

**Ministry of Science and Higher Education of the Republic of Kazakhstan
MAQSUT NARIKBAYEV UNIVERSITY**

ZHUMATAY BAGUSTAR SERIKULY

**«LEGAL ISSUES IN APPLYING TRADITIONAL
IP LICENSING MODELS TO NFTs»**

education program 7M04210 - «Intellectual Property and Business law»

Master's project for the academic degree of Master of Law

Astana, 2025

MNU Research Archive

**Ministry of Science and Higher Education of the Republic of Kazakhstan
MAQSUT NARIKBAYEV UNIVERSITY**

«Admitted to the defense»
Program Manager/Coordinator

«__» _____ 2025

MASTER'S PROJECT

**On the topic: «LEGAL ISSUES IN APPLYING TRADITIONAL
IP LICENSING MODELS TO NFTs»**

**according to the educational program
7M04210 - «Intellectual Property and Business law»**

Author

B.S.Zhumatay

Scientific supervisor

PhD, Olga Gurgula

Astana, 2025

MNU Research Archive

APPROVE
Program Manager/Coordinator

« ____ » _____ 2025

The calendar plan for the preparation of a master's project

Name of the project stages	Period	A note on the implementation of the project stages			
		Actual completion date	The degree of readiness of the completed stage of the project	Signature of the postgraduate	Signature of the supervisor
Review of literature and practical materials	20.09.24 - 01.01.25	01.01.25	100%		
Methodology development	01.12.24 - 31.12.24	31.12.24	100%		
Data Collection and processing	01.12.24 - 31.12.24	31.12.24	100%		
Analysis and interpretation of the results obtained	25.12.24 - 10.01.25	10.01.25	100%		
Development of project recommendations	01.01.25 - 07.01.25	07.01.25	100%		
Preparation of the introduction and conclusion	10.01.25; 05.04.25.	10.01.25; 05.04.25.	100%		
Preparation of project: Preparation of the first section of the project	01.02.25 - 15.03.25	15.03.25	100%		
Preparation of the II section of the project	16.03.25 - 05.04.25	05.04.25	100%		
Receiving feedback from the supervisor	05.04.25 - 10.04.25	10.04.25	100%		

Preparation of a report, visual aids and presentations	10.04.25 - 27.04.25	27.04.25	100%		
Defense of the master's project	26.05.25	26.05.25			

Scientific supervisor of the Master's project: _____ PhD, Olga Gurgula

The plan was accepted for execution: _____ B.S.Zhumatay

MINU Research Archive

CONTENT

List of abbreviations	6
Introduction	7
CHAPTER I. AMBIGUITIES IN IP OWNERSHIP, LICENSING AND ENFORCEMENT OF NFTs	10
1.1. The Ownership Dilemma: Token vs. Underlying Intellectual Property	10
1.2. Contractual Clarity and Consumer Protection	13
1.3. Challenges in Enforcing NFT Ownership	19
CHAPTER II. POTENTIAL OF IP LICENSING MODELS FOR DIGITAL ASSETS AND NFTs	25
2.1. Specific Usage of Traditional IP Licensing Models	25
2.2. NFT Licensing Terms for Digital Assets in Kazakhstan	28
Conclusion	35
Bibliography	36

MNU Research Archive

List of abbreviations

NFT – Non-Fungible Token
IP – Intellectual Property
RK – Republic of Kazakhstan
CC RK – Civil Code of the Republic of Kazakhstan
AIFC – Astana International Financial Center
DMCA – Digital Millennium Copyright Act
AML/CTF – Anti-Money Laundering / Counter-Terrorist Financing
KYC – Know Your Customer
NIIP – National Institute of Intellectual Property
EU – European Union
UK – United Kingdom
USPTO – United States Patent and Trademark Office
USCO – United States Copyright Office
WIPO – World Intellectual Property Organization
URL – Uniform Resource Locator

MNU Research Archive

Introduction

Relevance of the research topic

People commonly describe non-fungible token (NFT) purchases by calling them "JPEG purchases" because they usually display digital image files through online avatars on platforms like OpenSea.¹ An NFT is a unit of such data attached to a unique digital file, such as a song or video, that contains proof of the identity of the file's owner.² The essential point that NFT collection issuers maintain complete ownership rights to their digital images escapes most observers. The difference between an NFT and its associated digital content remains poorly understood by both novice and experienced NFT owners. Many NFT buyers incorrectly assume that buying an NFT grants them direct ownership rights to the associated digital images stored on blockchains. The fast-growing NFT market transforms economic and legal systems while creating complex intellectual property rights challenges. NFTs now encompass more than artwork because they provide access to services and liquidity positions in decentralized finance as well as unique digital assets. The innovative potential of NFTs together with their expanding scope indicates they will have a major influence on both crypto-native ecosystems and other areas. The \$69 million Beeple artwork sale³ and *Miramax v. Tarantino*⁴ legal case demonstrate why NFT intellectual property ownership needs immediate clarification. NFTs are recognized as digital assets in Kazakhstan, but the country lacks specific intellectual property regulations which produces noticeable regulatory uncertainties especially within the Astana International Financial Centre framework.

The most prominent example of the use of decentralized technologies in the realm of NFTs is the leading blockchain platform Ethereum, which illustrates their potential. Ethereum's leading blockchain platform describes non-fungible tokens (NFTs) as a transformational innovation in digital property, allowing users to own unique, non-replicable assets verified using blockchain technology.⁵ However, such technological advances inevitably raise complex legal issues related to the regulation of NFTs.

The purpose of the research

This research aims to critically analyze legal issues arising from applying traditional IP licensing models to digital assets and NFTs and

¹ Ardianti, R. and Widharta, E. (2022). Aesthetic analysis and public perceptions of popular artworks in nft opensea marketplace., 507-516. https://doi.org/10.2991/978-2-494069-91-6_80

² Oxford English Dictionary, s.v. "NFT (n.)." December 2024, <https://doi.org/10.1093/OED/4349970676>

³ Jacob Kastrenakes, 'Beeple NFT Artwork Sells for \$69 Million at Christie's First-of-its-kind Auction' (The Verge, 11 March 2021) <https://www.theverge.com/2021/3/11/22325054/beeple-christies-nft-sale-cost-everydays-69-million> accessed 20 April 2025.

⁴ Jody Queen, 'Tarantino, Miramax Settle Copyright Suit Over "Pulp Fiction" NFT' (Reuters, 9 September 2022) <https://www.reuters.com/legal/tarantino-miramax-settle-copyright-suit-over-pulp-fiction-nfts-2022-09-09/> accessed 20 April 2025.

⁵ Ethereum. "What is NFT?" [Electronic resource]. URL: <https://ethereum.org/ru/nft/>

propose clear legal frameworks that safeguard creators while facilitating NFT market growth.

Tasks:

- I. Analyze foundational concepts differentiating NFT ownership from traditional IP rights.
- II. Examine how traditional IP licensing models (exclusive, non-exclusive, sole) adapt to digital assets and NFTs.
- III. Develop recommendations to clarify NFT-related licensing, ensuring compatibility with international standards and the Kazakhstani context.

The object of research. The research focuses on legal relationships surrounding creation, commercialization, and usage of NFTs, including contractual interactions and regulatory frameworks impacting IP rights.

The subject of the research. The study specifically investigates how traditional IP licensing mechanisms apply to NFTs, addressing key challenges such as licensing structures, enforcement complexities, and cross-jurisdictional concerns, particularly within Kazakhstan and the AIFC.

The normative and practical basis of the research. The research draws on Kazakhstani legislation, AIFC regulations, comparative laws from the United States, the EU and the United Kingdom, and reports including the Joint USPTO-US Copyright Office Report. Practical insights are derived from industry practices, relevant case law, and standard licensing frameworks.

Research methods. The methodology combines doctrinal analysis of laws, comparative legal analysis across jurisdictions, systematic exploration of blockchain technology's implications for IP, and case study reviews, utilizing inductive and deductive reasoning.

Scientific novelty of the research. The study's novelty lies in its comprehensive exploration of traditional IP licensing models within NFT contexts, identifying previously underexplored challenges such as pseudonymity, immutability of blockchain records, and the transferability of token-linked licenses. Furthermore, its comparative analysis incorporating Kazakhstan's emerging framework, notably through AIFC practices, adds originality and relevance.

Provisions to be defended:

- I. NFT ownership distinctly differs from IP rights ownership, granting no implicit IP rights without explicit agreements.
- II. Traditional licensing models remain fundamentally applicable but require adaptation to address NFTs' technological and transactional uniqueness.
- III. Legal and practical frameworks must evolve to offer clarity, enforcement, and licensing standardization in NFT markets.

- IV. Explicit legislative definitions and updated regulations are necessary for managing digital assets within IP law.
- V. Effective NFT licensing requires integrating smart contracts with clearly articulated off-chain legal agreements.

The theoretical significance of the study is that it refines IP theory, bridging gaps between traditional licensing principles and emerging digital asset realities, thus expanding jurisprudential understanding.

The practical significance of the research lies in providing actionable recommendations for policymakers, legal professionals, and market participants, supporting clear and enforceable NFT licensing frameworks and aiding legislative and regulatory developments.

MINU Research Archive

CHAPTER I. AMBIGUITIES IN IP OWNERSHIP, LICENSING AND ENFORCEMENT OF NFTs

1.1. The Ownership Dilemma: Token vs. Underlying Intellectual Property

Non-fungible tokens (NFTs) blur the line between owning a digital token and owning the intellectual property (IP) in the associated content. Technically, an NFT is a unique record on a blockchain – essentially a metadata entry or “digital certificate” that points to an external asset (e.g. an image or video).⁶ This means the NFT itself typically contains only information (like a description and a URL to the asset), not the creative work’s actual content.⁷ Legally, buying an NFT token is not the same as buying the underlying artwork or its copyright. The NFT purchaser gains personal property rights in the token (as a cryptographic asset), but no automatic IP rights in the creative work linked to that token. Commentators often analogize this to buying a physical painting versus buying the painting’s copyright – purchasing the canvas gives no rights over the image itself. Likewise, ownership of a blockchain token does not by itself confer ownership of the content’s copyright or other IP rights.⁸

Under established copyright law, transferring ownership of IP rights, such as copyright in an artwork, requires explicit formalities and agreement, which NFT sales rarely fulfill. Michael D. Murray focuses on the need for systematization and in-depth analysis of concepts related to the nature and functions of NFTs. He emphasizes the complexity of their interaction with intellectual property rights and, referring to the findings of Harrison Jordan, points out that ownership of an NFT does not automatically transfer ownership or control of copyright in the works of art associated with the token.⁹

In the United States, for example, the Copyright Act requires a written instrument signed by the rights holder to convey copyright ownership.¹⁰ In the UK, an assignment of copyright must be made in writing and signed by the assignor.¹¹ EU law similarly provides that authors retain their exclusive rights unless there is an express transfer or license;

⁶ Ito, K., Shibano, K., & Mogi, G. (2022). Predicting the bubble of non-fungible tokens (nfts): an empirical investigation.. URL:<https://doi.org/10.48550/arxiv.2203.12587> “...Non-Fungible Tokens (NFTs) are “transferrable and unique digital assets on public blockchains” [1] 1 , developed as an extension of cryptocurrencies (e.g., Bitcoin; BTC [6]) that enabled decentralized consensus-building on transaction records. Unlike fungible (homogeneous) cryptocurrencies 2 , NFTs can be unique digital assets (e.g., arts, games, collectibles) once they are associated with unique metadata or image [5], [10]....”

⁷ Eduardo Alonso and Esther Mondragón, ‘NFTs 101: Non-Fungible Tokens and the Blockchain May Not Be What You Think’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 5.

⁸ Caterina Sganga, Enrico Bonadio, Magali Contardi and Marie Clopterop, ‘NFTs and Copyright Law: Setting the Scene’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 33.

⁹ Murray, M. D. (2023). NFT ownership and copyrights. *Indiana Law Review*, 56(2), 367-390. Page 368.

¹⁰ 17 USC § 204(a) (Transfer of copyright ownership).

¹¹ Copyright, Designs and Patents Act 1988, s 90(3) (Legislation.gov.uk).

merely selling a digital copy – or an NFT representing the work – does not by itself divest the author of those rights. Indeed, the EU's InfoSoc Directive and case law indicate that the first-sale doctrine applies only to distribution of tangible copies, not to online digital assets, which are treated instead as communications to the public not subject to automatic exhaustion.¹² In short, without an explicit agreement from the rights holder, an NFT transaction transfers zero copyright or other IP in the underlying content – the buyer obtains only the token. Efforts to mitigate these ambiguities are emerging in various jurisdictions. For example, the Astana International Financial Centre (AIFC) requires digital asset service providers to disclose detailed information about the rights associated with NFTs held in custody.¹³ This regulatory measure aims to ensure that clients are fully informed about what their ownership of the token entails, including any intellectual property rights or limitations thereof.

High-profile disputes have highlighted this ownership dilemma when creators or sellers of NFTs lack IP rights. In *Miramax v. Tarantino*,¹⁴ for example, film studio Miramax sued director Quentin Tarantino over his plan to sell NFTs of Pulp Fiction scenes and script pages, arguing that Tarantino had already assigned those rights to the studio years prior. Tarantino claimed he retained a reserved right to “screenplay publication,” raising the novel question of whether that encompassed minting NFTs of the script. Although the case settled out of court, it underscored that creating or selling an NFT of copyrighted material requires the minter to hold sufficient rights or permission in that material. Similarly, when the owner of a Jean-Michel Basquiat drawing attempted to auction it as an NFT, the artist's estate intervened and the NFT was withdrawn due to the owner's lack of copyright authority over the artwork.¹⁵ Legal analyses affirm that turning an existing work into an NFT without the creator's permission can constitute copyright infringement. NFTs have also sparked legal disputes involving trademarks, such as the MetaBirkin case,¹⁶ where unauthorized use of a luxury brand's image led to claims of infringement.¹⁷ These examples illustrate that an NFT minter or seller must either possess

¹² Marie Clopterop and Enrico Bonadio, 'NFTs: Promisingly Transformational, Yet Fraught with IP Pitfalls – Part II' (Kluwer Copyright Blog, 21 June 2023).

¹³ *Rules on Digital Asset Activities* (AIFC Rules No FR00062 of 2023, as amended 15 December 2024) s 3.7.6

¹⁴ Jody Queen, 'Tarantino, Miramax Settle Copyright Suit Over "Pulp Fiction" NFT' (Reuters, 9 September 2022). URL: <https://www.reuters.com/legal/tarantino-miramax-settle-copyright-suit-over-pulp-fiction-nfts-2022-09-09/>.

¹⁵ Anny Shaw, 'Basquiat NFT Withdrawn From Auction After Artist's Estate Intervenes' (The Art Newspaper, 28 April 2021). URL: <https://www.theartnewspaper.com/2021/04/28/basquiat-nft-withdrawn-from-auction-after-artists-estate-intervenes>.

¹⁶ *Hermès International v Rothschild*, 1:22-cv-00384-JSR (SDNY, Complaint filed 20 January 2022, Document 191 filed 23 June 2023)

URL: <https://fingfx.thomsonreuters.com/gfx/legaldocs/akpeqbebbpr/HERMES%20NFTS%20LAWSUIT%20pi.pdf>.

¹⁷ John Smith, 'Understanding the MetaBirkin: Trademark Law and an Appropriate Legal Standard for NFTs' (2024) 47(4) *Columbia Journal of Law & the Arts* 13098.

URL: <https://www.researchgate.net/publication/384464498>

the underlying IP rights or obtain a license; otherwise, they risk violating the rights of the original creator.

“Buying the art” – a common misconception. Despite these legal realities, a widespread misconception persists that purchasing an NFT gives the buyer ownership of the artwork itself, including its IP rights.¹⁸ Media hype and platform marketing often conflate the token with the underlying asset, leading buyers to assume they have acquired more rights than they actually have. The record-breaking \$69 million sale of Beeple’s *Everydays: The First 5000 Days* NFT is illustrative: the buyer obtained a unique token linked to a digital image, but not Beeple’s copyright or exclusive control over the image. In fact, anyone can still view or copy the artwork online, and Beeple (as the copyright holder) remains free to continue using or licensing the work as he wishes. In general, unless the NFT’s terms expressly grant broader permissions, the default position is that the buyer receives only the token plus, at best, a limited license to access or display the digital content.¹⁹ For instance, many official NFT marketplaces make clear that while “you own the NFT,” the purchase includes merely a personal, non-commercial license to the underlying media – not an assignment of copyright. By contrast, some NFT projects do choose to confer specific IP licenses on buyers as a selling point. A notable example is the Bored Ape Yacht Club (BAYC): its standard terms grant each NFT holder an extensive license to use and commercialize the ape image they own.²⁰ Importantly, even in such cases the copyright stays with the original creator; what BAYC holders receive is an unlimited license to use their ape artwork, rather than a transfer of the underlying copyright itself. BAYC’s approach remains the exception that proves the rule – without an explicit license spelled out, NFT purchasers receive no intellectual property rights by default. Indeed, the disconnect between buyers’ expectations and the legal reality has been repeatedly noted in scholarship. NFT markets place great emphasis on the appearance of ownership and the social value of possessing a unique token, yet the actual legal rights in the art remain with the creator absent an agreement to the contrary. Paradoxically, the open sharing of NFT-linked art is often encouraged in practice to boost the token’s value, even though copyright law traditionally values exclusivity of reproduction.²¹ In most cases, however, no matter how much money changes hands or how

¹⁸ Caterina Sganga, Enrico Bonadio, Magali Contardi and Marie Clopterop, ‘NFTs and Copyright Law: Setting the Scene’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 33.

¹⁹ Jacob Kastrenakes, ‘Beeple NFT Artwork Sells for \$69 Million at Christie’s First-of-its-kind Auction’ (The Verge, 11 March 2021). URL: <https://www.theverge.com/2021/3/11/22325054/beeple-christies-nft-sale-cost-everydays-69-million>.

²⁰ Pratyusha Chintalapoodi, ‘Bored Apes, NFTs, and Copyright’ (Chip Law Group Blog, 17 November 2022). URL: <https://www.chiplawgroup.com/bored-apes-nfts-and-copyright/>.

²¹ Giancarlo Frosio and Anthony O’Dwyer, ‘Art in an Age of Non-Fungible Tokens: Authenticity, Value, and Counterfeit’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 152.

“exclusive” an NFT feels, “most NFTs do not involve a transfer of rights” to the underlying work.

While foreign studies focus on the copyright aspects of NFTs and their limitations, the national context in Kazakhstan presents additional challenges related to the adaptation of international approaches to local legislation. Of particular importance are the issues of the legal status of NFTs under civil law and the specifics of their regulation. The analysis of Talzhanov K. and Mukhamedaliuly A. emphasizes that NFTs remain within the legal status of a digital asset, which limits their application. From their point of view, NFTs simultaneously act as an object of transactions, a certificate of authenticity and a document of title, but their recognition as other objects of civil legal relations remains impossible.²² This contradictory limitation significantly affects the prospects of intellectual property protection, especially with regard to the protection of personal and property rights of authors of works represented through NFTs.

In summary, owning an NFT is fundamentally different from owning the creative work it references. The NFT is a cryptographic token – a proof of ownership of a unique digital record – but it does not by itself convey copyright, licensing, or other intellectual property rights in the content. Copyright law in many countries uniformly requires clear, written agreements to assign or license IP rights, and an NFT sale alone does not meet these requirements. Absent an express transfer of rights, the NFT purchaser’s legal rights are limited to holding and re-selling the token, while the underlying artwork and all IP interests remain with the original creator. The common assumption that one has “bought the art” by buying the token is a dangerous misconception; it can lead to ambiguity and legal risks, as seen in cases like *Miramax v. Tarantino*. The token/IP distinction must therefore be clearly understood and communicated in NFT transactions to avoid future disputes over ownership and rights.

1.2. Contractual Clarity and Consumer Protection

NFT transactions have exposed a persistent ambiguity over what buyers actually “own,” highlighting the divergence between owning an NFT and owning the underlying IP. Smart contracts cannot by themselves capture the full complexity of IP licenses or enforce off-chain rights. They excel at automating token transfers and royalties but cannot police how an artwork is used in the real world.²³ Important license conditions, such as restrictions on commercial use or limits on derivative works, are impractical to encode on-chain, and legal formalities may not be satisfied

²² Kurmangazy Talzhanov, Adil Mukhamedaliuly. Legal regulation of NFT within the framework of the law “On Digital Assets in the Republic of Kazakhstan”. *Kazakhstan Law Review*. URL: <https://kazlawreview.kz/>

²³ Caterina Sganga, Enrico Bonadio, Magali Contardi and Marie Clopterop, ‘NFTs and Copyright Law: Setting the Scene’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 38.

merely by a blockchain record.²⁴ Thus, unless an NFT sale is accompanied by a traditional text-based license, the buyer typically receives only the token, not any copyright or usage rights in the underlying content. Consequently, contractual clarity becomes paramount in NFT transactions. In the largely unregulated NFT marketplace, defining the scope of rights and restrictions relies heavily on smart contracts, terms of service, and sale agreements. Unfortunately, early NFT markets often operated with sparse or boilerplate terms, and there is still no universal standard for NFT license agreements. The USPTO–USCO Joint Report observed that there are “few marketplace standards for clear disclosure by NFT sellers” regarding what rights buyers receive.²⁵

One key aspect of contractual clarity involves the interface between smart contracts and traditional contract law. NFTs are frequently transferred via smart contract code that automatically executes transactions. However, despite the terminology, a “smart contract” is not necessarily a legal contract.²⁶ It is essentially a software script that facilitates sales or enforces certain conditions, such as automatic royalty payments to creators on resale. Nevertheless, smart contracts often lack the comprehensive terms typically found in traditional written license agreements. Important license terms, notably defining what the buyer may do with the underlying content, are usually provided off-chain in human-readable documents (such as a website’s Terms of Use or a dedicated NFT license file), if provided at all. This division can lead to critical gaps: while the blockchain transaction records the transfer of the token itself, absent an accompanying textual license, ambiguity remains concerning the IP rights conveyed.

From a consumer-protection standpoint, laws in multiple jurisdictions are stepping in to demand clarity. In the UK, the Consumer Rights Act 2015 and in the EU, the Digital Content Directive (2019/770) both require that digital goods correspond to the contract and to consumers’ reasonable expectations. Non-transparent or undisclosed restrictions may render the product nonconforming or the term unenforceable under these regimes.²⁷ In the United States, general consumer protection principles likewise apply. Moreover, U.S. copyright law demands a “signed writing” to legally transfer copyright ownership or exclusive licenses.²⁸ Consequently, if an NFT sale intends to transfer copyright or exclusive

²⁴ Caterina Sganga, Enrico Bonadio, Magali Contardi and Marie Clopterop, ‘NFTs and Copyright Law: Setting the Scene’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 35.

²⁵ United States Patent and Trademark Office and United States Copyright Office, *Non-Fungible Tokens and Intellectual Property: A Report to Congress* (March 2024). URL: <https://www.uspto.gov/sites/default/files/documents/Joint-USPTO-USCO-Report-on-NFTs-and-Intellectual-Property.pdf>.

²⁶ *Ibid* 7.

²⁷ Natalie Rimmer, ‘NFTs – Five Legal Things to Consider’ (Farrer & Co LLP, 4 March 2022). URL: <https://www.farrer.co.uk/news-and-insights/nfts-five-legal-things-to-consider/>.

²⁸ 17 USC § 204(a) (Transfer of copyright ownership).

usage rights, a purely on-chain transaction typically will not satisfy this requirement. The USPTO-USCO Joint Report underscores this issue, noting that “the sale of an NFT may not always satisfy” the Copyright Act’s signed-writing condition, since traditional law expects a written instrument signed by the rights holder. Simply put, if a creator wishes to assign copyright or exclusive licensing rights to the NFT buyer, this transfer must be clearly articulated through a written contract or deed of assignment, not solely via the existence of the token. Thus, to ensure enforceability and compliance with legal formalities, NFT projects intending IP transfers must integrate traditional written licenses. Practical methods for doing so include requiring buyers to expressly agree to Terms of Sale containing the IP license or embedding the license text or a clear reference to it within the NFT’s metadata.

Another significant challenge is ensuring the buyer’s explicit assent to whatever license terms exist. Enforceable contracts generally require clear notice and acceptance. Clickwrap agreements, where users actively click “Agree,” are usually upheld by courts provided the terms are conspicuous and acceptance unambiguous.²⁹ By contrast, many NFT transactions are associated merely with browsewrap terms - terms posted online or within metadata without explicit acknowledgment or agreement from buyers.³⁰ The U.S. courts are frequently reluctant to enforce browsewrap licenses, often ruling that mere purchase or passive website usage alone is insufficient to imply assent unless terms have been reasonably communicated in advance.³¹ In the NFT context specifically, crucial licensing information is often hidden within marketplace terms or placed behind hyperlinks that buyers rarely consult, if at all. This lack of explicit consent creates uncertainty: a collector might later contend they never agreed to restrictions intended by the NFT creator, undermining the enforceability of critical license provisions and raising risks of subsequent disputes.

Clarity in contracts also serves to streamline enforcement and jurisdictional issues that might arise later. If rights and obligations are spelled out, it is easier to enforce them (for example, a contract could specify that disputes will be handled in a certain jurisdiction or that certain uses are prohibited, providing a clear basis for action if violated). Nonetheless, the NFT ecosystem presents novel enforcement challenges that even the best contracts cannot completely eliminate. NFT transactions are often pseudonymous – parties are represented by wallet addresses rather than real identities – and they occur on decentralized platforms that operate globally. This means that when infringement or misuse does occur, IP owners and buyers face practical hurdles. The

²⁹ Jorge L Contreras, *Intellectual Property Licensing and Transactions: Theory and Practice* (Cambridge University Press 2022) 540. URL: <https://doi.org/10.1017/9781009049436>

³⁰ *Ibid* 523.

³¹ *Ibid* 548.

USPTO/USCO study highlighted several such challenges: difficulties in identifying infringers, jurisdictional challenges in pursuing them across borders, and technical difficulties in removing infringing content that is stored on decentralized networks.³² For example, if an NFT buyer exceeded their licensed rights (say, by commercially exploiting the content without permission), the IP owner might want to enforce their rights – but if the buyer's identity is hidden behind a crypto address and they reside in an unknown country, it complicates cease-and-desist or lawsuit efforts. Likewise, when outright piracy happens (e.g., someone mints NFTs from an artist's work without consent and sells them), the primary recourse has been DMCA takedown notices to NFT marketplaces to delist the infringing tokens. This has been somewhat effective under current law – rights-holders have successfully used the DMCA to remove listings of infringing NFTs from major platforms.³³ But takedowns can only go so far: the NFT itself may persist on the blockchain and could be traded on less scrupulous marketplaces or peer-to-peer, and the infringing image or file might be hosted on decentralized storage where no single entity can easily delete. These enforcement difficulties underscore why consumer protection also involves ensuring the legitimacy of NFTs at the point of sale. Marketplaces can protect consumers and creators by vetting content and requiring verification that the minter has rights to it. Some platforms have introduced authenticity badges or use image recognition to prevent known artworks from being minted by anyone other than the rights-holder.

Real-world examples illustrate the problems. NBA Top Shot collectible “moments” similarly come with only a personal-use license, far from full ownership of the underlying NBA highlight.³⁴ In the hospitality industry, Noel, the first and only Michelin-starred restaurant in Zagreb, has pioneered Croatia's adoption of NFTs by introducing the Noel Circle Club's NFTs for investing in restaurant experiences. These NFTs, available in four value categories (like, Rouge, Noir, Platinum, and Diamond) with a minimum investment of 1,000 euros, require clear contractual terms to specify the unique benefits, such as exclusive dining or priority reservations, for each tier.³⁵ Transparent and accessible conditions detailing these perks and their redemption process are essential for consumer protection, ensuring owners fully understand their entitlements and fostering trust in this innovative offering. In music, the band Kings of

³² United States Patent and Trademark Office and United States Copyright Office, Non-Fungible Tokens and Intellectual Property: A Report to Congress (March 2024) 29 URL: <https://www.uspto.gov/sites/default/files/documents/Joint-USPTO-USCO-Report-on-NFTs-and-Intellectual-Property.pdf> .

³³ Ibid.

³⁴ Jeff John Roberts, 'So You Bought an NBA Top Shot NFT: What Do You Actually Own?' (Decrypt, 11 March 2021). URL: <https://decrypt.co/60808/so-you-bought-an-nba-top-shot-nft-what-do-you-actually-own> .

³⁵ Vladimir Kovač, Zrinka Lacković Vincek and Suzana Keglević Kožjak, 'Crypto Assets: The Emerging Trends in Croatia' (Paper presented at the 108th International Scientific Conference on Economic and Social Development, Aveiro, Portugal, 21-22 March 2024) 33.

Leon offered an NFT album with perks like concert tickets, but the band did not transfer any music copyright to purchasers.³⁶ And when DJ 3LAU sold NFTs linked to his album, a co-songwriter sued, claiming the sale was not authorized – showing that even creators might not have secured all necessary rights before selling NFTs.³⁷ These cases demonstrate how easily consumers can misunderstand or overestimate their rights unless license terms are made explicit. In many NFT ecosystems, licenses are designed to transfer with the token to subsequent buyers, raising questions about enforceability and privity of contract with downstream holders.

To combat confusion, stakeholders have begun developing standardized NFT licenses. For example, Andreessen Horowitz introduced a set of “Can’t Be Evil” licenses (Figure 1.) – template agreements that NFT creators can adopt.³⁸ The six “Can’t Be Evil” licenses range from very permissive to very restrictive. On one end, CBE-CC0 places the work effectively in the public domain (no rights reserved). On the other end, CBE-PR (Personal Use) allows only personal viewing and prohibits commercial use. Intermediate options grant various levels of commercial rights (some non-exclusive, some exclusive to the NFT holder) or permit certain adaptations. By using one of these standard licenses, an NFT project can clearly communicate the scope of the buyer’s rights (for example, “non-exclusive commercial use allowed” or “personal use only”), avoiding ambiguity and aligning expectations with legal reality.³⁹

³⁶ Caterina Sganga, Enrico Bonadio, Magali Contardi and Marie Clopterop, ‘NFTs and Copyright Law: Setting the Scene’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 21.

³⁷ *Ibid* 25.

³⁸ Adi Robertson, ‘Andreessen Horowitz Wants to Fix NFT Copyright With Its “Can’t Be Evil” Licence’ (The Verge, 6 September 2022). URL: <https://www.theverge.com/2022/9/6/23331591/andreessen-horowitz-a16z-nft-cant-be-evil-copyright-creative-commons-licenses>.

³⁹ *Ibid*.

License	Abbreviation	Copy, Display & Distribute	Hate Speech Revocation	Commercial Use	Modify & Adapt	Sublicense
Exclusive Commercial Rights (No Creator Retention of Exploitation Rights)	CBE-ECR	✓		✓	✓	✓
Non-Exclusive Commercial Rights (Creator Retains Exploitation Rights)	CBE-NECR	✓		✓	✓	✓
Non-Exclusive Commercial Rights (Creator Retains Exploitation Rights) & Termination for Hate Speech	CBE-NECR-HS	✓	✓	✓	✓	✓
Personal Use License	CBE-PR	✓				✓
Personal Use License with Termination for Hate Speech	CBE-PR-HS	✓	✓			✓
CC0 1.0 Universal	CBE-CC0	✓		✓	✓	

Copy, Display & Distribute – You can display, distribute, and copy your NFT. This right alone does not allow you to modify or adapt the NFT.

Commercial Use – You can use the NFT for commercial purposes.

Modify & Adapt – You can modify and adapt your NFT.

Sublicense – You can sublicense your rights to the NFT or, if permitted to make modifications and adaptations, your modifications and adaptations to the NFT.

Hate Speech Revocation – You cannot use the NFT Media in a way that is unlawful, defamatory, harassing, abusive, fraudulent, racist, hateful, vulgar, cruel, illegal or obscene, or that promotes any such activity.

Figure 1. Summary of the six “Can’t Be Evil” (CBE) NFT license types developed by a16z, and the permissions each grant. The chart indicates whether each license allows the NFT holder to display the art, use it for commercial purposes, modify or create derivatives, and sublicense those rights. The most permissive license (CBE-CC0) allows all of these (anyone can copy, adapt, and use the work, even commercially), whereas the most restrictive (CBE-PR-HS) permits only personal use and is revocable if the work is used to propagate hate speech. The intermediate licenses grant some but not all these rights (for example, a non-exclusive commercial license might allow the NFT owner to monetize the art while the original creator also retains that ability).⁴⁰ URL: <https://www.theverge.com/2022/9/6/23331591/andreessen-horowitz-a16z-nft-cant-be-evil-copyright-creative-commons-licenses>

Emerging metaverse projects and AI-generated content introduce further complexities. These frontier scenarios will likely demand even more nuanced contractual solutions as the law catches up to the technology.⁴¹

In conclusion, traditional IP licensing must be carefully adapted to the realm of digital assets. NFT purchasers often mistakenly assume broader rights than they actually receive, but consumer protection law and industry practice are now pushing for greater transparency. Efforts like the “Can’t Be Evil” framework and clearer marketplace terms aim to ensure that the rights conveyed by an NFT are defined and agreed upon from the outset. By bridging the gap between code and contract – supplementing blockchain transactions with plain-language licenses – the NFT market can continue to grow on a more secure and trustworthy legal foundation.

⁴⁰ Adi Robertson, ‘Andreessen Horowitz Wants to Fix NFT Copyright With Its “Can’t Be Evil” Licence’ (The Verge, 6 September 2022) URL: <https://www.theverge.com/2022/9/6/23331591/andreessen-horowitz-a16z-nft-cant-be-evil-copyright-creative-commons-licenses>.

⁴¹ Zaman, A., Abir, M., Reaj, M., & Sakib, T. (2024). metaverse: fission the architecture. International Journal of Science and Research Archive, 12(1), 446-470. URL: <https://doi.org/10.30574/ijrsra.2024.12.1.0808>

1.3. Challenges in Enforcing NFT Ownership

Enforcing IP licenses and rights in decentralized NFT ecosystems presents novel challenges for rights holders. Unlike traditional online platforms, many NFT marketplaces and blockchain networks operate without a central intermediary and often allow pseudonymous participation. This section examines the key enforcement difficulties in these environments, including anonymous infringers, lack of oversight or takedown mechanisms, immutable records, cross-border jurisdictional hurdles, and IP-specific issues (copyright, trademarks, publicity rights) that complicate enforcement in NFT and metaverse contexts.

NFT transactions are recorded on blockchains under alphanumeric wallet addresses, usually without requiring real-world identity information. As a result, creators and brand owners face significant obstacles in identifying and pursuing infringers. Commentators note that NFT sellers “are not required to provide proof of ownership or even their real name” on major platforms, so a copyright owner who manages to have an infringing NFT delisted still finds it “extremely difficult” to locate the responsible party, who may be known only by a blockchain address and could be “located anywhere in the world.”⁴² Traditional tools like subpoenas are of limited use if there is no service provider with verifiable user data. Indeed, rights-holders have long expressed frustration with unmasking anonymous online infringers even under the DMCA’s subpoena system, and the decentralized nature of NFTs exacerbates this problem.⁴³ The *anonymity that characterizes the NFTs market* thus “accentuates” uncertainty and raises questions about which court (if any) can assert jurisdiction over an unknown seller of infringing tokens.⁴⁴

A further barrier is the lack of centralized oversight or effective takedown mechanisms. Decentralization means there is often no single authority to police or remove infringing content across the NFT ecosystem. Major NFT marketplaces do have terms of service and notice-and-takedown policies for IP violations.⁴⁵ In fact, many copyright owners have reported success using DMCA notices to have infringing NFT listings removed from front-end marketplaces. For example, the RIAA and others sent hundreds of takedown notices to NFT platforms, and “for the most part, the NFT listings are taken down”. However, not all NFT platforms implement robust takedown procedures – “many NFT marketplaces do not

⁴² United States Patent and Trademark Office and United States Copyright Office, Non-Fungible Tokens and Intellectual Property: A Report to Congress (March 2024) 29 URL: <https://www.uspto.gov/sites/default/files/documents/Joint-USPTO-USCO-Report-on-NFTs-and-Intellectual-Property.pdf>.

⁴³ *Ibid* 33.

⁴⁴ Zoi Krokida, 'Non-Fungible Tokens and Liability of Online Marketplaces: A European Perspective' in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 41.

⁴⁵ Caterina Sganga, Enrico Bonadio, Magali Contardi and Marie Clopterop, 'NFTs and Copyright Law: Setting the Scene' in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 22.

have take-down procedures like Amazon” or other Web2 services do.⁴⁶ Critically, even when an NFT is delisted from a marketplace, the token *itself* remains on the blockchain. There is no equivalent of an ISP or centralized host that can *delete* the token or the content it points to.⁴⁷ As the U.S. Copyright Office observes, there is “no central authority” requiring all NFT platforms to cooperate in trademark enforcement, nor any cross-platform dispute mechanism for NFT-related domains or assets. This patchwork of self-regulation leaves rights holders dependent on the policies of individual marketplaces. If infringing NFTs migrate to less cooperative platforms or peer-to-peer exchanges, enforcement becomes nearly impossible. In decentralized storage networks (like IPFS or Arweave) that often underlie NFTs, there may be *no party* who can readily remove the infringing file.⁴⁸ In addition, in the case of Shenzhen QiCeDieChu Cultural and Creativity Co. v. Hangzhou Bigverse Technology Co., the court established that NFT platforms must enforce stringent monitoring measures, including prior verification of NFT authenticity, to prevent copyright infringements. This landmark decision clarified platforms’ legal responsibilities and filled critical regulatory gaps, setting a significant precedent for future NFT enforcement cases in China.⁴⁹ The absence of a centralized oversight body thus creates an enforcement vacuum in which IP owners have limited leverage to compel takedowns beyond the most compliant platforms.

Another critical challenge stems from the immutability and irreversibility of blockchain-recorded NFT transactions. A core feature of blockchain technology is its append-only, tamper-resistant ledger. Once data is recorded – e.g. minting an NFT that references a digital image – it is effectively permanent.⁵⁰ This immutability is problematic when the data itself infringes IP rights or is false or fraudulent. For instance, an artist whose work is tokenized without permission cannot simply “delete” that record. Even if a marketplace *delists* the token to hide it from view, “delisting an item on OpenSea doesn’t delete the NFT from a user’s wallet. The NFT remains on the blockchain and can be transferred or moved to

⁴⁶ United States Patent and Trademark Office and United States Copyright Office, Non-Fungible Tokens and Intellectual Property: A Report to Congress (March 2024) 29. URL: <https://www.uspto.gov/sites/default/files/documents/Joint-USPTO-USCO-Report-on-NFTs-and-Intellectual-Property.pdf>.

⁴⁷ Antoni Rubí-Puig, ‘Tokenizing Attribution: NFT Marketplaces and the Enforcement of Social Norms of Authenticity’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 141.

⁴⁸ United States Patent and Trademark Office and United States Copyright Office, Non-Fungible Tokens and Intellectual Property: A Report to Congress (March 2024) 30. URL: <https://www.uspto.gov/sites/default/files/documents/Joint-USPTO-USCO-Report-on-NFTs-and-Intellectual-Property.pdf>.

⁴⁹ Bingbin Xiao, ‘Chinese Court Rules on NFT Transactions and Responsibility of Trading Platforms: Shenzhen QiCeDieChu Cultural and Creativity Co v Hangzhou Bigverse Technology Co’ (2022) 17(8) *Journal of Intellectual Property Law & Practice* 604. URL: <https://doi.org/10.1093/jiplp/jpac067>.

⁵⁰ Peter K Yu, ‘Deploying Blockchain Technology in the Copyright Office’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 65.

other platforms”.⁵¹ The blockchain’s permanence, while beneficial for authentic provenance tracking, “impairs attempts to correct inaccurate or fraudulent records” of ownership or authorization.⁵² In practical terms, once an infringing NFT exists, it may continue circulating through private sales or overseas marketplaces even after initial notices – an irreversible chain of title for a pirated copy. Immutability also complicates remedying violations. Courts cannot easily order the destruction or seizure of an infringing digital asset the way they might impound physical pirated goods. One UK court, in a case of stolen NFTs, treated the tokens as property and issued injunctions to freeze them in wallets.⁵³ But such measures only freeze the asset; they do not erase the token. For IP owners, this means any unauthorized mint of their work is potentially a perpetual infringement that cannot be fully purged from the digital realm. An additional wrinkle is the “first sale” doctrine⁵⁴ in copyright and trademark law. Normally, rights in a copy are exhausted after a lawful sale, limiting enforcement on downstream resales. But with NFTs, courts have noted that if an NFT conveys the ability to download or reproduce the underlying work, subsequent transfers wouldn’t fall under the first sale doctrine – each new download could infringe. Thus, an NFT can facilitate endless post-sale reproductions outside the purview of exhaustion, leaving the original rights holder with continuing claims but no straightforward way to stop the ongoing distributed infringement.

Decentralized NFT markets are inherently global, which complicates the jurisdiction and applicable law for enforcement. In traditional IP disputes, one can often pinpoint the location of the infringer or the server hosting infringing content. In NFT networks, the infringer’s identity and location are uncertain, and the content might be stored across multiple countries. An EU scholar similarly asks which court’s jurisdiction “*might be relevant when copyright or trademark infringements take place*” in an NFT context, noting that this remains unanswered in EU law.⁵⁵ Divergent national laws further muddy the waters: an act that constitutes infringement in one country might be viewed differently elsewhere, and remedies (like statutory damages or injunctions) vary widely. A recent World Intellectual Property Organization (WIPO) study on Web3 and

⁵¹ Antoni Rubí-Puig, ‘Tokenizing Attribution: NFT Marketplaces and the Enforcement of Social Norms of Authenticity’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 141.

⁵² United States Patent and Trademark Office and United States Copyright Office, *Non-Fungible Tokens and Intellectual Property: A Report to Congress* (March 2024) URL: <https://www.uspto.gov/sites/default/files/documents/Joint-USPTO-USCO-Report-on-NFTs-and-Intellectual-Property.pdf>.

⁵³ Zoi Krokida, ‘Non-Fungible Tokens and Liability of Online Marketplaces: A European Perspective’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 48.

⁵⁴ 17 USC § 109(a) (First Sale Doctrine).

⁵⁵ Zoi Krokida, ‘Non-Fungible Tokens and Liability of Online Marketplaces: A European Perspective’ in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024) 41.

metaverse infringement concluded that *existing legal frameworks* provide guidance on localizing IP violations even in virtual environments.⁵⁶ However, it cautioned that “substantial challenges might arise in terms of retrieving evidence” to tie an NFT-related infringement to any particular territory. Without clear evidence of where an infringement “occurred” (is it where the server is? where the NFT minter resides? where the buyer is located?), courts struggle to apply territorial IP laws. Moreover, enforcement orders (e.g. to take down content or pay damages) face obstacles if the defendant or the infrastructure is overseas. An order from a U.S. court may have little effect on a marketplace based in another jurisdiction or on a truly decentralized protocol with no domicile. These jurisdictional gaps allow many NFT infringers effectively to operate as “foreign rogue sites” beyond the easy reach of rights holders and law enforcement.⁵⁷ In response, there are growing calls for international cooperation or harmonization – for instance, aligning laws on infringement in digital environments and streamlining cross-border injunctions – but such solutions are in nascent stages.

Different IP rights reveal distinct friction points in NFT ecosystems:

- **Copyright:** The core copyright concern in NFT environments is the unauthorized use and distribution of protected works. While notice-and-takedown mechanisms offer some enforcement on centralized platforms, they are far less effective in decentralized systems where content is persistently stored and harder to remove. Identifying infringing material can also be complex, as the token itself may not be protected expression, and legal uncertainty surrounds whether minting constitutes reproduction. Additionally, enforcing moral rights or evaluating fair use claims is particularly challenging when dealing with anonymous actors in blockchain-based ecosystems.
- **Trademarks:** Trademark enforcement in NFT markets faces significant challenges due to the unauthorized use of brand names and the lack of centralized dispute resolution systems. Although existing trademark law applies to NFTs, enforcing rights is complicated by the anonymity of users and the ease with which infringers can switch platforms. The global accessibility of NFTs further complicates jurisdictional issues, leading to inconsistent protection across borders. As a result, brand owners must rely on a fragmented strategy involving takedown requests, litigation, and proactive trademark registrations for virtual goods.
- **Right of Publicity and Persona Rights:** NFTs involving a person’s name, image, or likeness, often without consent, raise significant

⁵⁶ United States Patent and Trademark Office and United States Copyright Office, Non-Fungible Tokens and Intellectual Property: A Report to Congress (March 2024) 33 URL: <https://www.uspto.gov/sites/default/files/documents/Joint-USPTO-USCO-Report-on-NFTs-and-Intellectual-Property.pdf>.

⁵⁷ Ibid 30.

right of publicity and persona rights concerns. The enforcement of these rights is further complicated by the inherent anonymity of blockchain technology, creating substantial obstacles to identifying infringers and pursuing effective legal action. Additionally, the decentralized and global nature of NFT platforms exacerbates jurisdictional issues, complicating enforcement efforts due to varying legal standards across different countries. As relevant legal precedents remain largely undeveloped, affected individuals currently depend on existing frameworks of general intellectual property, privacy, and unfair competition laws, which often prove costly and inefficient in cross-border contexts.

- **Patents and Other IP:** Patent issues are less common in the NFT space but are emerging as blockchain is explored for patent licensing applications. Enforcement is complicated by the same anonymity and decentralization that hinder other IP actions, making it difficult to identify or stop unauthorized uses. Trade secrets face even greater risks, as uploading confidential information to a blockchain effectively destroys its protected status. While existing IP laws still apply, enforcement remains constrained, and legal attention has so far focused more on trademark and copyright claims than on the novel IP challenges NFTs introduce.

Many envision NFTs as building blocks of the metaverse – persistent virtual worlds where users own digital assets like art, fashion, or real estate represented by NFTs. Enforcing IP rights in these environments compounds the above difficulties. In a metaverse scenario, an infringing NFT (say a copy of a luxury brand's logo used on virtual clothing) might appear inside a 3D world accessible globally, possibly hosted on decentralized servers. The evidence of infringement (what exactly was displayed, to whom, and by whom) can be hard to capture and attribute.

Moreover, the question arises: is the operator of the metaverse platform responsible for policing such IP violations, or is it purely on the blockchain level? Large, corporate-run virtual platforms might implement IP content filters or respond to takedown notices, but a fully decentralized metaverse might have no clear point of control to serve with a notice. The WIPO 2023 report found that existing legal principles are *generally* capable of addressing metaverse infringements, drawing analogies to Web 2.0 online infringement cases.⁵⁸

Courts can and will likely treat unauthorized use of IP in a metaverse as they would on any website or game. Yet the report also warned that collecting evidence and tying the offense to a particular jurisdiction will be

⁵⁸ United States Patent and Trademark Office and United States Copyright Office, Non-Fungible Tokens and Intellectual Property: A Report to Congress (March 2024) 33. URL: <https://www.uspto.gov/sites/default/files/documents/Joint-USPTO-USCO-Report-on-NFTs-and-Intellectual-Property.pdf>.

significantly challenging. Furthermore, the scale and persistence of the metaverse mean an infringing item could propagate widely (copied or traded among many users) before a rights holder even becomes aware. Enforcement might therefore resemble a game of whack-a-mole across a landscape that transcends national borders and traditional intermediaries. Likewise, jurisdictions like the AIFC have begun to bring digital asset marketplaces into a regulated framework⁵⁹, which could indirectly bolster IP enforcement by imposing compliance obligations.

The decentralized and global nature of NFT markets significantly complicates IP enforcement due to jurisdictional uncertainty, difficulties in identifying infringers, and varying national legal standards. Enforcement is further impeded by distinct challenges within specific IP domains—such as the complexities of copyright infringement identification, trademark disputes over unauthorized branding, and violations of persona rights compounded by blockchain anonymity. Additionally, enforcing IP in emerging metaverse environments exacerbates these issues due to evidentiary hurdles and unclear platform responsibilities, highlighting an urgent need for clearer jurisdictional guidelines, cross-border legal cooperation, and targeted regulatory or technological solutions tailored to decentralized digital ecosystems.

⁵⁹ Rules on Digital Asset Activities (AIFC Rules No FR00062 of 2023, as amended 15 December 2024) s 3.12. URL: <https://orderly.myafsa.com/articles/aifc-rules-on-digital-asset-activities>

CHAPTER II. POTENTIAL OF IP LICENSING MODELS FOR DIGITAL ASSETS AND NFTs

2.1. Specific Usage of Traditional IP Licensing Models

An IP license is a grant of permission by an intellectual property owner (licensor) to another party (licensee) to use the IP in defined ways. It is essentially an authorization – or covenant not to sue – allowing the licensee to do something that would otherwise infringe the licensor's exclusive rights.⁶⁰ Unlike an assignment of IP (which transfers ownership), a license leaves ownership with the licensor and conveys only the rights specified in the agreement. Key terms include the scope of rights (which acts are permitted), any limits of field, territory or duration, and conditions or restrictions on use⁶¹. The purpose is to enable exploitation of the IP while legally defining what the licensee may do. A well-crafted license balances the interests of both parties by delineating the licensor's control and the licensee's privileges, thereby protecting the owner's rights and the user's legitimate interests. Without clear licensing, especially for digital assets, ownership alone can be a hollow concept with no usage rights, leading to uncertainty and disputes.

IP licenses are commonly categorized by their exclusivity. To clarify the distinction between different license types, it is important to understand how IP licenses are commonly categorized based on exclusivity, scope, and the rights retained or relinquished by the licensor.

An **exclusive license** means the licensee alone holds the licensed rights, to the exclusion of all others (even the licensor) within the specified scope. In copyright law, an exclusive license is treated as a transfer of ownership of those rights for the term, giving the licensee standing to enforce them⁶². Exclusivity is typically granted only when a licensee's substantial investment or commercial commitment requires it, as the licensor loses the ability to license anyone else.⁶³

A **sole license** also authorizes only one licensee, but the licensor reserves the right to use the IP as well (no additional third-party licensees). This gives the licensee exclusivity against outsiders but not against the licensor.⁶⁴

By contrast, a **non-exclusive license** allows the licensor to grant the same rights to others concurrently and to retain full use of the IP.⁶⁵

Most mass-market and digital content licenses (e.g. end-user software agreements, streaming music licenses) are non-exclusive, since

⁶⁰ Jorge L Contreras, *Intellectual Property Licensing and Transactions: Theory and Practice* (Cambridge University Press 2022) 47. URL: <https://doi.org/10.1017/9781009049436>

⁶¹ *Ibid* 60.

⁶² *Ibid* 317.

⁶³ World Intellectual Property Organization, *Successful Technology Licensing (IP Assets Management Series, WIPO Publication No 903E, 2015)* 22.

⁶⁴ Jorge L Contreras, *Intellectual Property Licensing and Transactions: Theory and Practice* (Cambridge University Press 2022) 180. URL: <https://doi.org/10.1017/9781009049436>

⁶⁵ *Ibid* 834.

the goal is broad dissemination rather than exclusivity. In the digital context, these categories function similarly, but license terms must explicitly account for online uses – for example, ensuring the license covers internet distribution or display of the work.⁶⁶ Moreover, territorial limitations become less relevant when content is globally accessible, so many digital licenses are worldwide by default.

The emergence of NFTs has required adapting IP licensing models to clarify rights in digital assets. Purchasing an NFT token doesn't automatically transfer copyright or other IP in the associated content. The creator usually retains the IP, and the buyer receives only the token plus whatever license is granted. Thus, NFT platforms routinely include license terms specifying the buyer's usage rights. Commonly, the NFT owner is given a limited, non-exclusive, worldwide license to use, copy, and display the underlying work for personal, non-commercial purposes (often including the right to resell the NFT). Commercial exploitation by the buyer is generally restricted or prohibited unless expressly allowed. For example, many NFT collections initially prohibit any commercial use by purchasers, whereas some projects elect to grant broader permissions – e.g. allowing the NFT holder to create merchandise or other derivative works up to a certain extent. In a few cases, an NFT sale may even carry an exclusive or very expansive license. For instance, an “exclusive rights” NFT license might permit the buyer to use and profit from the art in virtually any manner, effectively giving them full commercialization rights (while the original creator retains the underlying title to the IP). These expansive licenses are rare and typically reserved for one-of-a-kind, high-value NFTs.

Another key adaptation in NFT licensing is its inherent linkage to token ownership, designed specifically for transferability upon resale. Typically, an NFT license remains valid only as long as the licensee retains ownership of the NFT itself; when the NFT is transferred to a new owner, the license rights automatically transfer with it, causing the prior holder to relinquish their rights. To ensure clarity and consistency, NFT licenses commonly specify that subsequent purchasers must accept identical license terms. Practically, NFT marketplaces facilitate this by notifying or requiring users to explicitly agree to the relevant license terms upon each resale. Additionally, smart contract technology enhances the enforceability of these terms by automating aspects like royalty payments to creators during secondary sales and managing asset access.⁶⁷ Nevertheless, smart contracts alone do not constitute a comprehensive legal agreement. Technical instruments enforce specific license aspects (e.g., royalties, access), but the comprehensive rights and limitations are governed by the formal licensing agreement.

⁶⁶ World Intellectual Property Organization, *Successful Technology Licensing (IP Assets Management Series, WIPO Publication No 903E, 2015)* 21.

⁶⁷ Moreaux, A. and Mitrea, M. (2023). royalty-friendly digital asset exchanges on blockchains. *lee* access, 11, 56235-56247. <https://doi.org/10.1109/access.2023.3283153>

Licensing Model	Description and Key Features	Applicability to NFTs and Reasoning
Exclusive Licensing	The licensor grants rights to one licensee exclusively, barring all others (including the licensor) from exercising the same rights within a specified scope.	Applicable: Often used in NFTs for unique or limited-edition digital art, granting the NFT owner exclusive usage rights.
Nonexclusive Licensing	The licensor grants rights to multiple licensees, retaining freedom to license to others concurrently.	Applicable: Common in NFTs for digital assets intended for broad distribution or use, such as virtual merchandise or collectibles.
Co-exclusive Licensing	A limited number of licensees have overlapping rights, but the licensor restricts additional licenses beyond those specified licensees.	Potentially Applicable: Can be employed in specific NFT collections, where multiple licensees share rights but limited by conditions or geography.
Sole Licensing	The licensor and only one licensee can use the rights, with no third-party licensees allowed.	Potentially Applicable: Could apply where creators retain some rights but issue a sole license to one NFT purchaser for specific use cases.
Cross-Licensing	Entities reciprocally grant rights to each other's IP to avoid infringement or enable complementary product use.	Unlikely Applicable: Rarely used in NFTs, since typical NFT transactions do not involve reciprocal IP rights exchange.
Patent Pools and Rights Aggregation	Collective management of IP rights from multiple rights-holders, licensing out these rights in a bundled manner.	Potentially Applicable: May emerge as NFTs intersect with standardized blockchain technologies or metaverse environments, requiring collective licensing of essential IP.
Platform Leadership Licensing	IP owner licenses rights broadly, often without charge, to foster a platform's ecosystem	Applicable: Relevant to NFT marketplaces and blockchain platforms, allowing broad interoperability or platform-specific NFTs.
Patent Pledges and Open-Source Licensing	Rights-holders voluntarily make IP available with minimal restrictions to promote widespread adoption.	Potentially Applicable: Might be relevant if NFT technology becomes standardized via open-source blockchain protocols.
Portfolio Licensing	Licensing of a collection of IP rights, often used to simplify transactions involving multiple related patents or copyrights.	Potentially Applicable: Could be employed when NFTs represent multiple rights or assets bundled together, especially in complex digital content scenarios.
Royalty Stream Monetization	Licensor monetizes IP rights by upfront sale of future royalty payments.	Potentially Applicable: Already inherent to NFTs through smart contract royalty systems that automate royalty streams on secondary sales.

Table 1: IP Licensing Models and Their NFT Applicability. The table above summarizes various licensing models and notes their applicability in the NFT context. As indicated, traditional models (exclusive, non-exclusive, sole) provide the foundational approaches for licensing digital assets, while other complex models (cross-licensing, patent pools, open licensing pledges, etc.) are generally less relevant to simple NFT sales. Some innovative practices, like using NFTs to monetize royalty streams, have already emerged – for example, smart contracts enabling automatic resale royalties mirror a form of built-in licensing royalty arrangement.

In summary, well-defined IP licensing models are strategically vital for digital assets and NFTs. Clear license terms ensure that all parties understand their rights and obligations, preventing disputes and adding legal certainty to NFT transactions. By tailoring licensing frameworks (e.g. personal-use licenses or granting limited commercial rights) to fit the NFT context, creators can protect their intellectual property while offering buyers real utility and value. Such licensing not only safeguards IP owners and consumers but also enables new creative and commercial opportunities in the evolving NFT ecosystem.

2.2. NFT Licensing Terms for Digital Assets in Kazakhstan

The emergence of NFT has given rise to new legal issues, especially in the field of intellectual property. In Kazakhstan, interest in NFT is growing, but the legislation of the Republic of Kazakhstan does not yet contain comprehensive norms regulating this sphere.

There is no legal definition of the term NFT in Kazakhstan legislation. NFTs do not fall under the categories of digital currency or cryptocurrency and represent a unique object requiring special regulatory measures. At the same time, related categories have emerged in Kazakhstani legislation that allow NFTs to be attributed to certain types of objects.

Since February 6, 2023, the Law "On Digital Assets" regulating the issuance and circulation of digital assets has been in force in the Republic of Kazakhstan.⁶⁸ Article 1 of this law defines the concept of "digital asset" as a property created in electronic form with the assignment of a digital code, which is not a settlement or payment unit and provided with immutability of information on the basis of distributed data platform technology. Despite the appearance of this normative act, a special definition or status of NFT in the legislation of the Republic of Kazakhstan is still not enshrined. Thus, there is no direct mention of NFTs or separate rules for their use in domestic regulations.

It should be noted that the Civil Code of the Republic of Kazakhstan (CC RK) refers digital assets to the objects of civil rights along with property and property rights. Thus, Article 115 of the Civil Code of the RK refers to property as goods, money, financial instruments, results of creative activity, means of individualization, property rights, digital assets

⁶⁸ Law of the Republic of Kazakhstan No 193-VII 'On Digital Assets*' (6 February 2023, unofficial translation) <https://adilet.zan.kz/eng/docs/Z2300000193>

and other property.⁶⁹ Consequently, NFTs, as a type of digital assets, are recognized as objects of civil transactions. At the same time, the legislator makes a distinction between different types of digital assets, distinguishing between secured and unsecured digital assets. Secured digital assets include tokens that certify property rights to goods and/or services issued by the issuer, while unsecured assets include, for example, cryptocurrency created as a result of mining that has no secured asset. NFTs by their nature are usually linked to a specific digital object (artwork, collectible, etc.) provided by the token creator; hence, they can be classified as secured digital assets.

The issuance or circulation of secured digital assets without the authorization of an authorized body (the Ministry of Digital Development) is subject to administrative liability under Article 13 of the Law on Digital Assets and the provisions on authorizations and notifications.⁷⁰ However, in practice, it is not uncommon to settle for them in cryptocurrency or other unsecured digital assets. When you sell NFTs for cryptocurrency (bitcoin, ether, etc.), the settlement itself is in an unsecured digital asset. And since the issuance and circulation of unsecured digital assets outside of the AIFC is prohibited, the entire exchange is technically a violation of Section 11(5) of the Digital Assets Act.⁷¹

At the same time, the issuance and circulation of unsecured digital assets in Kazakhstan is prohibited except as permitted in the Astana International Financial Center.

The Astana International Financial Center (AIFC) recognizes NFTs as investments that represent unique digital assets that certify the ownership or provenance of certain items, such as art or collectibles. Authorized firms are largely limited to providing custody services for NFTs, while FinTech Lab members licensed to operate trading venues for digital assets are permitted to trade NFTs under strict compliance rules. These regulations require compliance with customer knowledge (KYC) and anti-money laundering/combating terrorist financing (AML/CTF) requirements, as well as monthly reporting to regulators. This regulatory framework, which emphasizes licensing and compliance, fosters a controlled yet innovative environment for NFT activities at AIFC.⁷²

According to the Law of the Republic of Kazakhstan "On Combating Money Laundering and Terrorism Financing",⁷³ persons issuing or dealing

⁶⁹ Grazhdanskiy kodeks Respubliki Kazakhstan [Civil Code of the Republic of Kazakhstan] (No 269-VII ZRK of 27 December 2017, as amended) <https://adilet.zan.kz/rus/docs/K1700000269>

⁷⁰ Law of the Republic of Kazakhstan No 193-VII "On Digital Assets" (6 February 2023, unofficial translation) <https://adilet.zan.kz/eng/docs/Z2300000193>

⁷¹ Ibid.

⁷² Rules on Digital Asset Activities (AIFC Rules No FR00062 of 2023, as amended 15 December 2024) s 3.12. URL: <https://orderly.myaftsa.com/articles/aifc-rules-on-digital-asset-activities>

⁷³ Zakon Respubliki Kazakhstan "O protivodeystvii legalizatsii (otmyvaniyu) dokhodov, poluchennykh prestupnym putem, i finansirovaniyu terrorizma" [Law of the Republic of Kazakhstan "On Countering the Legalization (Laundering) of Illegally Obtained Incomes and the Financing of Terrorism"] (No 191-IV of 28 August 2009) <https://adilet.zan.kz/rus/docs/Z090000191>

with digital assets are subjects of financial monitoring. Anonymous transactions without KYC/AML are a direct violation of this law. Administrative sanctions (fines, suspension of activity)⁷⁴ and up to criminal liability for money laundering (Article 243 of the Criminal Code of the Republic of Kazakhstan) are provided for failure to carry out identification procedures and for anonymous transfer of funds. If a platform or a person systematically sells NFT (as a service, without a license), it can be reclassified as illegal entrepreneurship (Art. 214 of the Criminal Code of the RK) with the most severe sanction - even imprisonment.⁷⁵

Despite the absence of established case law on NFTs in Kazakhstan, individual cases involving digital assets demonstrate gaps in their legal interpretation. One example is the criminal case of Magavina M.S.,⁷⁶ where the court did not conduct a detailed analysis of the differences between “secured” (backed by real assets) and “unsecured” (not backed by real assets) digital assets. During the proceedings, the court focused on the violation of Article 14 of the Law of the Republic of Kazakhstan “On Advertising,”⁷⁷ which prohibits guaranteeing the profitability of transactions with secured digital assets. This creates risks of legal uncertainty for market participants and requires the development of specialized approaches to the classification of NFTs, including their licensing and regulation within the digital economy of Kazakhstan.

Intellectual property issues are central to the analysis of NFTs, as many NFTs involve works of art, musical compositions, design objects and other results of creative activity. Kazakhstan's intellectual property laws include rules on copyright, trademarks, patents and other objects, and these rules generally apply to relationships arising around NFTs. However, it is necessary to distinguish between ownership rights to the NFT token itself and exclusive rights to the results of intellectual activity associated with it. The Civil Code of Kazakhstan directly establishes that the exclusive right to the result of creative activity exists independently of the ownership right to the material carrier embodying this result (Article 968 of the Civil Code of the RK).⁷⁸ In other words, the acquisition of ownership rights to a token or other medium does not entail an automatic transfer of copyright to the work itself. In addition, the process of tokenization itself is not related to human creative activity, so NFTs do not possess the originality

⁷⁴ *Kodeks Respubliki Kazakhstan "Ob administrativnykh pravonarusheniyaikh"* [Code of the Republic of Kazakhstan "On Administrative Offences"] (No 235-V ZRK of 5 July 2014) <https://adilet.zan.kz/rus/docs/K1400000235>

⁷⁵ *Ugolovnyy kodeks Respubliki Kazakhstan* [Criminal Code of the Republic of Kazakhstan] (No 226-V ZRK of 3 July 2014) <https://adilet.zan.kz/rus/docs/K1400000226>

⁷⁶ Prosecutor General's Office v Magavina (Kokshetau City Court, Akmolinsk Region, Case No 1110-24-00-1/168, 23 January 2025).

⁷⁷ *Zakon Respubliki Kazakhstan "O reklame"* [Law of the Republic of Kazakhstan "On Advertising"] (No 508-II of 19 December 2003, as amended on 9 September 2024) https://online.zakon.kz/Document/?doc_id=1045608

⁷⁸ *Grazhdanskiy kodeks Respubliki Kazakhstan* [Civil Code of the Republic of Kazakhstan] (No 269-VII ZRK of 27 December 2017, as amended) <https://adilet.zan.kz/rus/docs/K1700000269>

necessary for copyright protection. In addition, the author's personal non-property rights (the right of authorship, the right to a name, the right to inviolability of a work) are inalienable and eternal under the laws of Kazakhstan (Article 969, paragraph 2, of the Civil Code of the RK);⁷⁹ therefore, the issue or sale of NFTs does not result in the transfer or termination of these personal rights of the author to the work. In general, current intellectual property law (copyright, related rights, patent law, trademark law, etc.) fully applies to digital objects, including NFTs: any actions affecting a protected intellectual property object (e.g., copying an image, its distribution, use of a brand name in a collection of NFTs, etc.) require a legal basis in the form of property rights or a license.

Thus, from a legal point of view, NFT should be considered as a special type of digital assets (the sphere of "digital rights"). It may be related to property rights (e.g., ownership of digital content) and at the same time represent an independent property object. The lack of a clear regulatory classification leads to the need for an individual legal assessment of each specific NFT situation - including checking what rights and capabilities the token carries and what type of digital assets it is close to.

Since the purchase or acquisition of an NFT does not in itself automatically transfer the right to use intellectual assets, license agreements that define the scope and terms of use of the content associated with the NFT become central. In the context of NFTs, such terms may be embedded in a smart contract or included in the user agreement of the platform on which the token is sold. However, several features and limitations distinguish NFT licensing from traditional licensing.

It is important not to confuse a state "license" to carry out activities with a civil law "license agreement" for the use of an intellectual property object. NFT is often associated with intellectual property objects (copyright works, brands, etc.), so license agreements must be concluded for the use of such objects by third parties in accordance with the norms of the Civil Code and industry-specific intellectual property legislation.⁸⁰

A license agreement is concluded between the right holder (licensor) and the user of the NFT or its contents (licensee). As a general rule, it must be concluded in writing. When transferring exclusive rights (or a share of such rights) to an intellectual property object, the contract is subject to notarization (which makes it legally unconditional). The contract specifies the terms and conditions of granting rights: the subject of the contract (specifically described rights, for example, the right to reproduce or distribute content in NFT), term of validity, territory, amount of

⁷⁹ Grazhdanskiy kodeks Respubliki Kazakhstan [Civil Code of the Republic of Kazakhstan] (No 269-VII ZRK of 27 December 2017, as amended) <https://adilet.zan.kz/rus/docs/K1700000269>

⁸⁰ Ibid.

remuneration. At the same time, the electronic format of the contract itself (including the use of an electronic digital signature) is permitted by law.

If the NFT relates to industrial property objects (for example, it contains elements protected by patents, trademarks or industrial designs), additional formal requirements must be observed. Thus, license agreements for the use of a trademark, patent or industrial design concluded with persons who are not right holders are subject to state registration with the National Institute of Intellectual Property (NIIS).⁸¹ Registration of a license ensures its legal validity against third parties and helps to avoid disputes about the scope of the rights granted. Without such registration, the license may not protect the right holder in case of transfer of rights to subsequent purchasers.

When drafting an NFT license agreement in practice, it is important to clearly define the object of the license. If the NFT contains a work of authorship (digital art, music, etc.), the subject of the agreement will be the corresponding exclusive rights (for reproduction, public display, distribution, etc.). If the NFT uses trade names, logos or other designations that require protection as trademarks, the license agreement should include the conditions for the use of these designations and register such an agreement as a trademark license. In this way, the licensee will have a legal basis to use the brand or logo within the NFT.

To begin with, in accordance with the laws of the Republic of Kazakhstan, agreements on assignment or licensing of exclusive rights are usually concluded in writing (including in electronic form). NFT trading platforms usually grant licenses to users, both for personal non-commercial use (for example, to display a digital object in a personal collection or as an avatar) and for commercial use. These are essentially off-chain contracts that buyers "accept" when purchasing a token. However, their scope can be quite different, ranging from a simple personal use right to a broader commercial right (in some NFT projects, creators explicitly authorize token holders to make commercial use of the image, as may be the case with some well-known NFT collections). In the absence of explicit licensing, the buyer by default receives only a very limited set of rights to the purchased copy of the work, which typically includes displaying and reselling it, but does not include reproduction or creation of derivative works. In addition, ownership of an NFT does not in itself transfer copyright, so any active use of the content requires separate permission from the copyright holder, the researchers emphasize.

Second, the freedom to license NFTs may be limited by registration and legislative requirements. In Kazakhstan, agreements on the disposal of rights to certain intellectual property objects must necessarily be

⁸¹ National Institute of Intellectual Property (Kazakhstan), *Vidy dogovorov podlehashchikh registratsii* [Types of Contracts Subject to Registration] (Webpage, [no date])

<https://qazpatent.kz/ru/ip-objects/agreement-commercialization/general-information/tirkeuge-zhatatyn-shartardyn-turleri>

registered by the state. In particular, agreements on assignment or licensing of patents, registered trademarks and other industrial property objects must be registered with the National Institute of Intellectual Property (NIIS).⁸² From a legal point of view, if a license for a trademark or invention is created only by transferring the NFT without official registration, such license will be invalid against third parties. Thus, when introducing patent- or trademark-protected objects into circulation by means of an NFT, the parties will now also be obliged to fulfill the classical requirements of the law: to conclude a written contract to that effect and to register it. This largely negates the paperless advantages of NFT technology and requires duplication of traditional document flow.

Third, the technical characteristics of NFT transactions mean that enforcement and monitoring of license terms should be limited. One advantage of NFTs for rights holders is that smart contracts can automatically enforce certain conditions (e.g., reciprocal royalty payments to the author when the token is resold). But there are parts of a license agreement that are not easily formalized in code. Place of use or contextual restrictions (e.g., prohibiting the use of a work in explicit or vulgar formats) cannot be automatically proven with the token itself. Moreover, the anonymity or pseudonymity of blockchain transaction participants adds another layer of complexity to the ability to legally prosecute any breaches of a licensing agreement: even if the terms of one party prohibit commercial use of an image, simply being able to meaningfully identify and prosecute infringers in a decentralized cross-border environment can be challenging. A license agreement entered into without the use of blockchain is generally subject to the jurisdiction of a particular court (either chosen by the parties or otherwise), but NFT transactions are global in nature, creating conflict of laws issues that make dispute resolution difficult.⁸³

Finally, when creating and selling NFTs, it is necessary to take into account the image rights of individuals, if any are used. In Kazakhstan, the use of a portrait or image of a person is regulated by the norms on personal non-property rights. Placing a photograph or image of a person on NFT requires the consent of that person (or, in the case of a public figure, some notice and is only permitted for lawful purposes). A license agreement or a separate agreement with the participants of the NFT token (e.g., the photographer or model) should record the transfer of the right to use the image for specific purposes (publication on the blockchain, token sale,

⁸² National Institute of Intellectual Property (Kazakhstan), *Vidy dogovorov podlehashchikh registratsii* [Types of Contracts Subject to Registration] (Webpage, [no date]) <https://qazpatent.kz/ru/ip-objects/agreement-commercialization/general-information/tirkeuge-zhatatyn-shartatdyn-turleri>

⁸³ Sholanov, Nurlan and Kirill Greshnikov, NFT po kazakhstanskomu zakonodatel'stvu [NFTs under Kazakh Law] (AEQUITAS Law Firm 2022) https://aequitas.kz/uploads/220617_AE_NFT_a26c15093f.pdf.

etc.). Accounting for these rights is necessary to prevent lawsuits by individuals whose images or protected facial features are used in NFTs.

Thus, formally, NFT licensing in Kazakhstan is carried out through the standard institution of a license agreement. The contract should reflect the specifics of NFT technology (as a digital asset) and at the same time meet the requirements of intellectual property legislation: it should be in writing, contain all material terms (subject matter, scope of rights, term, remuneration) and, if necessary, undergo state registration (in the case of rights to industrial objects or trademarks). At the same time, despite the novelty of the NFT, general legal principles apply: the rights to be transferred must be clearly defined, the terms of use must be specified, and compliance with the law must guarantee the protection of the interests of all parties to the contractual relationship.

Kazakhstan's legal framework within the AIFC recognizes NFTs as investments,⁸⁴ permitting transactions in them under existing legislation, but faces challenges in the area of intellectual property rights and enforcement of licensing agreements due to the unique characteristics of blockchain technology. The AIFC provides a controlled environment for NFT trading, ensuring compliance while fostering innovation, highlighting the potential for balanced regulation in this emerging area.

⁸⁴ Astana Financial Services Authority, Notice No. AFSA-F-NB-2024-0005 on Expected Approach to Digital Asset Products and Services Provided by FinTech Lab Participants (13 March 2024) <https://afsa.kz/en/announcements/notice-no-afsa-f-nb-2024-0005-expected-approach-digital-asset-products-and-services>

Conclusion

The research aimed to explore critically how established intellectual property licensing models apply to non-fungible tokens and to offer legal frameworks protecting creators and consumers while promoting NFT market growth. It was successful in doing so by establishing clearly the difference between token ownership of NFTs and ownership of the IP rights to the underlying content, dispelling the misinformation that buying an NFT passes copyright.

It examined how traditional licensing regimes (sole licenses, non-exclusive, exclusive, etc.) work within the NFT framework, ascertaining what adaptations are needed for blockchain-based ownership, such as coping with pseudonymous transactions, decentralized markets, and cross-border enforcement issues.

Through comparative mapping against US, EU, UK and Kazakhstani law, it observes that although Kazakhstan treats NFTs as a form of digital asset, there is no specific IP legislation, generating particular uncertainties within the Astana International Financial Center. It identifies blockchain-specific issues (such as creator pseudonymity, immutable ledgers, token-linked license transferability) and hence bridges theoretical IP with online asset realities. It contributes theoretically to developing licensing jurisprudence more finely, and practically to presenting actionable proposals for policymakers and market participants to create clear, effective NFT licensing regimes.

Overall, the research effectively bridged the gap between traditional intellectual property licensing frameworks and the innovative realities of NFTs, establishing a clear foundation for legally secure and transparent digital asset transactions, adaptable to both international standards and the specific regulatory context of Kazakhstan.

BIBLIOGRAPHY

Regulatory Legal Acts of Kazakhstan

- *Grazhdanskiy kodeks Respubliki Kazakhstan* [Civil Code of the Republic of Kazakhstan] (No 269-VII ZRK of 27 December 2017, as amended) <https://adilet.zan.kz/rus/docs/K1700000269> accessed 20 April 2025.
- Law of the Republic of Kazakhstan No 193-VII 'On Digital Assets' (6 February 2023) <https://adilet.zan.kz/eng/docs/Z2300000193> accessed 20 April 2025.
- *Kodeks Respubliki Kazakhstan "Ob administrativnykh pravonarusheniyyakh"* [Code of the Republic of Kazakhstan "On Administrative Offences"] (No 235-V ZRK of 5 July 2014) <https://adilet.zan.kz/rus/docs/K1400000235> accessed 20 April 2025.
- *Ugolovnyy kodeks Respubliki Kazakhstan* [Criminal Code of the Republic of Kazakhstan] (No 226-V ZRK of 3 July 2014) <https://adilet.zan.kz/rus/docs/K1400000226> accessed 20 April 2025.
- *Zakon Respubliki Kazakhstan "O protivodeystvii legalizatsii (otmyvaniyu) dokhodov, poluchennykh prestupnym putem, i finansirovaniyu terrorizma"* [Law of the Republic of Kazakhstan "On Countering the Legalization (Laundering) of Illegally Obtained Incomes and the Financing of Terrorism"] (No 191-IV of 28 August 2009) <https://adilet.zan.kz/rus/docs/Z090000191> accessed 20 April 2025.
- *Zakon Respubliki Kazakhstan "O reklame"* [Law of the Republic of Kazakhstan "On Advertising"] (No 508-II of 19 December 2003, as amended on 9 September 2024) https://online.zakon.kz/Document/?doc_id=1045608 accessed 20 April 2025.
- *Rules on Digital Asset Activities* (AIFC Rules No FR00062 of 2023, as amended 15 December 2024) <https://orderly.myafsa.com/articles/aifc-rules-on-digital-asset-activities> accessed 20 April 2025.
- Astana Financial Services Authority, *Notice No. AFSA-F-NB-2024-0005 on Expected Approach to Digital Asset Products and Services Provided by FinTech Lab Participants* (13 March 2024) <https://afsa.kz/en/announcements/notice-no-afsa-f-nb-2024-0005-expected-approach-digital-asset-products-and-services>

Regulatory Legal Acts of Other Countries

- *Copyright, Designs and Patents Act 1988*, s 90(3) (Legislation.gov.uk).
- 17 USC § 109(a) (First Sale Doctrine).
- 17 USC § 204(a) (Transfer of Copyright Ownership).
- *United States Code (USC) Title 17, § 204(a)*.

Scientific and Educational Literature

Books/Chapters:

- Alonso, Eduardo and Esther Mondragón, 'NFTs 101: Non-Fungible Tokens and the Blockchain May Not Be What You Think' in Enrico Bonadio and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024).
- Bonadio, Enrico and Caterina Sganga (eds), *NFTs, Creativity and the Law: Within and Beyond Copyright* (Routledge 2024).
 - Frosio, Giancarlo and Anthony O'Dwyer, 'Art in an Age of Non-Fungible Tokens: Authenticity, Value, and Counterfeit'.
 - Krokida, Zoi, 'Non-Fungible Tokens and Liability of Online Marketplaces: A European Perspective'.
 - Rubí-Puig, Antoni, 'Tokenizing Attribution: NFT Marketplaces and the Enforcement of Social Norms of Authenticity'.
 - Sganga, Caterina, Enrico Bonadio, Magali Contardi and Marie Clopterop, 'NFTs and Copyright Law: Setting the Scene'.
 - Yu, Peter K, 'Deploying Blockchain Technology in the Copyright Office'.
- Contreras, Jorge L, *Intellectual Property Licensing and Transactions: Theory and Practice* (Cambridge University Press 2022).

Journal Articles/Reports:

- Ardianti, R. and Widharta, E., 'Aesthetic Analysis and Public Perceptions of Popular Artworks in NFT OpenSea Marketplace' in *Proceedings of the International Conference* (2022) 507–516.
- Ito, K., Shibano, K., & Mogi, G., 'Predicting the Bubble of Non-Fungible Tokens (NFTs): An Empirical Investigation' (2022) *arXiv Preprint* <https://doi.org/10.48550/arxiv.2203.12587>.
- Kurmangazy Talzhanov and Adil Mukhamedaliuly, 'Legal Regulation of NFT within the Framework of the Law "On Digital Assets in the Republic of Kazakhstan"' *Kazakhstan Law Review* <https://kazlawreview.kz/>.

- Moreaux, A. and Mitrea, M., 'Royalty-Friendly Digital Asset Exchanges on Blockchains' (2023) 11 *IEEE Access* 56235–56247 <https://doi.org/10.1109/access.2023.3283153>.
- Murray, M. D., 'NFT Ownership and Copyrights' (2023) 56(2) *Indiana Law Review* 367–390.
- United States Patent and Trademark Office and United States Copyright Office, *Non-Fungible Tokens and Intellectual Property: A Report to Congress* (March 2024) <https://www.uspto.gov/sites/default/files/documents/Joint-USPTO-USCO-Report-on-NFTs-and-Intellectual-Property.pdf> accessed 20 April 2025.
- World Intellectual Property Organization, *Successful Technology Licensing* (IP Assets Management Series, WIPO Publication No 903E, 2015).
- Xiao, Bingbin, 'Chinese Court Rules on NFT Transactions and Responsibility of Trading Platforms: Shenzhen QiCeDieChu Cultural and Creativity Co v Hangzhou Bigverse Technology Co' (2022) 17(8) *Journal of Intellectual Property Law & Practice* 604.
- Sholanov, Nurlan and Kirill Greshnikov, *NFT po kazakhstanskomu zakonodatel'stvu* [NFTs under Kazakh Law] (AEQUITAS Law Firm 2022) https://aequitas.kz/uploads/220617_AE_NFT_a26c15093f.pdf accessed 20 April 2025.
- Zaman, A., Abir, M., Reaj, M., & Sakib, T., 'Metaverse: Fission the Architecture' (2024) 12(1) *International Journal of Science and Research Archive* 446–470 <https://doi.org/10.30574/ijrsra.2024.12.1.0808>.

Case Studies

- *Hermès International v Rothschild*, 1:22-cv-00384-JSR (SDNY, Complaint filed 20 January 2022, Document 191 filed 23 June 2023) <https://findgfs.thomsonreuters.com/gfx/legaldocs/akpegbebbp/r/HERMES%20NFTS%20LAWSUIT%20pi.pdf> accessed 20 April 2025.
- *Prosecutor General's Office v Magavina* (Kokshetau City Court, Akmolinsk Region, Case No 1110-24-00-1/168, 23 January 2025).

News Articles/Blogs:

- Kastrenakes, Jacob, 'Beeple NFT Artwork Sells for \$69 Million at Christie's First-of-its-kind Auction' (*The Verge*, 11 March 2021) <https://www.theverge.com/2021/3/11/22325054/beeple-christies-nft-sale-cost-everydays-69-million> accessed 20 April 2025.

- Queen, Jody, 'Tarantino, Miramax Settle Copyright Suit Over "Pulp Fiction" NFT' (Reuters, 9 September 2022) <https://www.reuters.com/legal/tarantino-miramax-settle-copyright-suit-over-pulp-fiction-nfts-2022-09-09/> accessed 20 April 2025.
- Roberts, Jeff John, 'So You Bought an NBA Top Shot NFT: What Do You Actually Own?' (Decrypt, 11 March 2021) <https://decrypt.co/60808/so-you-bought-an-nba-top-shot-nft-what-do-you-actually-own> accessed 20 April 2025.
- Shaw, Anny, 'Basquiat NFT Withdrawn From Auction After Artist's Estate Intervenes' (*The Art Newspaper*, 28 April 2021) <https://www.theartnewspaper.com/2021/04/28/basquiat-nft-withdrawn-from-auction-after-artists-estate-intervenes> accessed 20 April 2025.
- National Institute of Intellectual Property (Kazakhstan), *Vidy dogovorov podlezhashchikh registratsii* [Types of Contracts Subject to Registration] (Webpage, [no date]) <https://gazpatent.kz/ru/ip-objects/agreement-commercialization/general-information/tirkeuge-zhatatyn-sharttardyn-turleri> accessed 20 April 2025.

Legal Analyses:

- Chintalapoodi, Pratyusha, 'Bored Apes, NFTs, and Copyright' (Chip Law Group Blog, 17 November 2022) <https://www.chiplawgroup.com/bored-apes-nfts-and-copyright/> accessed 20 April 2025.
- Clopterop, Marie and Enrico Bonadio, 'NFTs: Promisingly Transformational, Yet Fraught with IP Pitfalls – Part II' (Kluwer Copyright Blog, 21 June 2023) <https://copyrightblog.kluweriplaw.com/2023/06/21/nfts-promisingly-transformational-yet-fraught-with-ip-pitfalls-part-ii/> accessed 20 April 2025.
- Kovač, Vladimir, Zrinka Lacković Vincek and Suzana Keglević Kožjak, 'Crypto Assets: The Emerging Trends in Croatia' (Paper presented at the 108th International Scientific Conference on Economic and Social Development, Aveiro, Portugal, 21-22 March 2024).
- Rimmer, Natalie, 'NFTs – Five Legal Things to Consider' (Farrer & Co LLP, 4 March 2022) <https://www.farrer.co.uk/news-and-insights/nfts-five-legal-things-to-consider/> accessed 20 April 2025.

- Robertson, Adi, 'Andreessen Horowitz Wants to Fix NFT Copyright With Its "Can't Be Evil" Licence' (*The Verge*, 6 September 2022) <https://www.theverge.com/2022/9/6/23331591/andreessen-horowitz-a16z-nft-cant-be-evil-copyright-creative-commons-licenses> accessed 20 April 2025.

MNU Research Archive