Automated Copyright Enforcement Online

How Platforms stifle Creativity by reducing Technological Cost

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Abstract: This article explores the relationship between copyright law and automated enforcement technologies on digital platforms. The constitutional foundation of copyright, the doctrine of fair use, secondary liability, and the DMCA safe harbor provisions incentivize platforms to develop and utilize such technologies. YouTube's ContentID system is thereby used as an emblematic example of this interaction. The first part of the paper outlines these foundational aspects, providing a legal framework for understanding how copyright law has evolved to address digital challenges. It discusses the constitutional basis for copyright protection - which creates the legal basis to grant creators exclusive rights - and examines the fair use doctrine that balances copyright holders' rights with users' interests. The article also considers the legal implications of secondary liability for infringing content and the DMCA's safe harbor provisions, which offer protections for platforms hosting user-generated content. In the second part the paper builds on this legal framework by analyzing contemporary issues in online copyright enforcement. The rapid rise of automated systems, like YouTube's ContentID, has transformed how digital platforms monitor and enforce copyright, but it has also raised concerns regarding fairness, accuracy, and overreach, which negatively impact on user's rights. This section highlights these challenges and proposes potential solutions to enhance the effectiveness and equity of copyright enforcement in the digital age, ensuring both creators' rights and users' freedoms are fairly protected.

Keywords: Copyright; Fair Use; DMCA; Enforcement Technologies; AI.

1. *Introduction*

Copyright is a set of rights awarded to authors to protect their works from unauthorized copies and other activities that would impair their ability to profit. The Internet has changed the way copyright is enforced[1]. There is a profound difference between the offline world – where items exist in a tangible form – and the online world, where everything takes the form of intangible data. In the offline world, where we all walk, breathe and touch, technological barriers[2] define what can be easily done and what cannot be easily done.

These barriers are in turn taken into consideration – whether

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[1] Lawrence Lessig, *Code: And Other Laws of Cyberspace, Version 2.0* at 169-199 (Basic Books 2006).

[2] Harry Surden, *Technological Cost as Law in Intellectual Property*, 27(1) Harvard Journal of Law & Technology 135, at 184-201 (2013) (scholar H. Surden refers to these technological barriers as "technological costs" in *Technological Cost as Law in Intellectual Property).*

knowingly or not - by lawmakers when they draft new laws, defining the scope of copyright law[3]. Understanding copyright's enforcement on online platforms is therefore relevant, as the rules that are applied regulate a big portion of user-generated content and influence our everyday experience[4]. In other words, they contribute to shaping the breadth of our freedoms.

Consider the following scenario in an internet-less world. If someone unlawfully made a copy[5] of *The Lord of the Rings*, J. R. R. Tolkien's estate would have to know about the infringement, find the infringing copy and sue the infringer, or at least send him a cease-and-desist letter, hoping that it will be enough to stop the unauthorized behavior. Not only does the infringer have a good chance of being unnoticed, as it might be difficult to have knowledge of the existence of an unlawful copy. But even if the infringement was discovered, the process of enforcing copyright would be very resource-consuming, since the costs of litigation, in terms of money and time, are very high[6]. In the online world, however, this is not the case anymore. By lowering the costs of copyright enforcement and scouting through huge amounts of data, technology does the job for you[7]. Today, platforms like YouTube and Twitch function as

[3] See *Ibid.*

[4] See Luciano Floridi, *The Fourth Revolution: How the Infosphere is reshaping Human Reality*. (As L. Floridi puts it, our experience is "onlife": what happens in the online world has effects also in the offline world. They are entangled. This means that a limitation of rights on the internet cannot be disregarded as a mere limitation over a minor and negligible part of human experience).

[5] 17 U.S.C. §106(1) (This provision gives the author the exclusive right to "reproduce the copyrighted work in copies". Hence, copying said work without authorization constitutes infringement. This is referred to as the author's "reproductive right").

[6] How much does it cost? Anywhere from $100,000 to $1,000,000.

[7] Niva Elkin-Koren, *Fair Use by Design,* 64 UCLA Law Review 1082, at 7-8 (2017).

"gatekeepers" for content creation[8]: they provide services to billions of users worldwide, which are then used to express artistic, educational and entertaining ideas and make them available to a large public. By controlling the flow of information, gatekeepers influence economic, social, political and cultural dimensions of our lives[9]. Understanding copyright's enforcement on these platforms is therefore relevant, as the rules that are applied regulate a big portion of user-generated content and influence our everyday experience[10]. In other words, they contribute to shaping the breadth of our digital freedoms.

To illustrate this, consider the following example. PewDiePie is a famous Youtuber, with more than 111 million subscribers to his channel[11]. In 2021, the entire library from 2016 and backwards was struck down by copyright infringement claims[12]. YouTube gives him the opportunity to counterclaim videos that were removed for copyright infringement. However, when a large number of videos get hit, it is often not feasible to file a counterclaim for each of them, as the process requires too much time to be worth the effort: each

[8] Orla Lynskey, *Regulating "Platform Power"*, LSE Legal Studies Working Paper No. 1 (2017), at 10, cite Karine Barzilai-Nahon, *"Toward a theory of network gatekeeping: A framework for exploring information control"*, 59(9) Journal of the American Society for Information Science and Technology 1493 (2008) ("[G]atekeepers are non-state actors that have the capacity to alter the behavior of others in circumstances where the state has limited capacity to do the same").

[9] See *Id,* at 2. See also, Emily Laidlaw, *A Framework for Identifying Internet Information Gatekeepers,* 24(3) International Review of Law, Computers, and Technology (2010).

[10] See Floridi, *The Fourth Revolution: How the Infosphere is reshaping Human Reality* (cited in note 4).

[11] PewDiePie's YouTube channel, available at https://www.youtube.com/user/pewdiepie/videos?app=desktop (Last visited November 20, 2024).

[12] 17 U.S.C. §512(c)-(d) (creates the so-called "notice-and-takedown" system that allows copy-rights holders to request the removal of allegedly infringing content.) See *infra* Section 2.

counterclaim must be accompanied by a statement[13] that explains why the use of the protected work was fair. It could take years of filling forms to get the videos available to the public if the claim is not withdrawn by the rightsholder. While it is true that rights holders must provide a statement that explains the reason they're requesting the take-down, they can file multiple take-down notices at once, provide blank statements that are easy to copy-and-paste[14] and still be complying with the minimum requirements of the DMCA[15]. Content creators, on the other hand, are required to explain in detail why the law entitles them to use the protected work the way they did. This situation of reduced compliance costs for rights holders creates a disparity that puts users in a situation of disadvantage. This case was not isolated, as many other content creators have addressed similar controversies[16].

On one hand technology has reduced the cost of producing new

[13] 17 U.S.C.(g)(3)(C) (A statement under penalty of perjury that the subscriber has a good faith belief that the material was removed or disabled as a result of mistake or misidentification of the material to be removed or disabled).

[14] For an example *see* the *Lenz case infra* , Section 5 (cited in note 175).

[15] 17 U.S.C. §512(c)(3)(v)-(d)(3). See *infra*, Section 2 (more generally, the Digital Millennium Copyright Act, also known as "DMCA", is a statute that was enacted to address the new challenges that copyright law was facing in the face of the popularization of the commercial internet. Digital technologies were becoming more and more popular, and copying copyrighted works was becoming increasingly cheaper. Authors lobbied for new rules that would support their revenues, while platforms lobbied for rules that would allow them to develop the technological infrastructure that runs the Internet).

[16] See also Katherine Trendacosta, *Unfiltered: How YouTube's Content ID Discourages Fair Use and Dictates What We See Online*, (Electronic Frontier Foundation, December 10, 2020), available at https://www.eff.org/wp/unfiltered-how-youtubes-content-id-discourages-fair-use-and-dictates-what-we-see-online (Last visited November 20, 2024)

copies of a work, thus the cost of infringing authors' copyright[17]. On the other hand, however, technology has also reduced the cost of enforcing authors' copyright[18]. Digital Rights Management technologies[19], trusted systems[20], algorithms and artificial intelligence[21] are powerful tools to sift through the internet for infringing material, remove it and sometimes even prohibit its publication in the first place[22]. It is easy to see the internet as primarily a place where copyright is massively infringed, and rightfully so. But another truth should not be disregarded: copyright protection technologies also exist[23], and their deployment should be taken into account when assessing the current state of copyright law.

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[17] See generally, Jeff Jarvis, *The Gutenberg Parenthesis,* Bloomsburg Publishing Plc, (2023). See also, Mark Lemley, *IP in a World Without Scarcity*, 90 New York University Law Review 460, at 10-12 (2014) (Before Gutenberg, to create a copy of a book one had to transcribe every single word by hand. Then, the press was invented, and the process became much cheaper, since many copies of a single page could be made simply by changing the tiles on a metal platform, which would then print the words on a paper sheet. Today, a whole book can be copied by selecting a file on a computer, copy it, and then paste it).

[18] Lessig, *Code,* at 171-180 (cited in note 1). (Lessig examines the complex interaction between copyright law and technology, until he analyzes "trusted systems". A specific technology that embeds copyright protection into code, hence reducing the cost of enforcement as it is now part of the technological infrastructure itself, and does not require external action).

[19] See generally, Roberto Caso, *Digital Rights Management: il commercio delle informazioni digitali tra contratto e diritto d'autore tra Contratto e Diritto d'Autore* (CEDAM 2004).

[20] Mark Stefik, *Shifting the Possible: How Trusted Systems and Digital Property Rights Challenge Us to Rethink*
Digital Publishing, 12,1 Berkeley Technology Law Journal 137, at 138-140 (1997).

[21] Niva Elkin-Koren, *Copyright in a Digital Ecosystem: A User Rights Approach,* in Ruth Okediji, *Copyright in an Age of Limitations and Exceptions* (Cambridge University Press, 2017).

[22] You Tube ContentID, see *infra*, Section 3.

[23] Lessig, *Code,* at 171-180 (Basic Books 2006) (cited in note 1).

This change in technology has radically modified the old balance[24] between authors' rights and the public interest. Before the Internet became commercial, high technological costs prevented the public from massively infringing authors' rights; but they also prevented authors from stopping and suing against every little infringement that had occurred. As further discussed in Part II of this Article, said balance destabilization happens in part because of the mechanisms set forth by the law[25].

This paper argues that online service providers ("Platforms" or "OSPs"), such as YouTube, are incentivized to deploy automated copyright enforcement technology by the combination of DMCA "safe harbor" provisions[26] to avoid "secondary liability"[27]. The use of such a technology creates three sets of issues that distinguish copyright enforcement in the offline world from enforcement in the online world:

1. Users' ability to rely on fair use is highly diminished because of its inherent need to be interpreted by humans that makes it impermeable to a proper automated implementation. Creativity is stifled as a consequence of this loss of flexibility.

2. Prevention of content upload changes the standard setting for copyright enforcement. In an offline environment, infringing content was allowed to exist until it was found and prosecuted. Now, the opposite is true.

3. The scale of enforcement is unprecedented. Content that is

[24] Surden, *Technological Cost as Law in Intellectual Property*, at 163-165 (cited in note 2).
[25] 17 U.S. Code §512, better known as DMCA "safe harbor" provisions. See *infra*, at 18.
[26] See *Ibid.*
[27] See *infra*, at 17.

> infringing but likely would not suffer a block in an analogical setting, due to the high costs, could now be blocked almost for free. The scope of copyright changes, as it restricts a form of creativity that was tolerated in an offline setting.

Hence, "the Progress of Science"[28] is sacrificed.

Section 2 will introduce the concepts of the the utilitarian view of copyright, fair use, secondary liability, safe harbors and the "notice and takedown" system; section 3 will describe what platforms are doing, given the incentives they are exposed to; section 4 will explain why the measures adopted by the platforms create concerns for the users' creativity ; section 5 will discuss possible solutions; finally, concluding remarks.

2. *The Pieces of the Puzzle*

The Copyright system creates incentives for platforms to make available to the author technologies that block content that they consider infringing, without any judicial assessment. The authors' power is not balanced with a corresponding mechanism for users to fight against enforcement, even when their legitimate interests are trampled. This Section will start with the philosophical doctrine underlying the American Constitution's legitimation of Intellectual Property; it follows with an overview of fair use to briefly explain how the law protects the users' interests and how important this is to the public discourse; and finally it analyzes secondary liability, and the necessity to shield online platforms from it. The heart of the issue will then be presented: the notice and takedown system that the law created, in exchange for the safe harbor provisions. This system ultimately protects the Internet's infrastructure and the author's

[28] The "Intellectual Property Clause" of the U.S. constitution, Art. 1, Section 8, Clause 8 recites: "The Congress shall have Power […] [T]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries".

rights, but it underestimates its negative effects on users' digital freedoms.

2.1. *The Utilitarian View under the Constitution*

The U.S. constitution grants Congress the power to create a copyright system in order to promote the "Progress of Science"[29]: this principle fully embraces the utilitarian view of copyright law. This theory posits that the public interest in the circulation of new ideas is *best served by* establishing a copyright system that allows authors to profit from their creation. Copyright law, therefore, is legitimate, insofar as it is *useful* to the production and distribution of intellectual works. Article 1, Section 8, Clause 8, which embodies the utilitarian view of copyright, is therefore both a grant of power *and* a limitation[30]. Congress is empowered to establish intellectual property – the right to authors to prevent others from copying their work - if and only if this is paramount to the creation and dissemination of new works. As a matter of fact, copyright should be a system of incentives where the benefits – more works created and disseminated - outweigh the costs – the prohibition to the public to fully access and use intellectual works. Creativity then, is understood as the focal point of copyright law[31]. To make said incentives machine function properly, the main feature of the current system is the authors' right to sue anyone who

[29] See *Ibid.*

[30] See Lessig, *Code* (cited in note 1), cites M. G. Frey, *Unfairly Applying the Fair Use Doctrine: Princeton University Press v Michigan Document Services, 99 F3d 1381 (6th Cir 1996),* 66 University of Cincinnati Law Review 959, at 1001 ("Limitation" here, is used in the sense that copyright law is constitutional as long as it serves the purpose of fostering the production and dissemination of cultural works. "[Copyright law does give authors a considerable benefit in terms of the monopolistic right to control their creations, but that right exists only to ensure the creation of new works").

[31] See Julie Cohen, et al., *Copyright in a Global Information Economy*, at 7 (Wolters Kluwer Law & Business 2015) (Copyright law is inspired by a utilitarian principle. "By solving the public goods problem, copyright law furnishes incentives to creators and publishers to invest in creative activities").

allegedly infringes their rights[32] (under 17 U.S.C. §501). Should the authors prove infringement, they would have access to a set of powerful remedies: damages, injunctive relief (to prevent or restrain ongoing or future infringement), and the Impoundment and Destruction of the unlawful copies[33]. Essentially copyright law gives authors a legal entitlement to limit the public's enjoyment of certain benefits that come with the copyrighted work[34]. This mechanism creates a form of intellectual monopoly[35]. Going back to the *Lord of the Rings* example, J.R. R. Tolkien's estate can enjoin writers to stop using the *Fellowship of the Ring*'s characters in their own story, if they had not previously obtained authorization. The estate can also recover damages. However, this is only one side of the story.

2.2. *Fair Use*

As shown above, the utilitarian view of copyright legitimizes a monopoly over intellectual works, only if this ultimately benefits the public interest in those works. Still, the law recognizes that certain

[32] Copyright holders' rights are listed in 17 U.S.C. § 106.

[33] 17 USC §§ 502, 503, 504.

[34] Cohen, et al., *Copyright in a Global Information Economy*, at 7 (cited in note 31) (the authors argue that limiting other people's use of the protected work is paramount to solve the "public goods problem" of non-excludability. Copyrighted expressions, therefore, look more like traditional property under this theory. However, it is not without controversy that the two *should* be treated similarly, since intellectual works are non rivalrous). See also Perry Barlow, *The Economy of Ideas: Everything You Know about Intellectual Property is Wrong*, in A. Moore, *Intellectual Property: Moral, Legal, and International Dilemmas*, at 359 (Rowman and Littlefield, 1997). See generally S. Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs,* 84(2) Harvard Law Review 281.

[35] See generally, Michele Boldrin, David Levine, *Against Intellectual Monopoly* (Cambridge University Press, 2008) (the authors argue that Intellectual Property Law grants authors an artificial monopoly that allows them to control the use of their ideas even after they have been disclosed. A limitation to the monopolistic power of the rights holders is the fair use doctrine). See *infra*, Section 2.

public interests trample the authors'[36]. For this reason, after the implementation of the first copyright statute in 1790[37], courts quickly allowed the public a certain "fair" use of copyrighted works. The doctrine of "fair use" was born[38]. A classic fair use example of fair use is parody. The law recognizes that parody is so important to society that authors should tolerate the imitation of their work by others - which would normally constitute infringement - to comment on the work itself. Authors, in fact, would not be incentivized to grant licenses to third parties, so that parodies could be made. Therefore, the law declares that those uses are not infringing, and remedies cannot be granted. The relevance of fair use makes it one of the important features of the modern copyright legal framework[39]: it is a "safety valve"[40] that allows for certain creative uses of copyrighted work to be considered lawful[41], and thus protected from authors' infringement claims. If authors had full control over what others could do with their work, even after it was sold[42], they would

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[36] See *Eldred v. Ashcroft*, 537 U.S. 186 (2003), Steven J. Breyer, dissenting (copyright law must always take into consideration First Amendment related concerns. A copyright system that restricts the public's interest in free speech is unfair. "A particular statute that exceeds proper Copyright Clause bounds may set Clause and First Amendment at cross-purposes, thereby depriving the public of the speech-related benefits that the Founders, through both, have promised").

[37] See Copyright Act of 1790, available at https://copyright.gov/about/1790-copyright-act.html (Last visited November 20, 2024)

[38] *See* 17 U.S.C. §107 (fair use stemmed from the English court's doctrine of "fair abridgement", which recognized the right of the alleged infringer to fairly utilize part of the copyrighted work. In *Folsom v. Marsh,* 9 F. Cas. 342 (C.C.D. Mass. 1841), for the first time an American court considered the fair abridgement doctrine. The term "fair use" however, was deployed for the first time in *Lawrence v. Dana,* 15 F. Cas. 26, 60 (C.C.D. Mass. 1869). Fair use was later codified by Congress in 1976).

[39] Elkin-Koren, *Fair Use by Design* (cited note 7).

[40] See *Ibid.*

[41] The fair use clause is not limited to parody, as demonstrated by this section.

[42] 17 U.S.C. §109 (gives the owner of an authorized copy to "*sell or otherwise dispose of the possession of that copy*". This is the so-called "first sale" doctrine).

essentially have a monopoly that stifles progress and creativity, instead of fostering them, in stark contradiction with the wording of the Constitution's Intellectual Property Clause[43]. The flexibility of fair use comes from the wording of 17 U.S.C. §107, which "includes, but is not limited to" six predetermined lawful activities: "criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research"[44]. Judges are at the center of this policy because they are required to exercise their good judgment in cases brought by authors, and decide which uses are fair and which ones are not. They have to balance the interests of the public at large, with those of the parties, on a case-by-case basis. Decision after decision, many uses have been deemed fair besides the six explicitly mentioned in §107.

By statute, judges must consider four factors when asked to decide upon the fairness of a use: 1. the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; 2. the nature of the copyrighted work; 3. the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and 4. the effect of the use upon the potential market for or value of the copyrighted work[45]. As mentioned above, this system is extremely flexible, and it has been argued that flexibility is precisely what makes it strong[46]. Its ability to

[43] See Article 1, Section 8, Clause 8.

[44] The activities are listed at 17 U.S.C. §107 ("[C]riticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research").

[45] 17 U.S.C. §107.

[46] Pierre Leval, *Towards a Fair Use Standard*, 103 Harvard Law Review 1105, at 1135 (1990); Bernt Hugenholtz and MartinSenftleben, *Fair Use in Europe. In Search for Flexibilities*, available at https://www.ivir.nl/publicaties/download/Fair%20Use%20Report%20PUB.pdf (last visited November 18, 2024). For a review of US fair use case law, see generally B. Bebe, *An Empirical Study of U.S. Copyright Fair Use Opinions Updated, 1978-2019,* 10(1) Journal of Intellectual Property and Entertainment Law 1 (2020) (which tries to compute fair use's four factors' analysis to show underlying patterns, in an effort to

flexibly take into account different fact patterns and the competing interests involved in the real world decision, makes fair use analysis a strong tool to pursue copyright law constitutional mandate. New uses can be considered fair by the judiciary, without the need for a legislative action that is too often lengthy and detached from real world facts.

2.3. *Secondary Liability*

The delicate, and often conflicting, balance between authors' rights and public interest found another important milestone in the doctrine of "secondary liability". In short, secondary liability holds a party, different from the directly infringing one, liable for having somehow contributed to the infringement itself. The basic idea is simple: it is more effective to sue the party that is in a better position to prevent the infringement[47]. There are two types of secondary liability: vicarious liability and contributory infringement. Under the vicarious liability doctrine one party is liable because it had a duty to supervise the infringer, but failed to do so[48]. Similarly, the contributory infringement doctrine posits that one party is liable because it materially contributed to the infringement that somebody else has

systematize courts' decisions). See also P. Samuelson, *Unbundling Fair Uses,* 77 Fordham Law Review 2537 (2009).

[47] Douglas Lichtmann, William Landes, *Indirect Liability For Copyright Infringement: An Economic Perspective*, 16 Harvard Journal of Law and Technology 395, at 396-399 (2003) (also, the Supreme Court held that in an ongoing relationship the secondary infringer is "in a position to control the use of the copyrighted works by others" (*i.e. the primary infringer*)). See also *Sony Corp of Am. V. Universal City Studios, Inc.*, 464 U.S. 417 (1984), at 437 (without this ability to control, secondary liability would be unjustified, as the indirect infringer would be punished for an unlawful use that it would not be able to stop).

[48] See *Shapiro, Bernstein & Co. v. H.l. Green Co.,* 316 F.2d 304 (2d Cir. 1963) (to hold a party accountable under the vicarious liability doctrine, the following elements need to be met: 1. The right or ability of the party to supervise; 2. Direct financial interest in the exploitation of copyrighted materials).

materially carried out[49]. According to these doctrines, a party that is not infringing the author's rights directly should nonetheless be liable either because the direct infringer may not have enough resources to compensate the copyright holder, or because it is economically inefficient for the copyright holder to sue the direct infringer[50]. In other words, in absence of these two doctrines, filing a lawsuit for a small violation may not be worth the resources invested, and many instances of infringement would not be stopped. To prevent what seems a shortcoming of the enforcement system, copyright law allows authors to sue the non-directly infringing party, under the consideration that it too profits from the direct infringer's unlawful activity. Moreover, from the law enforcement perspective, it is more efficient to sue the party that it is best suited to stop the infringement[51].

In *Napster*[52], a peer-to-peer online service that allowed registered users to exchange files freely was found liable under both secondary liability theories of secondary liability. In the eyes of the Court, Napster was facilitating users to exchange protected material, without the rights holders' authorization. As a result of the damages awarded to big companies in the movies and music industries that filed suit on behalf of the authors, Napster was driven out of business. It was enjoined to ensure that no "copying, downloading, uploading, transmitting, or distributing" of the rights holders' works occurs through its services. Of course this was impossible to implement given Napster's technological infrastructure, which was built exactly

[49]See *Gershwin Publishing Corp. v. Columbia Artists Management Inc.*, 443 F.2d 1159 (2d Cir. 1971) (The contributory infringement doctrine requires: 1. the knowledge of the infringing activity; 2 the inducement, causation, or material contribution to the infringing conduct of another).

[50] Lichtmann, Landes, *Indirect Liability for Copyright Infringement,* at 396-399 (cited in note 47).

[51] See *Ibid.*

[52] *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (2001).

to that[53]. After the *Napster* case, the power of secondary liability became clear to everyone. Especially on the Internet, secondary liability acts as an impending sword over technological agents, shaping how the market for creative works functions.

2.4. *Safe Harbors*

As exemplified by *Napster*[54], with the advent of the internet, the scope of secondary liability broadened considerably. In the online world of the early 2000s, where users could send files from one side of the world to another, where discussions happened on blogs where almost no content moderation was enforced[55], and where items were

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[53] See Law Sam, "*Metallica vs. Napster: The Lawsuit That Redefined How We Listen to Music.*" (*Kerrang!* April 13, 2021) available at https://www.kerrang.com/metallica-vs-napster-the-lawsuit-that-redefined-how-we-listen-to-music (Last visited November 20, 2024) (Napster declared bankruptcy after a landfall of lawsuits had been brought against it, following the 9th Circuit decision).

[54] See *A&M Records, Inc. v. Napster, Inc.* (cited in note 52) (If 17 U.S.C. §512 was enacted when *Napster* was decided, and yet Napster was still found liable, does it mean that the safe harbor provisions were violated? The 9th Circuit does not fully answer the question of whether in the specific case the safe harbor provisions were sufficient to shield Napster, but held that §512 may still protect from secondary infringement. However, plaintiffs raised "serious questions regarding Napster's ability to obtain shelter under § 512, and plaintiffs also demonstrate that the balance of hardships tips in their favor […] including: (1) whether Napster is an Internet service provider as defined by 17 U.S.C. § 512(d); (2) whether copyright owners must give a service provider "official" notice of infringing activity in order for it to have knowledge or awareness of infringing activity on its system; and (3) whether Napster complies with § 512(i), which requires a service provider to timely establish a detailed copyright compliance policy.").

[55] See generally, X, *Global Transparency Report* (2024), available at https://transparency.x.com/content/dam/transparency-twitter/2024/x-global-transparency-report-h1.pdf (last visited November 18, 2024) (A good example is today's version of X, formerly known as Twitter. Since its acquisition by Elon Musk, the platform's rules for regulating speech have made it substantially less restrictive than most alternatives).

sold on marketplaces of previously unheard-of dimensions[56], secondary liability could force on the same platforms enabling these new and promising opportunities a level of control over their users activities that was simply unfeasible. In 1998, after a long process of negotiation between platforms and copyright holders', Congress enacted the Digital Millennium Copyright Act ("DMCA"), fearing that the copyright system would impair the early development of the commercial Internet. One of the most important innovations of the DMCA is the set of "safe harbor provisions", codified in 17 U.S.C. §512. These provisions protect online service providers ("OSPs") from liability for damages when certain conditions are met. There are four different safe harbors and each of them has its own elements[57]. The most important safe harbors[58] for the purpose of this article are the ones set in §512(c) and (d). To qualify for the exemption in

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[56] See Clark Dave, *Economic Impact for Small Businesses, Powered by Partnership with Amazon* (Amazon, 2021), available at https://www.aboutamazon.com/news/small-business/economic-impact-for-small-businesses-powered-by-partnership-with-amazon (Last visited November 20, 2024) (according to the *2021 Amazon Small Business Empowerment Report* Amazon hosts more than 1.9 million small-to-medium businesses in the U.S. alone).

[57] The First safe harbor applies to transitory digital network communications and applies to services that transmit or transiently store infringing material. For secondary liability exemption, §512 (a) requires that 1. the transmission be initiated by someone other than the OSP; 2. the transmission be carried out by an automated process without selection of the material by the OSP; 3. the OSP must not select the recipient, except for an automated process initiated from a request of another person; 4. the OSP must not maintain a copy accessible to anyone other than the recipient for a period longer than necessary; 5. The material is transmitted without modification of its content. §512 (b) applies to system caching. The requirements are 1. The material is made available by someone other than the OSP 2. and is transmitted from them to a recipient, at the recipient's direction; 3. Storage happens through an automatic technical process. Furthermore, the OSP must comply with rules concerning the refreshing, reloading, or other updating of the material when specified by the person making the material available on the caching system and must disable access to the infringing material when requested by a court.

[58] Cohen, et al., *Copyright in a Global Information Economy*, at 619 (cited in note 31).

§512(c)[59] it is necessary that the OSP: 1. does not have actual knowledge that the material or an activity using the material is infringing, or, in absence of *actual knowledge*[60], it is not aware of facts from which such a knowledge is apparent; and if it acquires such a knowledge, removes, or disables access to the content. 2. Does not receive financial advantage directly from the infringement. And 3. upon notification, it responds expeditiously to remove or disable access to the infringing content.

§513(d)[61] applies to information location tools and requires the same

[59] 17 U.S.C. § 512 (c) ("[A] service provider shall not be liable for monetary relief, or, except as provided in subsection (j), for injunctive or other equitable relief, for infringement of copyright by reason of the storage at the direction of a user of material that resides on a system or network controlled or operated by or for the service provider, if the service provider (A) (i) does not have actual knowledge that the material or an activity using the material on the system or network is infringing; (ii) in the absence of such actual knowledge, is not aware of facts or circumstances from which infringing activity is apparent; or (iii) upon obtaining such knowledge or awareness, acts expeditiously to remove, or disable access to, the material; (B) does not receive a financial benefit directly attributable to the infringing activity, in a case in which the service provider has the right and ability to control such activity; and (C) upon notification of claimed infringement as described in paragraph (3), responds expeditiously to remove, or disable access to, the material that is claimed to be infringing or to be the subject of infringing activity").

[60] It has been argued that receiving a notice is enough to trigger the exception to liability protection. This may be one reason why platforms choose to deploy automated copyright enforcement technologies that are not explicitly required by the DMCA. See *infra* at 27-28.

[61] 17 U.S.C. §512(d) ("[A] service provider shall not be liable for monetary relief, or, except as provided in subsection (j), for injunctive or other equitable relief, for infringement of copyright by reason of the provider referring or linking users to an online location containing infringing material or infringing activity, by using information location tools, including a directory, index, reference, pointer, or hypertext link, if the service provider: (A) does not have actual knowledge that the material or activity is infringing; (B)in the absence of such actual knowledge, is not aware of facts or circumstances from which infringing activity is apparent; or (C)upon obtaining such knowledge or awareness, acts expeditiously to remove, or

elements of §513(c). The importance of these lies in their application to services such as blogs, audiovisual content hosting platforms and social media; all services that constitute the Internet's infrastructure as we know it – and enjoy – today.

§512(c)-(d) also create the crucial "notice and takedown" system, when they require a that "*upon notification of claimed infringement [...],* the subject *responds expeditiously to remove, or disable access to, the material that is claimed to be infringing or to be the subject of infringing activity*"[62]. As it will be discussed in Section 3, the "notice and takedown" system is the center of this article's discussion. This is the heart of the mechanism that unduly burdens users' ability to rely on fair use online by giving authors too much leeway to enforce copyright law, without properly addressing users' interests and legally protected use of the copyrighted works[63].

3. *What are Platforms Doing?*

3.1. *The Incentives for the Adoption of Automated Copyright Enforcement Technologies*

The DMCA shields OSPs from secondary liability if they qualify for at least one of the four safe harbors. For OSPs, it is therefore essential to keep the shield up, because otherwise they would be sued and

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disable access to, the material; (2)does not receive a financial benefit directly attributable to the infringing activity, in a case in which the service provider has the right and ability to control such activity; and (3)upon notification of claimed infringement as described in subsection (c)(3), responds expeditiously to remove, or disable access to, the material that is claimed to be infringing or to be the subject of infringing activity, except that, for purposes of this paragraph, the information described in subsection (c)(3)(A)(iii) shall be identification of the reference or link, to material or activity claimed to be infringing, that is to be removed or access to which is to be disabled, and information reasonably sufficient to permit the service provider to locate that reference or link").

[62] 17 U.S.C. §512(c)(3) and §512(d)(3).

[63] See *infra* at 15.

driven out of business, as it happened to Napster. The concern for the Internet's development and the users' interest was discussed during the DMCA deliberation process, as the safe harbor provisions raised First Amendment concerns, especially for libraries and other educational institutions. If authors could block what they considered infringing by just sending a notice, wouldn't this also block content that was made public by entities that had every right to do so? And what would those entities do in the face of OSPs decisions[64]? In fact, 17 U.S.C. §512(c)(1)(iii) requires OSPs that have acquired "knowledge of awareness *of the infringing material*, act expeditiously to remove, or disable access to, the material" if they want to enjoy its protection[65]. Additionally, the notice and takedown provisions ask OSPs to remove content immediately once they have been notified of the existence of infringing material on their channels. At first glance this makes sense: as stated above the technological cost for creating a new copy has decreased considerably on the Internet. However, the law only requires the notifying party to have *good faith belief* that such material is indeed infringing, thus lowering the bar for enforcement so much that it excessively tilts the balance in the author's favor, sacrificing the user's interests to take part in the public discourse[66].

By including the "notice and take-down system", the legislature chose that the *immediate* removal of *potentially* infringing content was the correct way to pursue the utilitarian goals of copyright law. It gave an advantage to copyright holders over the public, by allowing authors to request content take down even before infringement was found by an impartial third party, and before the notice could even be disputed[67]. Not even the requirements for copyright

[64] Jennifer Urban, Laura Quilter, *Efficient Process or "Chilling Effects"*, 22(4) Santa Clara High Technology Law Journal 621, at 633 (2006).
[65] 17 U.S.C. §512(c)(1)(iii).
[66] 17 U.S.C. §512(c)(A)(3)(v).
[67] See *infra* at 15.

impoundment, which require the exercise of judicial powers, need to be met[68]. The author's self proclaimed good faith shall suffice. It is clear how the legal framework gives enormous powers to copyright holders, as their good faith belief is enough to remove a content from a platform, without any consideration of the application of the fair use doctrine to the case. Authors can basically remove access to the allegedly infringing work at their own will.

The incentives created by the DMCA encourage copyright holders to file a notice whenever they think that their rights are violated. To theoretically limit the potential for abuse and balance public interests to fair use, copyright law provides users the chance of filing a "counter notice" to dispute a take-down notice[69]. The mechanism functions as follows: if a user has uploaded content that has been taken down for alleged copyright infringement, a counter-claim can be filed, explaining why the content makes "fair use" of the copyrighted work, or is otherwise allowed on the platform[70]. However, a disparity between authors and alleged infringers is strikingly evident: the counter notice does not force OSPs to immediately restore access to the material. Instead, the law requires content to be restored within 10-14 business days, when it may be too late for the users to gain substantial benefits from it[71]. Most of the users' access to the content are made in the days right after the content's publication. Moreover, since users do not enjoy a legal action against OSPs, platforms have the incentive to disregard the users' counter notices, since they do not risk liability of any kind. In other words, removal must be immediate; access restoration can wait.

The incentives to file a counterclaim are indeed thin. Small users -

[68] 17 U.S.C. §503.

[69] 17 U.S.C. §512(g)(2)-(3).

[70] Fair use is not the only defense, as the underlying work might be in the public domain, an uncopyrightable subject matter or previously authorized by the rightsholder herself.

[71] 17 U.S.C. §512(g)(2)(C).

most users - do not have the resources to risk a lawsuit, so they would rather not file a counterclaim and accept the removal, even though their use of copyrighted material was fair[72]. More radically, they would not engage with discourse that would technically be fair under the law, but would trigger the take-down system. Additionally, it cannot be expected that every user knows the intricacies of fair use well enough to explain why their use is fair, which decision supports their argument, and why the author is ultimately wrong. Receiving a notice is often enough to stop users from disputing the author's actions. On top of the injury, an insult is also added: in fact, it is also the case that users are notified when their content has been removed, but they do not necessarily know *why* the copyright holder deemed their use unlawful[73]. The DMCA does not require platforms, nor rightsholders, to provide an argument to support their request[74]. This creates uncertainty for users and makes it more difficult to properly dispute the claim, and it undermines the possibility for users to defend their interest. One cannot fight what cannot be seen. One last thing shall also be noted. Certain types of content are valuable only if they are timely. For example, a commentary on a movie that just came out or an opinion on a recent political controversy only have value if they can be immediately linked to the content they refer to. As soon as the waters of the public's interest on those topics calms down, the content loses its value and attraction. In these cases it is easier to avoid the use of copyrighted material even if it is fair. The intellectual

[72] Sharon Bar-Ziv & Niva Eikin-Koren, *Behind the Scenes of Copyright Enforcement: Empirical Evidence on Notice & Takedown, 50 Connecticut Law Review, at* 372 (2018).

[73] YouTube sends a message containing generic language, such as "Due to a copyright takedown notice we had to take down your video from YouTube" or "A copyright owner using ContentID has claimed some material in your video". These messages do not explain in what way the use was infringing.

[74] The DMCA only requires OSPs to notify the users of the action taken against their published content.

"progress" that the Constitution wants to uphold[75] is being chilled as a result of a form of self-inflicted "silence". Users' creativity is either stopped, prevented or kept from being disclosed in the first place, and the authors' power to shut people off is privileged. One ought to wonder if the Constitution ever preferred certain people's opinion over others, and why on the Internet the balance shall be so different then in the offline world. This Article's stance is that the answer to both questions is no.

The "notice and takedown" mechanism is not the only tool that online platforms deploy to enforce copyright law online. The DMCA explicitly protects OSPs from liability if they remove content that *they* deem infringing, as long as they act in good faith, and the "infringing activity is apparent"[76]. Because of it, many OSPs have developed their own algorithm-powered technologies (i.e. automated copyright enforcement technology) to scout their platforms in search of infringing material and automatically file a notice, under §§512(c)-(d)[77]. In some other and more worrying cases[78], they directly take the content down or stop it from being uploaded in the first place[79]. The DMCA does not require them to, but creates strong incentives that encourage platforms to act this way[80]. There are several reasons why platforms adopt such technologies. One is to avoid political controversies with organized copyright holders and be perceived as

[75] Article 1, Section 8, Clause 8, Constitution of the United States.
[76] 17 U.S.C. §512(g)(1).
[77]See Joe Karaganis, Jennifer Urban, *The Rise of Robo Notice,* 58(9) Communication of The ACM 28, at 28-30 (2015) (This is the case of the so-called "robonotices").
[78] And prevalent on gatekeepers' platforms. ContentID is one of them and it will be discussed in Section 3.
[79] Karaganis, Urban, *The Rise of the Robo Notice* (cited in note 77) (YouTube's ContentID is paradigmatic, and it will be discussed in Section 3. Scholars Karganis and Urban define robo-notices as "automated notice-sending systems". They are automated systems that trigger the DMCA notice and take-down mechanism).
[80] Karaganis, Urban, *The Rise of the Robo Notice,* at 28-30 (cited in note 77).

doing all they can to protect their interests[81]. Copy-right holders are often organized in groups with substantial lobbying power and being perceived as acting in accordance to their interests might prevent ruinous disputes or reputational harm[82]; the second is the fear of losing the qualification for safe harbors under the "knowledge" requirement of the DMCA safe harbors, as examined above[83]. If it can be proved that OSPs knew, or should have reasonably known about the infringement[84], and yet did not act, they would be held liable for damages, as the "safe harbor" protection would not apply. Removing content broadly, therefore, ensures that such a situation does not occur. The third reason to adopt enforcement technologies is that, although OSPs do not have a general duty to monitor their libraries for infringement, doing so might also be a way to anticipate future regulation, given the progressive strengthening of authors' rights[85]. Finally, other legal systems may impose different rules that favor copy-rights in the face of users' or the public's interests, and later become standard setters, requiring the regulated party to change its

[81] See *Id,* at 29.

[82] The Sonny Bono Act, for example, was strongly supported by the film making and the song production industry, including big players such as Walt Disney, who argued for an extension of copyright duration.

[83] §512(c)(1)(iii).

[84] See generally, X, *Global Transparency Report* (2024)(cited in note 56).

[85] Henning Grosse Ruse-Khan, *Automated Copyright Enforcement Online: from Blocking to monetization of user generated content,* 8 University of Cambridge Faculty of Law, at 5 (2020) (also, the Office of the U.S. Intellectual Property Enforcement Coordinator stated that as administration the U.S. Copyright Office has adopted the approach of encouraging private players to enforce "[C]ooperative voluntary initiatives to reduce infringement that are practical and effective"). See also, US Intellectual Property Enforcement Coordinator, *Joint Strategy Plan on Intellectual Property Enforcement (2023)* at 35, available at https://www.whitehouse.gov/wp-content/uploads/2022/09/2020-2023-Joint-Strategic-Plan.pdf (last visited November 20, 2024) (although this declaration is not binding law, it is a form of soft power that nonetheless may anticipate future developments of the law).

behavior worldwide[86].

Automated copyright enforcement technologies are the real concern for the change of scope in copyright law. They allow for enforcement on a scale that was never available before. The number of possible copyright violations that can be detected is much higher than it would be in the real world, due to the abysmally low cost that enforcement entails. It is then necessary to ask if copyright was ever intended to be enforced in an almost perfect fashion, or if the technological costs inherent to the offline world that prevented the possibility of near-perfect enforcement were themselves part of the desired balance. A perfect system might still want some violations to be tolerated[87], either because they still advance progress in a way that is socially desirable[88], or because they do not really harm the economic interests of the author[89]. In the offline world it is expensive to both detect

[86] In recent years, the EU has passed the Directive (EU) 2019/790, art. 17.1, which creates exceptions to the European equivalent of the safe harbor provisions. Platforms may choose to apply the same standard worldwide, instead of applying different settings to different geographical areas. The overreaching regulatory effect of European regulation is known as the "Brussels Effect". See *infra* Section 4.

[87] Tim Wu, *Tolerated Use,* 31(4) Columbia Journal of Law and the Arts 617, at 619 (2008) (tolerated use is defined as "[I]nfringing usage of copyrighted work of which the copyright owner may be aware, yet does nothing about").

[88] See *Gottlieb Development LLC v. Paramount Pictures Corp. LLC v. Paramount Pictures Corp.*, 590 F. Supp. 2d 625 (S.D.N.Y. 2008) (Fair use, scenes-à-faire, merger are all doctrines that enlarge the set of what can be used of a copyrighted work. De minimis infringement is a doctrine that protects alleged infringers if the violation is so small that the used part of the protected work would not appear "substantially similar" to the original one to an "average layman").

[89] See *Ibid.* (this concept is different from de minimis infringement. De minimis infringement occurs when the allegedly infringing work is not substantially similar to the original one. An example is a copyright-protected pinball machine that appeared in a scene of the movie "What Women Want" for a matter of mere seconds, so that the "average layman" would not find the original work to be "substantially similar" to the fragments that appear in the movie. What the current analysis takes into consideration, however, is material that it is indeed infringing, and could give

infringement and to sue people, the inherent cost-benefit analysis that each copyright author must make acts as a barrier for "over-enforcement" (i.e. suing infringers on a frivolous claim)[90]. In this world, a case for infringement would be filed only if the damage caused to the author is higher than the cost to enforce the author's rights. Technological cost acts as law[91]. It protects an underlying value in a subtle and unexpressed way that is always not obvious to the lawmakers themselves, as it is embedded in the "nature of things"[92]. But if technology can now detect every potentially infringing content in the platform's library and lower the cost for taking it down, the old equilibrium not only changes in quantity, but also in *quality*. All that is needed today to take down content and compress users' interests is a couple of clicks. Right holders do not have to accept the risk of the content being subject to defenses in Court anymore, so their enforcement costs are drastically reduced. Online, the paradigm shifted from works being available unless proven to be infringing, to works being unavailable unless proven not to be infringing[93]. What was believed to be a fair system, capable of properly evaluating both private and public concerns is not as balanced anymore[94].

3.2. *Youtube: ContentID and Other Minor Technologies*

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birth to a cause of action, however is tolerated because it is economically not worth it to stop it).

[90] "Overenforcement" is the enforcement of copyright towards every possible form of infringement, regardless of the amount of harm that it causes to the author, or the consideration of defenses when it is not sure if they occur or not.

[91] Surden, *Technological Cost as Law in Intellectual Property*, at 184 (cited in note 2). ("[J]ust as law modulates the prevalence of activities by imposing legal costs, technological limitations regulate implicitly because certain activities will be technologically constrained given the state of technological development of an era.")

[92] See *Id.* at 151.

[93] Elkin-Koren, *Fair Use by Design* (cited in note 7).

[94] See infra.

YouTube[95] is the most popular video-sharing platform in the market. It is present in more than 100 countries and is available in over 95 languages[96]. It counts over 2 billion active users[97]. For its dimensions, it is one of the most important websites for expressing creativity. It also is one of the platforms that have chosen to utilize an automated copyright enforcement technology, called ContentID[98]. ContentID is an algorithm-based technology that allows users with the need to file a large number of notices daily (such as movie studios, record labels and collecting societies[99]), to scan YouTube's entire library[100] for potentially infringing material and choose between one of three possibilities if such content is found: 1. track the allegedly infringing video[101]; 2. remove access; 3. profit from its revenues[102]. This is the technology that ContentID asks eligible users to upload on the system an excerpt of their video, along with metadata, video title and ownership. YouTube then creates a "fingerprint" and the search for

[95] www.youtube.com. has been chosen as an example as it is the most popular video-sharing platform online, and deploys one of the most advanced automated copyright enforcement technologies in the market.

[96] YouTube, *YouTube Copyright Transparency Report H1 2021,* available at https://storage.googleapis.com/transparencyreport/report-downloads/pdf-report-22_2021-1-1_2021-6-30_en_v1.pdf (last visited March 6, 2022).

[97] See *Id* at 1.

[98] See Joanne Gray, Nicholas P. Suzor, *Playing with Machines: using machine learning to understand automated copyright enforcement at scale,* 7 Big Data & Society, at 2 (2020) (YouTube claims that ContentID is the most advanced technology of its kind. For this reason, and for its broad application, it was chosen for this study).

[99] YouTube, *YouTube Copyright Transparency Report*, at 3 (cited in note 96).

[100] See Maryam Mohsin*, 10 YouTube Stats Every Marketer Should Know in 2023 (OBERLO July 20, 2023),* available at https://www.oberlo.com/blog/youtube-statistics More than 500 minutes of new content are uploaded on YouTube every second(last visited March 6, 2024) (More than 500 minutes of new content are uploaded on YouTube every second).

[101] To " track the video" means to collect data about views, such as average watching time, likes and dislikes, number of times the video was shared.

[102] *YouTube Help: How ContentID Works*, available at https://support.google.com/youtube/answer/2797370?hl=en (last visited March 6, 2024).

matching content begins. The process of fingerprinting makes it also possible to detect the violations that have altered the original work[103], in an analysis that resembles the "substantial similarity test" pertaining to nonliteral violations in traditional copyright infringement cases. However, the factors that influence the automated analysis are obscure. Another peculiar feature of ContentID is that it is capable of preventing the upload of a new video if it detects that it is utilizing content matching with an existing fingerprint.

The user that is notified of the alleged infringement is left with a choice: 1. do nothing and accept the removal of access to the video; 2. edit the video to remove the allegedly infringing parts; 3. share profits with the rightsholder[104]; 4. dispute the claim[105]. Disputing the claim, however, exposes the user to the DMCA mandated notice and take-down procedure, in case the rightsholder chooses to uphold the claim. The risk of being potentially found liable explains in part the low number of disputed ContentID claims[106]. Consider once again the example of Pewdiepie described in Section 1. It is in fact too costly for a Youtuber to dispute every single claim that their videos receive, so most of them just decide to do nothing.

In recent years YouTube has also implemented a new tool, that places itself in between the notice and take down system (which the platform calls "Webform") and ContentID, in terms of broadness of

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[103] Irene Terenghi, *Sistemi Decisionali Automatizzati e Tutela dei Diritti: Tra Carenza di Trasparenza ed Esigenze di Bilanciamento,* 62 Università degli Studi di Trento. Facoltà di Giurisprudenza, at 68 (2021).

[104] This option is only available to users adhering to the YouTube Partner program, a program accessible only to the biggest YouTubers, who are awarded more powerful tools then everybody else due to their influence on the community.

[105] See YouTube, *Learn about ContentID Claim*, available at https://support.google.com/youtube/answer/6013276 (last visited March 6, 2022).

[106] Trendacosta, *Unfiltered*(cited in note 16).

application and accuracy: Copyright Match Tool. Copyright Match Tool is available for YouTube Partners and users that have submitted a notice and takedown request and are accepted to the program[107]. In its essence, Copyright Match Tool works like ContentID, but it cannot prevent the upload of a matching content. It only works after content has been uploaded. The only exception is that it can prevent a second upload of a video that has already been removed. These technologies together enforce copyright at an unprecedented scale: a little more than 1.6 million actions were taken by Copyright Match Tool, compared to a little over 2 million by Webform and a staggering 722 million by ContentID, only in the first half of 2021[108].

According to YouTube's own data, the Webform is the least reliable tool: it removes 83% of the claimed content, with a 15% of claims that are either categorized as "abuse" or "invalid claims"[109]. This is because it is copyright holders themselves that request a take down, based on their own findings and understanding of copyright law. If they are in good faith and think that a content is infringing, or if they are in bad faith and know that a content is not infringing, they can request a notice and take down, stop access and eventually dispute the counter-claim later. While it is true that acting in bad faith exposes authors to liability, the percentage of cases that are litigated under §512(f) is exceptionally small, which shows that the burden of proof (*i.e.* proving that author considered the other party's claim to fair use) to avoid liability is so small that users would rather not file lawsuit,

[107] It is not clear what conditions need to be met to be accepted into the program.

[108] YouTube, *YouTube Copyright Transparency Report*, at 5 (cited in note 96).

[109] See *Id.* at 8 (abusive claims are defined as claims that were sent knowingly or maliciously in an attempt to remove content from the platform through a likely false assertion of copyright ownership; invalid claims are claims that show little understanding of copyright law. Both of them reduce the area of liberty that the law grants to the public).

and bear damages[110].

Copyright Match Tool places itself in the middle in terms of reliability. 4.2% of the requests are invalid, whereas 0.14% are abusive. ContentID is the most automated tool that YouTube offers. 99.6% of the requests are automatic when ContentID is involved. Disputed claims amount to 0.5% when the claims are automatic and 1.7% when they are manual[111]. This data seems to suggest that automation is capable of enforcing copyright mostly when it is safe to assume that the matching content is indeed infringing. However, "disputed claims" are not necessarily a good way to infer how accurate ContentID is. If users are disincentivized to dispute[112], many could simply accept that their fair content has been removed. Assessing the accuracy of ContentID is a difficult task especially because YouTube publishes generalized data, but not granular ones[113]. Inferential reasoning therefore needs to be extensively employed, reducing the accuracy of the findings. However, general observations can be made on the extensive use of algorithms and

[110] *Bungie, Inc. v. Minor*, 2024 WL 965010 (W.D. Wash. March 6, 2024) (One of those rare cases is this, where a YouTube user pretended to be the author of a videogame, and filed many takedown claims to remove content on the platform, in retaliation for the developer's original take down of a video. Because of the specific facts of the case, it was exceptionally easy to prove the "material misrepresentation" requested by 17 U.S.C. § 512(f)). See also Eric Goldman, *Plaintiffs Make Some Progress in 512(f) Cases* (Technology and Marketing Law Blog, March 6, 2024), available at https://blog.ericgoldman.org/archives/2024/05/plaintiffs-make-some-progress-in-512f-cases.htm (last visited November 20, 2024).

[111] YouTube, *YouTube Copyright Transparency Report*, at 13 (cited in note 96).

[112] See Jennifer Urban et al., *Notice and Takedown in Everyday Practice,* UC Berkeley Public Law Research Paper at 44 (2017) (And indeed, they are, as suggested by Urban, et al.). See also *supra* Section 3.

[113] Gray, Suzor, *Playing with Machines,* at 1 (cited in note 98).

artificial intelligence tools in copyright enforcement[114].

4. *Why the Pieces Do Not Fit*

4.1. *Why do Platforms Deploy Automated Copyright Enforcement Technologies?*

The DMCA notice and takedown provisions, the protection from liability for taking down content in good faith and the push from copy-rightsholders' organizations, incentivize OSPs to adopt automated systems that over enforce copyright. This means, on one hand, that fair use is not properly taken into account, and creativity is consequently stifled. On the other hand, the low costs for suing a copyright infringer allow for an extensive removal of allegedly infringing content, regardless of the actual harm produced by it. This proves that the scope of copyright law has changed, together with a change in technology[115].

The notice and take down provisions[116] push OSPs to act in favor of the rights holders[117]. If a content is considered by them to be infringing and a notice is filed, OSPs must act expeditiously to remove it[118]. If they do not, they expose themselves to losing the safe harbor protections and secondary liability if the infringement of

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[114] See *infra*; see also HelenNissenbaum, *From Preemption to Circumvention, If Technology Regulates, Why Do We Need Regulation (And Vice Versa)?*, 26,3 Berkeley technology Law Journal (2011). See also Ian Kerr, *Digital Locks and The Automation of Virtue,* in Michael Geist, *From "Radical Extremism" to "Balanced Copyright": Canadian Copyright and the Digital Agenda* (2010).

[115] Surden, *Technological Cost as Law in Intellectual Property*, at 146-148 (cited in note 2).

[116] 17 U.S.C. §§512(c)-(d).

[117] Gray, Suzor, *Playing with Machines* (cited in note 98) cite Annemarie Bridy, *Copyright's digital deputies: DMCA-plus enforcement by internet intermediaries*, (2016) and Uta Kohl, *Google: the rise and rise of online intermediaries in the governance of the Internet and beyond (Part 2)*, 21 International Journal of Law and Information Technology 187, (2013).

[118] 17 U.S.C. §512(c)(1)(C).

copyright is proven, as they would know about the infringing content, but decide not to act. Since the DMCA protects OSPs that in good faith remove content[119], the copyright holders will more often than not have the upper hand, as removing content will not hold neither the OSPs nor the rightsholder liable, unless the requesting party acted under knowingly and under a material misrepresentation of the alleged facts[120], which is a notoriously difficult standard to prove. This is true even when it looks like the use of the copyrighted work would be fair under the fair use doctrine[121]. In other words, OSPs are simply encouraged to remove content, regardless of what the users' interests are, even when they serve the public good[122].

If this is the case, OSPs also have an incentive to design automatic copyright enforcement tools that favor copyright holders, as the scope of this practice mirrors that of the notice and takedown mechanism. The line of reasoning is indeed analogous: if OSPs can remove allegedly infringing content as long as they act in good faith, they will do so. Embedding this type of technology in their systems allows them to automatically remove infringing content, and eventually deal with the complaints of the users later, if they arise. In addition, the fact that users have the chance to dispute the algorithm decisions further encourages OSPs to "err on the side of caution"[123] – i.e. in favor of the right holders[124]. But as data show, a small percentage of claims are actually disputed[125]. In this way platforms

[119] 17 U.S.C. §512(g)(1).
[120] 17 U.S.C. §512(f).
[121] 17 U.S.C. §17.
[122] Elkin-Koren, *Fair Use by Design,* at 1088 (cited in note 7).
[123] Grosse Ruse-Khan, *Automated Copyright Enforcement Online,* at 6 (cited in note 85).
[124] Elizabeth Gotham, *Lessons from ContentID: Searching for a Balance between Editorial Discretion and Free Expression on Application Platforms*, at 13, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2258861 (last visited November 20, 2024).
[125] See supra, Section 3.

favor big, organized copyright holders with a lot of bargaining power, at the expense of users, who often have little knowledge of copyright law and relatively more limited resources. Because of this asymmetry, their interests are less represented[126].

One of the main concerns of ContentID and other automated copyright enforcement technologies alike is that they operate "with narrow objectives that can introduce systematic bias"[127]. They also lack the ability to account for the full context of the analysis, impacting negatively on human decision making[128]. On the contrary, copyright enforcement requires to consider the specificity of the case, as constructed by the courts[129]. The analysis of context cannot be disregarded if a just verdict is to be reached. Even an advanced technology, such as ContentID, carries a degree of error and unfairness[130]. At a large scale, even a small percentage of errors can

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[126] See Perry Barlow, *A Declaration of the Independence of Cyberspace* (1996), available at https://www.eff.org/cyberspace-independence (many users of the early internet had a naive view of the internets' "democratizing" power. This view can be exemplified by Barlow's utopia, which is in fact false. It is true that people have access to tools with which they can express themselves in an unprecedented manner. However, it is not correct to say that the internet is a place where no regulators are involved, nor is this scenario desirable. Regulation is ever present, and it does not only come from governments. Rather it comes from an intricate system of private regulation and public regulation. Public regulation nudges platforms to act in a certain way. Technological development creates new needs and new tools and pushes platforms to act in another - sometimes conflicting - way. The result is a complex system of rules resulting from both vertical pushes and horizontal pushes, which often does not correspond to the values embedded in its offline counterpart).

[127] Gray, Suzor, *Playing with Machines* at 3 (cited in note 98), cites Reuben Binns, et al., *Like Trainer, Like Bot? Inheritance of Bias in Algorithmic Content Moderation* (2017) available at https://link.springer.com/chapter/10.1007/978-3-319-67256-4_3 (last visited November 21, 2024) (the scholars use the terms "automated decision-making technologies" of which enforcement technologies are a subcategory, as they deploy decision making to enforce rights).

[128] See *Ibid.*

[129] See the cases cited infra in Section 2.2.

[130] See Grosse Ruse-Khan *Automated Copyright Enforcement Online,* at 14 (cited in note 85); *see also* Gray, Suzor, *Playing with Machines* (cited in note 98) (YouTube claims

result in a high number of unfair results,[131] which ultimately disfavor the users – as platforms would rather favor authors instead[132].

These technologies are also problematic because they are able to enforce copyright even when the works are not copyrightable, for example because they fall under public domain, or because the subject matter is not copyrightable at all[133]. This creates an outcome that differs substantially from the intended balance of copyright law, as it restricts the users' freedom to fairly use these works, while unduly reinforcing rights holders interests.

4.2. *Technological Cost and Harmless Creativity*

As mentioned in section 3, automated copyright enforcement technologies are also problematic because they change the way the law operates[134]. In the offline world infringement must be detected first, and the process to enforce it is costly. Once again, if Tolkien's

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that ContentID errs in 0.5% of cases. However, the methodology used to calculate this percentage is unknown. Independent studies show that this number is likely to be too low).

[131] See Urban et al., *Notice and Takedown in Everyday Practice* (cited in note 112). (If 0.5% is the correct percentage of errors, then in the first half of 2021 the number of wrongfully decided take down requests amounted to approximately 3,610,000. This number, however, does not take into account the fact that each request may refer to more than one content. This means that this approximation is likely to be too small. YouTube, however, claims that 2.2 million videos that were taken down were later overturned, available at https://www.theverge.com/2021/12/6/22820318/youtube-copyright-claims-transparency-report (last visited March 6th, 2022).

[132] See *supra*, Section 3.

[133] See *supra*, Section 1. See also, *Bungie, Inc. v. Minor*, 2024 WL 965010 (W.D. Wash. March 6, 2024)(cited in note 110) (there is no preemptive control over the initial author's claim. While YouTube requires the claim to be initiated by the rightsholder or her agent, there is no guarantee that this tool is always used properly. As the aforementioned anecdote of PewDiePie shows, one of his videos intended to be broadly used on the platform, was claimed by an unknown person, who acted as if the video was theirs).

[134] *Supra*, Sections 2 and 3.

estate wanted to file suit against every infringer, it would have to hire lawyers to both detect the infringement, send them cease-and-desist letters, and sue them individually. This is why many infringements happen every day, but pass under the rights holders radar, as they are simply tolerated. However, this is not the case in the online world, as technology changes the paradigm.

In Lawrence Lessig's regulatory framework, discussed in *Code: Version 2.0*[135], there are four regulators of users' behavior online: the market, social norms, the law, and code[136] (often compared to architecture in an offline setting)[137]. When it comes to copyright enforcement in the offline world, even if social norms (I want to protect my work because copying another person's art is wrong), the law (authors' have the right to ask for remedies for the infringement of their work) and the system's architecture (courts exist and allow copyright holders to obtain what they ask for and enforce a judicial decision) allow authors to sue an alleged infringer, the market often holds them back. The legal costs involved and the risk of losing the claim and having to bear them, ultimately deter copyright enforcement when the benefits are not big enough, or simply if the holder does not have many resources to invest.

As a positive externality of "missed enforcement", a form of "little-to-no-harm" infringement is tolerated, and some forms of creativity are protected, even though copyright holders are a little worse off. This is a socially accepted form of authors' rights violation. An offline example of this is graffiti street art. Oftentimes graffiti depict famous characters from comic books, tv shows and literature. The value that they add to the décor of the city is perceived as "good" and the art is

[135] Lessig, *Code* at 120-137 (cited in note 1).

[136] See *Ibid.*

[137] See generally Roger Brownsword, *Law 3.0,* (Routledge, 1st ed. 2020).

tolerated, even if technically the author rights are violated[138]. The partial compression of these rights is actually useful to the advance of the public good, in line with the utilitarian view's prescriptions.

Another way to further clarify the concept comes from thinking about technology – and the absence thereof – is in terms of costs. There is in fact a technological cost in the offline world that prevents holders from suing every single alleged infringer[139]. The lack of an efficient technology to enforce copyright requires the author to perform a series of activities that are costly, therefore disincentivizing enforcement. Only infringement that causes a certain amount of harm is sought after. Such a cost, therefore, protects an implicit value[140] – creativity that causes little-to-no-harm to the authors, even if it uses their works unfairly ("harmless creativity").

Technological cost is defined as "the implicit constraint of an activity by processes of the past"[141]. An example is the very existence of copyright law, in the first place. Before Gutenberg revolutionized the printing process with the invention of the printing press and the first printed Bible of history, in 1455, the process of reproducing books was very costly. Everything needed to be done by hand and not many people knew how to write; paper was expensive; time was a serious constraint. However, after the mass production of books, copying became much less expensive. The need for protecting authors' expression of ideas arose, and copyright was created[142]. This example clearly shows how a change in technology, and the consequent

[138] If the murals are removed it is not because of copyright infringement, but often because of property rights on the "canvas" wall. Also, while it is true that most graffiti artists use pseudonyms, it is not difficult to find them, as many people know who they are. Not everyone knows how to protect his or her identity as Banksy does.
[139] See Surden, *Technological Cost as Law in Intellectual Property* (cited in note 2).
[140] See *Id.* at 146-148.
[141] See *Id.* at 138.
[142] The first copyright statute ever enacted was the Statute of Anne, in 1710's England.

reduction in copying costs, exposed a value that no law protected before, simply because there was no need to: the authors' right to be protected against unauthorized copies of her work.

The same reasoning can be applied to the online world: harmless creativity is protected by technological cost because it is not worth stopping the infringement by enforcing authors' copyright against it. The way enforcement works in the offline world makes it useless to translate the protection of harmless creativity into written law, simply because the inherent existing technological cost in the enforcement mechanism is enough to protect it[143]. However, when technological cost is reduced, the underlying hidden value is damaged, and it needs to be exposed to be protected by new policy. As stated extensively in this work, in the online world infringement can be easily detected by automatic copyright enforcement tools. These tools lower considerably the price for enforcement and damage hidden creativity: legal services to draft cease-and-desist letters, the cost of sending them, the time to bargain with an attorney, and the eventual legal dispute that arises are scraped away, whereas the new process of fingerprinting material on ContentID and similar technologies only requires a few clicks.

As time goes by, automated copyright enforcement technology will likely miss less and less cases of alleged infringement and the erosion of harmless creativity will inevitably grow[144]. In the first six months of 2021, YouTube's ContentID alone enforced around 722 million requests[145]. It should be noted that a single request can refer to more than one content. The quantity of material removed is astonishing. The difference between high cost and very low cost is enormous when these numbers are involved. In the offline world, even a low cost, multiplied for each request can be enough of a deterrent to file

[143] See *Ibid.*

[144] Should de minimis doctrine be broadened? See *infra*.

[145] YouTube, *YouTube Copyright Transparency Report*, at 10 (cited in note 96).

only those that are most likely to be won. The judicial system as a whole would also be hit by a multitude of lawsuits, which would interfere with the regularity of its activities, making it undesirably flooded with frivolous lawsuits. In an online setting, however, these types of deterrence do not exist. The relevant change for copyright law comes from the fact that enforcement at this scale and level of granularity is unprecedented. The result is that the balance of authors and public interest is disproportionate. Authors, and especially big, organized rights holders that have access to this type of technology[146], have the power to enforce the equivalent of a privately issued injunction order[147], that has immediate effect[148], and very little chance of getting disputed[149], while also bypassing the basic need to preliminarily convince any impartial third party of the worthiness of their allegation. Moreover, as discussed above, OSPs have strong incentives to act in rights holders' favor to keep the protection from liability[150].

4.3. *Preemptive Blocks*

Another feature of traditional copyright enforcement is that offline infringement needs to be discovered before the law can be enforced against the perpetrator. This means that infringement is allowed to exist at least until it is detected. Automatic enforcement tools such as ContentID, however, scan content before it is even uploaded on the platform and made public. If the system detects content matching a copyright holder's fingerprint, it tells the user that several violations

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[146] See *Id,* at 4 (Which is in fact still limited to a small number of rights holders, who have the need to file a large number of copyright infringement claims).

[147] *Rule 65, US Federal Rules of Civil Procedure Procedure.*

[148] 17 U.S.C. §512(c)(1)(C) ("[U]pon notification of claimed infringement as described in paragraph (3), *a service provider* responds expeditiously to remove").

[149] YouTube, *YouTube Copyright Transparency Report,* at 12 (cited in note 96) (According to YouTube, 0.5% of all claims get disputed).

[150] *Supra* at Section 3.

have occurred and gives the alleged infringer the opportunity to modify the video and try to upload it again. As it should be expected from such a technology, the system does not work perfectly and sometimes it detects more violations after the users have deleted whole parts of the video, even if it should detect less[151]. Nonetheless, the user is left with three possibilities: 1. modify the video again, hoping to reach a version of the video that the system does not consider infringing[152]; 2. remove the copyrighted work entirely from the video, even if there is good reason to believe that its use is fair[153]; 3. refrain from uploading the video altogether. Users have no chance of publishing the content and accepting the risk of a notice, because the technology simply does not allow it. This is a typical example of a "digital lock"[154]. Code prevents the users to behave in a certain way, therefore conveying a certain value. A distinction is due: in the offline world[155], users may choose to accept the risk of receiving a cease-and-desist letter, or even a lawsuit, if the content is so important to them that it needs to be released to the public, regardless of the legal consequences. The setting for dispute would then be the Courts, with all of their procedures and guarantees. Some activities, in fact, need to be executed quickly to be influential and worth the effort. However, preemptive enforcement impairs users' freedom to determine which behavior to adopt, based on a cost-benefit analysis[156]. This makes the negotiation of what uses are fair

[151]Trendacosta, *Unfiltered* (cited in note 16).

[152] Again, nobody really knows what parameters ContentID uses to deem a use infringing or not.

[153] For example, remove the part of the song that is being analyzed from a music review channel.

[154] See generally Kerr, *Digital Locks and The Automation of Virtue* (cited in note 114).

[155] Or, when ContentID-type technology is not involved.

[156] Kerr, *Digital Locks and The Automation of Virtue* (cited in note 114) (Ian Kerr, uses Aristotelian's ethics of virtue to express this concept. He believes that users must be left with the ability to choose how to behave, to exercise morality. In the example provided, the cost would be the damage to be paid if a violation is found, multiplied by the chance of the occurrence of such an event. The benefit would be whatever

impossible. Copyright holders gain a broader protection for their works, while users see their creativity and their moral agency restrained[157].

4.4. *From Removal to Monetization*

As mentioned above[158], one of the possibilities offered to ContentID users is to monetize the video of the allegedly infringing party, instead of removing it[159]. This feature of ContentID aligns the platform's interests with those of the rightsholders. In fact, YouTube holds an economic interest to keep the video online and profit from the advertising revenues[160]. At a first look it may seem like the balance between users' interest to maintain the availability of the video on the platform, and authors' economic interest to profit from their works reaches a balance. However, this is not the case. ContentID is not a perfect tool and it may flag as infringing, content that is not actually infringing, as well as content that causes irrelevant damage[161].

First, by profiting from the users' works, they enforce a license-type agreement, in which the users lose bargaining power as they cannot negotiate the percentage of revenues to be transferred. The users, in fact, are not a negotiating part; nonetheless they are bound by the agreement.

Second, even if the work used is infringed, the infringement may be only a small part of the entire video (even so small that it should be considered de minimis infringement). In this case, the

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good result from the publication, and it may involve an improvement in reputation, monetary gain, or the influence on a certain topic of discussion. Here, the cost acts as an *ex post* sanction. If, however, such an analysis cannot be made, then even the good that may result from the violation of a rule is prevented.)

[157] See *Id.* at 275-303.

[158] See *supra* Section 2.

[159] YouTube, *YouTube Copyright Transparency Report,* at 6 (cited in note 96).

[160] Grosse Ruse-Khan *Automated Copyright Enforcement Online,* at 14 (cited in note 85).

[161] YouTube, *YouTube Transparency Report,* at 7 (cited in note 96).

rightsholder is still allowed to profit from the entirety of the video, excluding entirely the users from enjoying the revenues[162]. The user is therefore deprived of economic gains that he should legitimately be able to earn under copyright constitutional justification[163]. An example brought by H. Grosse Ruse-Khan involves the use of a 1-minute-long excerpt from a song in a 15-minute long video. The rightsholder would be able to profit from all of the video, while the user would be excluded from any monetary gain[164]. But this conclusion seems to be in contrast with the utilitarian prescriptions of the constitution. If copyright law constitutional basis and moral justification is to create a form of intellectual monopoly[165] only insofar as it creates an economic incentive to produce more creative works, than this policy runs against it. The rights holders, contrarily, profit more than they should because it is awarded monetization from somebody else's work, which itself is a useful expression of creativity. The same idea is expressed by Grosse Ruse-Khan, who claims that this form of authors' profit constitutes an improper gain, devoid of any legal basis[166].

Third, the rightsholder still maintains the ability to stop monetization and block the user's content, at any point by simply deploying ContentID. Authors are encouraged to keep the video up for as long as it makes revenues. Then, when the monetary gains stop, rights holders can just start the notice and takedown process, which is, again, tilted in its favor[167]. Users find themselves in a position where they have little to say to defend themselves in the face of the rights holders' decisions and suffer from the fear that their work might be removed anytime. The redirection of profits from the user

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[162] Grosse Ruse-Khan *Automated Copyright Enforcement Online:,* at 14 at 14 (cited in note 85).

[163] See Article 1, Section 8, Clause 8 of the U.S. Constitution.

[164] YouTube, *YouTube Transparency Report,* at 6 (cited in note 96).

[165] *See generally* Boldrin, Levine, *Against Intellectual Monopoly* (cited in note 35).

[166] Grosse Ruse-Khan, *Automated Copyright Enforcement Online,* at 5 (cited in note 85).

[167] See *supra* at Section 3.

to the author is yet another obstacle for those who want to utilize a copyrighted work. They are incentivized not to use any content that could be claimed by an author, even when its use is fair, to avoid running into monetization issues. This is another form of self-restraint from a use that the law deems legal.

5. *Possible Solutions*

5.1. *Striking down the Safe Harbor Provisions*

The safe harbor provisions of the DMCA have been passed into law in a moment where the development of the internet was in a moment of great rise[168]. New sharing technologies made it possible to infringe authors rights in a matter of clicks[169]. Rights Holders organizations, worried that these new technologies would have destroyed their businesses by allowing users to download protected content instead of buying it from analog stores, lobbied for more protection[170]. Conversely, platforms managed to argue for a compromise to shield themselves from secondary liability. They claimed that if they had to pay for their users' misconduct, the internet would not develop rapidly, depriving society of a greater good[171]. This way of thinking is still valid today.

One difference with the internet of more than 25 years ago when the DMC was enacted, is that in 1998 copyright enforcement was done by humans.Automated enforcement technologies were not available yet. Proponents of the deletion of the safe harbor provisions

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[168] Senate Committee Report, *Congress.gov.*, S. Rept. 105-190 - The Digital Millennium Copyright Act of 1998, at 2-8 (1998), available at https://www.congress.gov/congressional-report/105th-congress/senate-report/190/1 (last visited November 20, 2024).

[169] See *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (2001).

[170] See *Ibid.*

[171] See *Ibid.*

see the exposure of platforms to secondary liability as both necessary and sufficient to reassess the correct balance between authors' rights and users' interests. However, they miss the opportunity to further improve the old balance.

Striking down the safe harbor provisions, in fact, would rewind the internet to a world of uncertainty. Courts would once again have the power to hold platforms liable under the secondary liability doctrines, and drive them out of business. Smaller platforms with less financial resources to invest on content moderation would have to face substantial entrance barriers, stifling digital innovation[172]. While it might be true that this measure would create an incentive for OSPs to create more sensitive automated copyright enforcement technologies, it would also encourage them to stand even more on the rights holders' side. To avoid liability, platforms would impose an even stricter enforcement policy with less regard for users' interests. And the network effect that characterizes platforms on the Internet would prevent users from moving to newer, user-friendly platforms. Taking these concerns into serious account, makes it more desirable to leave the safe harbor provisions intact[173].

One solution is to require courts to apply a standard of "misrepresentation" that is more favorable to the users than it is to the rights holders. As a matter of fact, 17 U.S.C. §512(f), titled "misrepresentation", gives users a cause of action to sue the author when the notice and take down request was filed under "materially knowingly misrepresentation". This cause of action serves the

[172] Terenghi, *Sistemi Decisionali Automatizzati e Tutela dei Diritti,* at 70 (cited in note 103).

[173] See Directive (EU) 2019/790, art 17.1. (The EU has passed a new copyright regulation, which creates an exemption to their version of the safe harbor provisions."[M]ember States shall provide that an online content-sharing service provider performs an act of communication to the public or an act of making available to the public for the purposes of this Directive when it gives the public access to copyright-protected works or other protected subject matter uploaded by its users.". The EU's newly modified legal framework provides an interesting case study for legal assessment that deserves to be the subject matter of future research).

purpose of exposing the author to liability when it is enforcing his copyright claim, knowing that the allegedly infringing party is indeed entitled to use the protected work[174]. In *Lenz*[175], plaintiff uploaded a video of her daughter on YouTube while dancing to the notes of "Let's go Crazy" by Prince. Universal, who was entitled to the rights of the song, filed a notice to take down the video, stating that they had a good-faith belief that "the […] activity *was* not authorized by the copyright owner, its agent, or the law"[176]. Access to the video was removed. Lenz filed a counter-notification, protesting that her video should be re-uploaded, pursuant to §512(g)(3). Universal contested the counter-notification, reiterating that the use of the song had not been authorized and never even mentioned fair use. After a second counter-notification, access to the video was finally reinstated, and Lenz sued Universal for damages. Defendant urged the court to interpret *Rossi*'s holding to construe the "misrepresentation" requirement as a "demonstration of some actual knowledge of misrepresentation" to mean that the rightsholder acted knowing that its assertion is false. The 9th Circuit, however, held that failing to consider the user's fair use claim equated to a misrepresented belief of the goodness of the infringement claim. *Lenz* is one of the few cases where a §512(f) claim made it to the court and awarded damages to the user. The decision goes in the right direction, even though it is controlled only in the 9th Circuit, which means that the rest of the Federal Circuits in the U.S. are not bound by it. The *Lenz* decision should be codified to extend its validity to every federal court of the country[177]. Moreover, the DMCA should be amended to require the

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[174] *Rossi v. Motion Picture Ass'n of Am. Inc.*, 391 F.3d 1000 (9th Cir 2004).

[175] *Lenz v. Universal Music Corp.*, 815 F.3d 1145 (*9th Cir.*), cert. denied, 139 S. Ct. 419 (2018).

[176] See *Id.* at 1154.

[177] Even though YouTube's policy specifically binds the two parties to the 9th Circuit forum, Google is not the only player in the market. The decision should also be

author's notice to be accompanied by a statement[178]. The cost for engaging in the "notice-and-takedown" mechanism would be slightly higher, to the benefit of the users. More specifically, the provision should be construed so that a notice filed by the rightsholder would have to contain a statement explaining why the user's use was not fair. Noncompliance with this requirement would then immediately grant the user a cause of action for damages and injunctive relief (*i.e.* the reinstatement of the content). By introducing a risk for authors to file a bogus notice, the system would incentivize rights holders to truly consider the users' interests, and would make it more difficult to elude the DMCA's good faith belief requirement discussed in Section 2[179]. Under the amended system, every takedown request notice would have to be sufficiently tailored to the specificity of the alleged infringement, so that blank statements such as the one provided in *Lenz*[180] would not be enough to be protected from liability. Platforms may even require that a certain number of characters are entered in the proper box, and AI could be deployed to preliminary check if a claim is sufficiently argued for, before making it possible for authors to submit their request[181]. The involvement of AI in this step of the process would also standardize the effect on the users. The number of takedown requests should drop and more infringements should be tolerated as a result, rebalancing authors' rights and users' interests serving the public good[182].

5.2. *Fair Use by Design*

applied when other platforms are involved, which may choose different forums to decide disputes.

[178] 17 U.S.C. §513(g)(3)(c).

[179] §512(c)(A)(3)(v).

[180] *Lenz v. Universal Music Corp* (cited in note 175).

[181] Proposals that act directly on the code follow Lessig's suggestion in *Code* (cited in note 1).

[182] *Supra* at 14-15.

It has been said by influential scholars that the fair use doctrine should be implemented online[183], following Lessig's suggestion that code could be designed to incorporate legal provisions and embed specific values[184]. To be fair, ContentID seems to aim at the same goal. Its defenders see it as a way to give rights holders a tool that protects them against copyright infringement, while also taking into account the users' interests by providing a counter-notice system to argue in favor of fair use. The problem to be solved, however, with automated implementation is not just technological. Fair use is a doctrine that relies heavily on human judgment, and it was designed specifically for that. Nonetheless, when it is a machine that substitutes humans in decision-making process under fair uses's four prongs[185], this precious flexibility is lost. Code, in fact, is not tailored to properly analyze context[186], which, on the contrary, is essential for fair use analysis. Moreover, complex semantic analysis is still a problematic task for artificial intelligence[187].

This is not to say that enforcement technologies fully compliant

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[183] Elkin-Koren, *Fair Use by Design,* at 1093-1100 (cited in note 7).

[184] See generally *L. Lessig*, *Code* (cited in note 1).

[185] 17 U.S.C. §107.

[186] Gray, Suzor, *Playing with Machines,* at 143 and 273, (cited in note 98) cite Julia Black, *Decentering Regulation: Understanding The Role Of Regulation And Self-Regulation In A 'Post- Regulatory' World,* (2001) available at https://www.researchgate.net/profile/Julia-Black-9/publication/30527050_Decentring_Regulation_Understanding_the_Role_of_Regulation_and_Self-Regulation_in_a_'Post-Regulatory'_World/links/00b4952eb889c858c6000000/Decentring-Regulation-Understanding-the-Role-of-Regulation-and-Self-Regulation-in-a-Post-Regulatory-World.pdf?_sg%5B0%5D=started_experiment_milestone&origin=journalDetail, and Zimmerman, *Copyright and Social Media: A Tale of Legislative Abdication,* (2014), available at https://heinonline.org/HOL/LandingPage?handle=hein.journals/pace35&div=13&id=&page= (Last visited November 20, 2024).

[187] Mark A. Lemley, *Rationalising Internet Safe Harbors*, 6 Journal of Telecommunication and High Technology Law 101, at 110-111 (2007).

with code cannot be implemented. The point is that such a system will never be perfect because the fair use doctrine, by its own virtue, is difficult - if not impossible - to rationalize and reconduct to unifying, coherent, general principles that can then be made into code[188]. Fair use analysis is so fact-specific that a *fil-rouge* that connects all the judge made decisions is unlikely to ever be found. Once again, flexibility is key in infringement analysis, and it cannot be lost when enforcing copyright law.

N.Elkin-Koren's proposal is fascinating and worth mentioning. AI and machine learning technologies could be used to identify patterns of fair use by studying previous decisions and apply them to the cases in front of them[189]. But as noted by the scholar herself, oftentimes the reasoning behind machine-implemented decisions are not understood, even by its programmers. Because of it, public discourse on those decisions is significantly stifled. Moreover, even if these patterns were to be discovered, their binding power would be at least doubtful. If the common denominator of judge-made decisions is so obscure that the very judges that decided in accordance with it did not willingly do so, such a principle would look more like bias than anything else. Future decisions would just perpetuate this bias, instead of critically upholding the value of the argument's justice.

Yet, technologically implementing fair use on platforms might still be desirable to an extent as one of many tools deployed to uphold users' interests. It is better to have a system that is able to incorporate some elements of fair use, rather than no elements at all. It is not realistic to expect automated copyright enforcement technologies to disappear, as they are still a necessary tool for OSPs to monitor their libraries. If they stopped using them, they would expose themselves to a potential change of rules - whether by Congress or by the judiciary - in a direction that is so favorable to rights holders that it

[188] Leval, *Towards a Fair Use Standard*, at 1135 (cited in note 46).

[189] Elkin-Koren, *Fair Use by Design*, at 1097 (cited in note 7).

actually reduces the broadness of their protection against liability[190].

But if such a technology can be implemented, it must be done so with some caveats. N. Elkin-Koren suggests that AI and Machine Learning could give a score on the probability of fair use[191], making the technology itself reviewable from outside scrutiny when compared to a judge-made decision. Also, the decision made by this type of system would be more easily challenged in court, as the absence of arguments to support the decision - that is a characterizing feature of AI - would be substituted with at least a form of information: a number[192]. While not perfect, this technology would still be better than the current one, where the mere similarity between the allegedly infringed work (or parts of it) and user uploaded content is enough to trigger removal or monetization, with little to no regard to fair use. Moreover, the criteria informing the technology could be tweaked in a way that the final score resembles more what is acceptable for the legal community[193].

Elvin-Koren also proposes AI and machine learning to be trained under the supervision of a judge. Judges would be required to articulate principles to instruct the proposed technology to an adequate fair use analysis[194]. The problem with this suggestion, however, lies in the fact that these principles are hard to assemble

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[190] For example, liability could be imposed if the safe harbor provisions of §512(c)(1)(B)-(d)(1)(B), which require that the OSP "does not receive a financial benefit directly attributable to the infringing activity, in a case in which the service provider has the right and ability to control such activity" were to be interpreted so that they include the revenue that platforms make through advertisement running on infringing material.

[191] Elkin-Koren, *Fair Use by Design,* at 1099 (cited in note 7).

[192] This number should also be made public by the platforms, along with the outputs of their automated infringement technologies. See *infra* Section 5.

[193] Multidisciplinary and multiparty agencies could be formed to study the conformity of the private decisions with the scope of copyright law, and enact soft law provisions, such as guidelines, to help platforms better train their AIs.

[194] See *Ibid.*

because of the discussed flexible nature of fair use[195]. Fair use requires a case-by-case analysis that takes into account not only the type of work under scrutiny[196], but also the context in which the alleged infringement has occurred. The scholar continues, and states that fair use analysis may benefit from this type of interaction with technology[197]. As technology requires more predictable outcomes it also imposes a change in fair use assessment. Although persuasive, it is necessary to ask whether the flexibility of judicial interpretation should follow the stricter limitations that code imposes. The role of the judiciary is to do justice, by interpreting and applying the *dicta* of the law in the cases in front of them. The risk with this proposal is to sacrifice justice for a less fact-dependent analysis, to better fit technological needs.

It is true that a more predictable fair use doctrine could help users to behave in a less contestable way. However, it is the flexibility of fair use that also allows it to answer new and unpredictable uses of copyrighted material. There certainly are downsides to this approach, as arguments are oftentimes *ex post* justifications to decisions, instead of logical steps to get there. But sacrificing fair use's flexibility would also paralyze courts when new cases appear in front of them, denying them the possibility to properly assess public and individual interests. Moreover, judges need to be free to create new doctrines and modify old ones to decide cases where novel uses of copyrighted material are under scrutiny. At the end of the day, both secondary liability and fair use were born out of judicial decisions. Finally, if automated enforcement technologies would be mandated to comply with specific values, it should be Congress' power to decide what they are. They would have to be an expression of the democratically-elected legislative power

[195] See *infra* Section 1.

[196] The analysis varies for example, if a work is visual, textual, musical, architectural and so on, as the court developed different tests to give meaning to fair use's four prong test.

[197] Elkin-Koren, *Fair Use by Design,* at 1099 (cited in note 7).

rather than the judiciary[198].

The difficulty in implementing these guidelines, however, is that it is very difficult to check whether private companies, such as YouTube, follow them or not. Trade secret laws prevent public access to the code[199], and it would be unwise to create a disclosure exception for copyright enforcement, as competition would definitely be altered.

5.3. *Duty to disclose*

A useful provision towards a more transparent understanding of these technologies' decision-making process, would be one that requires companies to disclose the outputs of their takedowns. The need for more transparency is entailed in platforms' tendency to train their AIs in secret[200], and hide the outputs of their decisions to avoid public scrutiny[201], generating the so-called "black box" problem[202]. Platforms lack the public mandate to enforce large-scale decisions in a way that is unilateral, as private means of law enforcement lack

[198] See cited at 184.

[199] Gray, Suzor, *Playing with Machines* (cited in note 98) cites Maayan Perel, Niva Elkin-Koren, *Accountability in Algorithmic Copyright Enforcement*, 19 Stan. Tech. Law Review 473 (2016).

[200] Data is "fed" to the AI, which then utilizes it to find patterns and apply these patterns to future decisions. If the training data is obscure, there is no way of knowing whether the original data set contains biases that in turn are applied to decisions.

[201] Gray, Suzor, *Playing with Machines* (cited in note 98), cites Tarleton Gillespie, *Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions That Shape Social Media* (Yale University Press, 2018).

[202] Gray, Suzor, *Playing with Machines* (cited in note 98), cites Frank Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information* (Harvard University Press, 2015).

democratic features and due process safeguards[203]. Hence, heightened transparency must be required.

Moreover, this lack of transparency is also reflected in the difficulty that independent researchers face when trying to assess automated copyright enforcement technologies' fitness with the legal framework[204]. While YouTube's Copyright Transparency Report[205] is certainly a much-appreciated step towards the right direction, it also leaves out a lot of useful information. Again, granular data is left out[206], forcing researchers to rely on inferential reasoning, which reduce their conclusions' accuracy, or force them to find other imperfect means of collecting them[207], which are often costly and carry a certain percentage of error.[208] Without these studies, it is difficult to properly criticize the technologies under scrutiny. It is crucial to understand whether they respect the principles inspiring the applicable law, they propagate biases, or they produce an acceptable balance between the involved interests, to better understand if the legal framework needs to be reformed, or not.

The main concern addressed in this paragraph is not that private copyright enforcement outcomes do not mirror courts' decisions perfectly, as fair use analysis tends to be by nature

[203] Gray, Suzor, *Playing with Machines* (cited in note 98), cite Black, *Decentering Regulation* and Diane Zimmerman, *Copyright and Social Media* (cited in note 187).
[204] Gray, Suzor, *Playing with the Machines* (cited in note 98).
[205] YouTube, *YouTube Copyright Transparency Report* (cited in note 96).
[206] Gray, Suzor, *Playing with the machines,* at 1 (cited in note 98).
[207] See generally Maayan Perel, Niva Elkin-Koren, *Black Box Tinkering: Beyond Disclosure in Algorithmic Copyright Enforcement,* 69 Florida Law Review 181 (2017) (For example, one study used experimental uploading and interacting with platforms). See also, Gray, Suzor, *Playing with the machines* (cited in note 98) (Others have created a library by browsing YouTube's library for potentially infringing videos and verifying if after two weeks they were still available). See Sharon Bar-Ziv, Niva Elkin-Koren, *Behind the Scenes of Online Copyright Enforcement: Empirical Evidence on Notice & Takedown*, 2, Connecticut Law Review 3, (2017) (Another study used data published voluntarily by Google and relative to Google Search).
[208] Gray, Suzor, *Playing with the machines,* at 5 (cited in note 98) (the authors calculated the error rate to be approximately 10%).

somewhat uncertain; the point is that these decisions cannot be substantially discretionary, as shown by available data instead[209]. Automated copyright enforcement technologies cannot enforce a private body of rules totally detached by the evaluation of the judiciary. Platforms are private companies, but they have a "parapublicistic" role[210], especially when large scale enforcement is concerned, which justifies the imposition of specific duties to protect online freedoms. Transparency is one of them.

5.4. *Mandatory Licensing*

The most effective way to address the specific issue of creativity being unduly strangled on platforms is through mandatory licensing. As discussed in the previous paragraphs, automated copyright enforcement technologies allow rights holders to easily locate and either block access to or monetize from alleged infringement, with little to no regard to the users' interest in fair use. Harmless creativity has less room to thrive. If a preemptive block to content upload is involved, the traditional "ask for forgiveness, not for permission" paradigm is inverted. Users need to comply with the rights holders' requests first, without the chance to argue for fair use. A model shift is needed to better reflect how copyright law operates in an offline setting.

Mandatory licensing rebalances the users' interests with the rights holders. OSPs should be compelled to enter a licensing agreement with whoever uploads content on their services and the users, to allow them to use protected content almost freely. To account for the potential loss of revenue for the rights holders, and still comply with the utilitarian justification for copyright, a flat

[209] Gray, Suzor, *Playing with the Machines,* at 6 (cited in note 98).

[210] Andrew Shapiro, *The control revolution: How the internet is putting individuals in charge and changing the world we know (2020).*

revenue share could also be imposed. For the sake of argument, this proposal considers a 10% share of the revenues generated by the content creators through advertising to be transferred directly to the rights holders, regardless of whether the use of the copyrighted work is fair or not.

While this proposal may seem in contrast with the critique of the monetization practice allowed by YouTube and other similar services, at a closer look it is not. The main difference here is that not all revenue is lost by the content creator, but only a small part. Moreover, the rightsholder should be compelled to give up the right to block allegedly infringing content at any time. The revenues lost by the users are not actually lost but are used as a fair price in exchange for certainty. Users waive part of their profits to make sure that: no one can claim their work, only 10%, and not more of the revenues, are given up, and that no one can sue them for infringement.

It is true that some content creator's positions would be worse off. If they are convinced that their use of the protected work is fair, or if the use of the copyrighted work was tolerated, then the 10% loss in revenues becomes more burdensome. However, as explained above, even in those circumstances, nothing stops rights holders from filing a notice and taking down a claim, or engaging with ContentID-like technologies. Moreover, in fair use analysis there are many cases that are difficult to assess with certainty whether they fall under fair use protection or not. So even if one is convinced that its use is fair, the other party often has an opposite view. And since the good faith belief requirement of the DMCA protects the rights holders who have filed a notice and take down claims broadly, the user is the weaker party, under the current framework. With the mandatory licensing system, however, this instability is removed. Even users who have experienced few or no copyright claims benefit from it.

Should all types of infringement be covered by the agreement? No. One type of infringement that should still be enforced is literal

infringement. Literal infringement is very harmful to rights holders. If an exact copy of Quentin Tarantino's *Reservoir Dogs* is uploaded on a content-sharing platform, Miramax's[211] other streams of revenues would be significantly limited. This opens a space for automated copyright enforcement technologies. Automated copyright enforcement technologies, in fact, are most effective when they're asked to find literal infringement, which requires a lower degree of context and external factors interpretation. A similarity rate[212] between the protected work and the allegedly infringing one could be given, and a minimum threshold could be set up in guidelines. For example, if the acceptable similarity rate is 95%, everything that scores below that must be tolerated, and trigger the mandatory licensing revenue-share clause; anything above the similarity rate would be subject to the platforms' chosen enforcement action. Most likely it is going to be removal of content or total revenue share.

What if the platform does not enter licensing agreements with the rights holders? In such cases, they will lose the safe harbor's liability shield. It is entirely possible that a platform may find it economically better to risk secondary liability for their users' infringement if they believe that they have such a good technology to enforce copyright infringement while taking into account the fair use defense. However, very few of them would choose to do so, until the technology reaches an acceptable point, where the exposure to liability and the expected loss are lower than the expected revenues that will be earned by having a system that attracts rights holders from other platforms, because of a more profitable revenue system. If a new platform promises rights holders to make them earn more money than what they would earn by sticking to other platforms, where a flat 10% rate is earned from creators that utilize their

[211] Miramax Films is the copy-rightsholder of the movie.

[212] Similarity rate would represent the likelihood that the allegedly copyrighted work is literally infringing the protected one.

protected work, then being exposed to secondary liability might be worth the risk.

This mechanism would still leave considerable opportunities for platforms to compete. Who has the best automated copyright enforcement technology is less exposed to secondary liability. Moreover, if an OSPs reaches the point where its technology is good enough, it can choose to opt out of the mandatory licensing agreement, expose itself to secondary liability, but still bet on its technology. Companies that are more willing to take risks, might be encouraged enough to develop a better, more sensitive technology. If they can (proving therefore that the doubts of those who think that fair use can never be coded are wrong), society at large is better off, as traditional copyright's scope would be preserved. If they cannot, however, users' interest in fair use would be better protected than under the current system by mandatory licensing.

Another benefit of the proposal under analysis is that the interests of users, OSPs, and rights holders are aligned. Rights Holders would want to promote the use of their works, as they can extract revenues. Leaving few, but very profitable works to circulate, while blocking less profitable ones would not be possible. Instead, all content would have to be tolerated. This means that if rights holders want to increase their profits, they would have to get as many people as possible to produce content that also utilizes their protected works. A rise in uses that would fall under the category of tolerated use, in the offline world, is to be expected. Online, however, they would not be merely tolerated, but authorized under the mandatory agreement. As it can be already observed online, many companies already tolerate some infringing content, and it does not seem to cause them much harm. On the contrary, in many cases tolerated content promotes the original work and drives attention to it[213].

[213] Numerous are the examples of tolerated content online. YouTube is filled with "fan art", which, exactly like graffiti art, takes protected characters from copyrighted works and depicts them in made-up situations. An example are anime videos where

To facilitate access to the original, protected work, a duty would have to be imposed on users: citation. Users would have to cite the original source and provide a hyperlink so that anyone could see where the work is derived from. If a video that uses a protected song is uploaded, a hyperlink to the original song would have to be provided. Other users could then click on the hyperlink and land on the copyrighted work's page, and the content creator could then profit also from its own original video, due to the increase of new publicity.

A new condition to qualify for the safe harbor provisions then, would have to be added to §512(c)(1):

> A service provider shall not be liable for monetary relief, or, except as provided in subsection (j), for injunctive or other equitable relief, for infringement of copyright by reason of the storage at the direction of a user of material that resides on a system or network controlled or operated by or for the service provider, if the service provider —
>
> (iv) did not implement a mandatory service agreement with the copyright owners and the users of their services.

The same provision should be mirrored for 17 U.S.C. §512 (d)(1).

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characters from different literary universes face each other off. In "GAROU vs SAITAMA", The user "MMS ANIMATOR" imagined a fight between the two characters of the manga and animated them in a fight. The fight scene exists on paper, but has not been animated, yet. The video has been uploaded for months, even though usually it only takes a couple of weeks for infringing content to be removed. It is likely that it fails fair use analysis, as the original author is likely to animate the scene in the ongoing animated series. However, animated videos such as this one are part of what an average user expects to find on YouTube, and content is often left available on the platform. Users who encounter this type of work are often intrigued by it, and look for the original content, available at https://www.youtube.com/watch?v=Ry0cQ_POkR4 (Last visited November 20, 2024).

6. *Conclusion*

Automated enforcement technologies raise concerns about the balancing of users' and authors' interests. Copyright law changes scope, as the ability of the users to rely on fair use as a defense is reduced. As a result, creativity is stifled to the detriment of society. Moreover, the way copyright is enforced online results in less compliance with the constitutional utilitarian justification for copyright. To re-assess copyright law's equilibrium, four possible solutions are discussed: 1. striking down the safe harbor provisions of the DMCA; 2. The implementation of fair use by AI-powered technology; 3. Imposing a duty to disclose on OSPs; and finally, 4. A mandatory licensing agreement between the OSPs, the rights holders and the users. This last solution is believed to be the best one, as it changes the focus from "restriction" to "permission" of protected content use, without having to rely on the difficult, and often uncertain analysis of fair use, which is fit for a world where courts apply a balancing test, but it is not fit for private enforcement.