



Liberté • Égalité • Fraternité

RÉPUBLIQUE FRANÇAISE

FRENCH MINISTRY OF CULTURE

--

HIGHER COUNCIL ON LITERARY AND ARTISTIC PROPERTY

NATIONAL CENTRE FOR CINEMA AND THE MOVING IMAGE

HIGH AUTHORITY FOR THE DISSEMINATION OF WORKS AND THE PROTECTION OF RIGHTS ON THE INTERNET

MISSION REPORT

Towards more effectiveness of copyright law on online content sharing platforms : overview of content recognition tools and possible ways forward

Mission Chair: Jean-Philippe Mochon

Rapporteur for the CSPLA: Sylvain Humbert

Experts for HADOPI: Carla Menaldi and Didier Wang

Coordinated by Pauline Blassel

For the CNC: Laetitia Facon

Report submitted to the CSPLA on 28 November 2019

The content of this document is binding only on its authors

29 January 2020

Summary

The protection of intellectual property rights on online sharing platforms today requires digital tools suited to their realities.

The most widespread, developed and effective solution for identifying protected content is known as *fingerprinting*, based on the conception that data have a unique digital identifier, analogous to human fingerprints. It is widely applied to audio and video content, in particular by YouTube, Facebook and Dailymotion. In this mission, several recognition algorithms were tested for robustness: based on these tests, the said robustness proved to be excellent, unless users accept particularly deteriorated content. Whether on audio or video content, fingerprint identification using currently available tools overlooks only a very small amount of content (false negatives) and misidentifies (false positives) an equally small number.

Undeniably mature and operational, the technique known as fingerprinting draws on a range of varied and competing solutions, implemented in a diversified manner. In some cases, for instance, platforms have integrated tools which they developed themselves, while in others, they have implemented that of a service provider. This wide range of solutions may appear to be a constraint for rightholders, forced to adapt to the tools specific to each platform to protect their content. The implementation of shared management solutions such as the one-stop shop developed by the French Association for the Fight against Audiovisual Piracy (ALPA) or solutions offered by providers specialised in offering content protection services on multiple platforms simultaneously are some of the operational responses to this diversity in fingerprints.

Fingerprinting creates a challenge for rightholders and platforms alike, as both groups must be able to sustain a reference base broad enough to enable content recognition, in a context where the flow of content uploaded is considerable. Both extensive storage capacity and rapid content analysis capabilities are required for a prompt and accurate response.

The digital fingerprint makes it possible to both block and monetise content on platforms depending on the rightholders' preference. The roll-out of the digital fingerprint has been supplemented by the implementation of a management interface with a variety of functionalities some of which can even be adjusted by users, as is the case with YouTube's Content ID. These interfaces, also referred to as CMS (*Content Management Systems*) offer rightholders the ability to ensure their rights are upheld, with varying degrees of sharpness and practicality, the two key characteristics distinguishing the tools currently on the market. When determining the quality of a solution, the list of functionalities offered matters as much as do the robustness and sharpness of the recognition tools.

Of central importance on the main platforms, the use of the digital identifier (so-called *fingerprinting*) appears to be the standard today, but should not overshadow the existence of other techniques, which may be complementary, even if they do not offer the same efficiency and usage options. For instance, *hashing*, the use of metadata and *watermarking* (a form of "digital tattoo") are all considered alternative methods, but cannot compete in every way with digital fingerprinting.

While the developments ahead for recognition tools are still uncertain, artificial intelligence is likely the most promising avenue to date, with the *caveat*, however, that it should not be considered a replacement for the fingerprinting technique, but a further tool expected to contribute to improving the sharpness of recognition tools. Other methods, based in particular on image analysis, could also be envisioned, insofar as they are based on available or developing technologies, but raise other issues, for instance as pertains to privacy, and in so doing, highlight the advantages of the fingerprinting technique to date.

Platforms, rightholders and users have diverging perceptions and expectations regarding the development of content recognition tools.

Only certain platforms, under heavy pressure from certain rightholders, have actually implemented content recognition tools based on digital fingerprinting and have signed licensing agreements with music producers. The platforms which, despite the service offers available on the market, have not yet implemented such tools, are showing their resistance to upgrading, while their counterparts have both paved the way and are seen the standard by rightholders.

As to the rightholders, their situations are very different and contrasting. The first difference lies in their attitude towards the presence of their content on the platforms. In light of the economics of their sectors, producers of audiovisual and musical works see platform-based sharing, either as a risk to their main modes of commercialisation more than anything else (this is the case with audiovisual), or first and foremost as an essential means for spreading their content (as in the music industry). This distinction explains why they predominantly choose to block sharing in the former case and seek monetisation in the latter.

While rightholders in cinema and music have operational solutions at their disposal on the platforms, the rightholders in other creative sectors must find a way to cope, despite the absence of any technological recognition solution implemented on the sharing platforms, which have thus far done no more than invoke the application of the host status. Some rightholders in the visual arts, and in particular those of photography, have set out to establish reference bases and technological tools capable of identifying their works found on platforms, and thus giving them the opportunity to implement any licensing agreements they may have signed. In other sectors (written media, “graphic music”, video games), it is no more frequent to see recognition tools deployed by sharing platforms, as the rightholders voice expectations of very differing degrees in this regard.

As to users, it would appear, based on the surveys commissioned by Hadopi, that a relatively large number of them have experienced content blocking during an upload, but by and large understand the reasons for this blocking, thus demonstrating a certain familiarity with the principle of intellectual property rules. It is important to distinguish between such users and so-called “YouTubers”, user-videographers, who are unique in that they gain income from the content they produce. Their expectations where recognition tools are concerned fall in step with a general demand for transparency in rules and recognition of their creative contribution. They focus in particular on the effective benefit of exceptions to copyright, as well as, in contrast, access to tools enabling the protection of their own content, and lastly, the rules that apply when they wish to challenge a claim made by a rightholder.

Against this motley backdrop, in which players with a wealth of experience in fingerprinting tools are flanked by vast sectors that remain outside the scope of content recognition, Article 17 of the Directive on Copyright in the Digital Single Market is reshuffling the deck by clarifying the legal framework. This framework is expected to enable a shift towards the effective application of copyright on online content-sharing platforms, which are now clearly considered to be carrying out an act of communication to the public by making shared content available to it.

Recognition tools will enable the platforms to make their best possible efforts to block and remove unauthorised content, the condition for their absence of liability. While Article 17 of the Directive itself does not make any particular technology mandatory, it refers, in defining these best efforts, to the *“high industry standards of professional diligence, best efforts to ensure the unavailability of specific works and other subject matter for which the rightholders have provided the service providers with the relevant and necessary information”*. In this sense, it defines an approach that is concurrently rigorous, pragmatic and scalable.

In the field of audio and video, which are already covered by fingerprinting systems, it is now essential that concerned parties make reference to the latter in order to qualify as having made their best efforts, while the relevant and necessary information is to be assessed according to the nature of the rights (copy of protected content, fingerprints, metadata). All sharing platforms covered by the Directive will, in this sense, have to make an effort to upgrade, a process now fully feasible, given the wide range of solutions available on the market. In the other sectors, defining the best efforts of the platforms and the relevant and necessary information to provide is more of a blank slate approach, considering the platforms’ current practices, and will require both consultation and expertise.

For platforms covered by Article 17, the deployment of recognition tools can therefore no longer be limited to a form of response, depending on how interests and balances of power converge, to requests from specific categories of rightholders. It must proceed from a global approach to the protection of copyright and related rights, which must be open to the rightholders in the various sectors, who must provide the platform with the necessary and relevant information for it to perform the due diligence for which it is responsible.

This new legal framework also implies new guarantees of transparency for rightholders on the way in which their works and other protected subject matter are used for profit. This transparency should apply both to situations in which unauthorised content is blocked and removed, and to the exploitation of content in the case of the agreements authorising it. It contributes to a general shift towards greater transparency in the operation of tools deployed on platforms, also provided for by the Directive, to the benefit of users.

Lastly, the implementation of Article 17 is also an invitation to define the balances that will govern the application of copyright on online content-sharing platforms. Article 17 provides for the continued validity of existing exceptions when it comes to short quotes and parodies, caricatures and pastiches. This concern must be addressed through the implementation of an effective mechanism for settling complaints and disputes, which the Directive surrounds with new guarantees connected with existing practices, in particular by providing for a human review of removal and blocking disputes, and the

involvement of an impartial dispute settlement mechanism. It could also be beneficial taken into account, on a voluntary basis, in defining the management rules associated with the content.

On all the complex issues which the existing and future recognition tools require, the implementation of Article 17, with the dialogue and guidance role entrusted by the Directive to the European Commission, will play an important part. In addition, a number of important subjects would make it worthwhile for the Member States to conduct a consultation, or even define a regulation. A sustained dynamic in this regard will make possible the effective application of copyright on sharing platforms.