Wired (October 3, 2012) <https://www.wired.com/2012/10/youtube-copyright-algorithm/>.

the rights-holder, and other variables. Common options include claiming the content's ad revenue, taking the content offline (either *in toto* or selectively disabling the matching piece), or doing nothing.³¹

Though various kinds of errors can occur throughout this process, users are most frequently affected by “false positives” -- situations in which the algorithm incorrectly identifies content they have uploaded as infringing. Three common points of failure are errors in the database; erroneous flagging of content that does not match the reference file; and “content that matches the reference file and is owned by the claimant, but constitutes a legal use of the content.”³²

1. Database errors.

The first category of false positives -- where the flagged content matches a reference file in the database, but the database's ownership information is incorrect -- can be broadly thought of as database errors. These happen for reasons that range from banal to malicious. Some database errors are caused by malicious actors making false claims of ownership, a problem that was particularly acute on YouTube in the early 2010s.³³ A low-quality or overbroad reference file can cause an algorithm to throw false matches.³⁴ They can also happen inadvertently, as

³¹See *How Content ID Works: What Options Are Available to Copyright Owners?*, YouTube (2020), <https://support.google.com/youtube/answer/2797370>.

³² Shinn, *supra* note 24 at 372.

³³ Perhaps the most notable instance of this misuse was when a Russian group falsely claimed ownership over a number of viral cat videos, diverting the videos' ad revenue into their own pockets. David Kravets, *Rogues Falsely Claim Copyright on YouTube Videos to Hijack Ad Dollars*, Wired (November 21, 2011) <https://www.wired.com/2011/11/youtube-filter-profit/>.

³⁴ See Urban Report, *supra* note 7 at 90-92 (analyzing specific instances when targeted material did not match the allegedly infringed work).

when new media incorporates pre-existing clips; adding the new media to the database triggers a paradoxical takedown of the older clip.³⁵

However, these kinds of false positives force us to confront difficult questions around database design, integrity, and access. In an ideal world, a content-matching database would be full of high-quality reference files, complete with thorough, current, and accurate information on ownership, licensing, and payment. An ideal database would also be widely open and available to artists who wish to use it to monitor (or monetize) their work. However, these two principles are often in tension; letting anyone put their work into the database creates a greater risk of introducing errors into the system, while maintaining a curated database necessarily cuts out some universe of potential artists from using it.

Moreover, any commercial database will reflect the priorities -- and blind spots -- of its designer. These decisions affect who is allowed to populate it, how that information is vetted or revised, the oversight and handling of ownership disputes, and the transparency (or lack thereof) regarding its operation. We need look no further than the debates surrounding YouTube's Content ID system to see the risks and trade-offs of a private, in-house fingerprinting system designed specifically to address that platform's financial interests.³⁶

³⁵ Notably, a 2016 episode of *Family Guy* "included a clip from 1980s Nintendo video game *Double Dribble* showing a glitch to get a free 3-point goal. Fox obtained the clip from YouTube where it had been sitting since it was first uploaded in 2009. Shortly after, Fox told YouTube the game footage infringed its copyrights. YouTube took it down." Fox dropped the claim and issued an apology when the story went viral. Andy, *Fox 'Stole' a Game Clip, Used it in Family Guy & DMCA'd the Original*, *TorrentFreak* (May 20, 2016)

<https://torrentfreak.com/fox-stole-a-game-clip-used-it-in-family-guy-dmca-d-the-original-160520/>.

³⁶ See e.g., John Paul Titlow, *How YouTube Is Fixing Its Most Controversial Feature*, *Fast Company* (September 13, 2016) <https://www.fastcompany.com/3062494/how-youtube-is-fixing-its-most-controversial-feature>; Patrick McKay, *Open Letter to YouTube Regarding Content ID*, *FairUseTube.org* (September 15, 2011),

<http://fairusetube.org/articles/21-open-letter>. But cf. SoundExchange Direct (2020),

<https://sxdirect.soundexchange.com/login/?next=/>. While SoundExchange Direct is designed to organize metadata (rather than content fingerprinting for large-scale algorithmic enforcement), is a good example of how a database can be structured to accommodate the needs of artists. SoundExchange is, notably, a nonprofit.

2. Strict vs “fuzzy” algorithms.

The second failure case -- flagging content that does not match the reference file -- reflects yet another trade-off in algorithmic design. Algorithms that only flag exact or near-exact matches protect a greater range of unlicensed, yet legal, uses and exert less of a chilling influence on user speech. However, they are also easier to circumvent through basic manipulation of the underlying media, such as altering the tempo or pitch of a sound recording, or flipping a video to its mirror image.³⁷ Algorithms that flag “fuzzy” matches will be harder to evade, but will throw more false positives and stifle some legitimate uses of content.

It is worth noting that the degree of “fuzziness” in an algorithm is a design choice that explicitly prioritizes certain genres and styles of content over others. Fuzzy algorithms are good at catching and flagging algorithm-evading “edits” to popular content such as Top-40 hits. However, those same algorithms struggle when faced with classical and jazz music, where the underlying musical work is often in the public domain, and the difference between a copyrighted recording and a public domain or live performance may be as little as a few notes on an improvisational section, or the sound quality of the space in which it was recorded.³⁸ Content ID,

³⁷ Nick Douglas, *You Can't Fool YouTube's Copyright Bots*, LifeHacker (January 24, 2018) <https://lifelhacker.com/you-cant-fool-youtubes-copyright-bots-1822174263>.

³⁸ Michael Andor Brodeur, *Copyright bots and classical musicians are fighting online. The bots are winning.*, Wash. Post (May 21, 2020), https://www.washingtonpost.com/entertainment/music/copyright-bots-and-classical-musicians-are-fighting-online-the-bots-are-winning/2020/05/20/a11e349c-98ae-11ea-89fd-28fb313d1886_story.html. See also Ulrich Kaiser, *Can Beethoven Send Takedown Requests? A First-hand Account of One German Professor's Experience With Overly Broad Upload Filters*, Wikimedia Found. (August 27, 2018) <https://wikimediafoundation.org/news/2018/08/27/can-beethoven-send-takedown-requests-a-first-hand-account-of-one-german-professors-experience-with-overly-broad-upload-filters/>.

often held up as the industry standard of content-matching, once erroneously flagged a video that was ten minutes of solid (original) white noise.³⁹

3. Legally permissible uses.

Perhaps the most intractable problem surrounding content fingerprinting and filters is algorithms simply cannot account for legally permitted uses of copyrighted material. Unlike an algorithm, copyright law is not absolute; the American system provides a number of exceptions and limitations that serve as a “safety valve” to protect legitimate policy ends. The Supreme Court has described these limitations and exceptions -- specifically citing fair use -- as “built-in First Amendment accommodations” to prevent copyright law from unduly stifling speech.⁴⁰ These contours of copyright law, however, depend heavily on social, factual, and cultural context. The fundamental balance of copyright law rests in “[d]etailed doctrines ... carefully designed to guide traditional, human law enforcement agents in addressing these questions” of appropriate unlicensed use.⁴¹ Algorithmic enforcement, as a binary system designed to equate the *presence* of copyrighted content with its *misuse*, “is blatantly hostile to users’ interests because it shifts the neutral presumption of fair use against them.”⁴² Moreover, systems such as Content ID

³⁹ Chris Baraniuk, *White Noise Video on YouTube Hit by Five Copyright Claims*, BBC News (January 5, 2018) <https://www.bbc.com/news/technology-42580523>; Timothy Geigner, *White Noise on YouTube Gets FIVE Separate Copyright Claims From Other White Noise Providers*, TechDirt (January 5, 2018) <https://www.techdirt.com/articles/20180105/10292038938/white-noise-youtube-gets-five-separate-copyright-claims-other-white-noise-providers.shtml>

⁴⁰ *Eldred v. Ashcroft*, 537 U.S. 186, 219 (2003).

⁴¹ Maayan Perel and Niva Elkin-Koren, *Accountability in Algorithmic Copyright Enforcement*, 19 Stan. Tech. L. Rev. 473 (2016), <https://www-cdn.law.stanford.edu/wp-content/uploads/2016/10/Accountability-in-Algorithmic-Copyright-Enforcement.pdf>.

⁴² Taylor B. Bartholomew, *The Death of Fair Use in Cyberspace: YouTube and the Problem with Content ID*, 13 Duke L. & Tech. Rev. 66, 68 (2015), <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1271&context=dltr>.

allow rights-holders to instantaneously divert revenue streams away from claimees upon filing a claim, leading to lost revenue, and, in one case, jeopardizing a prominent YouTuber's income from outside brand sponsorship.⁴³

Broadband Providers Do Not Belong in the DMCA Framework

If lawmakers only take away one point of reform from this process, it should be this: We should not permit, let alone strengthen, provisions of law which allow third-party private actors to unilaterally terminate a person's internet access. The Federal Communications Commission has found that Americans use broadband "for every facet of daily life."⁴⁴ During the pandemic, Congress has paid heightened attention to the importance of broadband to people's work, education, social life, and health care.⁴⁵ Broadband providers have pledged not to cut off people's broadband for non-payment, and Congress has proposed several bills designed to close the digital divide and ensure that broadband, an essential communications service, is available and affordable. With this context, it becomes plain that allegations of infringement against one member of a family should never be enough to cut that entire household off from internet access, just as private allegations of law-breaking in other areas should not compel other utility companies to cut off users from water or power. Nevertheless, Section 512(a) is sometimes

⁴³ Amanda Perelli, *Prominent Youtube Creator Lindsay Ellis Is Challenging the Platform Over the Way it Handles Copyright Claims*, Bus. Insider, (Oct. 29, 2019)

<https://www.businessinsider.com/youtuber-lindsay-ellis-fights-platform-universal-over-copyright-claim-2019-10>.

⁴⁴ *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 14-126, 2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment, 30 FCC Rcd. 1375, 1377 ¶ 2 (2015).

⁴⁵ See *COVID-19 Broadband Bills*, Public Knowledge (Current as of June 1, 2020)

<https://www.publicknowledge.org/covid-19-broadband-bills/>.

interpreted as requiring that internet service providers create, advertise, and execute policies that do exactly that, and this is sorely in need of revision.

Perhaps no sections of the DMCA have aged as poorly as those which apply the termination requirement of Section 512(i) to broadband providers. Internet service providers have two distinct functions: the interactive component that connects a user to the broader internet, and the physical component (i.e. the last-mile wire) that carries the traffic. The internet service providers that Congress referred to in 1998 were services such as America Online and CompuServe, operated over the physical infrastructure of the telephone network. In short, ISPs in 1998 were edge services in a competitive market, accessed via a regulated common carrier. There was no need to even discuss the underlying telecommunications provider, let alone attach liability; nobody suggested that the phone network could be liable for copyright infringement.

In 2020, however, the software and infrastructural aspects of connecting to the internet have merged; modern ISPs both *route* traffic and *own* the cable (or fiber) over which the traffic flows. This radically alters the stakes of “subscriber termination” for accusations of repeat infringement. In 1998, termination from an internet service provider meant uninstalling AOL and signing up for a subscription from any number of competitive providers; many markets had several, and users could dial in to other online services, such as bulletin board systems, as well. By contrast, in 2020, more than 100 million Americans live in homes serviced by only one broadband provider.⁴⁶ According to the FCC's 2018 Internet Access Services report, 73% of census blocks have access to *at most* two broadband providers at 25 Mbps downstream, with that

⁴⁶ Christopher Mitchell, *Repealing Net Neutrality Puts 177 Million Americans at Risk*, Community Networks (December 11, 2017) <https://muninetworks.org/content/177-million-americans-harmed-net-neutrality>.

number jumping to 98% at 100 Mbps speeds.⁴⁷ In general, while broadband deployment and speeds improve marginally over time, broadband competition does not. Truly high-speed wired broadband is only feasible over fiber and coaxial cable -- the DSL providers who once provided a level of competition to cable are increasingly irrelevant, and mobile broadband remains a complement, not a substitute, to wired household broadband for the vast majority of users. Thus, for most people, getting cut off from a broadband provider means losing the kind of internet access necessary for school, work, and health care applications, among other things. If you are lucky, you may be able to access severely reduced capabilities via a mobile connection. Unfortunately, if you are one of the 42 million Americans without access to wired or fixed wireless connections at all, and thus, entirely rely on mobile or satellite connectivity,⁴⁸ well, you're just out of luck.

It is an open question whether a modern-day internet service provider even needs a liability shield, since it is not clear that the act of providing broadband access should ever give rise to any form of secondary liability a provider needs to be shielded from. Nor does the law specify how ISPs are supposed to obtain knowledge of repeat infringers -- they are not required to accept DMCA takedown notices, as other online service providers are, since they do not actually host any material. Nor do they (or should they) have a general duty to monitor and track their users' activity. For copyright purposes, it makes sense to view modern-day ISPs as service

⁴⁷ FCC, *Internet Access Services: Status as of December 31, 2016*, fig. 4 (February 2018) https://transition.fcc.gov/Daily_Releases/Daily_Business/2018/db0207/DOC-349074A1.pdf. The FCC's more recent report contains less reliable figures as it includes satellite broadband, which is not an adequate substitute for terrestrial fixed connections, in the higher speed tiers. See *Internet Access Services: Status as of December 31, 2017*, fig. 4 (August 2019), <https://docs.fcc.gov/public/attachments/DOC-359342A1.pdf>.

⁴⁸ John Busby, Julia Tanberk et al, *FCC Reports Broadband Unavailable to 21.3 Million Americans, BroadbandNow Study Indicates 42 Million Do Not Have Access*, BroadbandNow (February 3, 2020), <https://broadbandnow.com/research/fcc-underestimates-unserved-by-50-percent>.

providers closer in kind to the power company that powers a user's computer, than to a file-sharing service or streaming site.

Also worth noting is the different role that internet access -- specifically, broadband access -- plays in life in 2020, compared to its role in 1998. Today, individuals use broadband to work remotely, attend classes, access critical medical care, consume essential news and information, and socialize. First responders use broadband to communicate life-saving information to local residents, and small- to medium -size businesses use broadband to access global markets that are critical to staying afloat.⁴⁹ This cannot be reconciled with the broad interpretation of Section 512(i) as requiring that service providers (including ISPs) adopt policies that provide for the termination of subscribers upon repeat *accusations* of infringement.⁵⁰ By terminating a subscriber's account with their broadband provider, this policy would cut off households from not just copyrighted content, but from *everything*.

Conclusion

Two hundred and twenty-nine million American adults live their lives online under the shadow cast by Section 512. This push for reform, which would be difficult in a good year, comes at a time when we are all attempting to navigate uncharted waters. Whatever the risks, whatever the rewards, we cannot be reckless in our approach. Congress must acknowledge that this debate is not happening in a vacuum, and reject the reduction of stakeholders down to the strawmen of "big tech" and "content." Broadband access, algorithmic governance, and economic

⁴⁹ Robert Pepper et al., *Cross-Border Data Flows, Digital Innovation, and Economic Growth*, The Global Info. Tech. Rep. 40, 41 (2016), http://www3.weforum.org/docs/GITR2016/WEF_GITR_Chapter1.2_2016.pdf; FCC, *Connecting America: The National Broadband Plan* 313 (March 17, 2010), <https://transition.fcc.gov/national-broadband-plan/national-broadband-plan.pdf>

⁵⁰ *BMG Rights Mgmt. v. Cox Communs.*, 881 F.3d 293, 302 (4th Cir., 2018).

incentive structures all impact Americans' ability to speak online. In a moment of massive social change, we must not take that for granted.