European Journal of Law and Technology, Vol 14, No.1 (2023)

EJLT European Journal of Law and Technology

Future of NFTs in the entertainment industry: No longer the 'Wild West' of intellectual property law?

Fulya Teomete Yalabik*

Abstract

Non-Fungible Tokens (NFTs) can be a good device to provide fair payment and distribution to artists in the music industry and/or film producers who license their products to service providers (streaming and sharing platforms) to be paid and distributed fairly. For this reason, intellectual property (IP) owners need to reconsider their IP protection and licensing strategies according to new technologies.

NFTs enable buying and selling ownership of unique digital items and monitoring the complete history of ownership records using blockchain technologies. However, this method is not just restricted to transfer and keeping track of the ownership but also supports preventing reproduction. An NFT can only have one owner, and smart contracts manage the ownership and transferability of NFTs using unique identifiers and metadata.

When streaming providers enter into licensing agreements with film producers using NFTs, customers who purchase a film can transfer ownership by retransferring the NFTs. Furthermore, it is also possible to see how many transfers of ownership have taken place so that the film company or/and the filmmakers can track their recurring royalties in a more transparent transfer ledger. Moreover, streaming companies can also eliminate one of their serious problems: the menace of the reproduction of their digital assets maliciously.

NFTs can help solve a core problem of digital ownership by answering the question of what ownership means when you cannot sell or trade digital assets. NFTs will shape the future of the entertainment industry by offering different perspectives on blockchain technology.

---

* Dr Fulya Teomete Yalabik, Lecturer in Law, University of Greenwich, London.

1. Introduction

Non-fungible tokens (NFTs) are digital tokens that can be used to represent ownership of a wide variety of assets, both physical and digital, including but not limited to art, music, news articles, and video clips.[1] Ownership of these assets is tracked securely and transparently on a blockchain. Since NFTs play a role as digital certificates of ownership that can be stored on a blockchain, they can represent any type of asset and can be used to verify ownership of that asset. This ability to play a role as a digital certificate provides an immutable record of ownership which can be used to track and verify the asset.

This study focuses on the use of NFTs to enhance the ownership model of video assets, build concrete guardrails to prevent illegal distribution and propose a transparent and trustful way to collect royalties for content creators in the entertainment industry. This paper does not make a greater analysis of the right to IP protection; it brings a fresh perspective on application areas of NFTs in day-to-day operations in the entertainment sector. The goal of the article is to state the basic problems that are currently attempted to be solved with complex contracts and technological solutions, and propose a peculiar approach that creates a fair and transparent environment for both content creators, distribution services and consumers.

NFTs enable buying and selling ownership of unique digital items and monitoring the complete history of ownership records using blockchain technologies. However, this method is not just restricted to transfer and keeping track of the ownership but also supports preventing reproduction. An NFT can only have one owner, and smart contracts manage the ownership and transferability of NFTs using unique identifiers and metadata.

When streaming providers enter into licensing agreements with film producers using NFTs, customers who purchase a film can transfer ownership by retransferring the NFTs. Furthermore, it is also possible to see how many transfers of ownership have taken place so that the film company or/and the filmmakers can track their recurring royalties in a more transparent transfer ledger. Moreover, streaming companies can also eliminate one of their serious problems: the menace of the reproduction of their digital assets maliciously.

[1] Dominic Chalmers, Christian Fisch, Russell Matthews, William Quinn, Jan Recker, 'Beyond the bubble: Will NFTs and digital proof of ownership empower creative industry entrepreneurs?' 2022 (17) Journal of Business Venturing Insights.

The article begins with a brief definition of NFTs. It then explores the link between NFTs and cryptocurrencies and highlights the purpose of NFTs. The implications of the use of NFTs in the entertainment sector are discussed from different perspectives. The potential applications and implications of NFTs are not yet fully known, as the technology is still in its early stages of development. This paper provides a framework within which NFTs can be explored in order to better understand their potential applications and impacts, particularly in the entertainment sector, in terms of intellectual property rights.

2. Relationship with Cryptocurrencies: Differences and common points from a legal perspective

2.1 Main Aspects of Cryptocurrencies

Blockchain technology is the basis for most cryptocurrencies.[2] It allows for a decentralised, secure way of managing transactions and data. Cryptocurrencies are fungible tokens. Fungible tokens are a type of product that can be exchanged for other products of the same type.[3] Each token of a cryptocurrency token is therefore worth the same as any other token of the same cryptocurrency. The owner of a token has the same rights as anyone else who owns a similar token. The article focuses on the study of NFTs and only briefly discusses cryptocurrencies in relation to NFTs.

2.2 Main Aspects of NFTs

NFTs are based on distributed ledger technology.[4] They are 'non-fungible' because, unlike other cryptocurrencies, such as Bitcoin, NFTs are not interchangeable.[5] In other words, NFTs are unique because they cannot be replaced by other cryptocurrencies. A fungible asset refers to an item that can be replaced by another identical item. For example, cash is a fungible asset since it can be replaced by any other amount of cash. With money, it is possible to exchange a unit of currency for a different unit of currency, and both of them will have the same value. However, if something is not interchangeable, it is not possible – this means that it has unique properties, so it cannot be replaced by something else. An NFT's value is based on its individual characteristics.[6]

[2] Michael Dowling, 'Is non-fungible token pricing driven by cryptocurrencies?' (2022) 44 Finance Research Letters 1.
[3] Simon Mackenzie and Diana Berzina, 'NFTs: Digital things and their criminal lives' 2021 Crime, Media, Culture, 2.
[4] Chalmers et al. (n 1).
[5] Sophie Goossens and Nick Breen, 'Ownership in the Metaverse and the Great Illusion of NFTs' 2021 38(10) Computer & Internet Lawyer, 3; Dowling (n 2).
[6] Chalmers et al. (n 1).

NFTs are digital assets that can be bought and sold, but they exist only in digital form and have unique cryptographic signatures. NFTs can be compared to houses or paintings in that they are one-of-a-kind. The original painting can never be duplicated; you can take a photo of it or buy a print, but it will never be the same as the original.

A token represents a unique set of rights that confers ownership or privileges to its holder. In other words, NFTs are a way of storing unique data on a shared digital ledger that can be used to prove ownership of specific tangible or digital assets. The uniqueness of NFTs does not preclude multiple 'editions' of a particular artwork or collectable being offered for sale, each evidenced by its own NFT.[7]

A wide variety of assets can be sold as NFTs, from digital art to a pair of trainers. The NFT can therefore be linked to a physical object, but it is not the object itself. The person who buys an NFT owns the token itself, which is a digital representation of ownership of the underlying work.[8] So, when the NFT is transferred to another person, the ownership of the underlying digital version of the work also changes possession.

A digital token can be considered as proof of ownership of a virtual or physical asset.[9] Ownership of digital assets is recorded on a shared ledger, the blockchain, similar to how cryptocurrency ownership is tracked. When a person mints an NFT, they create an immutable file that is stored on a blockchain. The existence of the file on a blockchain makes it publicly viewable, meaning that the item's source is public and verifiable. NFTs can also contain smart contracts, which can give certain rights to the owner of the intellectual property.

NFTs are still relatively new, and their definition is, therefore, still vague. Technically, anything can be classified as an NFT. The growing infrastructure for NFTs and the increasing scope for innovation in this area may encourage their use in a variety of sectors. The most common non-fungible tokens include collectables, artwork, event tickets, music and media, gaming items, virtual assets, real-world assets, identity information, memes, and domain names.

[7] Jennifer English, Toby Futter, David Grable, Emily Kapur, Luke Nikas, Roberst Schwartz, 'NFTs: Legal Risks from "Minting" Art and Collectibles on Blockchain', March 25, 2021, https://www.jdsupra.com/legalnews/nfts-legal-risks-from-minting-art-and-4997056/ (accessed 22/09/2022).

[8] Mackenzie and Berzina (n 3).

[9] Tanusree Sharma, Zhixuan Zhou, Yun Huang, Yang Wang, '"It's A Blessing and A Curse": Unpacking Creators' Practices with Non-Fungible Tokens (NFTs) and Their Communities' Working Paper, (Ithaca: Cornell University Library, arXiv.org) January 15, 2022.

2.3 Defining the Scope of the NFT

When issuing an NFT, the issuer must be clear about what rights are being transferred to the holder of the NFT. NFTs, like other cryptocurrencies, can be risky investments. One way to protect digital assets is to certify ownership of them. This certification can be done by obtaining a licence to use intellectual property rights or by signing a contract that gives you the right to use a particular asset. It is important that you are clear about the rights offered to avoid possible claims from purchasers alleging misrepresentation.

An NFT is a digital certificate of ownership that does not confer any additional rights. When an NFT is transferred, the underlying property rights must also be transferred. The potential purchaser of an NFT must be aware of what they may be acquiring. For example, if the NFT contains smart contract features, this is encoded in the NFT and may not be apparent on a cursory inspection.

When conducting due diligence on a potential purchase, it is crucial to determine what rights and obligations are being acquired, as these may affect the value of the NFT and the underlying asset.

Some NFTs allow owners to divide or fractionate their ownership of the asset. In other words, multiple people can own part of the asset. This can be helpful to ensure that the asset is more evenly distributed among a group of people. This would permit fractional ownership of an asset so that each purchaser of an NFT would benefit from the underlying asset in proportion to the fraction they own. This would enable new ownership structures that would theoretically democratise ownership of assets that are difficult for the average person to acquire. Other NFTs, however, are indivisible, and so cannot be divided into smaller units.

2.4 NFTs in the Entertainment Industry

The entertainment industry is evolving and becoming increasingly complex. The emergence of new technologies and platforms is challenging the traditional Hollywood model. The future of the entertainment industry is uncertain, but it is clear that the industry is undergoing a major transformation. The pandemic has led to many cinemas closing, so most films are streamed or rented online instead. This has created a situation where film premieres are no longer held in public cinemas but in people's homes. Even if the restrictions are lifted, fans are not as inclined to go to the cinema to watch films. According to a Gallup poll, the majority of Americans (61%) have not been to a movie theatre in 2021.[10] Due to the competitive landscape, studios

[10] Kimberlee Speakman, '61% Of Americans Didn't Go to A Movie Theater Last Year, Poll Finds', January 7, 2022. https://www.forbes.com/sites/kimberleespeakman/2022/01/07/61-of-americans-didnt-go-to-a-movie-theater-last-year-poll-finds/ (accessed 22/09/2022)

have to innovate to stay afloat. This leads to new, creative approaches in film production and distribution.

3. Analysis of NFTs in the Entertainment Industry from Different Perspectives

The use of NFTs provides a way to verify the ownership and authenticity of an asset while tracking its provenance using blockchain technology. NFTs have the potential to streamline the management of digital assets and reduce the risk of counterfeiting. Each asset is given a unique identifier, making it easy to track and manage. The use of NFTs makes it more difficult to copy or counterfeit assets, providing a higher level of security. NFTs could help restrict or deny access to a person's rights to their assets, ensuring exclusivity. NFTs can be equipped with smart contracts that fulfil the terms of the contract.[11] A smart contract can define the rights of the buyer and the seller and stipulate that the creator or first seller of the NFT receives a certain percentage of the resale value of the NFT each time it is resold. In this way, the creator or first seller can still profit from the work even if it has already been sold several times.

NFTs offer artists a direct way to market their work online without the need for intermediaries. An easily accessible online resale market could also lead to the value of artworks rising faster. NFTs could increase the value of artists' works, as collectors are more willing to pay for works associated with an NFT. This could be beneficial for artists, who could include commission requirements in the smart contracts that accompany their NFTs. This would provide artists with a more fruitful source of income as well as more detailed and descriptive records of their work.

NFTs could create a new revenue stream for artists by allowing them to sell digital assets in addition to their physical works. This could particularly benefit underrepresented artists who have difficulty selling their work through traditional channels.

One of the key challenges associated with NFTs is the lack of clarity regarding the rights one acquires upon purchase. The confusion is largely due to the fact that NFTs are still a relatively new phenomenon, and the legal landscape surrounding them is still evolving. Confusion around this issue can lead to serious problems. Therefore, it is vital to be clear about what you are buying before making a purchase. Some buyers mistakenly believe that they are acquiring the physical work of art as well as all the rights associated with legal rights. However, in reality, they are not actually buying the work itself but rather the associated metadata.

[11] Nick Szabo, 'Smart contracts: building blocks for digital markets' 1996 18(2) Extropy Journal Transhumanist Thought. http://www.truevaluemetrics.org/DBpdfs/BlockChain/Nick-Szabo-Smart-Contracts-Building-Blocks-for-Digital-Markets-1996-14591.pdf (accessed 22/09/2022).

There are also concerns that NFTs could have a harmful impact on the environment. Decentralised ledger technologies (DLTs) require a large number of nodes to verify transactions.[12] This means that each transaction on the blockchain requires a lot of energy, making the process very inefficient. Some estimates suggest that the carbon footprint of a single NFT is equivalent to more than a month of carbon emissions for an average EU citizen.[13] This means that the environmental impact of NFTs is significant.

Currently, there are no specific regulations in the EU regarding NFTs. However, this could change in the future as the popularity of NFTs continues to grow. An NFT issuance would need to be carefully structured to avoid triggering existing securities, electronic money and crowdfunding regulations.

The European Commission has proposed a new regulation that would cover all currently unregulated cryptoassets and their service providers.[14] This regulation would provide greater clarity and certainty for businesses and consumers and help prevent financial crime. The proposed regulation, called the Markets in Cryptoassets Regulation (MiCA),[15] would create a single licensing regime for all entities involved in the cryptoasset market. The new MiCA Regulation is expected to come into effect in 2024 and will affect all companies and individuals offering cryptoasset services within the EU, as well as all non-EU companies wishing to trade in EU member states. The regulation aims to create a more uniform and coherent approach to the regulation of the cryptoasset market in the EU. If the new regulations are adopted, issuers of cryptoassets will be required to prepare a white paper describing the asset in detail, similar to a prospectus.[16] This will provide potential investors with more information and help them make informed decisions. Although non-fungible cryptoassets (NFTs) are included in the MiCA definition of cryptoassets, issuers of NFTs will not be required to publish a white paper.

---

[12] A report by the UK Government Chief Scientific Adviser, 'Distributed Ledger Technology: beyond block chain', https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/492972/gs-16-1-distributed-ledger-technology.pdf (accessed 22/09/2022).

[13] Justine Calma, 'The climate controversy swirling around NFTs', https://www.theverge.com/2021/3/15/22328203/nft-cryptoart-ethereum-blockchain-climate-change (accessed 22/09/2022).

[14] Council of the EU, Digital finance: agreement reached on European crypto-assets regulation (MiCA), Press release, 30 June 2022 https://www.consilium.europa.eu/en/press/press-releases/2022/06/30/digital-finance-agreement-reached-on-european-crypto-assets-regulation-mica/ (accessed 22/09/2022).

[15] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Markets in Crypto-assets, and amending Directive (EU) 2019/1937, COM/2020/593 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0593 (accessed 22/09/2022).

[16] REPORT on the proposal for a regulation of the European Parliament and of the Council on markets in crypto-assets and amending Directive (EU) 2019/1937, https://www.europarl.europa.eu/doceo/document/A-9-2022-0052_EN.html (accessed 22/09/2022).

NFTs are not currently subject to any specific regulation in the UK. However, certain activities in relation to certain cryptoassets (which may include an NFT depending on its features) could fall within one or more of the existing regulatory frameworks.[17] This would mean that these activities would be subject to existing regulations, depending on the specific cryptoassets involved:

–Cryptoassets that are regulated investments would trigger a licensing requirement and ongoing conduct of business obligations when buying, selling, or intermediating these investments;

–If the cryptoasset meets the definition of electronic money, the issuer will need to obtain a licence and comply with ongoing conduct of business requirements;

–Under UK anti-money laundering legislation (AML), cryptoassets are digital representations of value that are secured using cryptography, stored on a decentralised ledger, and can be exchanged electronically. Activities that involve converting cryptoassets to other cryptoassets or cash would trigger registration requirements.

The UK government is considering changing the rules regarding cryptocurrencies and digital tokens. This could involve subjecting more types of cryptocurrencies and digital tokens to financial regulations and extending rules to cover a wider range of cryptocurrencies. These changes could potentially impact NFTs.

Another point to consider is that NFTs and cryptocurrency are often accused of being overvalued and that the bubble will soon burst. The blockchain infrastructure of NFTs does not provide a complete and satisfactory solution to the ownership question in practice. The decentralised nature of blockchain and NFT technologies lowers the barriers to entry for content creators but also opens the floodgates for the creation of NFTs.[18] The lack of regulation surrounding NFTs means that malicious actors can create 'phishing NFTs'.[19] This involves copying the underlying content of an NFT, slightly modifying it, and then creating a new NFT. These fake NFTs are then offered at a lower price than the original in an attempt to trick people into buying them.[20] However, if strict regulations were introduced for NFTs, this would make it more difficult for new entrants to the market, hampering innovation and growth. NFTs could be open to fraud, money laundering or other abuse if there were no barriers in place. Some NFT platforms have implemented mechanisms, such as their own rules or community norms, to mitigate the problem of fraudulent NFTs. This includes measures such as ensuring that all NFTs are verified and authenticated before being

[17] Non-fungible Tokens: The Global Legal Impact, Clifford Chance, Thought Leadership, June 2021, https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2021/06/non-fungible-tokens-the-global-legal-impact.pdf 12, (accessed 22/09/2022).
[18] Sharma et al (n 8) 17–18.
[19] Ibid.
[20] Ibid., 18.

listed on the platform and providing a mechanism for users to report any suspicious or fraudulent NFTs.[21] For example, some platforms instruct their users to verify their Twitter accounts, and some platforms adopt invite-only procedures or ban users who do not abide by the platform's rules.[22] It is an important fact that there is a need for more careful consideration in order to find a balance between implementing protective regulations and maintaining the decentralised structure.

3.1 Opportunities in the Entertainment Industry

Even though there is still some uncertainty surrounding NFTs, there are practical aspects that can be beneficial for both creators and consumers.

Firstly, NFTs use blockchain technologies to allow people to buy and sell ownership of unique digital items and to keep track of the complete history of ownership records. This method also prevents the reproduction of the items.

The ownership of an NFT can only be transferred to a single person at a time.[23] Smart contracts can be used to manage the ownership and transferability of NFTs by tracking unique identifiers and associated metadata. This digital contract, which is based on a program stored on a blockchain, supports more secure and efficient management of digital assets. In this regard, when streaming companies create licence agreements with film producers by using NFTs, customers who buy a film can transfer the ownership of the film by retransferring the NFTs. This system would allow the creators of a film to see how many people have purchased or rented the film and also allow the film company to track royalties more transparently and effectively.
In addition, streaming companies can also address one of their key issues: the threat of unauthorised reproduction of their digital content. This point will be explored in more detail in the following sections of the article.

ZERO CONTACT is the first feature film that is powered by NFTs. This film is rich with vivid details and offers viewers a unique and immersive experience. This new platform uses NFT technology to allow its customers to watch, collect, sell and trade exclusive NFT content. This is the first platform of its kind that offers this direct-to-consumer service.

3.2 Intellectual Property Rights and Royalties

When selling or transferring an NFT, it is essential to consider how this might affect the issuer's intellectual property rights. In particular, care should be taken to ensure that the issuer's brand is protected and that there are effective remedies in place in

[21] Ibid., 17.
[22] Ibid., 17.
[23] Tim Bradshaw, 'What are non-fungible tokens and how do they work?', https://www.ft.com/content/852b7961-51ee-43a3-8caf-f39bb479655c (accessed 22/09/2022).

case their intellectual property rights are misused. When you purchase an NFT, you are acquiring a set of codes or/and a smart contract. The purpose of this (smart) contract is to establish the terms and conditions under which the NFT can be used and to define the rights of the owner.

NFT creators can choose to set up an automatic payment system that will give them royalties or a commission whenever their NFT is resold. This system allows creators to receive compensation for their work even when they are not actively involved in the sale of their NFT. The issuer of the NFT could use a smart contract to automate the payment process and track resales of the NFT on the blockchain. This would allow the issuer to keep track of sales of the NFT. The owner of the NFTs holds the copyright and has the authority to determine how the NFTs are used. The owner can prevent unauthorised copying, modifying, or displaying of the NFTs. The purchaser of an NFT receives not only the token itself but also the right to use the copyrighted work associated with the token. A buyer who feels that their rights were violated, or they experienced a loss in value, can start legal action against the seller of the NFT under a variety of legal theories. A video of LeBron James' slam dunk can be used as an example of the situation in which the violation occurred.[24] He released a series of limited-edition NBA highlight clips, which were very popular and in high demand. NFTs can be bought and traded by fans in a dedicated marketplace. NFTs associated with NBA moments can be bought and sold like other assets. The copyright for any NBA merchandise that consumers purchase belongs to the NBA, regardless of who the consumer is. If you wish to create a copy of this NFT, you will need to receive permission from the NBA beforehand.

By using smart contracts to manage the distribution of funds associated with NFTs, it is possible to pay royalties to the creators of those NFTs. This system would provide a more efficient and reliable way to ensure that creators are fairly compensated for their work. The use of smart contracts on distributed ledger technology platforms for issuing NFTs has the advantage of automating the commission process, making it more efficient and streamlined. Content creators can use smart contracts to ensure they receive royalties for their work. By incorporating royalty obligations into the smart contract, producers/studios/content creators can ensure they are protected against unauthorised use of their work. Using smart contracts to automate royalty payments could help circumvent any obstacles or restrictions.

3.3 Copyright Infringement and Ownership

[24]Karim Zidan, 'NBA players are making a fortune from NFTs. UFC fighters may not be so lucky', https://www.theguardian.com/sport/2021/may/11/nba-players-are-making-a-fortune-from-nfts-ufc-fighters-may-not-be-so-lucky?fbclid=IwAR1seKeBaUbiQZtcuDyf615Wt2F09DGAmfkQqVHNv6GnJlBFSxPDT7EMgwo (accessed 21/09/2022).

An NFT does not represent ownership of the underlying asset unless stated otherwise. Both parties would need to agree and validly assign the copyright to the underlying work or the property rights in respect of a physical underlying asset, in order for the transfer to be valid. It is important to note that simply purchasing an NFT does not automatically grant the purchaser the copyright to the digital work that the NFT represents. The original creator of an NFT retains the exclusive copyright to the underlying work, which grants them certain restricted rights, such as the ability to make additional copies, distribute, display, or sell the work.

When someone buys an NFT, they receive a digital token that represents their ownership of the associated digital artwork. They can use them for themselves or sell them. The terms of use for an NFT are determined by the conditions or licence terms attached to the NFT. The terms associated with each NFT will differ. When you buy an NFT, you are not getting the digital artwork itself. Instead of purchasing the physical artwork, you are buying a digital token that represents ownership of the artwork. When you purchase a digital copy of a work, you are essentially purchasing a collection of code known as metadata. This code links to the original version of the work, which is stored elsewhere. This metadata, written into the blockchain, contains information about the location of the original work and the owner of that particular version of the work. This makes it easy to track the work and makes sure the person who did the work gets paid. This does not prevent anyone else from accessing and viewing the digital artwork. The use of digital rights management (DRM) technology can help to protect digital content from unauthorised copying or distribution. The impact of DRM technology on NFTs is explored in more detail in Part D.

The intellectual property rights of an NFT-attached piece of art or other content are owned by the creator of the work, and these rights are transferred to the buyer of the NFT upon purchase. The purchaser of the NFT shall then have the exclusive right to use, reproduce and sell the work. The level of detail included in an NFT sale will depend on the type of NFT being sold, as well as the rights that the IP owner wishes to convey. The creator of a piece of digital art or media generally owns the copyright to that work, even if it is sold as an NFT. The owner of the NFT would then own the digital representation of the work, as well as the personal rights to display it. Some NFTs include a system to automatically collect royalties each time an NFT is sold.

Some artists have raised concerns that their works are being minted as NFTs without their permission. This undermines the assertion of the person who created the NFT to be the author of the original work.[25] In other words, NFTs are not subject to central control, meaning that anyone can create them. This could lead to problems if the people minting the currency are not the rightful owners.

[25] Mackenzie and Berzina (n 3) 9.

In most cases of alleged infringement, the issue has been resolved without going to court, typically by the removal of the offending token from the auction platform.[26] However, it is inevitable that one of these cases will be brought to court,[27] and the question of whether or not the NFT is infringing upon a copyright holder's rights will be raised. The vast majority of tokens are not the work itself but rather metadata associated with the work. Creating such a token is unlikely to infringe upon copyright. Although it is not clear that the author actually has the exclusive right to do so, the author may have legal recourse for unauthorised use by making a claim against a platform for minting an NFT associated with their original work.

It is difficult to see how the minting of an NFT could be considered copyright infringement from a copyright perspective. One argument is that, since NFTs are simply digital representations of an underlying work, they are not themselves protected by copyright.[28] Therefore, creating an NFT based on a copyrighted work would not infringe on the copyright of that work. Another argument may be that the minting of an NFT could be considered a derivative work, which would require the permission of the copyright holder. However, it is unclear whether this argument would hold up in court, as the minting of an NFT does not necessarily involve making any changes to the underlying work. Since an NFT is not the work itself but rather a series of numbers associated with a work, the resulting file cannot be considered a reproduction or adaptation of the work.

NFTs can be subject to copyright in the same way as traditional physical goods. However, the digital nature of NFTs and the complications of blockchain can make it difficult to enforce copyright protection. The purchase of an NFT gives the buyer the right to own the token, which represents a real-world item or digital art. This does not automatically give the buyer any of the exclusive rights that a copyright holder would have. The holder of an NFT has the right to view the associated digital item, sell it to another party, or destroy it. The author of a work has the exclusive right to reproduce, publish, lend, and rent it, perform it in public, adapt it, and communicate it to the public. Only the right of communication to the public could be infringed through a link in an NFT,[29] as the NFT would then be the cause of the infringement.

---

[26] Elizabeth Howcroft, 'Marketplace suspends most NFT sales, citing 'rampant' fakes and plagiarism', February 12, 2022, https://www.reuters.com/business/finance/nft-marketplace-shuts-citing-rampant-fakes-plagiarism-problem-2022-02-11/ (accessed 22/09/2122).

[27] A court of first instance in China entered a judgment for the first NFT copyright infringement case (Case No.: (2022) Zhe 0192 Min Chu 1008), Christopher (Yong) Zhang, 'Copyright infringement case ruling may stymie NFT development in China', https://www.dentons.com/en/insights/articles/2022/june/15/copyright-infringement-case-ruling-may-stymie-nft-development-in-china (accessed 22/09/2022).

[28]Emily Behzadi, 'The Fiction of NFTs and Copyright Infringement', https://www.pennlawreview.com/2022/04/12/the-fiction-of-nfts-and-copyright-infringement/ (accessed 21/09/2022).

[29] Enrico Bonadio and Rishabh Mohnot, 'NFTs and Copyright: Some Burning Issues', July 21, 2022, http://copyrightblog.kluweriplaw.com/2022/07/21/nfts-and-copyright-some-burning-issues/ (accessed 22/09/2022).

However, since an NFT is just code, it does not represent a substantial reproduction of the work and would therefore not infringe those rights.[30]

3.4 How does NFT-based ownership ensure that copyright rules are protected, and that illegal copying or fraud is prevented?

It is ideal for protecting every video asset by using a Digital Rights Management (DRM) System. This system can help prevent unauthorised copying and distribution of the video. Digital rights management is a term used to describe the various methods of controlling access to digital content.[31] DRM is used to protect the intellectual property rights of content creators and distributors. DRM technologies are commonly used to manage, distribute and modify copyrighted works, such as software, multimedia content and digital artwork. They also help to ensure that these works can only be accessed and used on authorised devices, making it difficult for unauthorised users to access and use them.

There are many countries that have laws against circumventing DRM, discussing ways to bypass it, or creating and sharing tools that can be used for that purpose.[32] The Digital Millennium Copyright Act (DMCA)[33] and the EU's Information Society Directive[34] are laws that protect intellectual property rights in the digital age. These laws provide copyright holders with legal tools to combat online piracy and copyright infringement. The DMCA makes it illegal to circumvent digital rights management technologies, while the Directive on Copyright in the Digital Single Market requires member states of the EU to provide legal protection for technological measures used by copyright holders.

DRM techniques are used to protect digital content from unauthorised copying and distribution. The agreements include licensing, encryption, distribution and consumption rules such as geolocation restrictions and device capabilities. DRM technologies are used by content providers (such as publishers, movie studios and record labels) to manage and monitor digital content access and usage. Some common examples of DRM in practice are Keurig's coffeemakers, Philips' light bulbs,

---

[30] Peter Mezei, Jaao Pedro Quintais, Alexandra Giannopoulou and Balazs Bodo, 'The Rise of Non-Fungible Tokens (NFTs) and the Role of Copyright Law-Part II' Kluwer Copyright Blog, April 22, 2021, http://copyrightblog.kluweriplaw.com/2021/04/22/the-rise-of-non-fungible-tokens-nfts-and-the-role-of-copyright-law-part-ii/ (accessed 21/09/2022).
[31] Jude Umeh, *The world beyond digital rights management* (British Computer Society 2007) 1.
[32] Ian Brown, 'The evolution of anti-circumvention law', 2006 20(3) International Review of Law, Computers and Technology.
[33] The Digital Millennium Copyright Act of 1998, https://www.copyright.gov/legislation/dmca.pdf (accessed 22/09/2022).
[34] 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, Official Journal L 167 , 22/06/2001 P. 0010 – 0019, https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32001L0029 (accessed 22/09/2022).

and mobile device power chargers. Tractor companies use digital rights management to prevent farmers from repairing their own machines.

Content creators argue that DRM protects their work from piracy and helps to encourage the creation of more content.[35] It has been asserted that DRM can help copyright holders exert greater control over their work, as well as facilitate licensing arrangements such as rentals.

DRM technologies are used by streaming services to protect against unauthorised copying and distribution of video content. These technologies require that all video players on mobile devices, websites, and living room devices have both a video asset (media file) and a DRM licence. This allows only authorised users to access and view the content.

The goal of combining DRM systems with NFTs is to create a more secure and efficient way of storing personalised DRM licences and smart contracts. By using NFTs, users can be sure that their data is safe and secure, as well as being able to track and manage their digital rights more easily. When a user wants to play content they own, streaming services can use a personalised DRM licence to enable streaming of the title. A smart contract is a digital self-executing contract that uses computer code to enforce the terms of an agreement automatically. According to the terms of the contract, the smart contract will automatically execute the specified actions when the conditions are met. This can help to streamline agreements and reduce the risk of human error. In the context of intellectual property, a smart contract could be used to define geographical restrictions and rules for paying royalties in case ownership of the property changes hands.

The transfer of NFTs from one user to another could enable movie studios and other businesses to collect additional royalties. The film industry could potentially generate new revenue by implementing this strategy. The process of intellectual property ownership will be transparent to businesses, so they can keep track of how many people own a specific intellectual property.

It is also worth considering that the studios creating these NFTs often transfer them to streaming services. The number of ownerships can be tracked by monitoring the blockchain ledger. This allows for a more accurate and secure way to track the number of ownerships. This will also help prevent any errors or/and malicious approaches in the calculation of royalties by providing a more accurate and transparent process.

NFTs can be used in the entertainment sector to protect digital content using DRM and smart contracts. To clarify the relationship between the NFTs, DRM and smart

[35] Frederick W Dingledy and Alex Berrio Matamoros, 'What is Digital Right Management?' in Catherine A Lemmer, and Carla P Wale (ed), Digital Rights Management: The Librarian's Guide, (Rowman & Littlefield Publishers, 2016) 1–26.

contracts, one can make an analogy. The border agent can be seen as the DRM system, and the passport as the key for the NFT. This analogy highlights the important role that passports play in controlling access to a country. A passport is required in order to enter a foreign country, in a similar way that a DRM system needs a key to unlock protected content. The smart contract is like a visa in that it provides the terms of the agreement between two parties. The NFT can be accessed by using a passport which contains the necessary password. To travel to a particular country, you need a visa for that country. In order to own a specific NFT, you need a smart contract that has been specifically designed for that NFT. It is very important to have a smart contract to manage the details of the transaction. A smart contract can help to ensure that a transaction is carried out smoothly. This agreement will help to ensure that all parties involved are content with the terms of the deal, facilitating a clear transfer of ownership of the NFT. If you have the correct documentation, the border official will allow you to pass. An NFT can be used to protect digital content from unauthorised use, in a similar way to how a passport allows passage through a border agent with the right visa. Smart contracts have the potential to automate transactions and ensure that rights holders are compensated for their work.

3.5 Future of NFTs in the Entertainment Industry

There is a growing importance of understanding and using NFTs in order to protect intellectual property. This is due to the many features that NFTs offer, such as the ability to securely store data and their ability to be traded and used on a peer-to-peer basis. Intellectual property owners can better protect their valuable assets by understanding their function.

There is huge potential for NFTs to shape the future of the entertainment industry, and it is important for companies to get on board. These digital assets could become the new standard for distributing content, and their widespread adoption could lead to a more diverse range of content availability to consumers. Companies that do not embrace the NFTs now could find themselves at a disadvantage in the future.

NFTs are versatile tools that both film producers and streaming companies can use. They allow for a more efficient and secure way of operating. They are particularly beneficial to streaming companies because they can reduce the amount of data that needs to be stored and processed. They are especially useful for film producers because they can keep track of ownership and distribution rights for their films. They are beneficial for streaming companies because they can store and manage data for their users.

The media and entertainment industry, including film and television producers and studios, actors and directors, as well as music artists, models, vloggers and other content creators who own the rights in their material, may see this as an opportunity to capitalise.

NFTs in the entertainment industry have the potential to completely transform the way films are made, produced and distributed and democratise this lopsided industry. NFTs can be used to represent specific roles in the production of a film, such as 'producer', and can be offered to the owner of that role. NFTs can play a role in every stage of film production, from marketing to decision-making to building a fan base. They offer a way to involve the community in the process and create loyalty among fans. Arabian Camels' Antara project can be cited as an example. NFTs provide them with the opportunity to distribute a portion of the ownership of the film to the audience in order to raise the necessary funds.

Film merchandising and marketing can have a significant impact on the entertainment industry by providing additional revenue streams and promoting films to larger audiences. The promotion and sale of films to audiences can be aided by such content. This, in turn, can result in increased revenues for film studios and producers. NFTs offer a new way for fans of films to collect memorabilia. NFTs offer a way for fans to own a piece of their favourite films and add it to their collection. NFTs are unique, meaning that fans who own them have a one-of-a-kind piece of the film that cannot be replicated. NFTs can be used by celebrities to create merchandise collections for their fans. This allows celebrities to connect directly with their fans and create a more personal relationship with them.

4. Conclusion

The use of NFT in the entertainment industry will result in positive outcomes for all stakeholders involved. For instance, even after filmmakers complete a movie, they can still earn royalties from their work many years later. In other words, you will continue to receive compensation for your work even ten years after the movie is made. In this instance, using only NFTs will not be enough, and using smart contracts will create a more professional and clearer legal framework. The use of smart contracts can help prevent legal issues or demands from arising. Smart contracts can be used to automatically pay royalties to the relevant party on any transactions that occur. This can help to ensure that the rightful owner receives their payments in a timely and efficient manner.

By buying an NFT, the consumer is taking an active role in investing rather than simply consuming passively. The success of the project depends on the involvement of consumers, who can earn rewards and royalties from the creator or trade the tokens through a marketplace. NFTs offer producers a new way to finance content and cultivate a dedicated and enthusiastic fanbase at the same time. This provides a unique opportunity for producers to generate revenue and build a loyal following. Producers can use NFTs as a way to raise money for new projects, as well as to reward their most loyal fans with exclusive, one-of-a-kind items.

The use of NFTs in the entertainment sector would help to ensure that creators and performers are compensated fairly for their work. This could be accomplished by creating a system that clearly identifies who owns which property. As a streaming company customer, you own the film but cannot rent or resell it. The current ownership situation does not meet the requirements of property law. NFTs can help to establish clear and indisputable ownership of digital assets. By creating a unique and unforgeable token for each asset, NFTs can help to ensure that ownership is clear and indisputable. This can be especially helpful in establishing ownership of assets in the digital world, where assets may be easy to copy or counterfeit. NFTs provide a way to track and verify ownership of digital assets with certainty by creating a unique and unforgeable token for each asset. This will have a major impact on how we trade and use digital assets, as the ownership process will be much simpler and more certain. There are many potential benefits to selling or swapping digital assets. This can help people to declutter their digital space, earn some extra money, or find new and interesting items. This is because they can maximise the value of their assets and also get rid of items they no longer need. The act of purchasing a digital asset provides individuals with a valuable opportunity to experience what it is like to own one. NFTs are a type of digital asset that can be used to represent ownership of real-world or virtual assets. They offer a new way of thinking about asset ownership and usage and have the potential to revolutionise many industries. With NFTs, owners can have greater control over how their assets are used and can also create new opportunities for asset usage. This allows for more flexibility and customised usage of assets, as well as the potential to generate new revenue streams.

NFTs have many different characteristics than traditional physical assets because they are digital rather than tangible. For example, NFTs can be easily duplicated and transferred with little to no cost. The unique qualities of digital assets mean that they do not fit easily into current private property law categories or definitions.[36] The lack of clarity surrounding the legal classification of digital assets presents difficulties for those seeking to protect their ownership rights. NFTs provide owners with a sense of ownership similar to real ownership but creating a separate category of personal property for digital assets would better reflect their unique features. It is a fact that without legislative intervention, the lack of specific property rights in the area of cryptoassets may continue to create complex problems.[37]

This article provides a clearer and more professional legal framework to collect royalties from direct and indirect consumers after years that creative content being produced. The study proposes a fair environment in that consumers are not only enjoying the content they own but also transferring their digital ownership. This resale opportunity not only provides the consumers having the feeling of real and effective ownership by empowering them to resell the digital assets they own but also returning further royalties to original content creators efficiently with the use of NFTs and smart contracts. This paper also examines how a unique, trackable and

[36] Law reforms proposed for digital assets, including NFTs and other crypto-tokens, 28th July 2022, https://www.lawcom.gov.uk/law-commission-proposes-reforms-for-digital-assets-including-crypto-tokens-and-nfts/ (accessed 21/09/2022).

[37] Goossens and Breen (n 5) 4.

exchangeable model can be established by preserving exclusive ownership and exposure of recurring royalties. These royalties can be transparently collected and tracked by blockchain technology and smart contracts combined.

NFTs can help solve a core problem of digital ownership by answering the question of what ownership means when you cannot sell or trade digital assets. NFTs will shape the future of the entertainment industry by offering different perspectives on blockchain technology.

In summary, the key features of NFTs are that they confer control to the owner of Intellectual Property Rights, serve as a certificate to verify authenticity and uniqueness, and guarantee transparency. These key features will improve the experience of all stakeholders involved in the entertainment sector.