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The Evolving Frontier: Examining the Legal Status of Virtual Property in Metaverse Platforms

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ABSTRACT

Virtual properties, including virtual land and in-game items have emerged as significant economic entities within online gaming environments and virtual worlds which draw substantial real-world financial interest. However, despite their economic importance, the legal framework governing virtual property rights remains severely undeveloped. This research article examines the legal status of virtual property in online gaming environments and virtual worlds, focusing on the applicability of traditional property law and the need for new legal frameworks. The Metaverse industry that leverages blockchain technology, NFTs, and artificial intelligence, is pioneering a "phygital" world that blends augmented and virtual reality into immersive mixed reality experiences. The paper discusses the current hybrid license-lease model of ownership, the challenges of applying traditional property law principles to virtual assets, and the necessity for clearer contracts, effective dispute resolution mechanisms, and transparent terms to enhance the appeal of metaverse real estate investments. It also addresses legal uncertainties, including jurisdictional issues, the enforcement of end-user license agreements, and the risks associated with platform control over virtual assets. By exploring case studies and the current landscape, this paper underscores the importance of developing clear legal regulations to ensure user safety, data privacy, and a secure metaverse experience. Legal scholars are encouraged to adapt existing frameworks to meet the evolving needs of virtual property ownership in the metaverse.

Keywords: *Virtual Property Law, Metaverse, Blockchain technology, Artificial intelligence, Data privacy, Regulatory development.*

I. INTRODUCTION

Virtual properties are digital assets owned within online gaming environments and virtual worlds that have become a significant economic entity in the current paradigm. These assets include virtual land and in-game items that have created new kinds of robust in-game

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economies which draw real-world financial interests.² Even after their growing economic significance the legal framework surrounding virtual property rights still remains undeveloped. The Metaverse industry is at the forefront of innovation utilizing blockchain technology, NFTs, and artificial intelligence to craft a new "phygital" world which creates a blend between augmented and virtual reality resulting in a mixed reality experience that offers complete immersion for users.³ This research paper explores the legal status of virtual property in online gaming environments and virtual worlds, investigating the applicability of traditional property law and discussing potential legal frameworks for their regulation.

II. OVERVIEW OF VIRTUAL PROPERTY IN METAVERSE ENVIRONMENTS

Virtual property in metaverse environments can be broadly categorized into avatars, items, and virtual land and the distinction between fungible and non-fungible tokens (NFTs) becomes crucial in this paradigm. NFTs represent unique, non-interchangeable virtual assets which lead to higher value and distinct ownership implications. The emergence of the metaverse and artificial intelligence (AI) has blurred the lines between our physical and digital realities creating a new "phygital" space where people interact through avatars and digital representations of themselves. This space relies on a "token economy" powered by blockchain and AI and these tokens which include NFTs allow users to claim ownership of digital assets like virtual real estate.⁴

Virtual economies in the Metaverse mimic real-world economic interactions but operate under the rules and mechanics defined by the virtual world's creators.⁵ These economies are supported by virtual currencies which are traded for real-world currencies. This real-world value transaction clearly shows the economic significance of virtual property and hence necessitates legal scrutiny. In 2003, a game called 'Second Life' launched by Linden Lab was the first game offering virtual property ownership where players could own and trade digital items that they built or bought. This in-turn created a virtual marketplace where users could use "Linden dollars" and exchange it for real-world money through "LindenX" which implies

2 Dwivedi, Yogesh K., et al., *Metaverse Beyond the Hype: Multidisciplinary Perspectives on Emerging Challenges, Opportunities, and Agenda for Research, Practice and Policy*, 66 Int'l J. Info. Mgmt. 102542 (Oct. 2022).

3 G. Radhakrishna, *Legal Issues with Real Estate in the Metaverse*, in *Proceedings of the International Conference on Law and Digitalization* 74, 74-82 (ICLD 2022), Atlantis Press, 2022, available at https://doi.org/10.2991/978-2-494069-59-6_7.

4 A. Arul, Akashdeep, *How NFTs Will Shape the Metaverse*, Indian Inst. of Mgmt. (Feb. 9, 2022), <https://analyticsindiamag.com/how-nfts-will-shape-the-metaverse/>.

5 Z. Allam, A. Sharifi, S.E. Bibri, D.S. Jones, & J. Krogstie, *The Metaverse As A Virtual Form Of Smart Cities: Opportunities And Challenges For Environmental, Economic, And Social Sustainability In Urban Futures*, 5 Smart Cities no. 3, 771-801 (2022), doi:10.3390/smartcities5030040.

that the players could earn money from their creations and purchases within Second Life.⁶ The metaverse offered a new investment opportunity of virtual real estate and investors purchased pieces of land and leveraged them in several ways to generate income.⁷ As a parallel to the real world, they could hold onto the property which could appreciate in value as the metaverse becomes more popular while some also leased out their digital space to other users or businesses for virtual events, with artists like Justin Bieber and Ariana Grande holding concerts in the metaverse.

III. LEGAL CHALLENGES SURROUNDING VIRTUAL PROPERTY

Traditional property law principles such as exclusivity, transferability, and enforceability still struggle to apply to virtual properties because of their intangible nature. Ownership in virtual environments poses a challenge due to the ephemeral quality of digital assets and the control exerted by service providers through terms of service agreements and hence owning property in the metaverse raises a multitude of legal questions with significant social and economic consequences. These uncertainties range from the fundamental ("What exactly do you own?") to the practical ("How do you transfer ownership?") and even delve into user identity ("Do contracting parties need to reveal themselves?"). The anonymity prevalent in virtual spaces further complicates matters leaving the process for resolving disputes unclear. Additionally, concerns exist around fraudulent activity, intellectual property rights of virtual items, in-game regulations, and even ownership of the metaverse platform itself. As the traditional legal frameworks become inapplicable enforcing any kind of remedy becomes a significant challenge.

IV. CASE STUDIES AND CURRENT LANDSCAPE

The *Bragg v. Linden Lab* case⁸ in the US highlighted the problematic legal questions surrounding virtual property ownership. In this case, Bragg was a 'Second Life' user who purchased virtual land but had his account suspended by the company Linden after they claimed that he exploited a loophole to acquire it at a lesser cost, Bragg then proceeded to sue for the recovery of his virtual assets but not surprisingly the case settled privately and hence there was no precedence set on the question 'if users truly own virtual land.' Linden, despite public statements that suggested ownership, argued that the users only had a license to access

6 Jon M. Garon, Legal Implications of a Ubiquitous Metaverse and a Web3 Future, Jan. 2022, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4002551.

7 Alejandro Martínez Sánchez, *Law and Dispute Resolution Inside Video Games*, in *European Symposium on Legislative Comprehensibility*, published by the Federal Ministry of Justice and Consumer Protection, Dec. 2021.

8 *Bragg v. Linden Research Inc.*, 487 F. Supp. 2d 593 (E.D. Pa. 2007).

Linden's servers and resources which enables them to experience the ownership of "land" within the 'Second Life.' Following the Bragg case, Second Life went ahead and revised its terms and started offering users a "limited license" to virtual property.⁹ Their marketing continued to suggest users could "own" virtual land and this discrepancy led to a second lawsuit, *Evans et al. v. Linden Lab*, where thousands of users claimed they were misled into believing that they owned virtual items and land, only to have their accounts terminated without compensation. In more recent times, leading Indian real estate developers are also embracing the metaverse like MagicBricks and Tata Housing's DigiTour utilizes virtual expos. This trend highlights the growing adoption of metaverse technologies within the Indian real estate industry.

Presently, there are multiple transactions which are required to purchase parcelled lands on Metaverse platforms. The initial prerequisite entails the user possessing a valid cryptocurrency and a corresponding digital wallet that functions within the chosen metaverse platform, these cryptocurrencies are tradable assets listed on dedicated cryptocurrency exchanges. To initiate the land acquisition process, the user establishes an account on one of these exchanges and then the user navigates to the metaverse platform where the land purchase will occur and adheres to the established procedures. Further, the trading of virtual land parcels within the metaverse leverages smart contracts which are self-executing programs inscribed on the blockchain. These contracts are secure and immutable transactions and upon completion of a purchase the ownership of the virtual land is conveyed through an NFT. This NFT which is analogous to a real-world deed is stored within the user's crypto wallet. Notably, the Turkish Digital Transformation Office proposed the term "Qualified Intellectual Deed" as a potential national equivalent to NFTs.¹⁰ In essence, while traditional title deeds serve as legal documentation of ownership for physical property NFTs function as digital certificates containing metadata that uniquely identifies the virtual asset they represent. Decentraland's current smart contract infrastructure empowers users to engage in land purchases, sales, and leasing agreements all conducted using the platform's native token. The phenomenon of high traffic areas lead to higher prices mirrors the real world, where property values surge near popular landmarks or entertainment hubs. Celebrity ownership further inflates virtual land value, replicating the star power effect observed in the physical world. An example is the \$450,000 purchase of a virtual

⁹ H. Y. F. Lim, *Virtual World, Virtual Land but Real Property*, Singapore J. Legal Stud., pp. 304-327 (2010) (24 pages).

¹⁰ F. A. Elkurdi, *Cryptocurrency Impacts on Strategic Management*, 5 *Quantrade J. Complex Sys. Soc. Sci.* no. 1, 23-31 (2022), doi:10.5281/zenodo.8102434.

estate in Snoopverse (Snoop Dogg's Sandbox domain).¹¹

One of the core strengths of metaverse land ownership lies in the blockchain's decentralized nature as purchased records are stored on this distributed ledger, making them tamper-proof and resistant to unauthorized modification. This ensures that ownership remains firmly in the hands of the purchaser represented by a unique NFT stored securely within their crypto wallet. These NFTs (digital deeds of ownership) require the owner's wallet password for any transfer of virtual assets like apartments, clothing, or other digital goods. However, despite the seemingly strict security measures offered by blockchain the legal landscape surrounding virtual property ownership remains muddled. Crucially, the ownership of metaverse assets is governed by the user license agreement (ULA) of the specific platform and not by traditional property law, this means that the established legal frameworks governing real-world immovable property have no bearing in the metaverse. After the purchase, users operate within the confines of the platform's terms of service (TOS) which act as legally binding contracts. These TOS often reserve the right for platforms to limit or terminate a user's access to their virtual land and other digital assets. For instance, platforms like Sandbox can potentially restrict access to a user's purchased land rendering even a high-value digital asset like a \$100,000 painting functionally useless overnight, with its NFT stripped of value. End User License Agreements (EULAs) are contracts that users must agree to before using software or entering virtual worlds typically stipulating that virtual properties remain the intellectual property of the developer. The enforceability of EULAs, especially concerning user rights and ownership of virtual assets, has been a contentious legal issue, often depending on jurisdictional variances in contract law.¹²

V. LEGAL UNCERTAINTIES AND RISKS

In the context of the discussion above, investing in metaverse land presents exciting possibilities, but also a cosmic web of legal uncertainties. A critical risk lies in the lopsided terms of service (TOS) on many platforms as these TOS often grant the platform owner unilateral control over virtual assets and purchasing an NFT doesn't exactly equate to full ownership as it merely grants access for a period dictated by the platform which undermines the very notion of ownership. Further, the smart contracts currently used for land sales and leases in the metaverse have limited scope as they primarily address monetary obligations and lease durations leaving vast grey areas unaddressed. For instance, what happens if a lessee

11 Onur Kucuk, *Owning Real Estate in Metaverse*, CEE Legal Matters, (last visited May, 2024), <https://ceelgalmatters.com/turkey/22329-owning-real-estate-in-metaverse>.

12 Ibid.

damages the leased land or establishes a business that reduces its value and smart contracts currently lack the ability to automatically resolve such disputes. The legal frameworks governing real estate are inapplicable in the virtual world. This creates significant uncertainty concerning issues like Leasing and Loan Defaults raising and current smart contracts lack provisions for automatic transfer of ownership rights which raise concerns about virtual foreclosures. There also exists a risk of platform failure, as if a platform goes bankrupt, the entire metaverse could disappear rendering investments worthless considering that even if users have voting rights regarding platform termination there is still no guarantee that platform owners won't shut down operations if financially untenable. The value of metaverse real estate is directly tied to the cryptocurrency market¹³, which is extremely volatile and unlike real estate price fluctuations that occur over years in the physical world, virtual land prices can plummet overnight leading to significant financial losses for investors. India's legal framework is currently underprepared for the complexities of the metaverse. The Digital Data Protection Act (2023)¹⁴, focus on user privacy and information security but may not adequately address the challenges presented by virtual worlds. The metaverse will also expose new categories of our personal data for processing and the question of determining where to focus data processing regulations arises. This paper suggests that regulations could focus on user privacy for core data like facial recognition and also allow processing of avatar-specific data (gestures, movements) relevant to in-metaverse interactions while ensuring user anonymity. The jurisdiction of the metaverse where the decentralized nature of the metaverse makes it unclear which jurisdiction's laws apply also becomes a problem. An avatar's location within a specific metaverse platform might not translate to a physical location and hence International cooperation among governments to establish a common legal framework for the metaverse and platform-specific terms of service that outline user conduct and applicable laws within the metaverse platform itself. The absence of a legal framework for the metaverse creates a vulnerability for users and this legal void will likely widen with increased metaverse adoption.¹⁵ Indian legislators need to develop a comprehensive framework to ensure user safety, protect intellectual property, and establish clear lines of accountability within the virtual realm similar to countries that have begun to recognize and adapt their legal systems to address the challenges posed by virtual properties. Landmark cases in jurisdictions like the United States, South Korea, and the European Union provide precedents, however, consistency and uniformity in

13 Lennart Ante, Friedrich-Philipp Wazinski, & Aman Saggu, *Digital Real Estate in the Metaverse: An Empirical Analysis of Retail Investor Motivations*, 58 Fin. Res. Letters 104299 (Aug. 2023), doi:10.1016/j.frl.2023.104299.
14 Government of India, *The Digital Personal Data Protection Act, 2023* (2023).

15 Supra Note 5 At 15

legal treatment are lacking, where cases often involve disputes over the ownership and commercial use of virtual assets which reveals the need for a coherent legal framework.¹⁶

VI. RECOMMENDATIONS AND CONCLUSION

Recognizing virtual property legally would validate the economic activities within virtual worlds, protect investments, and foster trust among users and investors and could lead to more structured and reliable marketplaces for virtual assets. Different models for regulating virtual property include adapting existing property laws or creating *sui generis* rights for virtual assets. While platforms like Sandbox and Next Earth demonstrate the potential legality of metaverse real estate investment through NFTs and DeFi (Decentralized Finance), careful scrutiny of each platform's TOS is crucial to understand user rights.¹⁷

The Transfer of Property Act, 1882¹⁸ outlines property transfer with almost all types of property being transferable unless prohibited by law. The Act recognizes "actionable claims," defined as claims to debts recognized by civil courts, allowing their transfer and this definition could encompass virtual property as well. Thus, if A sells any virtual property to B for consideration, he has a right to sue B for recovery of the amount due as consideration as that would clearly fall within the ambit of an "actionable claim" under the Transfer of Property Act. Similarly, The Supreme Court in *Tata Consultancy Services v. State of Andhra Pradesh*¹⁹ held that software programs are goods under the Sale of Goods Act, 1930²⁰, extending the concept to virtual property. Under the IPC, movable property includes various forms of property, with the Supreme Court interpreting the term broadly. Consequently, criminal offenses like theft and breach of trust could potentially apply to virtual property, although the lack of legal precedent and awareness among law enforcement may hinder enforcement in practice.²¹ Therefore it is a must for legal scholars to consider the application of existing frameworks and adapting them to meet the rising needs.

The concept of ownership currently rests on a hybrid license-lease model, lacking standard regulations. Therefore clearer contracts, dispute resolution mechanisms, and more transparent

16 Cyril Amarchand Mangaldas, FIG Papers No. 11 (Series 1): *Into The Metaverse: Legal And Regulatory Considerations In India*, Cyril Amarchand Mangaldas Blog, March 2022, accessed May, 2024, <https://corporate.cyrilamarchandblogs.com/2022/03/fig-papers-no-11-series-1-into-the-metaverse-legal-andregulatory-considerations-in-india/>.

17 Sdlccorp, "The Role Of Metaverse And Crypto In Decentralized Finance," Sdlccorp Blog, accessed May, 2024, <https://sdlccorp.com/post/the-role-of-metaverse-and-crypto-in-decentralized-finance/>.

18 Government of India, *The Transfer of Property Act, 1882* (India 1882).

19 AIR 2005 SC 371.

20 Government of India, *The Sale of Goods Act, 1930* (India 1930).

21 Peter Brown & Richard Raysman, *Property Rights in Cyberspace Games and Other Novel Legal Issues in Virtual Property*, 2 Ind. J.L. & Tech. (2006).

terms could make metaverse real estate a more attractive investment. As the metaverse evolves, legal frameworks will need to adapt to address these challenges and developing clear regulations will be crucial for user safety, data privacy, and ensuring a smooth and secure metaverse experience for all.

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