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Free Movement of Virtual Goods in the Metaverse: Is the Construction of the Metaverse legally possible under EU Copyright Law?

Jiarong Zhang*

The cross-platform movement of virtual goods is essential for constructing the metaverse, which is envisaged as consisting of interoperating virtual platforms. This article explores whether the movement is legally possible under EU copyright regulation, as the movement exploits copyright and related rights. The article analyses landmark CJEU decisions and contextualises them in the settings of the metaverse.

Introduction

‘Metaverse’ is a hypothetical iteration of the current Internet, promoted by tech giants such as Meta, Microsoft, and Apple.¹ As envisaged by tech giants, the Metaverse will immerse users in a virtual world through the use of virtual, augmented, and mixed-reality technologies. Mirroring the physical world, users can “interact with each other socially and economically”² by controlling their avatars as well as virtual items such as virtual clothes, vehicles, or furniture.³ More importantly, as described, the Metaverse will iterate the Internet by its interoperability. To be specific, in the current Internet, virtual environments, manifesting as online platforms, are separate ‘walled gardens’, fragmented by parameters such as different developers and operators, incompatible technological infrastructures, and various functions and content genres. In comparison, the Metaverse will be a united virtual

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¹ Russell Belk, Mariam Humayun and Myriam Brouard, “Money, Possessions, and Ownership in the Metaverse: NFTs, Cryptocurrencies, Web3 and Wild Markets” (2022) 153 *Journal of Business Research* 198.

² A. Ramos, “The Metaverse, NFTs and IP Rights: To Regulate or Not to Regulate?” (WIPO Magazine, 2022), https://www.wipo.int/wipo_magazine/en/2022/02/article_0002.html.

³ Belk, Humayun and Brouard, “Money, Possessions, and Ownership in the Metaverse: NFTs, Cryptocurrencies, Web3 and Wild Markets”.

world consisting of “interconnected and synchronous virtual platforms”, in which avatars can ‘travel’ across different virtual environments.⁴

It can be seen that the movability or movement of virtual goods is essential for interoperability. Specifically, avatars should be able to take their virtual items with them when they move across virtual environments and sell their virtual items to different environments. If analogising the Metaverse to the European Union (EU), the movement of virtual goods among virtual environments resembles the movement of physical goods among the EU Member States, underpinning the construction of the EU or the Metaverse. Without the movement of virtual goods, metaverse users’ social and economic interactions will be limited within one virtual environment. If so, interoperability would not achieve, and the Metaverse would not iterate the current Internet but reduce to outright hype. In this sense, the movement of virtual goods is a fundamental building block for the construction of the Metaverse.

It has been noted that interoperability and movability depend on several technological and business factors. For instance, operators of different virtual environments agree to connect their environments for profits or other reasons, and compatible technological infrastructures enable virtual goods produced in one environment to function in others.⁵ However, it has not yet been questioned whether the movement is permitted by current copyright law.

Virtual goods generally manifest as digital audio-visual content (e.g., images, sounds), which fall within the scope of copyright works and related rights subject matters.⁶ Copyright law enables rightsholders to exclusively exploit their works or other subject matters, including reproduction, distribution, and making available to the public. Meanwhile, for such an IP-protected virtual good, its owner, a metaverse user, expects to use and dispose it, typically, to take and resell it among virtual environments. This will lead to the movement of the

⁴ Christian Tenkhoff and others, “The Metaverse-Legal Challenges and Opportunities for IP Rights Holders” (2022) 42 *The Licensing Journal* 7.

⁵ Sophie Goossens and John P Feldman, “Gaming in the Metaverse – An NFT-Powered Revolution?” (2021) 33 *Intellectual Property & Technology Law Journal* 3.

⁶ In addition, virtual goods can feature trade marks. This article focuses on subject matters of copyright and related rights.

virtual good in the Metaverse, manifesting as the virtual good disappears from the initial virtual environment and displays in subsequent ones.

The question arises whether the effect of the movement of IP-protected virtual goods constitutes the exploitation of copyright and related rights and thus needs authorisations from rightsholders. If the answer is affirmative, the movability of virtual goods will be subject to copyright regulation, and rightsholders will be empowered to control the free movement of virtual goods in the Metaverse.

This article aims to explore EU copyright law's potential effects on the Metaverse from the 'meta' point: whether the law permits the construction of the Metaverse, featured by interoperating virtual environments and underpinned by moveable virtual goods. And specifically, whether the effect of the movability of virtual goods constitutes the exploitation of the rights of reproduction, distribution, and making available to the public, and if yes, whether the movability is permitted by EU copyright law.

Section 2 explores the movement of virtual goods from technological and copyright perspectives. It briefly explains the technological possibility of movement but focuses on the legal possibility. Specifically, whether the effect of the movement constitutes reproduction, distribution and/or making available/communication to the public, and thus is subject to copyright regulation. Section 3 continues Section 2 and examines whether the movement, triggered by the resale of virtual goods, can be supported by the exhaustion principle. This is achieved by analysing legislation and several influential CJEU decisions concerning the issue of digital exhaustion, and by contextualising the analyses in the setting of virtual goods. Based on this, Section 4 analyses whether the technical features of virtual goods can provide a ground for the recognition of digital exhaustion and thus supports the movement of virtual goods across different virtual environments. Section 5 concludes the article.

Movability of virtual goods: technological and legal perspectives

Technological perspective

As mentioned above, the Metaverse is envisaged as a virtual world, in which avatars represent human users to conduct social and economic interactions.⁷ These interactions, such as “shopping, business, and entertainment consumption”, rely on the use of virtual items.⁸ Further, as the Metaverse is distinct from the current Internet by its interoperability, it is supposed that virtual goods can be taken and resold among different virtual environments or digital platforms.⁹ For instance, an avatar can take a virtual backpack when ‘travelling’ from a virtual café to a virtual concert or sell the backpack to a second-hand market. In comparison, in the current Internet, a virtual item can only exist in the particular digital platform where it is initially distributed but cannot transfer to and function in other platforms. In addition, a virtual item ‘evaporates’ if the initial digital platform ceases to operate.¹⁰

It can be said that the movement of virtual goods has been enabled by non-fungible token (NFT), blockchain, and smart contract technologies. An NFT is a specific unit of code (metadata) that is not replaceable or interchangeable with another.¹¹ Because of this non-fungible essence, every NFT is unique and can uniquely point to a specific virtual item.¹²

An NFT usually embeds a self-executing smart contract, which sets transaction terms for the virtual item referred to by the NFT and records transaction information. For example, the virtual item’s initial distributor, the first and every subsequent buyer, fees and dates of every subsequent transaction, a proportion of each transaction fee reserved for the initial distributor, and extra. In the NFT transaction mode, only the information recorded in the

⁷ Ramos, “The Metaverse, NFTs and IP Rights: To Regulate or Not to Regulate?”.

⁸ Belk, Humayun and Brouard, “Money, Possessions, and Ownership in the Metaverse: NFTs, Cryptocurrencies, Web3 and Wild Markets”.

⁹ Tenkhoff and others, “The Metaverse-Legal Challenges and Opportunities for IP Rights Holders”.

¹⁰ Goossens and Feldman, “Gaming in the Metaverse – An NFT-Powered Revolution?”.

¹¹ Sophie Goossens and Nick Breen, “Ownership in the Metaverse and the Great Illusion of NFTs” (2021) 38 Computer and Internet Lawyer 3.

¹² Nathaniel Bach and Sarah Moses, “Move Fast and Make (Break?) Things: IP-Related NFT Litigation Trends” (2023) 40 Computer and Internet Lawyer 12.

smart contract is automatically updated, while the virtual item being transacted remains the same one initially distributed.

NFTs are stored in blockchains. A blockchain consists of decentralised databases. Therefore, information stored on a blockchain is immutable. Namely, it cannot be tampered with. Moreover, because of blockchain's decentralisation nature, it can track cross-platform transactions of a virtual item, providing a secure transaction history.¹³

If applying these technologies to the Metaverse, when a virtual item is created and linked with an NFT, it becomes unique because it is uniquely referred to by the NFT. In other words, a virtual item gains uniqueness through its connection with an NFT. Then, when this virtual item is taken or sold across different virtual environments, it remains the same object since it is still pointed to by the same NFT. Though its information recorded in the smart contract is updated, including the ownership information.

Because the specific NFT eternally refers to the virtual good and its information cannot be tampered with, the good is trackable and authenticable even though it is moving across different virtual environments. More importantly, its ownership can be authenticated by the underlying NFT. In this sense, an NFT can function as a cross-platform ownership certificate of a particular virtual item.¹⁴ As an effect, these technologies provide cross-platform identification of virtual goods, making virtual items moveable across virtual environments.¹⁵

Copyright legal perspective

While the cross-platform movement of virtual goods is technologically possible, it deserves questioning whether it is possible under copyright regulation. As noted above, virtual goods generally manifest as audio-visual digital content, falling within the scope of subject matters of copyright and related rights.¹⁶ Therefore, virtual goods are subject to copyright regulation unless the rights have expired terms of protection or are restricted by exceptions and limitations prescribed in law. In the EU, these subject matters are regulated by InfoSoc

¹³ Bach and Moses, "Move Fast and Make (Break?) Things: IP-Related NFT Litigation Trends".

¹⁴ Goossens and Breen, "Ownership in the Metaverse and the Great Illusion of NFTs".

¹⁵ There are already cross-platform NFT marketplaces such as OpenSea.

¹⁶ In addition, virtual goods can feature trade marks. This article focuses on subject matters of copyright and related rights.

Directive. Moreover, when a virtual item is linked to an NFT, it becomes a more complex matter. NFT's smart contract is self-executing because of the underlying computer program. At this point, an NFT virtual item can be regarded as a compound of general subject matters and computer programs. Computer programs are regulated by Software Directive in the EU. This is analysed in detail later.

As virtual items are subject to copyright regulation, the question arises whether the movement of virtual goods constitutes the exploitation of copyright and related rights. On the one side, when a metaverse user legally purchases a virtual good (from, e.g., the virtual environment host or a rightsholder), theoretically, the user obtains ownership to take or resell the good from virtual environment A to B, which leads to the movement of the virtual good. As an effect, the virtual good disappears from A and displays on B. This means it is no longer accessible to metaverse users 'presenting' on A but becomes accessible to those 'presenting' on B. Meanwhile, the case of resale involves the transfer of ownership of the virtual item.

On the other side, rightsholders can exclusively exploit works and subject matters featured in virtual items. The exploitation manners in the digital environment are primarily reproduction, distribution, and making available to the public, as further analysed below. The following sections discuss whether the cross-platform movement of IP-protected virtual goods constitutes exploitations and thus needs authorisations from rightsholders.

Movability and the right of reproduction

Reproduction is one prominent approach to exploit works and subject matters. Under international and EU copyright law, the reproduction right allows the rightsholder to authorise or prohibit making copies of the work or other subject matter in any manner or form.¹⁷ In the digital environment, WIPO Copyright Treaty (WCT) Article 1(4) prescribes that

¹⁷ Berne Convention for the Protection of Literary and Artistic Works (as amended on September 28, 1979), art. 9. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society [2001] OJ L167/10, art. 2 (hereafter referred to as InfoSoc Directive).

“the storage of a protected work in digital form in an electronic medium constitutes a reproduction”.¹⁸

In the creation of a virtual item with a work or other subject matter, the work or subject matter is uploaded and stored in digital form in an electronic medium. Therefore, it can be said that the creation of a virtual item constitutes a reproduction.¹⁹ However, this case of movement can be more complex.

As explained in 2.1, when a virtual item is transacted across virtual environments, it remains the same object initially distributed. In other words, there is no replication of the virtual good is made. Therefore, it can be said that no new copy of the work or subject matter is uploaded and stored in the Metaverse in the movement process.

Moreover, WCT Article 1(4) allows national laws to provide exceptions for reproduction right.²⁰ In the EU, InfoSoc Directive includes the exception of ‘temporary reproduction’, which is

“transient or incidental reproductions, forming an integral and essential part of a technological process and carried out for the sole purpose of enabling either efficient transmission in a network between third parties by an intermediary...”²¹

In addition, it should have no separate economic value.²² The movement of a virtual item is in line with this definition. In addition, it is unlikely that the pure movement process will generate any separate economic value unless a metaverse user makes a copy of the virtual item by any means.

¹⁸ Agreed Statements Concerning the WIPO Copyright Treaty, Article 1(4).

¹⁹ European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs, Committee on Civil Legal Affairs, *Intellectual Property Rights and Distributed Ledger Technology: with a focus on art NFTs and tokenized physical artworks* (2022), pp. 31-34. Access by [https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU\(2022\)737709](https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2022)737709).

²⁰ Agreed Statements concerning the WIPO Copyright Treaty, Article 1(4).

²¹ InfoSoc Directive, art.5, Recital 33.

²² InfoSoc Directive, art.5, Recital 33.

Therefore, it can be argued that the effect of the movement does not act as a reproduction, although the creation of a virtual good is a reproduction. If so, the reproduction right would not be an obstacle to the movement of virtual goods.

Movability and the right of communication/making available to the public

The right of making available to the public aims to regulate the interactive, on-demand transmission of works and other subject matters in the digital environment. Under InfoSoc Directive, there is a separation between the ‘right of communication to the public of works’ and the ‘right of making available to the public other subject-matter.’

²³ But both enable the rightsholder to authorise or prohibit “making available to the public...the public may access the work from a place and at a time individually chosen by them”.²⁴

In the context of the Metaverse, when a virtual item is taken or resold from environment A to B, it displays on B, and metaverse users simultaneously ‘presenting’ on B can access it from a place and at a time individually chosen by them.²⁵ Such an effect conforms to the interactive on-demand transmission of works and subject matters on the Internet, so it seems that movement exploits the right of making available to the public.

However, in the EU, it is argued that the Court of Justice of the European Union (CJEU) has erected a ‘new public’ prerequisite for the act of making available to the public prescribed in the InfoSoc Directive. That is,

“a communication...concerning the same works as those covered by the initial communication and made, as in the case of the initial communication, on the Internet, and therefore by the same technical means, must also be directed at a new public, that is to say,

²³ InfoSoc Directive, art.3.

²⁴ WIPO Copyright Treaty (adopted 20 December 1996), art. 8. InfoSoc Directive, art.3.

²⁵ European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs, Committee on Civil Legal Affairs, *Intellectual Property Rights and Distributed Ledger Technology: with a focus on art NFTs and tokenized physical artworks*, pp. 31-34.

at a public that was not taken into account by the copyright holders when they authorised the initial communication to the public.”²⁶

It can be seen that ‘same works’, ‘same technical means’, and ‘a new public’ are three elements of the ‘new public’ prerequisite.

The question is whether the cross-platform movement meets the ‘new public’ prerequisite and thus constitutes making available to the public. First, regarding ‘same works’, a virtual item remains the same one as initially distributed after transferring environments. Thus, subsequent communication in a different virtual environment features the same works covered by the initial communication. Second, ‘technical means’ also keeps the same, on the Internet.

However, it is questionable whether the movement can direct a virtual item to a ‘new public.’ As explained in Introduction, the Metaverse is described as distinct from the current Internet by its interoperability. Namely, fragmented virtual environments will change into “interconnected and synchronous virtual platforms”, and avatars can ‘travel’ across different virtual environments.²⁷ Therefore, all metaverse users have access to the virtual environment of the initial communication of a work or subject matter, even though their avatars are not present in the environment at the time of initial communication.

In this sense, all metaverse users should be deemed potential recipients of the initial communication and be taken into account by rightsholders when they authorised the initial communication to the public. Therefore, it can be argued that there seems to be no ‘new public’ in the Metaverse. And thus, the movement is impossible to direct the virtual item to ‘a new public’. As a result, the effect of the movement cannot meet the ‘new public’ prerequisite to constitute an act of making available to the public.

One may debate that the virtual environment of the initial communication could take some technical measures to prevent some metaverse users from ‘entering’ it, or some users would not visit the environment. In both cases, a ‘new public’ still exists, and the movement

²⁶ *Svensson v Retriever Sverige AB (C-466/12)* [2014] Bus LR 259, Para 24. Also see Eleonora Rosati, “When Does a Communication to the Public under EU Copyright Law Need to Be to a “New Public”?” (2020) 45 European law review 802.

²⁷ Tenkhoff and others, “The Metaverse-Legal Challenges and Opportunities for IP Rights Holders”.

can direct the work or subject matter to the ‘new public.’ However, this opinion is against the essence of the Metaverse, interoperability, which means all Metaverse users can access different virtual environments.²⁸

In a word, the movement of virtual goods is arguably not an act of making available to the public under EU copyright law, especially considering the ‘new public’ prerequisite. If so, the right of making available or communication to the public would not hinder the movement of virtual goods in the Metaverse.

Movability and the right of distribution

As mentioned above, the movement of a virtual good can be triggered by resale across different virtual environments. Namely, a metaverse user legally purchases a virtual item and resells it to other users. From the lens of copyright law, a virtual item featuring a work or other subject matter is a copy of the work or subject matter, and the resale leads to the transfer of ownership of the IP-protected good, which involves the right of distribution.

The right of distribution allows the rightsholder to authorise or prohibit making available of the original and copies of the work or subject matter through sale or other transfer of ownership.²⁹ Without further limitation, a rightsholder can control (authorise or prohibit) every subsequent resale of an IP-protected good with the distribution right, which would restrict the circulation and transaction of goods.

This negative effect is conventionally mitigated by the ‘principle of exhaustion of intellectual property rights.’³⁰ Subject to the exhaustion principle, when an IP-protected good is placed in a certain geographical area with the rightsholder’s consent, the rightsholder cannot control the subsequent resale of the good in the market.³¹ The justification is that the

²⁸ Tenkhoff and others, “The Metaverse-Legal Challenges and Opportunities for IP Rights Holders”.

²⁹ WIPO Performances and Phonograms Treaty (adopted 20 December 1996), arts. 8 and 12. InfoSoc Directive, art. 4.

³⁰ The exhaustion principle also mitigates the conflict between property rights and IPRs. For a physical good featuring works or other subject matters, two layers of rights exist in it. First, the property right of the good itself, which enables the proprietor to use and dispose the good, including reselling the good. Second, IPRs allow the rightsholder to exclusively exploit works and other subject matters in several manners, including distribution. Therefore, without the intervention of the law, there exists a conflict between the property right (i.e., sale) and IPRs (i.e., distribution in the form of sale).

³¹ J. Pila and P. Torremans, *European Intellectual Property Law*, 2nd edn (Oxford University Press, 2019), pp.33.

rightsholder has gained remuneration from the first-time transfer of ownership of the good.³²

Specific to the EU, the principle offsets the negative effect of IP parallel protection in Member States and allows the free movement of goods in the EU. As Pila and Torremans noted, “the principle of exhaustion prevents an IP rights owner from relying on parallel protections in different states to restrict the movement of goods between them”.³³

Back to the analogy between the EU and the Metaverse in the Introduction, the movement of virtual goods among virtual environments is as important as the movement of goods among EU Member States. Meanwhile, akin to rightsholders enjoying parallel protection in different Member States, they may enjoy parallel protection in different virtual environments due to inconsistent licensing practices of copyright and related rights.

Inconsistent licensing practices can come from several reasons. First, metaverse virtual environments can be hosted by different service providers, and rightsholders can sign parallel licenses with them.³⁴ Secondly, virtual environments can be of different configurations. Online platforms of various configurations conventionally have had divergent licensing practices.³⁵ For example, streaming platforms (e.g., Spotify and Netflix) paid royalties to rightsholders and collective management societies to use IP-protected digital content.³⁶ In contrast, social media network platforms have relied on user-generated content, including those using protected content.³⁷ Thirdly, licenses can be varying regarding the manner and scope of IPR exploitation. Inconsistent licensing practices can lead to parallel protection in different virtual environments. If so, every cross-platform resale would need authorisation from rightsholders.

³² Pila and Torremans, *European Intellectual Property Law*, pp. 48.

³³ Pila and Torremans, *European Intellectual Property Law*, pp. 33.

³⁴ As a matter of fact, there is a risk that operators owning more IPRs can monopoly the construction of the metaverse.

³⁵ Goossens and Feldman, “Gaming in the Metaverse – An NFT-Powered Revolution?”.

³⁶ The right exploited in this case is the right of communication to the public or making available to the public. But it still demonstrates that IPR can be used to isolate the metaverse.

³⁷ When rightsholders claim infringement, the platforms only needed to take down infringing content. This situation lasted until Member States’ implementation of Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC [2019] OJ L 130/92.

In contrast, if the exhaustion principle can apply to virtual goods, after an IP rightsholder places or authorises to place an IP-protected virtual good in a particular virtual environment, the distribution right would be exhausted. Thus, the rightsholder cannot control subsequent resales of the good across virtual environments. In this sense, the principle can prevent a rightsholder from relying on parallel protections in different virtual environments to restrict the movement of virtual goods in the Metaverse, as its function in the EU context.

However, it is questionable whether the exhaustion principle is applicable to virtual goods. Section 3 will continue Section 2 to examine this question. It explores the question by analysing legislation and landmark cases and contextualising the analyses in the setting of virtual goods.

The movement of virtual goods and the tangle of digital exhaustion

Tangle of digital exhaustion

Whether the exhaustion principle can apply to virtual goods is a metaverse version of the issue of digital exhaustion, which concerns the principle's applicability in the digital environment. The tangle comes from the conditions for the principle's applicability.

First, it only 'exhausts' the right of distribution but not the rights of reproduction and making available to the public.³⁸ Therefore, while a rightsholder cannot prohibit others from reselling the IP-protected good, the rightsholder can still prohibit others from reproducing and making available to the public of the good.

Accordingly, the exhaustion principle only applies to tangible copies of works and subject matters because the distribution right only involves tangible articles. At the international level, WCT Agreed Statements Concerning Article 6 states that regarding the distribution right, "'copies' and 'original and copies'...refer exclusively to fixed copies that can be put

³⁸ As mentioned above, the distribution right is prescribed in WCT art.6. The article also allows Contracting Parties to determine the conditions of the application of the principle. InfoSoc Directive, art. 4, prescribes 'community exhaustion', by which the sale or other transfer of ownership must be made within the EU, and the right shall only be exhausted within the EU.

into circulation as tangible objects”.³⁹ At the EU level, the InfoSoc Directive Recital 28 limits the distribution right to the “work incorporated in a tangible article.”⁴⁰

An outstanding exception is computer programs, as they are protected by Software Directive. Article 4 of the Software Directive stipulates the distribution right as “any form of distribution to the public...of the original computer program or of copies thereof.”⁴¹ The usage of ‘any form’ and the fact that there is no further specification of tangibility in the Directive allows the exhaustion principle to be applied to intangible copies of computer programs. Therefore, there is a divergence that the exhaustion principle is applicable to intangible copies of computer programs protected by the Software Directive but not to intangible copies of works and subject matters covered by the InfoSoc Directive.

Third, it has been made clear in InfoSoc Directive that the exhaustion principle does not apply to online services. Its Recital (29) stipulates that the exhaustion issue “does not arise in the case of services and on-line services in particular” and “every on-line service is in fact an act which should be subject to authorisation.” One interpretation of Recital (29) is that whenever a copy is made available through digital means, the act will be treated as providing a service, causing the exclusion of the exhaustion principle.⁴²

In accordance with these conditions, several issues need to be discussed regarding the exhaustion principle’s applicability to virtual goods. First, whether virtual goods are general subject matters governed by the InfoSoc Directive or computer programs governed by the Software Directive, namely, the copyright legal nature of virtual goods. Second, whether the initial seller’s supply of virtual goods in the Metaverse is a distribution or a making available. Third, the intangibility aspect of virtual goods and its result.⁴³

³⁹ Agreed Statements concerning the WIPO Copyright Treaty, Article 6.

⁴⁰ InfoSoc Directive, Recital 28.

⁴¹ Software Directive, art. 4.

⁴² Caterina Sganga, “A Plea for Digital Exhaustion in EU Copyright Law” (2018) 9 Journal of Intellectual Property, Information Technology and Electronic Commerce Law 211.

⁴³ As Trapova and Fava summarised, there are intertwined dichotomies, including the distribution/making available to the public dichotomy, the goods/services dichotomy, and the sale/licence dichotomy. See Alina Trapova and Emanuele Fava, “ Aren’t We All Exhausted Already? EU Copyright Exhaustion and Video Game Resales in the Games-as-a-Service Era” (2020) 3 Interactive entertainment law review 77.

The following sections explore these issues through the lens of two landmark CJEU decisions: *Usedsoft*),⁴⁴ the first CJEU case concerning digital exhaustion, and *Tom Kabinet*,⁴⁵ the most recent CJEU case concerning digital exhaustion. However, this article does not intend to give repetitive comments on these cases, which have gained sufficient comments. Instead, it will contextualise CJEU's analyses in the settings of virtual goods in order to explore whether the movement of virtual goods is supported by the exhaustion principle.

Legal nature of virtual goods: general subject matters or software

The above section has shown the divergence between general subject matters and computer programs regarding the exhaustion principle's applicability to intangible copies. Therefore, the first question comes as to the legal nature of virtual goods. That is, whether they are general works and subject matters following the rules of the InfoSoc Directive, or software following the *lex specialis* regime in the Software Directive.

As explained in Introduction, a virtual good manifests as digital audio-visual content (e.g., images, sounds), which constitutes general subject matters protected by InfoSoc Directive. Meanwhile, a virtual good is linked with an NFT and a smart contract. The contract is self-executing because of underlying software protected by Software Directive. In this sense, a virtual good resembles a video game, as both consist of general subject matters and software. At this point, CJEU cases about video games may provide references.⁴⁶

In CJEU's 2014 decision, *Nintendo Co Ltd and Others v PC Box Srl and 9Net Srl (Nintendo)*,⁴⁷ CJEU holds that video games are works governed by InfoSoc Directive. According to the court, video games

“constitute complex matter comprising not only a computer program but also graphic and sound elements, which, although encrypted in computer language, have a unique

⁴⁴ *UsedSoft GmbH v Oracle International Corp (C-128/11) [2013] Bus LR 911*, para 52. Hereafter referred to as *Usedsoft*.

⁴⁵ *Nederlands Uitgeversverbond and Groep Algemene Uitgevers v. Tom Kabinet Internet BV and Others (C-263/18) [2020] Bus. L.R. 983*. Hereafter referred to as *Tom Kabinet*.

⁴⁶ In addition, video games are regarded as the prototype of the metaverse.

⁴⁷ *Nintendo Co Ltd and Others v PC Box Srl and 9Net Srl (C-355/12) [2014] ECDR 6*. Hereafter referred to as *Nintendo*.

creative value which cannot be reduced to that encryption...the graphic and sound elements, are part of its originality, they are protected, together with the entire work, by copyright in the context of the system established by InfoSoc Directive."⁴⁸

Moreover, Software Directive takes precedence over InfoSoc Directive only where the protected material falls entirely within the scope of the former.⁴⁹

Following Nintendo, virtual goods will be regarded as general subject matters subjecting to InfoSoc Directive. Virtual goods comprise graphic and sound elements of a unique creative value, which are encrypted in computer language but cannot be reduced to that encryption. Further, because of these elements, virtual goods do not fall entirely within the scope of the Software Directive. Therefore, virtual goods will follow the general rules in the InfoSoc Directive rather than the *lex specialis* regime in the Software Directive. Accordingly, the exhaustion principle would apply because of virtual goods' intangible essence.

In Tom Kabinet, it was questioned whether e-books could follow the rules of the Software Directive. According to CJEU, even if an e-book were to be considered a complex matter comprising both a protected work and a computer program, the program is only incidental in relation to the work. An e-book is protected because of its content, which is the essential element of it. A computer program may form part of an e-book to enable it to be read, but this cannot result in e-books being subject to the Software Directive.⁵⁰

Following this reasoning, underlying software is possibly considered 'incidental' in relation to a virtual good. A virtual good is protected because of digital content (e.g., images, sounds), which is the essential element of it. Because digital contents are how metaverse users experience virtual goods and why they purchase virtual goods. Underlying software may form part of a virtual good to enable it to be experienced and transacted, but this would not result in virtual goods subjecting to the Software Directive. If so, virtual goods cannot follow the *lex specialis* regime in the Software Directive.

⁴⁸ Nintendo, para 23.

⁴⁹ Opinion of Advocate General Sharpston in Nintendo Co Lt, para 34

⁵⁰ Tom Kabinet, para 59.

In accordance with Nintendo and Tom Kabinet, virtual goods will likely be treated as general subject matters subjecting to the InfoSoc Directive. If so, the exhaustion principle would apply because of virtual goods' intangible essence.⁵¹

Initial supply of virtual goods: distribution or communication/making available

As the exhaustion principle only 'exhausts' the distribution right, it is essential to examine whether the initial seller's supply of virtual goods in the Metaverse can be understood as a distribution.

Whether the online supply of digital copies constitutes a distribution (e.g., sale) or a making available/communication undergoes long debates. In *Usedsoft*, CJEU needs to decide whether the supply of software by downloading is a sale. In this case, Oracle's website offers users to download software copies to their computers in return for payment. Oracle's user licence grants "the right to store a copy of the program permanently on a server."⁵² *UsedSoft* acquires user licences from Oracle's customers and resells 'used licences.' Buyers of 'used licenses' can download software copies directly from Oracle's website.⁵³

CJEU states that the term 'sale' in Software Directive Article 4(2) should be

"given a broad interpretation as encompassing all forms of product marketing characterised by the grant of a right to use a copy of a computer program, for an unlimited

⁵¹ Advocate General Spuznar explained why digital exhaustion is applicable to software with three reasons. First, general works 'usefulness is often exhausted...after a single reading, hearing or viewing.' But the usefulness of software is not exhausted after a single use. Second, a computer program 'often requires additional maintenance and update services' that are generally provided by the rightsholder. Third, computer programs are 'tools belonging to a sector in which technological progress is particularly rapid, [they] tend to age quickly, in spite of any updates.' See Opinion of the Advocate General Szpunar in *Nederlands Uitgeversverbond and Groep Algemene Uitgevers*, paras 59-62. According to these reasons, it seems that virtual goods will be more akin to computer programs than to general works. First, it is envisaged that virtual goods can be used as many times as the user wants, and many of them can be useful in different virtual environments (e.g., virtual clothing). If so, virtual goods would have a high reuse value, and their usefulness would not be exhausted after a single use. Second, the existence and functioning of virtual goods are dependent on the metaverse's technological infrastructure and require continuous maintenance and update services. Third, virtual goods are also in a sector of rapid technological progress, and they age quickly. Therefore, Advocate General Spuznar's opinions may justify the digital exhaustion of virtual goods.

⁵² *Usedsoft* paras 20-26.

⁵³ *Usedsoft* paras 20-26.

period, in return for payment of a fee designed to enable the copyright holder to obtain a remuneration corresponding to the economic value of the copy of the work”.⁵⁴

Moreover, the reseller must make the initial copy unusable at the time of resale.⁵⁵ In other words, there should be no increase in the number of copies since the initial copy should be destroyed when the same is resold.

It can be seen that the court puts forth three standards of a ‘sale’: a right to use a copy for an unlimited period, a remuneration paid to the rightsholder corresponding to the economic value of the copy, and no increase in the number of copies. The court considers Oracle’s act as a ‘sale’.⁵⁶ Further, the court holds that the exhaustion principle’s effectiveness would be undermined if Oracle’s act is regarded as a ‘licence’.⁵⁷

Similarly, in *Tom Kabinet*, CJEU needs to decide whether the supply of e-books by downloading, for permanent use, and for payment constitutes a distribution.⁵⁸ In this case, Tom Kabinet’s website offers its registered members ‘second-hand’ e-books. Members can keep e-books for an unlimited period after payment. The ‘second-hand’ e-books were purchased by Tom Kabinet or donated by members, and donators must not keep a copy.⁵⁹

Tom Kabinet’s act is arguably in line with the standards of a ‘sale’ articulated in *Usedsoft*: a right to use a copy for an unlimited period (for permanent use); a remuneration paid to the rightsholder corresponding to the economic value of the copy (for payment); and no increase in the number of copies (donators must not keep a book copy). However, CJEU decided it as a communication to the public.

The court justifies this decision on several grounds. First, InfoSoc Directive Article 4 was to implement WCT Article 6, under which distribution only covers tangible objects. Thus, e-books cannot be covered by distribution.⁶⁰ Second, Tom Kabinet’s act provides interactive

⁵⁴ *Usedsoft* para 49.

⁵⁵ Otherwise, a new copy will be made, and the acquirer will infringe the rightsholder’s right of reproduction. *Usedsoft* para 77.

⁵⁶ As explained above, Oracle’s user license grants ‘the right to store a copy of the program permanently on a server’, users pay a fee, and users do not keep ‘used licenses’ after resale.

⁵⁷ *Usedsoft* para 49.

⁵⁸ *Tom Kabinet* para 33.

⁵⁹ *Tom Kabinet* para 24.

⁶⁰ *Tom Kabinet* paras 39-41.

on-demand transmission of works and thus should be covered by communication to the public. Specifically, Tom Kabinet’s website makes works available to anyone who is its registered member, and any member can access the website from a place and at a time individually chosen by him or her.⁶¹ Third, the principal objective of the InfoSoc Directive is to “establish a high level of protection for authors, allowing them to obtain an appropriate reward for the use of their works”.⁶² ‘Communication to the public’ should be understood in a broad sense to achieve this objective.⁶³ Fourth, e-books cannot be considered computer programs, and thus UsedSoft cannot apply here.⁶⁴

In the context of virtual goods, if following Usedsoft, the initial seller’s supply of virtual goods is likely to be considered a distribution. It likely meets the three standards of sale. The initial seller can choose to allow metaverse users to use virtual goods for an unlimited period, and users likely need to pay. Most importantly, the increase in the number of virtual goods is technologically impossible under the NFT transaction mode, as further analysed below. Therefore, the initial sellers’ supply of virtual goods is arguably a sale under Usedsoft.

In contrast, following Tom Kabinet, the supply will likely be treated as a communication to the public. First, virtual goods are not tangible objects, so they cannot be covered by distribution. Second, virtual goods will be made available to any metaverse users, who will be able to access them from a place and at a time individually chosen by him or her. Therefore, the supply will possibly be regarded as interactive on-demand transmission and covered by communication to the public. Third, to achieve the objective of providing a high level of protection for rightsholders, it is more likely that the supply is considered a communication to the public.⁶⁵ Fourth, as discussed above, virtual goods cannot be reduced to computer programs, and thus UsedSoft cannot apply.⁶⁶

⁶¹ Tom Kabinet paras 42-45.

⁶² Tom Kabinet para 48.

⁶³ Tom Kabinet paras 46-51.

⁶⁴ Tom Kabinet paras 52-54.

⁶⁵ The principal objective of InfoSoc Directive to ‘establish a high level of protection of authors, allowing them to obtain an appropriate reward for the use of their works’, whereas Software Directive does not indicate the same. See Tom Kabinet para 48.

⁶⁶ Tom Kabinet paras 52-54.

It can be seen that Oracle's act and Tom Kabinet's act are close, but CJEU presents opposite opinions towards whether the acts constitute a distribution or communication to the public. The underlying cause is still the tangibility issue, based on which the court rejects to consider Tom Kabinet's act as a distribution directly. Therefore, the supply of virtual goods is hard to be treated as distribution due to the intangible nature of virtual goods. If so, there is no place to apply the exhaustion principle to virtual goods. The following section discusses the tangibility issue.

Why no digital exhaustion: economic and functional inequivalence

The puzzle around the digital exhaustion of virtual goods ultimately comes from virtual goods' intangibility nature. However, it is clear that the tangibility issue is not an obstacle to the digital exhaustion of software, and CJEU explains this from the perspective of legislative purposes.

In *Usedsoft*, CJEU holds that Software Directive Article 1(2) and Recital 7 "make abundantly clear the intention of the European Union legislature to assimilate...tangible and intangible copies of computer programs".⁶⁷ In comparison, in *Tom Kabinet*, CJEU states the EU legislature did not desire the same regarding works and other subject matters. Instead, the legislature intended to draw a clear distinction between electronic and tangible distribution.⁶⁸

Furthermore, CJEU, in both cases, explains the assimilation or distinction of tangible and intangible copies from "an economic and functional point of view".⁶⁹ In *UsedSoft*, CJEU recognises digital exhaustion of computer programs based on that the sale of a tangible or an intangible software copy archives the equivalent function. As the court articulated, "from an economic point of view, the sale of a computer program on CD-ROM or DVD and the sale of a program by downloading from the internet are similar".⁷⁰ Moreover, limiting the exhaustion to tangible software copies would allow rightsholders to "demand further

⁶⁷ *Usedsoft* para 48.

⁶⁸ *Tom Kabinet* para 56.

⁶⁹ *Tom Kabinet* para 58.

⁷⁰ *Usedsoft* para 61.

remuneration on the occasion of each new sale, even though the first sale of the copy had already enabled the rightsholder to obtain an appropriate remuneration”.⁷¹

Tom Kabinet confirmed UsedSoft’s ‘economic and functional point of view’,⁷² but it applies the view to justify the rejection of the digital exhaustion of e-books.⁷³ As CJEU argued,

“the supply of a book on a material medium and the supply of an e-book cannot be considered equivalent from an economic and functional point of view. Dematerialised digital copies do not deteriorate with use, and used copies are therefore perfect substitutes for new copies. In addition, exchanging such copies requires neither additional effort nor additional cost, so that a parallel second-hand market would be likely to affect the interests of the copyright holders in obtaining an appropriate reward for their works much more than the market for second-hand tangible objects”.⁷⁴

The two statements show that the courts are concerned about whether the supply of a tangible copy or an intangible copy can achieve economic and functional equivalence, and ultimately, give rightsholders appropriate remuneration. At this point, it deserves to explore whether the technological features of virtual goods can make them achieve economic and functional equivalence with tangible copies of works and subject matters. An affirmative answer can provide a ground to justify the recognition of digital exhaustion regarding virtual goods. This point will be discussed in the next section.

Summary

The issue of digital exhaustion has undergone long debates. EU copyright law shows a divergence to recognise digital exhaustion of computer programs protected by the Software Directive but denies it regarding general subject matters protected by the InfoSoc Directive. The section has demonstrated that virtual goods will likely be treated as general subject matters. Accordingly, the exhaustion principle is inapplicable following the rules of the InfoSoc Directive.

⁷¹ Usedsoft para 63.

⁷² Tom Kabinet para 58.

⁷³ Tom Kabinet para 57.

⁷⁴ Tom Kabinet para 58.

Further, the online supply of digital copies can be interpreted as either a distribution or a making available/communication to the public. Usedsoft puts forth three standards of a 'sale', but Tom Kabinet treats almost the same act as a communication to the public. This section has shown that the initial sellers' supply of virtual goods is likely to be treated as making available to the public, though it arguably meets the standards of 'sale.' If so, there is no place to apply the exhaustion principle.

The crux lies in the intangible nature of virtual goods. EU legislature intends to assimilate tangible and intangible copies of computer programs but to draw a clear distinction between the two regarding general subject matters. Usedsoft and Tom Kabinet reveal that the different intentions may come from the concern about whether the supply of a tangible copy and an intangible copy can achieve economic and functional equivalence.

In a word, it can be concluded that the exhaustion principle is inapplicable to the supply of virtual goods under current EU copyright law. Meanwhile, the concern of economic and functional equivalence leaves some space to discuss whether the opposite is tenable.

Legal possibility of the movement under EU copyright law

Effect of EU copyright law on the movement of virtual goods

The above section has shown that the exhaustion principle is likely inapplicable to the supply of virtual goods in the Metaverse. This can have a substantial influence on the movement of virtual goods in the Metaverse.

As discussed in 2.2.3, like rightsholders enjoying parallel protection in different EU Member States, they may enjoy parallel protection in different virtual environments due to inconsistent licensing practices. In the EU, the exhaustion principle offsets the negative effect of parallel protection, thereby ensuring the free movement of goods.⁷⁵ In comparison, if the principle does not apply to virtual goods, every cross-platform movement of a virtual good would require authorisation from the rightsholder. This empowers rightsholders to control the movement of virtual goods, by which they can partition the Metaverse. The costs and burdens in seeking authorisation make the movement of virtual goods

⁷⁵ Pila and Torremans, *European Intellectual Property Law*, pp.33.

unattainable. Since the moveability of virtual goods is essential for interoperability, this result can essentially hinder the construction of the Metaverse.

Therefore, the construction of the Metaverse is premised on recognising the initial supply of virtual goods as distribution and recognising the digital exhaustion of virtual goods. Under this condition, the distribution right would be exhausted after the rightsholder places or authorises to place a virtual good in a particular virtual environment. Accordingly, the rightsholder cannot rely on parallel protections in different virtual environments to restrict the free movement of virtual goods.

For metaverse advocates, the normative obstacle is the distinction between tangible and intangible copies in EU copyright law. The former is covered by the concept of distribution, and the latter is covered by the concept of making available to the public. As explained in 3.4, this distinction comes from the concern that the supply of an intangible copy cannot achieve economic and functional equivalence as the supply of a tangible copy. Following this thread, metaverse advocates can bypass the normative obstacle if they can show that the supply of virtual goods can achieve economic and functional equivalence as the supply of tangible copies of works and subject matters. The next section examines this possibility.

Is NFT a solution for economic and functional equivalence and the movement?

The concern is practical that the supply of *general* intangible copies cannot achieve economic and functional equivalence as the supply of tangible copies. In the case of tangible copies, each copy is singular and unique (though fungible). In resale, the same copy is transferred from the initial buyer to another person, so there is no increase in the number of copies in circulation. This ensures the rightsholder gains appropriate remuneration from each copy in circulation. On the contrary, in the case of intangible copies, initial buyers can make an unlimited number of unauthorised copies at almost no cost, if no technical measures are taken to forbid this happening. As a result, the rightsholder cannot gain remuneration from each copy that is in circulation, whose interests will be severely undermined.

However, this concern is tenable for virtual goods. It can be argued that the resale of a virtual good achieves the same effect as the resale of a tangible copy. First, as explained in 2.1, when

a virtual good is linked with an NFT, it gains uniqueness as it is uniquely referred to by the NFT. In this sense, each virtual good is singular and unique, the same as each tangible copy.

Second, after a cross-platform resale, this virtual good remains the same object because it is still pointed to by the same NFT. Under the NFT transaction mode, only the ownership information recorded in the smart contract is changed. It is technically impossible to make a new, separate virtual good. In other words, the same virtual good is transferred from the initial buyer to another person. This means there is no increase in the number of virtual goods in circulation.

This guarantee that every virtual good in circulation comes from the initial seller so that the rightsholder can gain appropriate remuneration from each virtual good through the initial distribution. In this regard, the resale of a virtual good achieves the same effect as the resale of a tangible copy. Therefore, it can be argued that the supply of virtual goods can achieve economic and functional equivalence as the supply of tangible copies.

In addition, in *Tom Kabinet*, CJEU proposes another ground to distinguish tangible copies and intangible copies. According to the court, first, intangible copies do not deteriorate with use, so used copies are perfect substitutes for new copies. Second, the resale of used copies requires no additional cost, so a parallel second-hand market would affect the interests of rightsholders “in obtaining an appropriate reward for their works much more than the market for second-hand tangible objects”.⁷⁶

It is true that virtual goods do not deteriorate with use, so used ones are perfect substitutes for new ones. However, it is possible to impose additional costs on the resale of used virtual goods. As explained in 2.1, a smart contract can set transaction terms, including a proportion of each transaction fee reserved for the initial distributor. This allows a rightsholder to deduct a percentage from each resale of a virtual good. Such a percentage is an additional cost imposed on resale. If buyers do not accept the transaction term, the rightsholder can restrain the parallel second-hand market. Conversely, the rightsholder can gain extra remuneration.

⁷⁶ *Tom Kabinet* para 58.

Therefore, the rightsholder can gain appropriate remuneration from each virtual good in circulation and even gain “further remuneration on the occasion of each new sale”⁷⁷ with the smart contract. At this point, virtual goods are no different from tangible copies from an economic and functional point of view. Moreover, as discussed in 2.2.3, the justification of the exhaustion principle is that the rightsholder can gain remuneration from the first-time transfer of ownership.⁷⁸ This is the situation of virtual goods, which justifies the applicability of the exhaustion principle to virtual goods.

In a word, it can be argued that virtual goods can achieve economic and functional equivalence as tangible copies. This is a technological ground to recognise the supply of virtual goods as distribution and recognise its digital exhaustion. If so, cross-platform movement of virtual goods does not require authorisations from rightsholders. The free movement of virtual goods becomes possible.

Conclusion

The Metaverse is envisaged to iterate the current Internet by its interoperability. That is, ‘walled gardens’ will unite into “interconnected and synchronous virtual platforms”, among which avatars can take and resell their virtual goods.⁷⁹ Thus, the movability of virtual goods is essential for achieving interoperability. As an effect of the movement, a virtual good disappears from one virtual environment and displays in another. Because virtual goods generally manifest as audio-visual digital content protected by copyright and related rights, the movement is subject to copyright law.

The article has shown that the movement does not act as a reproduction under the ‘temporary reproduction’ exception in EU copyright law, although the creation of a virtual good is a reproduction. Further, the movement triggered by resale is likely to be regarded as making available/communication to the public, even though it seems not to attain the ‘new public’ prerequisite.

⁷⁷ Usedsoft para 63.

⁷⁸ Pila and Torremans, *European Intellectual Property Law*, pp.48.

⁷⁹ Tenkhoff and others, “The Metaverse-Legal Challenges and Opportunities for IP Rights Holders”.

If so, every cross-platform movement needs authorisation from rightsholders, which will empower rightsholders to control the movement of virtual goods. Further, rightsholders can partition the Metaverse with their parallel protections in different virtual environments caused by inconsistent licensing practices. This will inhibit the free movement of virtual goods and make the construction of the Metaverse an illusion. In other words, the current EU copyright regulation does not support the construction of the Metaverse.

For metaverse advocates, there is a ground to argue the supply of virtual goods as distribution. That is, because of their technical features, virtual goods can achieve economic and functional equivalence as tangible articles. If recognising the supply of virtual goods as distribution, and accordingly, recognising its digital exhaustion, the distribution right would be exhausted after the rightsholder places or authorises to place a virtual good in a particular virtual environment. Thus, the rightsholder cannot rely on parallel protections to restrict the movement of virtual goods. Only premised on this, the free movement of virtual goods is possible, interoperability is achievable, and the Metaverse would not reduce to a purely hyped concept.