The OTW is a nonprofit organization established in 2007 to protect and defend fanworks from commercial exploitation and legal challenge. The OTW’s nonprofit website hosting transformative noncommercial works, the Archive of Our Own, has over 770,000 registered users and receives over 115 million page views per week. We represent artists who make works commenting on and transforming existing works, adding new meaning and insights—from reworking a film from the perspective of the “villain” to retelling the story as if a woman, instead of a man, were the hero. We appreciate the opportunity to comment on §512, a crucial part of the creative environment online.

**General Effectiveness of Safe Harbors**

1. Are the section 512 safe harbors working as Congress intended?

As set forth in §512(m), Congress was concerned to avoid drafting service providers as private arbiters of copyright cases, especially given difficult questions of ownership and infringement that were likely to arise. While the internet has changed in multiple ways, the safe harbors have been vital to the success of U.S. entities, and copyright owners have developed increasingly successful business models online, bolstered by a robust notice and takedown practice where necessary.

Congress’ great insight was that enforcement need not be perfect as long as profit-seeking copyright owners retained their incentives to produce. Perfect enforcement of copyright law, like perfect enforcement of traffic laws, would be so onerous that the benefits would not justify the costs, even if every element of due process were observed. As the explosion of content of every kind and the continuing, ever-increasing success of U.S. media industries demonstrates, this insight continues to have value even as the internet has vastly expanded in scope in multiple ways. Section 512 is far from perfect, especially when it comes to deterring abusive takedown notices, but no change is likely to perfect it, and many possible changes could make it worse.

2. Have courts properly construed the entities and activities covered by the section 512 safe harbors?

While everyone, including the OTW, can identify specific decisions with which they disagree, the OTW believes that courts have generally done a good job interpreting the coverage of the §512 safe harbors, particularly in adopting flexible approaches to new entities and activities. See, e.g., Viacom Intern., Inc. v. YouTube, Inc., 676 F.3d 19, 38-40 (2d Cir. 2012) (holding that YouTube’s various activities not involving manual selection for licensing to a third party, including transcoding video and generating lists of related videos, were “by reason of” user storage). Congress did not anticipate every development online, but it did anticipate that new intermediaries would arise, and §512 is and should be available to them.
3. How have section 512’s limitations on liability for online service providers impacted the growth and development of online services?

Section 512 has allowed many online services to thrive in the face of otherwise impossible barriers to entry. See S. Rep. No. 105-190, at 8 (1998) (“[B]y limiting the liability of service providers, the DMCA ensures that the efficiency of the Internet will continue to improve and that the variety and quality of services on the Internet will continue to expand.”). By allowing service providers to launch without either rigid requirements for content filtering or potentially unlimited liability, undreamed-of services have provided new kinds of value to people around the world, from Pinterest to Wattpad to DeviantArt to the OTW’s own noncommercial website.

4. How have section 512’s limitations on liability for online service providers impacted the protection and value of copyrighted works, including licensing markets for such works?

With all due respect, this question mistakes the method for the output. Section 512 ought to be assessed for whether it has aided the progress of Science and the Useful Arts, and whether it has aided in producing and distributing new creative works. The answer to that question is simple: the safe harbor system provides a baseline of protection enabling a variety of OSPs to support all kinds of creativity and provide creators with new distribution mechanisms, rather than filtering content out by default.

Often, it is unlicensed entrants into new markets who prove those markets’ viability, whether for radio stations in the last century or internet music services in this one. Large copyright owners once contended that, absent automatic secondary liability for internet conduits, no one would put “cars” on the “information superhighway.” Instead, the dynamic worked in the opposite way: Absent pressure to develop services that offer online audiences access to the music, movies, and books they want, large copyright owners would have delayed digital delivery methods forever, until perfect security against all potential infringement was achieved—which it never would have been. Now, licensed digital models continue to grow, bringing new creators and new audiences together. There are many predicates for successful markets, but §512 is one of them because it has helped many new services thrive and compete, allowing both service providers and copyright owners—large and small—to experiment with various ways of finding their audiences.

5. Do the section 512 safe harbors strike the correct balance between copyright owners and online service providers?

Winston Churchill famously said that “democracy is the worst form of government except for all those other forms that have been tried from time to time.” Section 512’s basic scheme has this character: while there are important implementation issues, the basic framework, in which copyright owners are responsible in the first instance for identifying infringements and service providers who promptly respond to legitimate claims are protected against crushing liability, is better than most alternatives that have been proposed. In particular, filtering every user submission—also promoted as “notice-and-staydown”—would make it impossible for new services to launch and for many existing services, such as the OTW’s successful nonprofit
website, to continue to operate. The OTW does not have, and could not build, word or hash filtering that could identify unauthorized, infringing works and distinguish them from noninfringing works. Suggestions that new entrants be forced to join in filtering schemes would turn services such as Audible Magic into monopolists whose prices OSPs would be forced to pay and whose consent would be necessary for innovators to develop new sites, services, and business models.

**Notice-and-Takedown Process**

6. How effective is section 512’s notice-and-takedown process for addressing online infringement?

Compared to only allowing FCC-licensed media entities to share content, §512 is not very effective. Compared to alternatives such as classic vicarious and contributory liability as they existed pre-DMCA, it is effective, because it provides a more predictable scheme allowing copyright claimants, service providers, and content providers to understand their rights and obligations. As a synthesis of qualitative and large-scale quantitative research on notice-and-takedown recently concluded,

Though it shows strains, the law continues to provide rightsholders with a copyright enforcement alternative that is cheaper and easier to use than lawsuits. Though use of automated systems has reduced human-reviewed processing, non-automated processing is still the norm for most OSPs and continues to work successfully…. Though rightsholders and OSPs generally use some accuracy checks today, we identified a clear need for better mechanisms to check the accuracy of algorithms, more consistent human review, and a willingness by both rightsholders and OSPs to develop the capacity to identify and reject inappropriate takedown requests.¹

7. How efficient or burdensome is section 512’s notice-and-takedown process for addressing online infringement? Is it a workable solution over the long run?

This question requires a baseline: compared to what? The number of notices sent today is big, because the internet is big. According to WorldWideWebSize.com, Google indexed between 46.75 and nearly 49.5 billion pages in the last month, during which it also received 76.7 million URL removal requests.² These billions of pages represent thriving global discourse; URL removal requests, by contrast, represent roughly 0.16% of the pages Google indexed. Mass media revenues continue to increase, as does internet traffic, and while the U.S. lags in broadband speed and penetration, there is no indication that online infringement has caused that lag or that changing the DMCA would improve broadband access. Which is to say: there are many moving parts of the online environment, and general words like “efficient” or “workable” are not helpful absent a comparison to a plausible alternative. One point of comparison might be Canada’s “notice and notice” regime, which also gives recipients the opportunity to evaluate a

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copyright owner’s claims without overincentivizing aggressive removal by OSPs; it could provide the same benefits for legitimate claimants without the same potential for abuse.\(^3\)

One key insight of §512—expressed even more clearly in CDA §230, the broader immunity provision covering non-intellectual property secondary liability in the United States—is that it is important for lawmakers not to prescribe the form or function of internet services in advance, in order to preserve the U.S. advantage in technological innovation.\(^4\) The OTW’s website did not exist until twenty years after the DMCA was enacted; it now serves upwards of 115 million page views a week. Based on that experience as well as other similar stories, the OTW strongly believes that, in the long run, less prescriptive rules promote the health of both OSPs and creators alike. Traditionally, copyright-related legislative intervention into ongoing technological developments has been useless at best and counterproductive at worst. Copyright protection for chip “mask works,” which quickly became a dead letter because of technological change, is an example of the former, while the clunky mandatory copy protections on digital audio recorders imposed by Congress probably contributed to the failure of the medium.

8. In what ways does the process work differently for individuals, small-scale entities, and/or large-scale entities that are sending and/or receiving takedown notices?

The OTW’s small all-volunteer staff reviews each DMCA complaint individually, as is the case for most OSPs.\(^5\) If the notice complies with the DMCA and doesn’t raise obvious fair use issues or assert non-copyright claims, as is sadly more common than not for the claims received by the OTW, our abuse team will remove the accused content and inform the user.

Our experience with small-scale senders, consistent with the experience of other small 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). However, there appear to be no particular barriers to any type of entity using the notice and takedown system.\(^6\)

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\(^5\) See Urban et al., supra, at 2 (documenting gap between “DMCA Classic” OSPs that receive few notices and engage in human review and large-scale recipient OSPs). The OTW was not one of the studied organizations, but its experience puts it into the authors’ “DMCA Classic” category.

\(^6\) See id. at 110 (“If there are barriers to individuals and small businesses using notice and takedown, they are not apparent in the Google Image Search data. Individuals and small businesses made substantial use of the takedown system.”).
9. Please address the role of both “human” and automated notice-and-takedown processes under section 512, including their respective feasibility, benefits, and limitations.

Human review remains important on both sides of the process: in interviews, “rightsholders stressed the importance of conducting human crosschecks on automated results to guard against systemic inaccuracies, like targeting previously removed material or non-existent pages, and against collateral damage, like targeting legitimate content by requesting removal of too much of a page or site,” and even OSPs that relied on automated methods to deal with notices “also described human attention as important to limiting problems with automated decision-making.”

The OTW doesn’t have the resources to double-check the work of thousands of copyright claimants if they send notices based on metadata such as work titles. Automated processes may be useful for identifying full copies of movies and the like, but it is absolutely vital that a human point of contact on the sender’s end be readily available—and authorized to take action—in cases of error or uncertainty. The OTW has, unfortunately, received legal threats based on clearly erroneous copyright claims from an entity that has filed a number of infringement lawsuits, and the threats were repeated even after our detailed response using the provided contact information. In the OTW’s view, §512(f) authorizes a remedy in such cases, but it would have been simpler for everyone had our initial response received a human’s attention. More generally, automated processes must be routinely updated with relevant information, for example that the metadata initially used to identify potential infringements are proving unreliable.

10. Does the notice-and-takedown process sufficiently address the reappearance of infringing material previously removed by a service provider in response to a notice? If not, what should be done to address this concern?

Yes. Copyright owners are ultimately in a better position than OSPs to know which works are authorized and how to identify them. (See below for further discussion.)

11. Are there technologies or processes that would improve the efficiency and/or effectiveness of the notice-and-takedown process?

The OTW participated in the PTO-NTIA best practices roundtables in 2015. What emerged was evidence that practices differ so much, and that small entities differ so much from large entities both as senders and as recipients, that it is essentially impossible to make blanket statements about what processes and technologies work best. A Usenet provider is so different from WordPress, and an individual copyright owner is so different from Warner Brothers, that policies and technologies that work very well for one can pose substantial obstacles to another.

12. Does the notice-and-takedown process sufficiently protect against fraudulent, abusive or unfounded notices? If not, what should be done to address this concern?

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7 Id. at 35.
Not currently, though stronger application of §512(f) could remedy some of the problems, as well as improvements in the requirements for notice senders. Immediate putback upon counternotification could also aid time-sensitive uses that have been wrongly or abusively targeted.

Without ex ante court oversight of a content deletion demand, the system depends on the senders of the takedowns themselves considering whether they have targeted infringing material and whether fair use or another limitation applies. The DMCA, unlike the Canadian “notice and notice” model, switched the role of judicial review from ex ante to post hoc: Without the DMCA a copyright owner would have had to demonstrate to the court that it indeed owned a valid copyright and that the use of content in question infringed its rights before a court would compel the removal of accused works. Nothing in the DMCA text alleviates a copyright claimant of these burdens. In fact, because the courts will not review the copyright claim until after the content has been removed, it is particularly important that senders of takedown notices be held to at least the same standards as they would be if they had sought injunctive relief from a court at the outset. The easier it is to cause speech to be silenced, the harder it should be to justify having done so.

Because the DMCA essentially functions as a system of extra-judicial injunctions on speech, designed to save legitimately aggrieved copyright holders from the cost and delay of having to seek content-removing injunctions from the courts, it is crucial that these savings do not come at the expense of suppressing non-infringing speech. Without courts’ willingness to enforce the penalty built into the DMCA to deter improper takedown demands, myriad legitimate speech has succumbed, and will continue to succumb, to unwarranted, illegitimate removal. It is not just the speaker who is affected by a wrongful takedown: the intermediary hosting it is affected, as is the public who no longer has access to it. Intermediaries, unfortunately, have incentives to over-remove in response to threats, even threats that may not be valid, given the existence of cases such as BMG Rights Management (US) LLC v. Cox Communications, Inc., No. 1:14-cv-1611 (E.D. Va. 2015), denying access to the DMCA’s safe harbors for failure to terminate accused infringers.

The problem of erroneous and abusive takedowns is a serious one. A recent study looked at random sample of takedown notices, taken from a set of over 108 million requests submitted to the Lumen archive over a six-month period:

9 See Urban et al., supra, at 138 (suggesting a requirement that the notice sender must meet the “penalty of perjury” standard for the substantive claims in the notice identifying the claimed rights and the targeted material).

10 See id. at 41 (“Most OSPs reported acting conservatively in order to avoid liability, opting to take down content even when they are uncertain about the strength of the underlying claim. In some cases, OSPs simply take substantive claims at face value and remove everything if notices conform to section 512’s basic requirements. Four services among our respondents reported a takedown rate of 100%. OSPs uniformly described their conservatism as a result of necessarily prioritizing avoiding liability over taking risks that might protect expression.”).

11 See, for example, the testimony of Paul Sieminski, general counsel of Automattic, Inc., the company behind the WordPress blogging platform, at recent hearings on the effectiveness of the DMCA. Section 512 of Title 17: Hearing Before the Subcomm. on Courts, Intellectual Property, and the Internet of the H. Comm. on the Judiciary, 113th Cong. (2014) (Statement of Paul Sieminski, General Counsel, Automattic Inc.), available at http://judiciary.house.gov/?a=Files.Serve&File_id=B343EABE-0BF1-44E9-8C85- B3478892B8E1 (describing numerous abuses of takedowns based on disagreement with the posted content).
Nearly 30% of takedown requests were of questionable validity. In one in twenty-five cases, targeted content did not match the identified infringed work, suggesting that 4.5 million requests in the entire six-month data set were fundamentally flawed. Another 15% of the requests raised questions about whether they had sufficiently identified the allegedly infringed work of the allegedly infringing material. The analysis further identified significant questions related to the availability of potential fair use defense, complaints grounded on improper (non-copyright) claims, and requests sent to defunct web sites.12

Disturbingly, “one in fourteen (7.3%) of takedown requests raised questions of potential fair use defenses,”13 mostly having to do with remixes and other potentially transformative works.14

An associated study makes clear that different OSPs, and even different media types, face extremely different takedown profiles. For Google Image Search in particular, “[s]eventy percent of the requests raised serious questions about their validity, including a significant number related to ‘improper’ subject matter, fair use concerns, copyright ownership issues, and potentially inaccurate identification of the allegedly infringing material.”15 Even excluding the largest sender, 15.1%, or nearly one in six, notices asserted non-copyright interests, and one in nine raised fair use issues.16 Relatedly, “the Image Search requests were much more likely to implicate individual expression by targeting posts on social media, personal websites, and blogs, rather than the file-sharing or cyberlocker sites more commonly targeted in requests sent to Google Web Search.”17 This variation confirms the OTW’s experience: invalid takedown notices may be particularly likely for certain media types or certain websites.

Invalid takedown demands occur in all sorts of circumstances, however. “Although the proportion of problematic requests varied by type of OSP, every OSP told stories of takedowns that ignored fair use defenses or that targeted non-infringing material. Several echoed one respondent’s view that ‘many copyright complaints… would obviously qualify as fair use; others are complete fabrications to remove content considered undesirable to the filer.’”18 As one author summarizes:

[C]opyright is increasingly being used for the purpose of removing content from the Internet, when the plaintiff disagrees with or has been damaged by the content. Lawsuits that should be centered on claims of contract disputes transform into copyright lawsuits. … Essentially, plaintiffs . . . are using federal copyright law as a workaround to avoid section 230 blocking state tort law claims. … [P]laintiffs pursue copyright claims to suppress derogatory material and not with the actual intent of protecting their intellectual property rights.19

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12 Urban et al., supra, at 2.
13 Id. at 12.
14 Id. at 95.
15 Id. at 3.
16 Id. at 118-19.
17 Id. at 12.
18 Id. at 40.
At times content owners demand the removal of content they themselves have authorized, or facts unprotected by copyright. In other cases, content owners send takedown notices based on fragmentary phrases or common words that happen to match the titles of their— and many other— works. Overbroad matching algorithms also lead copyright owners to send takedown notices targeting mere reporting on their works. While in many of these instances a little bit of due care would have prevented notices from wrongfully being sent, a lax good faith standard in the DMCA removes any incentive for anyone to take any of that care.

Worse, the lack of a sufficient incentive to ensure that a takedown notice vindicates a legitimate copyright infringement claim allows non-copyright holders using these notices as weapons.

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24 See Daniel Seng, ’Who Watches the Watchmen?’ An Empirical Analysis of Errors in DMCA Takedown Notices (January 23, 2015), http://ssrn.com/abstract=2563202, at 36-37 (“If it costs almost next to nothing for a [sender of a takedown notice] to fire off a million arrows to hit a target, he will fire off a million arrows to do so, regardless of accuracy or precision, as it improves his chances of hitting his target. And he can do so with impunity, because he is largely protected from any collateral damage which he may cause.”).
against content they don’t like. Businesses, for example, frequently submit improper takedowns in order to suppress discussion of their products or those of their competitors. Medical professionals have tried to use the takedown system to suppress criticism of their care and qualifications.

Political enemies also use the DMCA to target critical speech. For instance, critics of the Argentinian and Ecuadorian governments have received DMCA takedown notices, and so have reporters on the controversy over this abuse of the takedown system itself. The WordPress blogging platform alone has documented numerous instances of politically motivated takedowns. This problem of politically-motivated takedown abuse is worst during campaign seasons, when takedown requests can suppress the most effective and cheapest means of communicating political messages. For example, radio personality Michael Savage was able to suppress material criticizing his statements about Muslims, because his takedown notice sabotaged an entire media campaign that had pointed to the now DMCA-suppressed video.

In short, as more people become aware of the DMCA’s takedown system, and more people become aware that there is no real cost to sending a wrongful takedown notice, more and more are being sent, and more and more non-infringing content is being removed wrongfully. Real consequences for invalid takedown notices are therefore required to protect the integrity of the system.

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26 An analysis of takedown notices sent to Google found that “over half—57%—of [DMCA takedown] notices sent to Google to demand removal of links in the index were sent by businesses targeting apparent competitors.” Schruers, supra note 5. See also Martin, supra, at 487 (“Businesses have used copyright law against a website to bring down a negative post. Sometimes they claim that the poster has misappropriated their intellectual property (something from their website, press release, or photo) into their post and they want the post taken down. While this might work against a large company processing thousands of DMCA copyright requests, it likely will not work in front of a federal judge. . .” (footnote omitted).


29 Simienski, supra.


Shielding intermediaries was not something Congress did for simply the sake of shielding them. Congress sought to make OSPs useful paths by which speakers could reach audiences. Only by putting teeth back into the DMCA and giving meaning to the sanction that Congress wrote into the statute at § 512(f) to punish invalid takedown notices can the DMCA be the sort of speech-enhancing statute Congress intended it to be. The recent holding in Lenz v. Universal that notice senders must consider the inherent limits on copyright, including fair use, as part of their inquiry into whether to send a notice, is a good start. However, in order to give §512(f) real force, courts must recognize that failure to at least consider fair use is itself bad faith, even if an erroneous determination that the use was unfair is protected against liability. 32

Functionally, takedown demands are operating just like a content-removal injunction would, compelling an intermediary to delete a user’s content. They are simply a procedural shortcut for achieving this end. They should not also be a substantive shortcut, affording the takedown sender any more ability to compel content removal than their statutory rights otherwise afford. Only a robust interpretation of § 512(f) can set a limit on what a takedown sender can target for deletion this way.

Additionally, and for the same reasons, OSPs’ reasonable attempts to verify the correctness of a takedown notice—including requests for more information or for an explanation of why a targeted work is not fair use—should not remove them from the safe harbor. Just as copyright owners should not violate §512(f) with reasonable but erroneous takedown requests, OSPs should not lose the safe harbor for taking reasonable precautions to avoid the suppression of noninfringing speech.

13. Has section 512(d), which addresses “information location tools,” been a useful mechanism to address infringement that occurs as a result of a service provider’s referring or linking to infringing content? If not, what should be done to address this concern?

The OTW lacks sufficient direct experience to provide an answer to this question.

14. Have courts properly interpreted the meaning of “representative list” under section 512(c)(3)(A)(ii)? If not, what should be done to address this concern?

The OTW lacks sufficient direct experience to provide an answer to this question.

15. Please describe, and assess the effectiveness or ineffectiveness of, voluntary measures and best practices—including financial measures, content “filtering” and takedown procedures—that have been undertaken by interested parties to supplement or improve the efficacy of section 512’s notice-and-takedown process.

32 See Lenz v. Universal Music Corp., Nos. 13-16106, 13-16107 (9th Cir. Mar. 17, 2016) (“To be clear, if a copyright holder ignores or neglects our unequivocal holding that it must consider fair use before sending a takedown notification, it is liable for damages under § 512(f)… Copyright holders cannot shirk their duty to consider—in good faith and prior to sending a takedown notification—whether allegedly infringing material constitutes fair use, a use which the DMCA plainly contemplates as authorized by the law. That this step imposes responsibility on copyright holders is not a reason for us to reject it.”).
A. Best practices for evaluating notices

The OTW has adopted a DMCA policy similar to that of Wikipedia’s. It reviews every takedown notice for any obvious problems, such as failure to consider fair use. This extra check provides an important protection against the abusive or erroneous takedowns that make up the bulk of the notices the OTW receives. However, independent review requires a substantial commitment to expending legal and other volunteer resources on confirming DMCA notices; institutions without a core commitment to freedom of speech are unlikely to implement such review, nor should they have to in order for their users’ freedoms to be preserved, and institutions that receive a large volume of takedown notices can’t provide human review for each one, though they might be able to do more in the way of sampling or other quality measures.

B. Filtering: The Example of Content ID

Content ID—YouTube’s specialized program for audiovisual content hosted on its own servers—is often spoken of as a potential legislative model. It is not.

First, it is implausible to imagine that Content ID would work as it did if Congress wrote the specifications. Private models reliant on negotiations, tweaking, and compromises that may not have a purely logical basis translate very poorly into legislation with its demands for equality, non-vagueness, and due process.33 The experience of the TEACH Act, which as this Office recently recognized imposes requirements that nonprofit educational institutions acting in perfect good faith can’t meet,34 shows the mismatch between legislative dictate and workable technological design for individual institutions. Other industry-specific copyright rules, such as those relating to music and to cable systems, provide further persuasive evidence about the problems of technological lock-in, industry group capture, and simple incomprehensibility that can result when non-engineers try to design technological systems.

Separately, a number of other problems, detailed below, make Content ID far inferior to the DMCA as a matter of legislative design.

Specific problems related to copyright

Insufficient universe


Content ID covers audio and video libraries, not the universe of copyrightable works—numerous kinds of texts, software, visual materials, and so on aren’t covered, and would face stunning technical obstacles to inclusion.\(^{35}\) Even the extremely vague and general promises regarding “user-generated content” in the European Union initiative “Licences for Europe—ten pledges to bring more content online” covered only a tiny fraction of the creative industries, whereas online creators regularly work with text, audio, video, and visual arts, often in combination.\(^{36}\) “In the music businesses, the one sector of copyrighted content headed to this model [of identifying and licensing everything], they are far from perfecting it despite nearly a century of good work towards it.”\(^{37}\) As much music as there is, there are exponentially more written texts and images.

**Fair use and other limits**

As Google readily acknowledges, Content ID’s filtering can’t address limitations and exceptions such as fair use, and therefore can’t substitute for a public dispute process ultimately resolvable by a court. A DMCA counternotice allows a fair user to litigate the issue of the lawfulness of her use, but an upload blocked by filtering never gets the chance, and Google and its contractual partners adjudicate claims without any need to be bound by copyright law. Content ID does not require claimants to disclose their rules for what content will be blocked or monetized, creating fundamental problems of fair notice.

Furthermore, Content ID participants retain the right, and often exercise the power, to suppress uses they don’t like—precisely the uses that are most likely to be critical, uncomfortable, or otherwise transformative fair use.\(^{38}\) The OTW’s constituents regularly report that their transformative videos have been blocked, and that copyright claimants reject their fair use statements without explanation, which rejections are then honored by Google. As the history of private copyright licensing schemes reveals, Content ID is not unique in this regard: “the power to suppress retained by each of these models that are marketed as available to everyone confirms

\(^{35}\) See, e.g., Deviant Art PTO/NTIA filing, at 10 (“In addition to obvious forms of visual art that implicate ‘remix’ practices such as photo manipulation, digital collage, mixed analog/digital collage, stock photography, stock illustration, fractals, multi-media, vectors files, digital wire frames, 3D renderings and many others, traditional art forms such as painting, drawing and sculpture increasingly rely on digital techniques to reference or incorporate other works. All of these forms and categories are found in great numbers on deviantART.”); Google NTIA Comments, at 4 (“As an initial matter, Content ID will never include reference files for every copyrighted work that might be included in every remix uploaded to the site. While Content ID currently has over 15 million reference files in its database, that represents a tiny fraction of all the audio, video, and imagery that falls within the scope of copyright. In other words, no matter how comprehensive Content ID’s database of reference files may one day become, there will always be an important role for fair use when it comes to remixes on YouTube.”)


\(^{37}\) DeviantArt NTIA Comments, supra, at 6–7.

\(^{38}\) See, e.g., Katie Allen, Google Seeks to Turn a Profit from YouTube Copyright Clashes, The Guardian (Nov. 1, 2009), http://www.gu...
that privately negotiated licenses will always retain censorship rights, thus leaving creators of transformative noncommercial works at risk of suppression. 39

Unsurprisingly, one result of Content ID’s features is that copyright owners suppress messages that aren’t acceptable to them. Jonathan McIntosh created a remix that criticized the Twilight series for its regressive gender stereotypes, and found his work blocked because he refused, on moral grounds, to allow the copyright owner of Twilight to profit from his work. In other words, the owner used Content ID to suppress criticism. McIntosh’s work was ultimately restored, but his situation was unusual because he managed to get enough publicity and legal assistance to establish that his work was protected by fair use. 40 In another reported case, a noncommercial video analyzing remix culture and copyright law, which used clips from a viral remix video that itself combined a song with video clips from John Hughes films, was taken down as a result of a Content ID claim. The creator’s appeal was “rejected,” despite Google’s promise that an appeal of a Content ID determination would force the claimant to resort to the DMCA process. 41 Google’s contracts with some Content ID partners allow them to override DMCA counternotifications, lifting from copyright owners the burden of filing suit to challenge uses that uploaders would be willing to litigate to defend. 42

Private systems such as Content ID can directly conflict with copyright’s incentive justification. To the extent that a video has copyrightable elements that aren’t owned by the claimant, the claimant has no legal right to exploit those elements. Content ID allows the claimant to monetize a work on its own behalf and to deny its creator the right to do so, even if the video isn’t an infringing derivative work but is instead a fair use. In such cases, claimants are appropriating noninfringing copyrighted works for their own benefit, directly contrary to the aims of the DMCA. 43 Copyright owners have used Content ID to control revenues from standard reviews and reporting—classic fair uses even when done for profit—funneling money away from the creators of those reviews and forcing them to choose between the quality of their reviews, which often depend on illustrating a point with evidence, and their ability to earn a living. 44

Separately, there are numerous reports of misidentification and abuse of Content ID by claimants who don’t even have legitimate claims to components of user-uploaded videos. 39

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39 Rebecca Tushnet, All of This Has Happened Before and All of This Will Happen Again, 29 Berkeley Tech. L.J. 1447, 1483 (2014).
to detect the presence of licensing arrangements, suppressing time-sensitive uses such as awards shows and political conventions.\textsuperscript{45} Overdetection—for unknown reasons, since the algorithm is secret—occurs in many other circumstances as well.\textsuperscript{46} As one artist explains,

\begin{quote}
It is up to me to prove myself innocent by asking eighteen different publishing companies through an automated system to revoke the automated claims. Each publisher has a month to reply, with no obligation to even do so. If even one of the eighteen publishers says ‘nope’ then it’s back to square one . . . . Any financial loss or restrictions on my channel are entirely on me, and will not be compensated for once the claim is lifted.\textsuperscript{47}
\end{quote}

Major rightsholders, such as the Harry Fox Agency (which licenses musical works), assert rights over works that are plainly in the public domain.\textsuperscript{48} In order to dispute such invalid claims, individual users have to know enough law to be willing to face down a large entity. And even if they do, abusive claimants may well simply reinstate a claim after a challenge, as Harry Fox did with the 164-year-old Radetzky March by Johann Strauss. Even an invalid claim that is not reasserted can prevent a legitimate uploader from monetizing a work for thirty days.\textsuperscript{49}

Though Google has made efforts to improve the transparency of the claiming process, there are still frequent reports of problems, and, unlike a fair use assertion that can ultimately be litigated, a Content ID rejection is unreviewable. The automated nature of Content ID can lead to extreme frustration, since creators may be unable to reach a human with responsibility for a decision.\textsuperscript{50}

\footnotesize{45 See, e.g., Tim Cushing, Copyright Killbots Strike Again: Official DNC Livestream Taken Down By Just About Every Copyright Holder, Techdirt.com (Sept. 5, 2012, 1:32 AM), http://www.techdirt.com/articles/20120904/22172920275/copyright-killbots-strike-again-official-dnc-livestream-taken-down-just-about-every-copyright-holder.shtml (automated content protection measures suppressed a stream of an awards show because officially licensed clips from Dr. Who were present; the same thing happened to the Democratic National Convention’s official channel, on behalf of multiple copyright claimants).


48 See Mike Masnick, Harry Fox Agency Claims Copyright Over Public Domain Work By Johann Strauss, Techdirt.com (Nov. 6, 2012, 10:02 AM), https://www.techdirt.com/articles/20121102/13164120919/harry-fox-agency-claims-copyright-over-public-domainwork-johann-strauss.shtml; Chris Morran, YouTube’s Content ID System Will Take Away Your Money If You Dare Sing “Silent Night,” Consumerist.com (Dec. 26, 2013), http://consumerist.com/2013/12/26/youtubes-content-id-system-will-take-away-your-money-if-you-dare-sing-silent-night/ (“YouTuber Adam ‘The Alien’ Manley ran up against the idiocy of Content ID twice in the last week, with multiple music publishers claiming that his recent rendition of ‘Silent Night’ violated their copyright, in spite of the fact that the song, an English version of a nearly 200-year-old German Christmas carol . . . has been in the public domain for more than a few years.”).

49 See Morran, supra.

50 Owen Good, YouTube’s Copyright Crackdown: Everything You Need To Know, KOTAKU.COM (Dec. 18, 2013), http://kotaku.com/youtubes-copyright-crackdown-simple-answers-to-compliance-148599937/ (“When people are told they are violating a law or a rule, they expect to be able to confront or reason with the enforcer of that rule or the person they’ve wronged, however unwittingly. With a YouTube scanning program making these calls on behalf of others, who sometimes aren’t aware of the claims made in their name, it can be very hard to get someone on the line to hash things out.”).}
Fair uses are disproportionately likely to be found in the population of troublesome decisions, since fair uses that involve quoting audio or video will produce Content ID matches. Content ID doesn’t analyze transformativeness, the amount of the work taken, or other fair use factors. Google recognizes that a copyright owner could simply block a fair use, or an owner could monetize an upload despite having no right to do so. As Google notes, “[t]he second case can be particularly galling to a remix creator whose fair use video is intended as a criticism or parody of the rightsholder or work in question.” Google contends that it offers procedures to ameliorate these problems, but they still rely on users understanding and exercising their rights in the face of a complex and often-changing process.

Google is a private entity, and can exclude content for any lawful reason, whether its decisions are good or not. Subjecting all sites to the same kinds of practices, by contrast, would be a disaster for free speech—and for individual creators, who simply can’t navigate these schemes. Fair users are creators too, and their interests should not be systematically sacrificed in favor of those of other copyright owners.

**Technological mandates and competition**

Content ID’s reliance on a private company’s technology and self-interest, instead of on copyright law, creates other systemic issues. Licensing and filtering schemes presuppose that some larger entity will negotiate with rightsholders to create a filtering database, given that individual users have neither the knowledge nor the ability to negotiate licenses. Yet most sites can’t afford the investment required to create a Content ID–like system. As the visual art site DeviantART explained:

> YouTube’s content identification system . . . is very complex and very expensive. It requires registration of works, digital fingerprinting and a constant review and frequent interdiction of incoming user generated content. Some estimates of the cost of building this system exceed $1.5 billion just for the music component. It hopefully goes without saying that very few enterprises can afford this approach. The technology required to (i) store metadata, (ii) identify works at nanosecond speeds, (iii) seamlessly execute on permission sets after identification, (iv) place advertising inventory in front of the work and finally (v) generate a revenue share payment to the copyright owners reflects a level of engineering excellence also beyond the reach of most enterprises.

Google itself notes that Content ID’s development was incredibly expensive (costing approximately thirty million to sixty million dollars) and resource-intensive, requiring more than 50,000 engineering hours. Startup competitors couldn’t replicate it. “Even well-resourced OSPs feared being forced to deploy filtering technologies; many saw them as unattainably

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51 Google PTO/NTIA comments, at 5.
52 DeviantArt NTIA Comments, supra, at 28–29 (footnote omitted).
53 Google NTIA Comments, supra, at 4 (“more than $30 million”); Hearing on S. 512 of Title 17 Before the Subcomm. on Courts, Intellectual Prop., and the Internet of the H. Comm. on the Judiciary, 113th Cong. 6 (2014) (testimony of Katherine Oyama, Senior Copyright Policy Counsel, Google Inc.), available at http://judiciary.house.gov/_cache/files/be93d452-945a-4fff-83ec-b3f51de782b3/031314-testimony---oyama.pdf (“more than $60 million”; “YouTube could never have launched as a small start-up in 2005 if it had been required by law to first build a system like Content ID.”).
expensive.”54 Nor can filters simply be put into place with the push of a button, or used to replace a notice and takedown system: “Content filtering systems do not obviate the need for automated notice handling. Even if they are off-the-shelf, they must be integrated into OSPs systems. And rightsholders vary in their requests, pushing OSPs to run parallel systems to manage different enforcement demands.”55

On the other side, creators are also put in a take-it-or-leave-it position by licensing systems, usually with the result that they can’t make specific decisions about uses—for example, consider the recording artists who are upset with the blanket licenses that allow political candidates to play their songs at various public events. A process that is automated is not individualized, and a process that is not automated can’t be scaled. The experience of collective licensing also suggests that the supposed promise of control and compensation from massive licensing is often vastly overstated; most creators don’t benefit, and copyright’s purposes are unserved, if “unauthorized uses” decrease but the resulting revenue goes to administration and to a subset of already-successful creators.56 Lack of competition in licensing agencies harms individual creators just as it harms small OSPs.

We do not know what markets will look like in ten years. YouTube hasn’t yet been around for a decade. A licensing model risks entrenching YouTube’s near-monopoly on the market.57 As we’ve seen with the nightmare that is digital-radio licensing, new entrants can rarely cut the same deals as earlier ones. Whether or not Google is too big to fail, its present existence shouldn’t be used to delegitimize ordinary notice and takedown. More broadly, licensing protects monopolies by creating barriers to entry. For example, when Google was sued for scanning hundreds of thousands of library books, it initially supported a settlement that required it to pay licensing fees, but that was rational for many reasons, including the fact that it created significant barriers to entry for potential competitors.58 By contrast, the finding that scanning in order to create snippets and analyze the books for content was fair use allows other entities to do the same thing, even though most probably won’t have Google’s resources.59 Section 512 serves a similar structural function, allowing new services to launch even without Google’s agreements and resources in place.

Content ID is a successful monetization model for some large copyright owners of popular online video and audio content. But it is not an appropriate model for every service provider that hosts, transmits, or links to works in any medium.

54 Urban et al., supra, at 58.
55 Urban et al., supra, at 64.
59 Authors Guild v. Google, Inc., 804 F.3d 202 (2d Cir. 2015).
Counter Notifications

16. How effective is the counter-notification process for addressing false and mistaken assertions of infringement?

Counter-notification is vital, but far from sufficient. When timeliness is key to speech’s value (as it often is, particularly when it is relevant to the current news cycle), the takedown notice can be crippling to the speaker’s ability to effectively convey her message, because even if she is ultimately able to get the content restored, it may be too late to matter. In fact, because the §512(g) mechanism requires a delay of at least ten business days before the counternotification becomes effective and the challenged material is restored, the damage will have already been done. One mistaken or abusive counternotification can deny a speaker access to her audience, with far greater impact on the communication environment than failure to take down one (or even many) pure copies of a movie that is widely available in other ways. Thus, the costs of a false positive are much greater than the costs of a false negative.

Furthermore, many users whose content has been taken down either don’t know they can fight the takedown notice or can’t afford to fight it. This hesitance is not equally distributed—more marginalized people are likely to assume that protest will be useless even if it’s justified, and so their voices are particularly likely to be suppressed. Speakers who lack a sense of personal political efficacy (including women, racial minorities, and so on) are often those whose transformative speech is most likely to face challenge from established rightsholders; they are disproportionately likely to be afraid to counternotify. Even professionals who accurately understand their fair use rights and believe that their users are fair often decline to counternotify, according to empirical research among documentary filmmakers. Younger, less experienced filmmakers—precisely the people most likely to decline to assert a valid fair use defense—are particularly likely to experience takedowns.

Potential counternotifiers also cannot be assured that fighting back against the notice will not put them in the crosshairs of the party who took down their content with an abusive notification, or otherwise expose their personal information as may be required if they submit their counternotification online. This hesitation may be especially warranted when the content removed has related to politically or culturally critical messaging. See Sieminski, supra (“This tradeoff doesn’t work for the many anonymous bloggers that we host on WordPress.com, who speak out on sensitive issues like corporate or government corruption.”). Forcing anonymous

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60 Amy Schmitz, Access to Consumer Remedies in the Squeaky Wheel System, 39 Pepp. L. Rev. 279, 311-12 (2012) (explaining that low-income consumers complain less about mistreatment than wealthier consumers); Rebecca L. Sandefur, Money Isn’t Everything: Understanding Moderate Income Households’ Use of Lawyers’ Services, in Middle Income Access To Justice 222, 234 (Michael Trebilcock et al. eds., 2012) (low- and moderate-income pepole rarely pursue legal rights, because they don’t think it will help).

61 Patricia Aufderheide & Aram Sinnreich, Documentarians, Fair Use and Free Expression: Changes in Copyright Attitudes and Actions with Access to Best Practices, Information, Communication & Society, May 2015, 1-10. doi: 10.1080/1369118X.2015.1050050 (2015) (study of 489 documentary filmmakers; “Almost a quarter (23%) have seen their own videos taken down from internet sites and services following DMCA infringement claims. Among those people, 60% were confident in their fair uses of copyrighted material, yet only half of those whose work was taken down contested it.”).

62 Id. (“Early and mid-career filmmakers, whose careers began with the Internet era, are significantly more likely to have experienced DMCA takedowns (24% compared with 17% for veterans.”).
speakers to rely on § 512(g) puts the DMCA in serious tension, if not outright conflict, with the First Amendment, which explicitly includes a right to anonymous speech. See, e.g., McIntyre v. Ohio Elections Commission, 514 U.S. 334, 357 (1995). This right should not have to be forfeited in order to resist censorship, but in order to use the put-back procedure, it is.

In addition, as a practical matter, most takedown notices target search engines under 17 U.S.C. § 512(d), a mechanism by which there is no obvious way to provide the original sources with any notice of the removal of their link. Even if they should somehow learn that their content has been de-indexed, there is also no obvious way for them to counternotify, nor any right to do so. The DMCA does not establish a counternotification process for link removals under § 512(d); the § 512(g) put-back process applies only to content removed under 17 U.S.C. § 512(c). See Seng, Discordant Union, supra (noting that this absence of procedural protection contributes to the infrequency of counternotices).

And, of course, the notifying party suffers no consequence simply from sending an invalid or abusive notice. At worst, the material might not be removed, if the receiving OSP is extremely speech-protective, or it might return after at least ten business days after a counternotification.

For all these reasons, counternotification alone is fundamentally insufficient to deal with the problem of false and abusive takedowns. Section 512(f) is the constraint intended by Congress and best suited to deter abusive takedowns. Thus the courts need to enable it to operate effectively, which it can only do with a meaningful good faith standard requiring senders to consider, inter alia, fair use.

17. How efficient or burdensome is the counter-notification process for users and service providers? Is it a workable solution over the long run?

For the reasons set out above, counternotification is burdensome enough for individuals that it cannot alone bear the burden of redressing false or abusive takedown notices. And it can’t deter such notices, given its inherent limits and time delay. It must be paired with strong protections against false or abusive notices under §512(f).

18. In what ways does the process work differently for individuals, small-scale entities, and/or large-scale entities that are sending and/or receiving counter notifications?

In the OTW’s experience, counternotifications are relatively rare, even in cases of clear fair use. Many people who receive takedown notices find it easier to give up, especially when they are noncommercial speakers. Our experience with counternotifications is mostly with helping instruct people how to do them, and we have found that individuals (particularly young women) are generally intimidated by the prospect of counternotifying even when they believe, correctly, that their use is fair.

Legal Standards

19. Assess courts’ interpretations of the “actual” and “red flag” knowledge standards under the section 512 safe harbors, including the role of “willful blindness” and
Given the structural purposes of §512 in allowing OSPs to protect themselves from crushing liability if they properly operate a notice and takedown scheme, the courts that have narrowly interpreted “red flag” knowledge have been correct. Mavrix Photographs LLC v. LiveJournal, Inc., 2014 WL 6450094 (C.D. Cal. Sept. 19, 2014), is a good example, in which the mere fact that a photo was professionally taken didn’t serve as “red flag” notice. See also Viacom, 676 F.3d at 32-33 (generalized knowledge that infringement is taking place is insufficient); id. at 35 (“willful blindness” requires “deliberate effort to avoid guilty knowledge”); UMG Recordings, Inc. v. Shelter Capital Partners LLC, 667 F.3d 1022, 1022, 1037-38 (9th Cir. 2011) (“merely hosting a category of copyrightable content, such as music videos, with the general knowledge that one’s services could be used to share infringing material, is insufficient to meet the actual knowledge requirement”); UMG Recordings, Inc. v. Veoh Networks, Inc., 665 F. Supp. 2d 1099, 1108 (C.D. Cal. 2009) (“If investigation of ‘facts and circumstances’ is required to identify material as infringing, then those facts and circumstances are not ‘red flags.’ ”). These courts correctly use the DMCA’s deliberate rejection of a monitoring mandate in §512(m) to avoid any back-door recreation of such a mandate through interpretation of the rest of the section.

The bigger problem with the DMCA has little to do with results in litigated cases; it is with the uncertainty generated by copyright owners’ willingness to litigate every word of the DMCA across multiple circuits. As one commentator explains, “For many Internet companies, the litigation itself can be fatal even if they are complying fully with copyright law. For these reasons, content industries can often ‘win’ simply by filing litigation so long as the litigation is expensive.”63 It is for this reason that clear rules and an early ability to resolve DMCA issues on dispositive motions are important, not just the results of fully litigated cases.

20. Assess courts’ interpretations of the “financial benefit” and “right and ability to control” standards under the section 512 safe harbors. How are judicial interpretations impacting the effectiveness of section 512?

Courts have sometimes been insufficiently specific about the requirement that “financial benefit” should be attributable to the infringement, rather than to the general presence of user-provided content. Congress intended to preserve multi-use platforms with the DMCA; the fact that users are attracted to platforms that can be used to infringe is therefore irrelevant unless there is evidence that the OSP receives a financial benefit because of the infringing use, not because of use in general.

In general, courts have reached the right conclusions with respect to “right and ability to control,” eschewing interpretations that would find such an ability from the mere ability to comply with the takedown procedure. As the Second Circuit Court of Appeals explained in

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63 John Blevins, Uncertainty As Enforcement Mechanism: The New Expansion of Secondary Copyright Liability to Internet Platforms, 34 Cardozo L. Rev. 1821, 1830 (2013); see also Michael A. Carrier, Copyright and Innovation: The Untold Story, 2012 Wis. L. Rev. 891 (explaining how copyright lawsuits can be used to crush innovation and suppress competition to entrench existing market participants).
Viacom, the “right and ability to control” exists only when an OSP “exerts substantial influence on the activities of users,” rather than merely having the ability to terminate an account. 676 F.3d at 30. Moreover, courts have usually recognized that “right and ability” should be evaluated in the context of an OSP’s current architecture, rather than by considering potential designs. Luvdarts, LLC v. AT&T Mobility, LLC, No. 11-55497 (9th Cir. Mar. 25, 2013).

21. Describe any other judicial interpretations of section 512 that impact its effectiveness, and why.

The OTW has no additional comments on this issue.

Repeat Infringers

22. Describe and address the effectiveness of repeat infringer policies as referenced in section 512(i)(A).

The OTW has seen no evidence that repeat infringer policies are ineffective.

23. Is there sufficient clarity in the law as to what constitutes a repeat infringer policy for purposes of section 512’s safe harbors? If not, what should be done to address this concern?

The law on this issue isn’t particularly well-developed. Post-BMG v. Cox, failure to terminate the account of a repeat notice-receiver may be enough for an OSP to lose the safe harbor. But, as discussed above, being a notice receiver and being an infringer can be very different things even in the absence of counternotification. Cox may have been going to great lengths to avoid terminating accounts of people who were almost certainly engaged in widespread and systematic infringement. But notice-receipt should not casually be equated with infringement or with being a repeat infringer without further review.

Any legislative attempt to define a repeat infringer policy would be unlikely to give clarity. The basic idea that an OSP should terminate the account of a user who repeatedly accrues DMCA notices without counternotifying is simple. The objections to it are usually that it’s possible for a user to create a different account, but how often that possibility becomes reality is unknown, and attempts to avoid the problem would be both overinclusive—blocking an IP address when that address may be dynamically assigned or shared by multiple users, for example—and likely to be overtaken by technological changes as the ways in which “users” create “accounts” change.

What makes sense for an app wouldn’t make sense for a Usenet group, for example.

Standard Technical Measures

24. Does section 512(i) concerning service providers’ accommodation of “standard technical measures” (including the definition of such measures set forth in section 512(i)(2)) encourage or discourage the use of technologies to address online infringement?
Appropriately, §512(i) is neutral: service providers must “accommodate” standard technical measures, not assist in their development or block them. The debate over such measures is a separate one, but whatever their merits, they should be engaged on their own terms rather than encouraged by a separate liability regime directed at entities who do not control whether such measures are applied to works.

25. Are there any existing or emerging “standard technical measures” that could or should apply to obtain the benefits of section 512’s safe harbors?

No. The OTW urges the Office to keep in mind the wide variety of media, as well as of OSPs, implicated by §512.

**Remedies**

26. Is section 512(g)(2)(C), which requires a copyright owner to bring a federal lawsuit within ten business days to keep allegedly infringing content offline—and a counter-notifying party to defend any such lawsuit—a reasonable and effective provision? If not, how might it be improved?

In general, yes. The notice and takedown scheme effectively creates a private, automatic injunction without the need for an independent third party to weigh in on the need for relief. The predicate assumption is that the copyright owner has a sound basis for making such a radical claim. If the source of the accused content disagrees and counternotifies, it is at a minimum necessary to allow the source to return to the pre-DMCA situation in which a copyright owner was put to its proof. Having to sue (alleged) infringers isn’t a unique burden on copyright owners; indeed, given that §230 of the CDA confers blanket immunity on OSPs that are conduits for speakers committing state-law torts even in the absence of a takedown process, copyright owners are already heavily favored by the legal system.

As noted above, one improvement would be to allow immediate putback once a counternotification was filed, preventing suppression of time-sensitive speech.

27. Is the limited injunctive relief available under section 512(j) a sufficient and effective remedy to address the posting of infringing material?

Yes.

28. Are the remedies for misrepresentation set forth in section 512(f) sufficient to deter and address fraudulent or abusive notices and counter notifications?

Not presently, though as discussed above, a fairer interpretation of §512(f) has potential to deter abuse. A “repeat abuser” policy, or application of copyright misuse to the repeated sending of invalid notices, might also be a useful addition.

**Other Issues**

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29. Please provide any statistical or economic reports or studies that demonstrate the effectiveness, ineffectiveness, and/or impact of section 512’s safe harbors.

Takedown notices on the whole are increasing.64 If even a small percentage of these takedown notices are invalid, they represent a substantial incursion on freedom of speech. Daniel Seng’s empirical analysis of 50 million takedown notices submitted to Google determined that, at a lower bound using the most forgiving measures, 8.4% had serious technical errors, and an additional 1.4% had serious substantive errors. These percentages amounted to nearly 5 million erroneous takedown demands.65 An even larger study, discussed above, found equally troubling results, and worse results for Google Images where takedowns were more likely than not to be dubious.66

30. Please identify and describe any pertinent issues not referenced above that the Copyright Office should consider in conducting its study.

The Office should keep in mind the effects of regulating OSPs on individual citizens, who generally can’t run their own servers. Professors Andrew Torrance and Eric von Hippel have identified “innovation wetlands”: largely noncommercial spaces in which individuals innovate that can easily be destroyed by laws aimed at large, commercial entities, unless those individuals are specifically considered in the process of legal reform.67 Their description fits remix cultures well:

The practice of innovation by individuals prominently involves factors important to “human flourishing,” such as exercise of competence, meaningful engagement, and self-expression. In addition, the innovations individuals create often diffuse to peers who gain value from them ….68

Innovation requires that individuals have rights to make, use, and share their new creations, collaborating with others to improve them, as remix authors do.69 Given the small scale and limited resources of most individuals, “[a]nything that raises their innovation costs can therefore have a major deterrent effect.” As a result, “heedless government actions currently have significant impacts upon the fragile ‘innovation wetlands’ environment within which individual innovators operate.”70

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66 See Urban et al., supra.
68 Id. at 2 (citation omitted).
70 Torrance & von Hippel, supra, at 2.
Copyright law can inflict this kind of collateral damage.\textsuperscript{71} Torrance and von Hippel have one overriding message: policymakers should pay attention to innovation wetlands, and not assume that creativity will continue to be naturally provisioned or that only commercial entities’ incentives need to be considered. This is exactly the kind of “environmental impact” analysis that the Office should carry out with respect to safe harbors.

\textsuperscript{71} Id. at 18 (“Like a stream providing water to an ecological wetland that is dammed or diverted, access to the flow of digital resources that provides a feedstock to creativity within the innovation wetlands has been damaged by the DMCA legislation. … [I]ndiscriminate application of intellectual property rights to the activities of individual innovators risks doing substantial harm to the innovation wetlands.”).