
EXAMINING THE LEGAL DEFICIENCIES IN NFT REGULATION AND FUNCTION OF BLOCKCHAIN TECHNOLOGY IN NFT ENFORCEMENT

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ABSTRACT

Non-Fungible Tokens (NFTs) are distinct tokens, “minted” by blockchain technology. Upon the creation of an NFT on the blockchain, the token is incorporated as a ‘block’ of digital data within the chain. Due to the interconnection of these blocks, the data within each block is immutable, meaning it cannot be altered without impacting the entire chain. The NFT comprises a dataset that conveys details about the token, including its contract address, token ID, name, and the identity of the original author. NFTs are typically linked to a digital asset, for instance, a picture or film; however, this digital asset is not included in the NFT’s metadata. NFT metadata will reference the location of the digital asset’s storage, such as a URL.

Despite streamlining the digital creation and transaction process, NFTs continue to encounter challenges, particularly with legal issues. Despite being digital assets rooted in blockchain technology, purchasers of NFTs own restricted rights concerning the digital assets they acquire. Upon purchasing an NFT from the originator of the digital asset, an individual acquires ownership in terms of possession. Nevertheless, the NFT holder possesses no additional rights to the work. This indicates that rights including adaptation rights, reproduction rights, and public communication rights are not possessed by the NFT holder. NFTs are digital certificates of ownership that signify the acquisition of a digital asset and are verifiable on the blockchain, rather than being proof of ownership coupled with a license under the Copyright Act. Consequently, the NFT holder is unable to initiate legal action against others for copyright infringement (such as unauthorized reproduction of an image in a painting) unless the copyright owner of the digital asset formally conveys the copyright to the NFT holder in writing. The issue with digital assets is their inherent ease of sharing and reproduction. Consequently, if the NFT holder engages in buying, selling, or distributing these assets to the public without the copyright owner’s consent,

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they may face copyright infringement claims. Numerous NFTs confer onto the holder a restricted right to utilize copyrights, hence prohibiting the NFT buyer/holder from employing the acquired digital assets for commercial purposes. This paper analyse and comprehend the rights, relationships, and other attributes of NFTs and IPRs.

Keywords: Non-Fungible Tokens (NFTs), Blockchain, Internet of Things (IOTs), IPs, License Rights.

Beginning with Blockchain: Grasping the Fundamentals

Any individual who has been turning their gaze over the course of the past multiple years toward investments, financial services, or cryptocurrencies must have encountered the phrase “blockchain.”¹ A distributed ledger is a kind of repository or an accumulation of enormous quantities of facts that is collected and kept digitally in an orderly framework, which includes a series of nodes. Whilst it may appear complicated, the blockchain system is actually rather simple.² A series of information, consisting of randomized digits or letters (hash), is contained inside every block. These data bits are distinct from one another throughout the block and are linked to one another. A block’s hash will be updated if the data contained within it is modified. Because of this, there is a change throughout the entire chain. Consequently, in the event that an unauthorized person attempts to construct a new block or modify data contained within a pre-existing block, it is necessary to reconfigure and synchronize the information in all of the additional blocks. This needs supervision over fifty percent of the database structure, which is a difficult task; hence, the creation of a database that is both protected and reliable.

Blockchains can also be autonomous, meaning they are not governed by a particular entity, and translucent, enabling anybody to observe the nodes or the ledgers in the chain. Bitcoin, Litecoin, Ethereum, and Ripple are ledger networks that facilitate the exchange of digital currencies.

A digital resource is an item that can be digitally preserved and transported, with specific ownership and rights to use attached to it. Tokens are digital assets kept on a blockchain. Tokens are not considered assets in their own right. A token is a unit of code that provides an

¹ Gautami Tripathi et al., *A comprehensive review of blockchain technology: Underlying principles and historical background with future challenges* (Oct. 29, 2024, 10:04 PM), <https://doi.org/10.1016/j.dajour.2023.100344>.

² Javed Shah, *Distributed Ledger: A Comprehensive Insight for Organizations* (Oct. 28, 2024, 11:01 PM), <https://www.1kosmos.com/blockchain/distributed-ledger-a-comprehensive-insight-for-organizations/>.

electronic authentication certification to a resource on the blockchain, such as an entrance ticket to an event or downloaded music. Tokens can be classified as fungible or non-fungible, depending on their interchangeability.

Problem Statement

Despite the rapid adoption of Non-Fungible Tokens (NFTs) as digital assets in various industries, a significant gap exists in understanding the legal implications surrounding the ownership and rights associated with NFTs. As NFTs represent ownership of digital assets through blockchain technology, purchasers often misconstrue their rights, mistakenly believing that acquiring an NFT includes full ownership of the associated digital asset. This misunderstanding can lead to potential legal challenges related to copyright infringement, misuse of digital content, and conflicted rights between NFT holders and original copyright owners. Therefore, this study aims to investigate the intricate relationships between NFTs and intellectual property rights (IPRs), clarifying the limitations of ownership and usage rights conferred through NFTs.

Objectives

1. To analyse ownership rights: Examine the specific rights conferred to NFT holders upon purchase, including possession versus ownership in terms of intellectual property rights.
2. To assess legal implications: Investigate the legal challenges faced by NFT holders, including potential copyright infringement claims arising from the misuse of digital assets not fully owned by the holder.
3. To analyse case studies: Review landmark cases and examples that illustrate the interaction between NFTs and copyright law, highlighting precedents and emerging legal interpretations.
4. To provide recommendations: Develop a set of best practices and guidelines for NFT creators, holders, and legal professionals to mitigate risks associated with copyright infringement and clarify ownership rights.
5. To contribute to policy development: Offer insights that can inform policymakers and

legal frameworks regarding the regulation of NFTs and their relationship with intellectual property rights.

Significance of the Study

This study holds significant value for multiple stakeholders, including artists, creators, NFT marketplaces, legal professionals, and policymakers. By clarifying the rights and responsibilities associated with NFTs, the study aims to foster a better understanding of the legal landscape surrounding digital assets.

1. For Artists and Creators: The findings will empower artists to navigate the NFT space more effectively, allowing them to comprehend how to protect their intellectual property while leveraging new digital revenue streams.
2. For NFT Holders: The study will provide clarity on the rights that come with NFT ownership, helping holders make informed decisions regarding the purchase, sale, and distribution of NFTs.
3. For Legal Practitioners: Insights from this study will assist legal professionals in advising clients on the complexities of NFTs and mitigating potential legal risks.
4. For Policymakers: The study will contribute to developing a legal framework that balances innovation in the NFT space with the protection of copyright and intellectual property rights.

Overall, this study aims to bridge the existing knowledge gap and contribute to a more robust understanding of NFTs and their implications within the realm of intellectual property law.

The technology of Non-Fungible Tokens (NFTs) and their functioning

Regarding the digital blockchain, NFTs may be precisely described as distinct and indivisible tokens representing an underlying asset. These tokens are produced through a technique known as “coining,” in which a distinct token gets minted according to the established specifications of the blockchain being utilised. Users can create a non-fungible token (NFT) using various

publically accessible programmes like MintBot and Enjin.³ Minting enables the digital object to be assigned a unique identifier and possesses a non-fungible proof of validity. As the duplicate of an NFT will not possess an identical certification, it is likely to be identified as a replica.⁴

Once an NFT is created, the preservation and transfer of its electronic files are facilitated through the use of 'smart contracts'. A smart agreement is an assortment of computer programmes that are associated with an NFT. These algorithms specify the specifics, regulations, and privileges about the fundamental asset connected to the NFT, which could include things like music revenue for royalty, an obligation, a receipt, and furthermore. The distinctiveness of the currency enables the initial inventor to obtain financial benefits and receive rewards from prospective NFT consumers, a procedure referred to as "Tokenization."

Intellectual property includes not just literary works and art, but also designs, logos, and even names. Rights to one's intellectual property are legal protections that may be used to manage and keep secure the results of one's creative efforts. Monopolies and other types of exclusive rights serve as the cornerstone upon which intellectual property is constructed.⁵

Non-fungible tokens are generally used to validate ownership to stop the unauthorised duplication of a digital asset (picture, video, or music). However, in India, questions about the legitimacy and authenticity of digital assets are widespread. These were all digital assets that may be used to demonstrate the ownership and worth of a fundamental electronic asset, such as an original image, video or audio. Using blockchain and smart contracts, they are executed on these assets. Due to their hypothetical characteristics, sudden price fluctuations, and susceptibility to digital safety threats, they currently represent very volatile ventures.⁶

Since it is difficult to locate and identify the rightful owner of content on virtual platforms, leading to simple copying of work and thus diminishing its value, NFTs are largely used to

³ Pravertna Sulakshya, *NFT and its Relationship with IPR* (Nov. 02, 2024, 09:10 PM), <https://www.mondaq.com/india/fin-tech/1132188/nft-and-its-relationship-with-ipr>.

⁴ Prachi Mishra et al., *Beyond Traditional Intellectual Property: Rise of Non-Fungible Tokens (NFTs) and Role of Blockchain in Protecting Digital Art*, *Journal of Intellectual Property Rights* Vol 29, May 2024, pp 212-221, <https://doi.org/10.56042/jipr.v29i3.2636>.

⁵ Amy J. Schmitz et al., *Resolving NFT and Blockchain Disputes* (Nov. 02, 2024, 09:22 PM), <https://stanford-jblp.pubpub.org/pub/resolving-nft-blockchain-disputes>.

⁶ Avinash, *Comprehending the Dilemma of Copyright Law in Relation to Non-Fungible Tokens* (Nov. 04, 2024, 08:15 PM), <https://ilsijlm.indianlegalsolution.com/comprehending-the-dilemma-of-copyright-law-in-relation-to-non-fungible-tokens/>

verify ownership. Decentralization, ownership monitoring, and value storage are thereby imposed via NFTs. It's a way to prove ownership and get "digital bragging rights." The buyer of an NFT does not gain ownership of the underlying work of art.⁷

Section 19 of the Copyright Act of 1957 states that to transfer copyright and be considered the owner, a formal sale contract expressing an unambiguous assignment of copyright must be provided.⁸ Legally, only the author or creator of a work may "reproduce and disseminate copies of it" (Section 14 of the Copyright Act). Therefore, security against resale or duplication of the NFT may not be afforded except if the sellers and buyers agree on such terms in advance.

So, unless the seller expressly transfers their rights to the buyer, the latter will be unable to lawfully assert the possession. However, the Copyright Act will provide legal protection for the digital asset the customer acquires. The question of whether or not these digital assets are legitimate, however, persists. Although there are no overt legislative prohibitions or restrictions on the purchase, sale, or exchange of NFTs in India, many NFT enthusiasts living in the country have raised doubts about the technology's long-term sustainability owing to these uncertainties.⁹ Patent laws will affect NFTs. Since NFTs involve creative works, knowing how they could harm your IPR is essential. Intellectual property owners face significant challenges when attempting to stop online infringement of their work. Some people believe that by purchasing an NFT, they will gain the exclusive rights of the work's creator, which is not the case. If the IP holder sells the licence to the NFT buyer, the buyer will have full ownership rights after the IP holder transfers ownership. Transfers of NFTs may or may not include intellectual property rights.¹⁰

According to Section 14 of the Indian Copyrights Act of 1957, the owner of a copyright may exercise a wide range of rights, including the ability to reproduce and alter the work in question. The buyer of the NFT is also given a digital copy of the underpinning piece. Infringement may occur if NFTs are copied or distributed without permission. Blockchain's immutability and

⁷ NFTs in India: Legal implications, <https://www.thehindubusinessline.com/business-laws/nfts-in-india-legal-implications/article65636218.ece> (last visited Nov. 07, 2024).

⁸ *Doctrine of "Work for Hire" under the Copyright Law* (Nov. 03, 2024, 08:35 PM) <https://amlegals.com/doctrine-of-work-for-hire-under-the-copyright-law/#>.

⁹ Prakriti Patnaik, *NFTs and Mapping its Regulation in India* (Nov. 08, 2024, 09:10 PM), <https://www.ircl.in/post/nfts-and-mapping-its-regulation-in-india>.

¹⁰ Runhua Wang et al., *Unwinding NFTs in the shadow of IP law* (Nov. 06, 2024, 11:05 PM), <https://onlinelibrary.wiley.com/doi/full/10.1111/ablj.12237>.

decentralisation make it a useful tool for tracing down infringers.

Several companies are investing in blockchain NFT technology for use with trademarks to establish a customer authentication system. Popular luxury labels such as Louis Vuitton and Dom Perigon use the authenticity tracking capabilities of the Aura blockchain. The owner of an NFT on a blockchain can profit from licencing their technology if they have a patent on it. For instance, Nike has a patent on a method for creating electronic cryptographic resources for footwear, which may be used to verify the authenticity of the product and reassure buyers.¹¹

NFTs and Blockchain Technology

A blockchain is essentially a publicly accessible ledger that is continuously updated by the collaborative efforts of numerous computers functioning on a worldwide level. It logs and publicly monitors all cryptocurrency transactions. The blockchain serves as a comprehensive ledger that documents all Bitcoin operations as well as maintains a transparent trail accessible to individuals worldwide, akin to a bank's monitoring of a client's financial activities to determine their account balance.¹² Within the blockchain, it is impossible to modify either valid reference or trade, and any individual independently confirms the stores that have been saved.

Since the blockchain publicly documents the transactions of NFT sales and purchases, anybody may examine these records. Additionally, NFT owners can publicly validate their ownership. Consequently, NFTs are traded via the blockchain. Typically, acquiring an NFT confers upon the person who owns it a few fundamental use privileges, including the capacity to publicly disseminate the picture, video content, or music recordings.¹³

NFTs should be considered akin to pieces of art. The purpose of NFTs is to grant the owner exclusive ownership of the digital work, preventing duplication. However, the artist may still maintain copyright and replication rights, similar to tangible artwork. Comparing it to collecting tangible art, anyone can purchase a Van Gogh print, but only one individual can

¹¹ Moish E. Peltz, Esq., *IP and Non-Fungibility: The Intersection of Intellectual Property and NFTs* (Nov. 07, 2024, 07:42 PM), <https://frblaw.com/intellectual-property-and-nfts/>.

¹² Farhat Anwar et al., *A Comprehensive Insight into Blockchain Technology: Past Development, Present Impact and Future Considerations* (Nov. 05, 2024, 07:56 PM), https://www.researchgate.net/publication/365854318_A_Comprehensive_Insight_into_Blockchain_Technology_Past_Development_Present_Impact_and_Future_Considerations.

¹³ Alberto Butera et al., *Blockchain and NFTs-Based Trades of Second-Hand Vehicles* (Nov. 05, 2024, 07:59 PM), <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10147205>.

possess the original.¹⁴ NFTs are occasionally confused with a type of digital currency. NFTs are electronic securities that may be purchased using cryptocurrency. Both bitcoins and NFTs are united solely by the presence of an electronic record preserved on a blockchain. An NFT currency is distinct and cannot be exchanged for one of comparable worth. Bitcoin can be exchanged for a different Bitcoin, offering increased openness as well as worth compared to traditional cryptocurrencies.

The issue of determining if the proprietor of an NFT possesses title to or authorship of the fundamental property through which the NFT is generated is raised due to the nature of NFTs as virtual currencies built upon virtual resources.¹⁵ Scholars clarify that NFTs do not grant copyrights entitlements; the buyer just gains possession of the electronic product, akin to how an artist maintains copyright over their artwork despite giving the physical piece to a purchaser. The purchaser cannot claim copyright ownership of the item in question, provided the original owner explicitly transmits the copyright through assignment or license within the Copyright Act. The Copyright Act protects the purchaser's electronic goods against unauthorized copying or distribution. Section 14 of the Copyright Act confers the privilege to reproduce or disseminate replicas of a work of one's own. Thus, any such behavior would be governed by the Copyright Act except the smart contract entered into within the purchaser and the rightful owner explicitly allows the selling or replication of the digital object.

Cryptocurrencies, the Internet of Things (IOTs), and Intellectual Property (IP)

The tech industry and the gaming industry are getting ready for the emergence of the the virtual world, a system of interconnected 3D virtual landscapes where individuals may engage with one another both economically and socially via avatars. On the contrary, NFTs are currently present. NFTs are encrypted data stores with distinctive metadata, built on current blockchain technology. NFTs are unique and can contain many types of information, such as the personalities or artistry belonging to various persons. Their distinctiveness enables them to be traded or exchanged, with a computerized record recording every single transaction. NFTs utilize the blockchain system to generate unique electronic documents that contain a picture,

¹⁴ Michael D. Murray, *Transfers and Licensing of Copyrights to NFT Purchasers* (Nov. 07, 2024, 08:23 PM), https://uknowledge.uky.edu/cgi/viewcontent.cgi?article=1786&context=law_facpub.

¹⁵ Joshua A. T. Fairfield, *Tokenized: The Law of Non-Fungible Tokens and Unique Digital Property* (Nov. 07, 2024, 08:54 PM), <https://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=11464&context=ilj>.

image, or footage, which plays a crucial role in determining their marketplace significance, particularly in the amusement sector.¹⁶

In the metaverse, avatars operated by human beings or machines can manipulate simulated goods like automobiles, guns, or decor, which may include brand names or works protected by copyright. Intellectual property laws apply to the intangible features of objects, whether virtual or real, meaning that creators of the virtual world must adhere to the protections of creators, artists, and proprietors of unique symbols just like in the real world. This allows those who hold rights to take legal action against the theft of their ideas and creations in the virtual world, such as in digital accessories created for virtual characters.¹⁷

The verdict about NFTs is comparable. NFTs are electronic documents that can contain artistic creations or additional material, including videos or graphics. If copyright law grants reserved rights over the original works of creators (*corpus mysticum*) separate from possession of the electronic object containing those works (*corpus mechanicum*), then individuals using an audio recording or online game clips in an NFT must obtain permission from the person who owns the copyright. There is minimal discussion on the implementation and legitimacy of the existing regulations on NFTs as well as the metaverse as a whole.¹⁸

Can License Rights and Other IPRs Be Reflected in NFTs?

Non-transferable tokens may serve as a proxy for IP rights. Before the NFT can be linked and minted, the project owner must get the IP permissions from the copyright owner. You may be sued for intellectual property infringement when you create an NFT that uses a person's creations lacking their permission. NFT buyers would likewise be infringing if the NFT initiative sold the NFT tied to the digital work. Dealing with NFTs requires careful attention to issues of ownership and licencing (copyrights and trademarks).¹⁹

¹⁶ Mueen Uddin et al., *Unveiling the Metaverse: Exploring Emerging Trends, Multifaceted Perspectives and Future Challenges* (Nov. 10, 2024, 09:56 PM), <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10138386>.

¹⁷ *The Metaverse & NFTs Global Jurisdiction Frontiers for Trademarks, Copyrights and IPR Protection* (Nov. 10, 2024, 10:24 PM), <https://www.globalipconvention.com/blog/the-metaverse-nfts-global-jurisdiction-frontiers-for-trademarks-copyrights-and-ipr-protection>

¹⁸ Emily Behzadi, *The Fiction of NFTs and Copyright Infringement* (Nov. 12, 2024, 11:42 PM), <https://scholarlycommons.law.cwsl.edu/fs/401/>.

¹⁹ Supra Note 14.

Many people in the banking and cryptocurrency industries have taken an interest in NFTs as of late. Digital innovations like Blockchain, virtual currencies, and non-fungible tokens have attracted mainstream attention during the past decade. With NFT, the platform has sown the hope that both producers and buyers would benefit monetarily.²⁰

Blockchain technology is being heralded as the ‘next big thing’ and a game-changer for the future by many. Since cryptocurrencies and NFTs are subsets of Blockchain, they too should follow suit. Experts believe this innovation will have a significant impact on IP law, and they see Blockchain’s promise as a user-friendly platform with far-reaching applications.²¹ As an example, in the future, a technologically driven wiser registry will be in place to guarantee efficient and timely operations, allow IP owners to collect royalties from users of their work via smart contracts, and so on. The glory for the creation of today’s large investment token - the NFT, belongs to this technique which permits the encoding of assets independent of its type.²² Tokenized digital assets may be easily classified into two types of transactions: fungible and non-fungible. In basic terminology, any token that possesses unique properties and that can be exchanged for another token comes under the umbrella of NFT.²³ On the other hand, a Fungible token can be traded for another token and has a value that can be replaced by another token. To illustrate the difference, two Rs. 5 tokens can be exchanged for one Rs. 10 tokens. The major reason this is not feasible with NFTs is that each token has unique characteristics that cannot be traded for other tokens.

The Process

Choosing an asset that might benefit from being tokenized and then minting that token is the first step in the process of generating a Non-Fungible Token. For example, various platforms exist that let owners of the asset tokenize it according to standards based on the blockchain technology utilised in its production. After the NFT has been minted, its owner will receive a certificate of authenticity that may be used to tell the real thing from a fake. A smart transaction,

²⁰ Ruiqiang Li et al., *Empowering Visual Artists with Tokenized Digital Assets with NFTs* (Nov. 12, 2024, 11:59 PM), <https://arxiv.org/html/2409.11790v1>.

²¹ Prachi Mishra et al., *Beyond Traditional Intellectual Property: Rise of Non-Fungible Tokens (NFTs) and Role of Blockchain in Protecting Digital Art*, *Journal of Intellectual Property Rights* Vol 29, May 2024, pp 212-221 DOI: 10.56042/jipr.v29i3.2636.

²² Vasundhara Shankar and Mudit Kaushik, *Using NFTs for Intellectual Property Transactions*, (Nov. 12, 2024, 09:38 PM), <https://www.ijlt.in/post/using-nfts-for-intellectual-property-transactions>.

²³ Haya R. Hasan et al., *Non-fungible tokens (NFTs) for digital twins in the industrial metaverse: Overview, use cases, and open challenges* (Nov. 14, 2024, 08:53 PM), <https://www.sciencedirect.com/science/article/pii/S0360835224004364>.

a digital document outlining the token, the rights granted to the buyer of the NFT, etc., must be engaged in by any person purchasing such an NFT from the owner or seller.²⁴ When one token is created, it will be available for purchase, and its issuer can decide how the token is sold. Set Price Sales, Unlimited Sales, and Timed Auctions are all viable alternatives for selling NFTs online, just as they would be when selling any other tangible item.²⁵ If the NFT's creator chooses the Set Price Sale option, he can establish a price at which his token will be purchased immediately. But with an Unlimited Auction, buyers can place bids until the inventor chooses a winner. Buyers can also place bids in a Timed Auction, but the seller has only a fixed period to accept them.²⁶

Now we can get to the depth of the plot question: what, exactly, do you possess when you buy an NFT? Do you have rights to the token's IP? In the event of an NFT, do you take title to the corresponding intellectual property? Is it possible to bring someone to justice if he violates the intellectual property of the token's real content?

While discussions of NFTs as a possible investment instrument have been ongoing since at least 2012, it was not until 2017 that a popular NFT gained mainstream attention when Dapper Labs launched selling its beloved cartoon cat mascot online, Crypto Kitties.²⁷ The declaration that purchasers can market digital cats and kittens caused a frenzy on the internet and demonstrated the existence of a market for such commodities among investors. Since the beginning of the trade of these tokens, there has been a lot of confusion about what exactly the buyer acquires. When someone buys an NFT, he is exchanging their payment (in crypto or some other form of exchange) for the right to possess a token representing an asset that is unique to that person and cannot be possessed by anyone else unless the token is traded or transmitted.²⁸ The question is whether or not the token holder has the underlying asset. If a person buys a painting but merely acquires the painting's physical form, the artwork's

²⁴ Janne Kaisto et al., *Non-fungible tokens, tokenization, and ownership* (Nov. 15, 2024, 09:09 PM), <https://www.sciencedirect.com/science/article/pii/S0267364924000633>

²⁵ Corinne Tan, *Rights in NFTs and the flourishing of NFT marketplaces*, *International Journal of Law and Information Technology*, Volume 32, Issue 1, 2024, <https://doi.org/10.1093/ijlit/eaee018>.

²⁶ Nansen, *NFT Auction vs Fixed Price: Which is Better Value?* (Nov. 16, 2024, 11:59 PM), <https://www.nansen.ai/guides/nft-auction-vs-fixed-price-which-is-better-value>.

²⁷ Bud Heneekers, *A Brief History of NFTs* (Nov. 18, 2024, 07:42 AM), <https://www.web3.university/tracks/build-your-first-nft/brief-history-of-nfts>.

²⁸ Emmanuelle Ganne, *Can Blockchain revolutionize international trade?* (Nov. 19, 2024, 07:12 PM), https://www.wto.org/english/res_e/booksp_e/blockchainrev18_e.pdf.

intellectual property rights continue to belong to the painting's original inventor. Like a token, NFT is nothing more than a proof of ownership for the tokenized form of the asset.²⁹

In light of the current influx of capital into NFTs from a wide variety of investors, several businesses have developed Licenses that spell out the rights and responsibilities that are acquired by purchasers of NFTs. The NFT License developed by Drabber Labs, for instance, expressly states that the buyer does not get any copyrights to the asset. That is to say, the buyer has exclusive possession of the licenced material in which the dos and don'ts of the NFT are outlined in detail.³⁰

Protection of IP in NFT

As the number of platform investors grows, so too does the number of new NFTs be created. NFTs are being minted out of everything of value now. Who would have thought that a tweet with the words "Just putting up my twitter" would transform into a valuable item that might be digitally owned, tokenized, and subsequently purchased for 1,630.58 Ether (Crypto value), which was around \$2.9 million a year ago. As more and more NFTs are issued by mints, so does the need to secure the intellectual property rights that belong to each new cryptocurrency. Trademarks and copyrights, two forms of IP protection, are major sources of anxiety for NFT transactions.³¹

Copyrights & NFTs

No one else can mint NFTs in accordance with a work unless the legitimate owner of the copyright does so. What would happen, then, is that the computerized or decoded form of the work in question would be traded without the copyright being transferred as part of the process of making and selling the NFT.³² This system would allow the vendor to profit from tokenizing the content while guaranteeing that the purchasers would not infringe on the rights of the Copyright holders. The tokenized work's holder has the option to file a lawsuit for copyright

²⁹ Avinash, *Comprehending the Dilemma of Copyright Law in Relation to Non-Fungible Tokens* (Nov. 28, 2024, 08:23 PM), <https://ilsijlm.indianlegalsolution.com/comprehending-the-dilemma-of-copyright-law-in-relation-to-non-fungible-tokens/>.

³⁰ Michael D. Murray, *Transfers and Licensing of Copyrights to NFT Purchasers* (Nov. 29, 2024, 10:44 PM), <https://stanford-jblp.pubpub.org/pub/copyrights-nft-purchasers/release/1>.

³¹ Anuj Jasani, *IPR & NFTs* (Nov. 30, 2024, 07:12 PM), <https://mahtta.co.in/ipr-nfts/>.

³² Adarsh Vijayakumaran, *NFTs and Copyright Quandary* (Dec. 1, 2024, 11:22 PM), <https://www.jipitec.eu/archive/issues/jipitec-12-5-2021/5497>.

violation and file a claim for damages by the same way that the owner of any other work can if they believe their work has been infringed upon. The question of whether or not it constitutes infringement arises when individuals build NFTs relying on protected content without the involvement of the real Copyright holder.³³ While the NFT's substance was first conceived from copied labor fits underneath fair use exception, the NFT can be considered to be non-infringing. That is, the actual content of the specific NFT should be altered such that it possesses a "new expression, meaning, or message" that would fit under the "fair use concept".³⁴

Trademarks and Non-Fungible Tokens

Trademarks generally give the owner the right to prevent others from applying a mark that is very similar or equivalent to their own for the same or similar items or services. Unauthorized parties are creating numerous tokens that closely resemble or are identical to well-established trademarks because to the absence of regulations governing NFTs.³⁵ Due to the novelty of NFTs, many corporations have not yet implemented trademark protection for categories associated with digital products or services, the metaverse, or electronic products. The minters of NFTs argue that the products or operations associated with the NFTs are distinct from those covered by trademarks, thus not constituting infringement. Trademark owners take legal action against individuals or businesses using trademarks that are similar to their own, even if the products or services are different, as it is considered an infringement.

There are two parties involved in IP security: the IP holder and the NFT creator, and the NFT owner and the customer. Many businesses in the fashion, food, and media industries are resorting to legal action to protect their copyrights and trademarks from being violated in the manufacture and selling of NFTs. Some notable examples are:

³³ Stuart Levi et al., *Legal considerations in the minting, marketing and selling of NFTs* (Dec. 1, 2024, 08:34 PM), <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/05-legal-considerations-in-the-minting-marketing-and-selling-of-nfts/#:~:text=Enforcement%20by%20rights%20holders&text=If%20an%20NFT%20is%20minted,%2C%20and%20perform%20the%20work>).

³⁴ Benjamin Kazenoff, *NFTs, Blockchain Technology, and Copyrights: How the Future of the Music Industry will be Decentralized*, NYSBA Entertainment, Arts and Sports Law Journal, 2021, Vol. 32, No. 3, pp15-23.

³⁵ Anoop Verma et al., *Prior use v. registered trademark - An analysis of Section 34 of Trademarks Act, 1999*, (Dec. 2, 2024, 11:09 PM), <https://www.lexology.com/library/detail.aspx?g=51d2a8a0-fcd5-4323-a134-28896c1370da>.

The Pulp Fiction NFT Case

The distributors of Quentin Tarantino's "Pulp Fiction" proceeded with a copyright infringing lawsuit, claiming the fact the NFT publication did not involve their permission beforehand, a claim denied by Quentin Tarantino, the filmmaker of "Kill Bill." The distributors currently possess the film's rights, and the NFT introduction without prior consultation triggered the Copyright Violation case. Tarantino has affirmed his intention to continue with the NFT sale notwithstanding the litigation. Despite Miramax's claims, they possess the necessary rights to design, market, and distribute NFTs for the movie.³⁶

Hermes v. Mason Rothschild

Hermes filed a lawsuit against NFT creator Mason Rothschild for his creation of the MetaBirkins NFTs. The business asserts that its domain name "METABIRKINS" infringes on its established BIRKIN trademark. The company stated that attaching the prefix for generic "META" on to their well-known logo Consumers would still be confused by BIRKIN and be considered infringement. The allegations states that in the middle of December 2021, Hermes issued a Cease-and-Desist reminder to Rothschild requesting the eradication of the NFT entries.³⁷

Lil Yachty v. Opulous case

Rapper Lil has sued music NFT startup Opulus for trademark infringement, alleging that the company utilized his name and brand in launch marketing without authorization. It has been alleged that his organization had discussions with Opulus executives and that he took part in a virtual meeting, but no formal agreement was reached about the artist's involvement. Communication between the parties stopped after the virtual meeting. The rapper is presently demanding that the NFT Company halt its infringement of his trademarks and intellectual materials and restrain the accused from employing them.³⁸

³⁶ Aanchal Pandey, *Navigating NFTs: A Deep Dive into Copyright Infringement and the Pulp Fiction Perspective* (Dec. 2, 2024, 11:13 PM), https://www.iul.ac.in/LawJournal/Pdf/Volume_III_Manuscript_11.pdf.

³⁷ Moish E. Peltz, Esq., *Hermès v. Rothschild: A Landmark Decision for Trademarks and NFTs* (Dec. 2, 2024, 11:52 PM), <https://frblaw.com/hermes-v-rothschild-a-landmark-decision-for-trademarks-and-nfts/>.

³⁸ Larisha Paul, *Lil Yachty settles Infringement Lawsuit against NFT Seller who Raised Millions using his Name* (Dec. 2, 2024, 10:47 PM), <https://www.rollingstone.com/music/music-news/lil-yachty-settles-infringement-lawsuit-nft-opulous-1234713148/>.

Universal Music Group v. Republic Investments case

Since last year, the two businesses have been engaged in a legal struggle for the trademark REPUBLIC. Since UMG is the label's owner, it has asked a court to issue a preliminary injunction preventing Republic Investments from using the mark. With the use of an NFT platform, Republic Investments has expanded into the music industry. Universal Music Group has announced its intent to venture into NFTs, claiming that the defendant's labels associated with music-related support have caused numerous instances of real disarray, which would consequently hinder the group's business processes, particularly in light of its plans to engage with the NFT and Metaverse sectors.³⁹

Nike v. StockX case

Nike filed a lawsuit against StockX, alleging that it had been selling NFTs based on unlicensed pictures of Nike footwear. Nike contends that the NFTs violate its trademarks and may cause customers to mistakenly believe that the NFTs are manufactured and marketed by the label itself, resulting in a loss of revenue and customer loyalty. The corporation has filed suit to prevent further distribution of the NFTs and to recover monetary damages. Nike says that consumers' scepticism of the NFTs has damaged the company's reputation, and StockX is accused of deceiving consumers by suggesting that they will be able to exchange the tokens for actual copies of the shoes. In the last hearing, StockX rebutted Nike's assertions, arguing that the label had fundamentally misunderstood the token's purpose and that it had never intended to sell NFTs separately from the real shoes.⁴⁰

All of the following instances are very new and are now ongoing in their respective courts; this absence of regulation considerations to simplify NFTs and associated activities, especially in connection to IP, has a direct impact on enterprises and brands. In the second case, many buyers mistakenly believe they are now the legal owners of the underlying intellectual property (IP) rights to the asset represented by the token they purchased, prompting minters/sellers or IP

³⁹ Blake Brittain, *Republic Records sues 'Republic' investment platform over trademarks* (Dec. 3, 2024, 08:20 PM), <https://www.reuters.com/legal/transactional/republic-records-sues-republic-investment-platform-over-trademarks-2021-11-12/>.

⁴⁰ Pavitra Priyadarshan, *Nike v. Stockx: An Analysis of The Trademark Infringement in the Metaverse* (Dec. 2, 2024, 08:29 PM), <https://www.ipandlegalfilings.com/nike-v-stockx-an-analysis-of-the-trademark-infringement-in-the-metaverse/>.

holders to clarify to buyers that they actually just own the token.⁴¹

The Meta Effect

The Metaverse is a virtual environment realm where people may go to socialise, work, and play in a variety of different virtual environments. People have the freedom to design their own personas and act as they like in their digital personas. Avatars must equip themselves with the essentials of life, including clothing, food, and accessories, all of which are available for purchase in the digital realm. Goods like these are indicative of the kinds of things that may be purchased in standard marketplaces.⁴² Companies like Nike, Walmart, the New York Stock Exchange, McDonald's, Monster Energy, etc. are among the many that have recently entered the Metaverse market. McDonald's has been hinting at its entry into the virtual reality market through Metaverse by filing trademark applications for a wide range of virtual goods, services, and even digital eateries and cafés. They have also sought trademarks for use in connection with providing virtual shows and other forms of online entertainment within their online McCafé. Companies like Panera Breads are applying to get trademarks on the word "Meta" registered. The bakery has trademarked its available for download, simulated culinary and drinks merchandise for accessibility in digital realms, as well as NFTs and the ability to procure products and acquire assistance in the virtual environment to be conveyed, and has received several pending trademark applications related to these goods and services.⁴³

The New York Stock Exchange (NYSE) has formally entered the Crypto and NFT industry, with applications having been submitted to trademark the phrase "NYSE" for use as an NFT. The New York Stock Exchange (NYSE) has declared that it has no current intentions to introduce a cryptocurrency or network-based trading token (NFT), and that it actively evaluates the impact of new products on its trademarks and takes steps to safeguard such trademarks. Events like these prove that the Metaverse is poised to become the "next big thing", and they include more than just businesses wanting to safeguard their brand names in the virtual sphere. Monster Energy, a global leader in the energy drink market, has applied to the USPTO to

⁴¹ Cecilia Trevisi et al., *Non-Fungible Tokens (NFT): Business models, legal aspects, and market valuation* (Dec. 5, 2024, 09:26 PM), <https://www.medialaws.eu/rivista/non-fungible-tokens-nft-business-models-legal-aspects-and-market-valuation/>.

⁴² Yogesh K. Dwivedi et al., *Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy* (Dec. 4, 2024, 07:52 PM), <https://www.sciencedirect.com/science/article/pii/S0268401222000767?via%3Dihub>.

⁴³ Bernard Marr, *The Metaverse and Digital Transformation at McDonald's*, (Dec. 5, 2024, 11:22 PM), <https://www.forbes.com/sites/bernardmarr/2022/06/22/the-metaverse-and-digital-transformation-at-mcdonalds/>.

register four of its logos for usage in the Metaverse and for NFT. The trademark applications detail the marks it will be utilized for various downloaded digital products such as beverages, foods, vitamins, sports, games, music, and clothing, as well as online marketplaces where these items may be purchased with NFTs. Each passing day shows that businesses across all sectors are preparing for a new revenue stream in the form of Metaverse and NFTs by filing trademark applications to secure their brands within the digital realm. The subject of Metaverse's connection to NFTs and the platform's role in the evolution of this technology then emerges.⁴⁴

Because, as was previously said, the Metaverse is a manifestation of augmented facts, facilitating user engagement in their own constructed avatar to engage in mundane activities like those found in the actual world (such as shopping, going to the movies, learning, etc.), the answer is straightforward. On this platform, Cryptos and NFTs are used as substitutes for fiat currency. NFTs may be used to buy and sell the virtual items and services necessary to participate in the platform's virtual economy. Therefore, it is clear that NFTs as well as the Metaverse have benefited to each other's growth, and that the efficient and easy working of both becomes almost impossible without the other due to the constant evolution of both domains.⁴⁵

Safeguarding NFTs via Intellectual Property

The NFT's content can be safeguarded as intellectual property if it fulfils the requisite standards for such protection. If the process of minting or generating the specific NFT qualifies as patentable subject matter, then it will be covered by patents. Furthermore, any logos, volumes, artwork, other kinds of art, photos, etc. may be the subject at hand of a token. Due to the increased likelihood of misapplication and unauthorized use following tokenization, the rightful proprietors of such specific topic must take appropriate measures to prevent infringement through the use of trademarks and copyrights, and in the event of unauthorised use, they must provide appropriate legal and regulatory relief. Again, this is contingent upon meeting the requirements for trademark and copyright protection under the relevant

⁴⁴ Kathryn Park, *Trademarks in the metaverse* (Dec. 5, 2024, 11:45 PM), <https://www.wipo.int/en/web/wipo-magazine/articles/trademarks-in-the-metaverse-42518>.

⁴⁵ *Exploring digital assets in the metaverse* (Dec. 7, 2024, 10:13 PM), <https://rejolut.com/blog/exploring-digital-assets-in-the-metaverse/>.

legislation.⁴⁶

Emerging problems for intellectual property rights holders

These novel types of recreation provide issues for intellectual property rights owners, which originate from several sources. Creators, manufacturers, distributors, and owners of trademarks possess sole entitlement to their intellectual properties. These entitlements are not comprehensive, as the Berne Convention outlines specific instances where they may not be exercised. Some uses, such as reproducing a work of literature for an academic attribution or employing a brand as a representation the brand proprietor's items and offerings, are not protected by the exclusive rights of the rights holders.

To use a digital object bearing a company's brand like an NFT or something in the metaverse, authorization must be obtained from the owner of the trademark. A few courts have ruled that many expressive applications of third parties' trademarks in digital media do not require prior approval.

In 2017, AM General LLC, the maker of the renowned Humvee military vehicle, filed a lawsuit against the publisher of the video game series Call of Duty for replicating the vehicle's design and using its trademark in the game. The United States District Court, Southern District of New York determined that Activision's use of the vehicle and trademarks in their video game, which aimed to realistically simulate modern warfare, had artistic value and satisfied the criteria of the Rogers test.⁴⁷

A potential next step and some recommendations

In the initial stages of NFTs, buyers were limited to using their purchase for personal purposes and were not allowed to profit from it. The developer can offer specific usage instructions for NFTs to meet certain needs, such as generating profit from the tokens. Dapper Labs, the company responsible for popular NFTs like CryptoKitties and NBA Top Shots, introduced the notion of NFT License 2.0. These NFT buyers generated profits of up to \$100,000 year with this approach. Although this is an innovative and interesting advancement for NFTs, it is

⁴⁶ *Protecting Non-Fungible Tokens (NFTs) Under Intellectual Property (IP)* (Dec. 4, 2024, 08:18 PM), <https://www.copperpodip.com/post/protecting-non-fungible-tokens-nfts-as-intellectual-property-ip-asset>.

⁴⁷ Ivan Blomqvist, *Trademark infringement: AM General vs. Activision Blizzard* (Dec. 8, 2024, 11:12 PM), <https://moellerip.com/the-moeller-blog/trademark-infringement-am-general-vs-activision-blizzard/>.

becoming increasingly challenging to monitor users and prevent them from surpassing the established limit. NFT creators may want to strictly ban the monetization of their works due to this concern.⁴⁸

NFTs operate via blockchain networks. Smart contract development is a crucial element of the blockchain concept. Smart contracts are essentially contracts that have stipulations written in computer code. Smart contracts can be created to include NFTs, ensuring that the transfer of the NFT only takes place after the terms of the contract are fulfilled.⁴⁹

Legislative and judicial entities worldwide are analysing electronic agreements from a legislative standpoint, with ongoing efforts to establish a legally valid system of intelligent contracts. This would help legitimize NFTs as a viable financial choice or source of income.

Here are some recent breakthroughs in NFTs that could stimulate in-depth conversations about Intellectual Property Rights and NFTs, as well as how NFT platforms could be enhanced to protect IP Rights more effectively.

Given the current state of affairs, it is clear that NFT is essential for fostering innovation and creating new income streams since it helps to foster a creative environment that can then be monetized. With the proliferation of digital media, it is more crucial than ever to safeguard creative works, especially those that introduce significant new ideas. Similar to the urgent necessity for the codification of particular regulations, the ridge regression of these NFTs and all other aspects of the digital or virtual world is also necessary. Speculation about the prospects of NFTs based on how they currently operate reveals that they may be a game changer, especially in the investment industry; thus, protecting one's intellectual property rights is crucial and the only solution to avoid being pushed off the market.

⁴⁸ Kathleen Bridget Wilson et al., *Prospecting non-fungible tokens in the digital economy: Stakeholders and ecosystem, risk and opportunity* (Dec. 8, 2024, 11:46 PM), <https://www.sciencedirect.com/science/article/pii/S0007681321002019>.

⁴⁹ *Understanding blockchain, NFTs & smart contracts* (Dec. 7, 2024, 09:26 PM),

<https://www.walkermorris.co.uk/comment-opinion/understanding-blockchain-nfts-smart-contracts/>.