

Music License in the Metaverse

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Abstract

This paper provides a comprehensive analysis of the implications of the metaverse on the music industry, focusing on copyright issues and potential solutions. It delves into the concept and characteristics of metaverse platforms, describing them as environments that immerse users in a variety of virtual experiences. A significant portion of the paper is dedicated to exploring music use and copyright infringement in the metaverse. It examines how users incorporate existing music into their content, often leading to legal challenges due to copyright infringement. The paper discusses the role of online service providers (OSPs) in this context and the legal implications of their actions.

The paper also addresses the 'safe harbor' provisions for OSPs and examines the balance between protecting rights holders and limiting OSP liability. It highlights the challenges and limitations of copyright enforcement in the metaverse, especially given the unique nature of content on platforms such as Roblox.

Finally, the article proposes solutions to simplify music licensing in the metaverse, suggesting a shift from property rules to liability rules and the establishment of Collective Management Organizations (CMOs) to streamline the licensing process and better protect copyright holders' interests.

Keywords: *metaverse, online service provider(OSP), synchronization right, copyrights, Collective Management Organization(CMO), Digital Single Market (CDSM), music license, Digital Millennium Copyright Act(DMCA), Digital Copyright Act of 2021, safe harbor provisions, Roblox, Zepeto, AR, VR, XR, National Music Publishers' Association (NMPA),*

1. Introduction

The proliferation of advanced networking, computing, and immersive technologies such as Augmented Reality (AR), Virtual Reality (VR), and Extended Reality (XR) has given rise to the "metaverse" - a term used to describe three-dimensional virtual worlds. These services are increasingly becoming a part of our daily lives, with applications across multiple industries. Coined by Neal Stephenson in his 1992 novel "Snow Crash," the concept of the metaverse was until recently largely relegated to the realm of science fiction and the aspirational domain of gamers.

Manuscript Received: october. 7, 2023 / Revised: october. 12, 2023 / Accepted: october. 17, 2023
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However, with the advent of Web 3.0 technologies during the COVID-19 pandemic, the Metaverse has transcended its original gaming confines, emerging as a formidable force across various content domains. It has garnered particular attention within the music industry, where it is fast becoming the platform of choice. The Metaverse provides a novel venue for musicians to congregate and engage with their fan base. High-profile artists ranging from BTS to Ariana Grande to Lil Nas X have pioneered performances within this virtual realm [1]. The financial success of Travis Scott's Fortnite concert, which reportedly generated an estimated \$20 million, exemplifies the substantial monetization potential of the metaverse [2].

Conversely, metaverse platforms differ from other online platforms in that traditional roles are blurred; creators, users, and developers often collaborate without clear distinctions. In addition, the metaverse's fusion of reality and virtuality-anchored by technologies such as augmented reality, lifelogging, virtual worlds, and mirror worlds-raises complex legal questions about the use of existing content. This has led to notable legal challenges: In June 2021, the National Music Publishers' Association (NMPA) filed a copyright infringement lawsuit against the global metaverse platform Roblox [3]. Similarly, in January 2022, the Korea Music Content Association raised concerns about potential copyright infringement of K-pop material on the same platform [4].

The impetus for a legal examination of metaverse services is twofold: to protect the rights of copyright holders and to mitigate the risks of infringement. An exploration of viable solutions is thus imperative in the prevailing context. This paper examines the issue of music copyright infringement in the metaverse and explores potential remedies. Accordingly, we define the concept and characteristics of metaverse platforms (Section II), examine the nature of copyright infringement with respect to music use on these platforms (Section III), and assess the extent of the platforms' liability as online service providers (Section IV). We then explore the potential of licensing as a means of circumventing these limitations (Section V), culminating in a synthesis of our findings (Conclusion).

2. Concept and Characteristics of the Metaverse

2.1. Definition of a Metaverse Platform

A metaverse platform is an environment designed to immerse users in a variety of metaverse technologies. While the concept of the metaverse remains fluid, it is often described as a virtual realm in which individuals use avatars to participate in social, economic, and cultural activities [5]. Others define it as an integrated space that bridges physical reality with virtual environments, or as a 3D virtual world where daily routines and economic transactions are conducted through avatars that personify one's real-life presence [6]. Initially, these platforms were primarily gaming and entertainment venues that leveraged 3D graphics technology. However, with the widespread adoption of PCs, smartphones, and social networking services, the spectrum of platforms has expanded to include facets of everyday life, community, and communication, as evidenced by platforms such as WhatsApp, Second Life, and Facebook.

Defining metaverse services within a single, simplistic framework is challenging. According to the Acceleration Studies Foundation (ASF), the metaverse encompasses a spectrum of virtual experiences, as outlined in the ASF's Metaverse Roadmap. This categorization divides metaverse services into four distinct types: Virtual Worlds, Mirror Worlds, Augmented Reality, and Lifelogging. These categories are further differentiated along two axes: Augmentation versus Simulation, and Intimate (identity-focused) versus External (world-focused) [7].

A Virtual World refers to a purely fictional environment with no counterpart in physical reality, whereas a

Mirror World represents a realistic digital twin of the real world, enhanced with additional layers of information. Augmented Reality combines real and virtual elements by overlaying virtual object interfaces onto the physical environment. Lifelogging entails the digital documentation and recreation of human experiences, including physical states, emotions, and activities. These typologies are not static, but are constantly evolving and converging. Examples of metaverse platforms that have evolved into successful business models include Zepeto, Roblox, Minecraft, and Decentraland.

2.2. Characteristics of Metaverse Platforms

Metaverse platforms have certain characteristics, which are summarized by the '5Cs' model [8]. First, canon: These platforms foster a user-driven worldview. Unlike traditional environments designed with a single, predetermined purpose, metaverse platforms empower users to actively shape and contribute to the environment, creating a diverse and dynamic worldview. Second, creators: Users transcend the role of passive consumers to become content creators. This democratization of creation allows users to design and customize elements such as buildings, interiors, and avatars, which they can then share or sell to others. Third, cyber-money: it is an integral part of the metaverse economy. Cyber-money facilitates the storage and exchange of value, enabling robust ecosystems of production and consumption [9]. Examples are 'Zem' from ZEPETO and 'Robux' from Roblox. Fourth, continuity: It extends real-life activities into the metaverse. Metaverse platforms allow users to engage in both leisure and economic activities, ranging from socializing and shopping to professional interactions, blurring the lines between virtual and physical experiences. Fifth, connectivity: It transcends geographic and temporal boundaries. Metaverse platforms facilitate the exchange of information across regions and borders and encourage the exploration of new territories through interactions with different virtual worlds. This connectivity not only enhances the user experience, but also supports multiple revenue models.

3. Music Use and Copyright Infringement in the Metaverse

3.1. Modalities of Music Use in the Metaverse

In the metaverse, copyright issues often arise when users incorporate existing music into their self-created content on platforms. While metaverse services such as ZEPETO and Roblox offer some music options, these are typically limited to copyright-free tracks. As a result, they do not officially offer popular songs, including recordings from genres such as K-pop. Instead, these platforms offer features that allow users to upload their personal music files. Specifically, in the case of Roblox, users can upload music files directly to the Roblox servers using the platform's currency, Robux [10]. Based on the uploaded files, users develop games using the Roblox Studio and then distribute the created content through the Experiences service. Here is the detailed process: A user wishing to create an Experience accesses the menu on the Roblox website, makes a payment to Roblox, and uploads the selected music file to the server. Each uploaded file is then assigned an asset ID.

The user then launches Roblox Studio and accesses the menu to integrate the music file. This is done by entering the asset ID of the music file. While Roblox Studio does not independently verify the asset ID of each music file uploaded to its servers, entering the asset ID allows the user to integrate the music into their content as if it were readily available on the Roblox server. This functionality allows even users who have not personally uploaded music files to include them in their Experiences, provided they know the asset IDs of the tracks that others have uploaded to the Roblox server [11]. This implies that many users, especially those interested in K-pop music, do not need to upload their own music files, but can conveniently use asset IDs already shared by others. In practice, a simple Internet search will reveal several websites that offer Roblox

music IDs. These websites regularly update their databases with new asset IDs for Roblox, indicating that users rely heavily on shared content to enhance their metaverse experiences [12].

The metaverse functions as a platform where users can directly upload files to the server, thereby making them accessible to others. This process bears resemblance to the manner in which files are uploaded and shared on bulletin boards or web hosts, with the primary difference being the user interface (UI). Consequently, copyright holders may be able to assert infringement claims against end users who create “experience services” utilizing music reproduced on the server. Additionally, there is the potential to hold the online service provider, in this case, Roblox, indirectly liable for users’ infringement of reproduction rights due to its role as a facilitator of content sharing and distribution.

3.2. Music Copyright Infringement and Identifying Responsible Parties

In the context of the Metaverse, the act of users uploading existing music directly to the server and making it available to others without the permission of the copyright holder may constitute copyright infringement. Specifically, such an upload is considered a reproduction of the music, which falls under the purview of copyright law. In addition, making the music available for others to select and listen to, whether by downloading or streaming, is considered a communication to the public. Music rights holders, including songwriters and record companies, have exclusive rights to reproduction and transmission over the Internet. As a result, they have the right to claim infringement of their copyrights when their music is used in this way.

However, taking legal action against individual online infringers often proves impractical. Individual users, who typically lack substantial financial resources, are not viable targets for lawsuits that require significant investment. In addition, rights holders may be reluctant to take legal action against individuals because of the potential for adverse publicity. An even greater challenge is the sheer volume of content in the metaverse, which makes it virtually impossible for rights holders to identify and litigate every instance of infringement [13]. Consequently, while copyright holders may technically hold individual users accountable for unauthorized music use in the metaverse, they may also direct infringement claims towards the metaverse platform itself. This approach is exemplified by the \$200 million lawsuit filed against Roblox in June 2021 by global music labels and rights holders, including Universal Music. This case highlights the issue of online service provider (“OSP”) liability in the area of copyright infringement in virtual environments [14].

4. Safe Harbor Provisions for OSPs and their Limits

4.1. The Metaverse as an Online Service Provider (“OSP”)

The advent and growth of the Internet has significantly exacerbated the problem of copyright infringement issues, particularly due to the ease with which copyrighted works can be copied and distributed. The Internet has facilitated not only mass copying but also the proliferation of unauthorized derivative works—a trend that extends to the metaverse. Holding metaverse platforms liable for all users’ copyright infringements could detrimentally impact the technological advancement of the metaverse. Hence, delineating the scope of the metaverse platform’s responsibilities and obligations is crucial [15]. If a platform is classified as an OSP under the Korean Copyright Act, it may be granted immunity from copyright infringement provided that it complies with its legal obligations. However, an examination of the terms and conditions of various metaverse platforms reveals a lack of detailed provisions regarding actions to be taken in the event of the discovery of illegal content. Instead, these terms generally assert that users bear all legal responsibility in the event of a dispute [16].

Therefore, it is imperative to determine whether metaverse platforms qualify as OSPs under the Korean

Copyright Act and, if so, to delineate the scope of their liability in this role. According to the law, an OSP is defined as an entity that provides services or provides or manages facilities that enable users to access information and communication networks or to reproduce or transmit works through such networks [17].

Metaverse platforms can be classified as OSPs in that they provide services or operate facilities that enable users to access information and communication networks or to reproduce and transmit works over those networks. The terms of service of metaverse platforms include several aspects that are consistent with the characteristics of OSPs. For example, Roblox meets the criteria of an OSP in the sense that it "stores works on the computer of the online service provider at the request of the reproducer or transmitter, or enables or connects users to the location of works on the information and communication network by means of information search tools" as described in Article 102 (1) (3) of the Copyright Act. Furthermore, the capabilities of the metaverse allow for the "management and control of works", which is a prerequisite for establishing OSP liability.

On the other hand, an OSP may be liable for aiding and abetting the illegal acts of its users. This could occur, for example, if an OSP intentionally or negligently fails to stop the reproduction or transmission of a copyrighted work, despite having knowledge or reasonable grounds to suspect infringement, thereby aggravating the effects of the infringement [18]. To avoid such liability for aiding and abetting, platforms typically adhere to the "notice and takedown" process required by the Copyright Act, which operates within the prescribed framework for OSPs.

4.2. Safe Harbor Provisions for OSPs

A key mechanism for addressing widespread copyright infringement on Internet platforms is the implementation of a limited "safe harbor" provision within the Copyright Act. Under this provision, a rights holder claiming infringement may request the OSP to cease reproduction or transmission of the work. If, upon receiving such a request, the OSP promptly stops reproducing or transmitting the work and takes steps to notify both the copyright holder and the users responsible for the reproduction or transmission, the OSP may qualify for an exemption from liability for copyright infringement. This exemption is commonly referred to as the "safe harbor" provision [19].

The Korean Copyright Act provides a 'safe harbor' provision for OSPs in Chapter 6. Article 102 provides certain conditions to limit the liability of OSPs for copyrighted works uploaded by third parties [20]. To qualify for immunity from liability for copyright infringement, an OSP must meet several criteria. First, the OSP must not have actual or constructive knowledge of the infringing material or activity [21]. In addition, the OSP should not derive any direct financial benefit from the infringing material, particularly where it has the "right and ability to control" the user's illegal conduct. Finally, the OSP must promptly remove or disable access to the infringing material upon receiving formal notice of the infringement from the copyright holders [22].

In metaverse platforms such as Roblox and Minecraft, the sale of user-generated content is a significant part of their revenue model, with the platform retaining a percentage of the profits. Consequently, if these platforms have the "right and ability to control" the unlawful activities of their users, they are in effect deriving a direct financial benefit from any infringing content. In practice, however, the implementation of the Article 103 takedown procedure can lead to both over- and under-enforcement of copyright protection for both users and rightholders. From the user's perspective, the takedown obligation is based solely on a good faith belief of copyright infringement [23]. However, rights holders may overlook potential fair use exceptions when issuing takedown notices. As a result, users without professional legal expertise may typically be deterred by the prospect of legal action and therefore refrain from submitting counter-notices, even when they are justified

[24].

Moreover, from a copyright holder's perspective, the obligation to provide affirmative notice to platforms whenever an infringement occurs is a significant burden. Given the immense volume of content on the Internet, this requirement imposes significant transaction costs on copyright holders seeking to protect their works from unauthorized use and derivative works. This challenge is particularly acute for independent or non-major label artists, who may lack the resources and infrastructure to effectively monitor and enforce their copyrights on a large scale [25].

In contrast, the safe harbor provisions under current law impose minimal obligations on OSPs to proactively prevent infringement on their platforms. OSPs are not required to actively monitor their sites for infringing content or to look for "facts that may indicate infringing activity. This lack of stringent monitoring requirements allows platforms to conveniently avoid acquiring actual knowledge or awareness of circumstances that would otherwise clearly indicate infringing activity [26]. It is therefore relatively easy for platforms to avoid actual knowledge or awareness of facts that would clearly reveal infringing activity.

As a result, in interpreting the safe harbor provisions, courts are inclined to mitigate the liability of service providers by necessitating actual knowledge or awareness of specific instances of infringement [27]. For instance, in a case involving the 'Daum' Cafe, members uploaded a billiards lecture video onto the 'Daum' Cafe and TVPOT site, disseminating them to an indeterminate audience, thereby infringing upon the plaintiff's copyright.

The defendant, the portal site 'Daum', was accused of aiding and abetting the infringement by facilitating the reproduction and transmission of the video. The court ruled that 'even if a post infringing another's copyright is published on the Internet space provided by an online service provider, the provider is not deemed responsible for taking measures such as removing the post or blocking future similar posts in the same space, unless it has received a specific, individual request for removal from the copyright holders and is fully aware of the infringing circumstances, or unless there are exceptional reasons to recognize such an obligation, unless there are special circumstances to recognize the obligation to remove the material in light of the nature of the post [28].

This case bears resemblance to the Viacom case in the United States. In the 2012 case of *Viacom International v. YouTube*, the Second Circuit Court of Appeals addressed the issue of YouTube's knowledge of copyright infringement. It was found that an internal survey by YouTube, estimating that 75-80% of all streams on the platform contained copyrighted material, did not conclusively prove that YouTube was aware of facts or circumstances indicating specific infringement. However, the Second Circuit remanded the case for further consideration based on additional evidence. This included a memorandum to YouTube's board of directors from co-founder Jawed Karim, which highlighted the presence of "blatantly illegal" clips of Viacom shows on the platform [29]. Nevertheless, on remand, the District Court for the Southern District of New York held that the memorandum alone was insufficient to establish YouTube's actual knowledge of the specific infringing clips because it did not identify the exact clips [30]. In light of the foregoing, metaverse platform operators may be considered online service providers under the Copyright Act, and it is appropriate to exempt them from legal liability only if they meet the requirements set forth in the Act.

4.3. Limits to Online Service Provider Liabilities

As previously mentioned, there are practical challenges in holding metaverse platforms to liability standards. Under copyright law, OSPs are not required to proactively monitor their services for infringement or to

independently investigate potential violations (Article 102(3) of the Copyright Act). Consequently, rights holders are responsible for reporting specific instances of infringement directly to OSPs. However, the nature of content on platforms like Roblox, which lacks hyperlinks similar to website posts, complicates the takedown notice process. Unlike web services where a specific infringing work can be identified through a link, in Roblox, it necessitates accessing each experience service and navigating through individual menus to report infringement. Given these unique characteristics, applying traditional methods of requesting the cessation of replication and transmission of content on metaverse platforms presents significant challenges [31].

As a result, safe harbor provisions designed to limit platform liability disproportionately favor service providers, often to the detriment of both users and copyright holders. This has created an online environment in which service providers have no incentive to proactively address copyright infringement and instead often profit from the distribution of infringing works. Not surprisingly, such provisions have led to public dissatisfaction with online copyright enforcement and a growing call for legislative reform [32].

Internationally, efforts to amend these provisions are either under consideration or have been enacted in the form of compulsory licenses for online service providers [33]. Notable examples include the European Union's Digital Single Market for Copyright Directive ("CDSM"), enacted in 2019 [34], and the United States' proposed 2021 amendments, known as the Digital Copyright Act of 2021, to the Digital Millennium Copyright Act [35], which aim to increase the liability of online service providers[36].

Article 17(4) of the CDSM grants an exemption from liability for copyright infringement to online content sharing service providers (OCSSPs). This exemption is subject to the condition that the OCSSP adheres to high industry standards of professional diligence in ensuring the non-availability of works and other copyrighted materials for which the rights holders have provided sufficient information [37]. Similarly, the Digital Copyright Act of 2021 in the United States seeks to establish a cooperative framework between rights holders and online service providers to effectively address online copyright infringement issues [38]. If platforms are held more accountable for preventing content infringement, as in Article 17 of the CDSM and the DMCA amendments, OSPs will have a strong incentive to license the use of works on their sites directly from copyright owners. This will have an impact on metaverse platforms.

Under such an evolving legal framework, both platforms and copyright holders are likely to be motivated to negotiate agreements that allow users to post derivative works on metaverse platforms. Much like restaurants that play music to attract customers, metaverse platforms depend on user-generated content not only to attract more users, but also to generate advertising revenue. This symbiotic relationship underscores the importance of creating a legal environment conducive to both copyright protection and the flourishing of user-generated content [39].

The most sought-after content on these platforms is often copyrighted material. Licensing this content directly from the rights holders would allow the platforms to avoid litigation and continue to offer copyrighted works [40]. In addition, the industry could explore innovative solutions such as establishing a dedicated store within metaverse platforms that directly licenses or sells K-pop music. These strategies not only facilitate copyright compliance, but also herald a technical transition to a legal market framework. This requires a proper licensing system between metaverse platforms and copyright holders.

5. Music Licensing in the Metaverse

5.1. Problems with the Current Licensing System

In the context of the Metaverse, uploading pre-existing music directly onto a server for public access, without the consent of the copyright holder, constitutes copyright infringement. This act is categorized as 'reproduction' and 'communication to the public' under copyright law [41]. Specifically, when music is synchronized with video in the metaverse, users are required to obtain synchronization rights [42]. This right permits the pairing of music with visual media. In addition, since the synchronized music will be made available to other users, it is imperative that the user also obtain a "communication to the public" license. This "communication to the public" license is different from the synchronization rights and includes the distribution of the music within the metaverse environment.

Synchronization licenses, unlike the "communication to the public" license, require the consent of both the composition and sound recording copyright holders [43]. Synchronization may involve derivative rights or the right of integrity, especially if a segment of the music is altered in an unwanted way or used in inappropriate scenes. Some songwriters require in a contract for the use of their songs that audiovisual producers should not use their songs in scenes involving villains or crime. This has the effect of preventing the songwriters' image from being tarnished by the use of the music in their undesirable scenes. So, in most countries, the synchronization right is usually licensed by both the composition and sound recording copyright holders as a precaution against potential complications, including infringement of moral rights or derivative rights [44]. Accordingly, the cost of a sync license varies widely depending on several factors. These factors include the media to which the sync is being made, the duration of the sync, where the sync is being delivered, and the bargaining power of the copyright holder [45]. However, this process is unlikely to work well on a metaverse platform. Given that the sheer volume of content on the metaverse platform makes individual negotiation or litigation over derivative works impracticable, a licensing system needs to be created that simplifies the licensing of performance and synchronization rights together.

5.2. Simplifying Music Licensing in the Metaverse

Meanwhile, metaverse platforms benefit from the content users post and are protected from liability by the safe harbor provisions of the OSP. There has been a push in intellectual property for a shift from property rules to liability rules [46]. Unlike property rules, which give the property owner an exclusive right, liability rules prescribe the cost to someone else of appropriating the property [47]. A collective management organization ("CMO") would give copyright holders collective bargaining power outside of for-profit organizations and simplify the music licensing process in an area where the conventional model fails. Although liability rules also have the potential to reduce transactional costs, CMOs are better suited to market changes and allow copyright holders with the ability to opt out of collective bargaining.

As representatives of a large catalog, their bargaining power would be stronger than that of individual rights holders. Dealing with one or two CMOs instead of many individuals would streamline negotiations, reduce transaction costs and shorten the time it would take to license significant portions of music. Furthermore, CMOs would likely use the system to track the use of their individual members' content. Although the current interpretation of the safe harbor provisions have provided platforms with extensive liability protection, it is possible that CMOs could have greater success in litigating infringement or changing precedent in favor of rights holders than their individual members. CMOs also have the ability to change their pricing structure at the end of licensing agreements to more accurately reflect the market value of their catalog [48].

6. Conclusion

Traditional copyright laws are inadequate to address the complexities of a virtual, immersive environment where user-generated content and real-time interactions are prevalent. This paper suggests that the future of music in the metaverse will require the collaborative efforts of artists, legal experts, technology developers, and policymakers to create solutions that balance the rights and interests of all stakeholders. The metaverse, with its limitless potential for creativity and innovation, requires a reevaluation of legal frameworks to better accommodate the unique dynamics of virtual interactions and content creation. At this juncture, it is imperative that we foster a collaborative approach that brings together artists, legal experts, and technologists to forge pathways that not only protect intellectual property, but also encourage artistic expression and innovation. The creation of Collective Management Organizations (CMOs) to license music in the metaverse platforms and a shift to more adaptable liability rules over rigid ownership laws could serve as cornerstones in this new legal landscape. Such measures would not only streamline licensing processes, but also ensure fair compensation for creators and rights holders, consistent with the fluid nature of the metaverse.

Acknowledgement

"This research was supported by a 2023 Research Grant from Sangmyung University."

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