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NFTS — BUYER'S REMORSE AND A FLASH IN THE PAN? SOME THOUGHTS ON THE NATURE AND USEFULNESS OF NFTS IN VIRTUAL WORLDS AND THE METAVERSE

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Abstract

NFTs or Non-Fungible Tokens have recently made their appearance as a phenomenon branching off from cryptocurrencies and blockchains. Lately the discussions about NFTs have focused on the investment value of NFTs and the risks associated with the investment and trade in such NFTs, which have led to huge capital losses similar to those seen in the speculative investment and trade in cryptocurrencies such as Bitcoin. After the initial hype, the value of NFTs as investment vehicles has mostly collapsed with many early adopters now experiencing buyer's remorse. From this background the use and value of NFTs in several online virtual world or gaming environments is discussed with a focus on whether they add value to or detract from the user experience. While NFTs do appear to have the potential to function as a new addition to the existent types of digital property objects in terms of digital assets or virtual property, the use case as a new technological feature in online gaming environments remains contentious. It is argued that the future usefulness of NFTs will increase as the metaverse is developed and NFTs are not restricted to various proprietary ecosystems. Once someone can use their NFTs linked object in an unrestricted common environment such as the envisaged metaverse, the use case for NFTs will be much more

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convincing. The speculative aspect of investing in NFTs and the often ludicrous amounts of money spent on such nebulous objects set the stage for the discussion.

Keywords: Non-Fungible Tokens; NFT; digital property; speculation; virtual property; metaverse.

I INTRODUCTION

PT Barnum said that say that there is a sucker born every minute.[1] Perhaps, when it comes to get-rich-quick schemes, this applies twofold. To illustrate this point, the following headline recently screamed 'I am gullible'.[2] The headline reads: 'Buyers of Bored Ape NFTs sue after digital apes turn out to be a bad investment.'[3] The byline provides some more clarity for the sake of *schadenfreude*: 'Lawsuit: Sotheby's $24M sale to FTX gave Bored Ape NFTs[4] an "air of legitimacy."' This is related to the purchase of a lot of 101 *Bored Ape Yacht Club* (*BAYC*) NFTs, averaging US$238 000 per unit. Once this transaction went through, several opportunists[5] thought that they should also jump on the bandwagon and purchase *BAYC* NFTs.[6]

Before looking at the case of the *BAYC*, let's see what these NFTs are. NFTs or Non-Fungible Tokens[7] have recently made their appearance as

[1] Strawn, 'A lawyer's views on sound investments' (1928) 7(1) *Tennessee Law Review* 1 at 3.

[2] Regarding the need for regulation to protect investors who are gullible or easily swayed see: Walsh, 'Can regulation protect suckers and fools from themselves — reflection on the rhetoric of investors and investors protection under the Federal Securities laws' (2008) 8 *Journal of Business and Securities Law* 188 at 212.

[3] Brodkin, 'Buyers of Bored Ape NFTs sue after digital apes turn out to be bad investment' *Ars Technica* 18 August 2023, available at https://arstechnica.com/tech-policy/2023/08/buyers-of-bored-ape-nfts-sue-after-digital-apes-turn-out-to-be-bad-investment/, accessed on 27 October 2023.

[4] This will be discussed in more detail later.

[5] There are 10 000 *BAYC* NFTs in total. At the time of writing this article the cheapest available *BAYC* NFT on the OpenSea platform (which deals in the trade of NFTs) was just under 30 Ether (29.9888 ETH), which translated to a fiat currency price in Rand of R1 176 819.85 or US$63 070.50. The highest last sale was for *BAYC* (ape) number 7537, which sold for 1000 ETH, and which translated to approximately ZAR39 194 302.10 or US$2 102 350.00. See OpenSea, 'Bored Ape Yacht Club' *OpenSea*, available at https://opensea.io/collection/boredapeyachtclub, accessed on 2 December 2023.

[6] The BAYC, their NFTs and the legal challenges that are brewing will be discussed in more detail in section IV of this article.

[7] Since there are numerous definitions for the concept of what NFTs are, the definition provided by Merriam-Webster is one of the clearest. It states that an NFT is 'a unique digital identifier that cannot be copied, substituted, or subdivided, that is recorded in a blockchain, and that is used to certify authenticity and ownership (as of a specific digital asset and specific rights relating to it.' Its second meaning notes the dual understanding of the concept stating that an NFT can also be 'the asset that is represented by an NFT'. See Merriam-Webster.com

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a phenomenon branching off from cryptocurrencies and blockchains.[8] In essence, in its most basic form the NFT gives the buyer a bragging right of being the 'owner' of a digital artwork (or some similar thing).[9] More often than not, the exact same copy of the mentioned digital artwork can be found in a multitude of places all over the Internet and is easily reproducible in terms of creating more copies of these digital objects.[10] Irrespective of this aspect, the value of the artwork comes from being the undisputed and exclusive owner of the artwork — to which the NFT testifies,[11] without much of the normal associated benefits of ownership and or IP rights such as the ability to prevent copies from being made or the right of exclusive use.[12] This is, of course, a simplistic explanation but it will suffice for the moment.

Dictionary, 'NFT', available at https://merriam-webster.com/dictionary/NFT, accessed on 8 April 2024. See also Erlank, 'Digital property' in Van der Merwe et al, *Information and Communications Technology Law* 3 ed (LexisNexis 2021) 655; Murray, 'NFT ownership and copyrights' (2023) 52(2) *Indiana Law Review* 376.

[8] See Erlank, (LexisNexis 2021) 653.

[9] Minecraft provides an excellent (perhaps one of the best to date) summary of the concept of an NFT. In their discussion *Minecraft and NFTs*, they describe NFTs as follows: 'An NFT is a unique, non-editable, digital token that is part of a blockchain and often purchased with cryptocurrencies like Bitcoin. An NFT can be associated with any form of digital asset such as an MPEG or a GIF, but the most common use case today is digital art like JPEGs. The purchase of an NFT provides the token that states ownership of the original digital file. Yet, with any digital file, that file can be copied, moved, or even deleted. NFTs and blockchain have also been associated with speculation, where prices are driven up rapidly and as we have recently seen, may fall rapidly.' Mojang, 'Minecraft and NFTS' *Minecraft.net* 20 July 2022, available at https://www.minecraft.net/en-us/article/minecraft-and-nfts, accessed on 5 December 2023. The reason for Minecraft to highlight the speculation aspect of NFTs will be discussed in more detail later on in this article, but it is one of the reasons why NFTs are banned as an official part of Minecraft's gameplay at the moment.

[10] See in general Murray, (2023) 56(2) *Indiana Law Review* 367 at 371.

[11] The NFT, in this sense, can be viewed on the one hand as something akin to a certificate of ownership, title deed, certificate of authenticity, provenance document (for art and antiquities), or some similar tradable and or transferable proof of ownership. Or to put it slightly differently, holdership or possession of the NFT guarantees ownership of the associated object to which the NFT refers. On the other hand, some NFTs do not only refer to the ownership of another discreet right or object but form a unitary whole with the digital object that it represents or with which it is associated.

[12] Exceptions to this ability exist and are found in more nuanced examples of NFTs which might, for example, employ technologies such as digital rights management (DRM) in all its various forms, from watermarking through to authentication services. These will not be discussed in this article. Take note, however, that while the object to which an NFT might refer could be non-rivalrous (ie easily replicable and usable by anyone), the NFT itself is non-rivalrous and unique. On aspects of rivalry and the artificial scarcity of digital objects see: Fairfield, 'Virtual property' (2005) 85 *Boston University Law Review* 1047 at 1049; Erlank, (LexisNexis 2021) 635; Fairfield, 'Making virtual things' (2023) 64(4) *William & Mary Law Review* 1057 at 1071.

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A quick overview of some of the most expensive NFTs to date will set the stage for the discussion to follow.[13] In the first place we have 'The merge' sold at a price of US$91.8 million, but spread over 28 000 collectors. In the second place we have 'The first 5000 days' sold at US$69.3 million to a single buyer. In the third place we have 'Censored/ Clock' at US$52.8 million; and in the fourth place we have 'Human One' at US$28.95 million. In the fifth and sixth places we have 'Cryptopunk 5822' at US$23.7 million and 'Cryptopunk 7523' at US$11.75 million.

Lately, the discussions about NFTs have focused on the investment value of NFTs and the risks associated with the investment and trade in such NFTs, which have led to huge capital losses reminiscent of those seen in the speculative investment and trade in cryptocurrencies such as Bitcoin.[14] After the initial hype, the value of NFTs as investment vehicles has mostly collapsed with many early adopters now experiencing buyer's remorse. On the other hand, the duality[15] of the nature of an NFT remains relevant and possibly underscores the lasting impact that NFTs could have on, especially property law. For example, the duality between the digital object and the patrimony or value represented by a Bitcoin is even more pronounced in asset-backed tokens such as NFTs. This is especially evident when one looks at the diverse understanding of the nature of NFTs by the broader community, and especially by the NFT-using community. Erroneously, NFTs are widely regarded to be a discrete and all-encompassing digital property object. In other words, the object with which the NFT is connected is 'encapsulated' inside the NFT, and there is no distinction between the object of which the NFT represents ownership and the actual object. It would seem that many supporters of NFTs view the NFT as the discrete digital object that they are purchasing, and do not realise that the NFT is rather more of a proof of ownership, akin to a title deed (in property law) or documentary credit and associated compliant documents (in trade law). It is specifically this distinction that could hold lasting value for the use of NFTs in the future.

[13] This list keeps changing, in terms of both composition and ranking. See in general OpenSea Crew, 'The 10 most expensive NFTs ever Sold' *OpenSea* 4 August 2023, available at https://opensea.io/blog/articles/most-expensive-nfts, accessed on 5 December 2023. However, it remains illustrative of the immense (speculative) value that has already been accorded to NFTs. All of these refer to actual successful sales of the NFTs. As such it is clear that people view them as (1) valuable and (2) assets. Therefore, they will form part of a person's patrimony and are included as digital property objects. See Erlank, (LexisNexis 2021) 636, 654.

[14] See in general Griffin, 'Mining the NFT goldrush: A prospective guide to drafting NFT contracts' (2023) 74(2) *Mercer Law Review* 693 at 693.

[15] See Erlank, (LexisNexis 2021) 655.

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Against this background of investment, speculation and actual usefulness, the next section will delve into how developers of ao virtual worlds and online gaming franchises have started to dip their toes into the possibilities of embracing NFTs and implementing features thereof into their environments.

II NFTS EVERYWHERE

While the investment aspects of NFTs as art seem to have formed the main focus of speculative investment, the technology is constantly being tested in and applied to more areas.[16] At its core, NFTs, when understood as synonymous with the objects that they represent, and thus viewed as a unitary concept, are easily added to the ever-growing list of digital assets.[17] The NFT by its very nature is a digital object, existing virtually. If the object that the NFT represents is also digital (or virtual) then it is easy to categorise the NFT as a unitary concept and indeed as a digital asset. It has value,[18] and as such is viewed as an asset. The result of this is that such digital assets are examples of virtual property objects which could be protectable as property in the real world by real-world property law.[19]

Separate from the speculative investment community which tends to strongly focus on the investment value of blockchain-based innovations such as cryptocurrencies like bitcoin, the (blockchain-based) technology has been receiving attention from the more practical, but by no means

[16] One such area is the virtual world or online games, which will be discussed in more detail below. For a good overview of other areas where NFTs may become more relevant by focusing on the utility potential (as set apart from the investment potential), see Roose, 'What are NFTs?' *New York Times* 18 March 2022, available at https://www.nytimes.com/interactive/2022/03/18/technology/nft-guide.html, accessed on 8 April 2024; Clark, 'NFTs explained' *TheVerge* 6 June 2022, available at https://www.theverge.com/22310188/nft-explainer-what-is-blockchain-crypto-art-faq, accessed on 8 April 2024.

[17] See Erlank, (LexisNexis 2021) 633.

[18] Value is more often than not associated with financial or monetary value, but sentimental or personal value is by no means excluded from this understanding. In fact, even more appropriate in the context of the speculative nature of many NFT assets, what might have financial value at one moment, might only have sentimental value (not necessarily in a positive sense, but rather bitter-sweet), after losing most or all of its financial value. See also Fairfield, (2023) 64(4) *William & Mary Law Review* 1057 at 1078.

[19] The discussion about which digital or virtual objects could (and whether they should), be recognised and possibly protected as objects of property rights in the real world has become relatively concretised in law. The purpose of this paper is not to delve into these issues. For further reading on this aspect see in general Erlank, 'Don't touch my virtual property: Justifications for the recognition of virtual property' (2016) 133(3) *South African Law Journal* 664; Erlank, 'Law and property in virtual worlds' in Blitz & Barfield (eds), *Research Handbook on the Law of Virtual and Augmented Reality* (Edward Elgar 2018) 636; Erlank, *Property in virtual worlds* (unpublished LLD thesis, University of Stellenbosch, 2012).

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less vocal online gaming community. As has often been noted, the (pc/console/online/mobile/electronic) gaming business is serious business, and it is undeniably of huge economic importance. Evolving from the limited, offline single-player model of gaming; the multiplayer, online, and virtual world realms have become commonplace and business models have evolved from selling a game to a single end-user,[20] to such models as free-to-play,[21] and pay-to-win.[22] Money is made (and lost) not only by selling a copy of the game, but more often than not by continuous (and often cynical) exploitation of the end-user. Examples of these are seen in some of the most popular gaming franchises such as the *Call of Duty* franchise. While some of the titles available in the series are (theoretically) free to play, in many cases players are expected to (1) purchase of copy of the game (the base game) and then (2) continue to purchase additional parts of the game in the form of DLCs.[23] In addition to the formal DLCs which usually contain core aspects such as expansions on the gaming storyline, new characters, new areas of play (maps) etc, the purchase of ever-evolving and changing virtual property objects such as skins, weapons, vehicles and other in-game assets with real world money in the form of microtransactions, forms a hugely profitable income generation strategy for the developers of these games (or virtual world environments). A fear of missing out (often referred to as FOMO) seems to drive the success of these business models. While in the olden (or golden) days of gaming, one could buy a game and play it to completion — all based on a single purchase, now one needs to have any number of additional purchases, some of which are subscription-based, and called endearing names such as 'battle passes', which are connected to 'seasons'. These developments have their good and bad aspects, and most users or players accept the good with the bad, even when being cynically exploited[24] by the very developers whom they

[20] In other words, a single-player game, which is usually played offline.

[21] No purchases are necessary to play the game (from the developer — one still needs your own tablet/PC/console and an internet connection), and the developer usually makes money from advertising or in-game micro-transactions.

[22] You can progress (faster) in the game by purchasing new or better in-game objects, passes, equipment, and boosts. Often, a game will market itself as free-to-play, but one's progress in the game is hampered in comparison to other players who spend money inside the game.

[23] DLC refers to downloadable content which is usually made available after the initial launch or publication of a game and is quite often associated with further purchases and or microtransactions.

[24] For a discussion about the so-called pay-to-win problem and how this, in conjunction with loot-boxes or thinly veiled forms of online gambling can exploit the public. See: Darakjian, 'Online gaming and the pay-to-win problem: Legal deterrence or industry self-regulation?' (2016) 36(3) *Loyola of Los Angeles Entertainment Law Review* 213. See also

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support. So, what has this got to do with NFTs? It seems that one can only push the oppressed gaming masses so far, and in some online gaming communities, the attempt to introduce yet another form of cash generation (for the developers) in the form of NFTs has met severe backlash, negativity and pushback.

The first example of this to be discussed in this article comes from Ubisoft, the developer of *Tom Clancy's Ghost Recon* franchise who decided to experiment with NFT integration as part of the gameplay in the title *Ghost Recon Breakpoint*, and while not wholly a failure (some may differ),[25] it does serve as a cautionary tale for overhyping the benefits of the inclusion of a new technology such as NFTs in an online gaming or virtual world environment.

Launched in 2019, *Ghost Recon Breakpoint*, received 11 updates but has slowly been grinding to a halt since the announcement that no new content will be released for the game from April 2022. Ubisoft stated that they will maintain (or keep alive) the servers hosting the virtual world of the game. But it is inevitable that due to the small player base and the fact that the game is not being maintained, it is just a matter of time before the servers are deactivated, and the virtual world will cease to exist.[26] On the matter of the NFTs, Ubisoft created NFTs called *Quarts Digits*, running on the Tezos blockchain,[27] that was only actively supported by the developer for a few months, with Orland noting that the 'short saga serves as a prime example of the problems that can arise when a company just throws "the blockchain" into its plans without thinking *why* it's doing so.'[28] Ubisoft announced that they released the last *Digit* (NFT) on 17 March 2022, less than a month before they announced the end of their development on the title. Looking in more detail at how they

Goodstein, 'When the cat's away: Techlash, loot boxes, and regulating "dark patterns" in the video game industry's monetization strategies' (2021) 92(1) *Colorado Law Review* 285; Lui et al, 'Blurring lines: Loot boxes and gambling in the video game industry' (2020) 1 *York Law Review* 7.

[25] Ars Technica's take on the matter is clear from the headline: See Orland, 'Ubisoft's first NFT experiment was a dumpster fire' *Ars Technica* 6 April 2022, available at https://arstechnica.com/gaming/2022/04/ubisofts-first-nft-experiment-was-a-dumpster-fire/?comments=1&comments-page=1, accessed on 21 November 2023.

[26] See @GhostRecon's X (tweet), available at https://twitter.com/GhostRecon/status/1511373147475484682, accessed on 21 November 2023; Orland, *Ars Technica* 6 April 2022, available at https://arstechnica.com/gaming/2022/04/ubisofts-first-nft-experiment-was-a-dumpster-fire/?comments=1&comments-page=1, accessed on 21 November 2023. For more on how the closure of virtual worlds affects the users of those worlds see a.o. Erlank, (2012) 38.

[27] For more on the Tezos blockchain which is focused on Web3 technology and in particularly NFTs, see https://tezos.com/.

[28] Orland, *Ars Technica* 6 April 2022, available at https://arstechnica.com/gaming/2022/04/ubisofts-first-nft-experiment-was-a-dumpster-fire/?comments=1&comments-page=1, accessed on 21 November 2023.

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integrated NFTs into the virtual world or gaming environment is informative, and illustrates why having the ability to do something might not necessarily be a good reason for doing so.[29] In essence, Ubisoft followed industry practice and released certain virtual objects, mostly of cosmetic value, to the users. If you received one of these objects from Ubisoft (whether in the form of a skin[30] of a weapon, a helmet or a pair of pants), you could equip it to your avatar, use it in the virtual environment — and other users could see you using it.[31] This forms part and parcel of online multiplayer games, and their in-game economics. As Orland notes:

> By using a decentralized NFT blockchain, Ubisoft promises its Quartz system will "grant players more control than ever" and "more autonomy and agency" in order to "genuinely make players stakeholders of our games." But as currently described, Ubisoft's Quartz system seems like an overcomplicated repackaging of a run-of-the-mill system of DLC cosmetics — but now with extra buzzwords and artificial scarcity layered on top.[32]

And this is exactly what happened. Players did receive NFTs in the form of *Quartz Digits*, but the only actual benefits that a player received from the associated digital object that sets the NFT apart from any other DLC-type digital object is, in the first place, the fact that each *Quartz Digit* had its own unique serial number that was visible on close inspection of the object; and in the second place, the fact that if such *Digits* were ever traded, the previous owners of the objects would be identifiable on close inspection of the *Digit*'s metadata.[33]

All of the fanfare about the decentralised nature of the *Quartz Digits* NFTs is, in fact, just smoke and mirrors, since the use of the NFT is contractually severely restricted and only of use inside the developer-provided game-specific ecosystem.[34]

[29] See in general Orland, 'Ubisoft's First NFT plans make no sense', *Ars Technica* 8 December 2021, available at https://arstechnica.com/gaming/2021/12/ubisofts-first-nft-plans-make-no-sense/, accessed on 21 November 2023.

[30] A skin is a cosmetic change to a virtual item or avatar that changes its appearance.

[31] This is a core feature of virtual worlds where simultaneous interaction with other players/users is a necessity. See Erlank, 'Introduction to virtual property: *Lex virtualis ipsa loquitur*' (2015) 18(7) *Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad* 2525 at 2527; Erlank, (2012) 52.

[32] Orland, 'Ubisoft's first NFT plans make no sense', *Ars Technica* 8 December 2021, available at https://arstechnica.com/gaming/2021/12/ubisofts-first-nft-plans-make-no-sense/, accessed on 21 November 2023.

[33] Orland, *Ars Technica* 8 December 2021, available at https://arstechnica.com/gaming/2021/12/ubisofts-first-nft-plans-make-no-sense/, accessed on 21 November 2023.

[34] Ubisoft has hinted at possible future cross-platform compatibility, but whether this might one day happen is doubtful, at least for these first attempts at NFT integration.

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As examples of developers who have taken a stand against the use of NFTs, we have Rockstar and Mojang. Rockstar's hugely popular franchise *Grand Theft Auto Online* has indicated that both cryptocurrencies and NFTs are not allowed on the GTA servers.[35] However, the focus of this seems to be on barring commercial exploitation (by third parties or players) and does not necessarily denote that the developers will not be willing to exploit the possibilities for their own benefit in the future.

The development follows similar moves by ao Mojang (the developers of *Minecraft*) who banned NFT integration into their online servers.[36] Mojang's reasons for barring the integration of blockchains and NFTs are coherent and in line with their general approach to the game and the gaming community. Due to this open approach and clear communication of the issues to the player base, Mojang's reasoning deserves some more attention. Mojang argues that Minecraft is a community where everyone should have access to the same content and that players should have a 'safe and inclusive experience'.[37] In contrast to these values, they argue quite correctly that NFTs 'create models of scarcity and exclusion' as well as 'ownership based on scarcity and exclusion'.[38] They continue to also highlight the profiteering aspect of

In 2022 Ubisoft seemed to take a more wait-and-see approach. Ars Technica investigated and revealed that the trade in the *Quartz Digit* NFTs after approximately 120 days only resulted in 96 successful sales out of the pool of thousands of minted NFTs on the only two sanctioned (by Ubisoft) trading platforms, Objkt and Rarible. Orland, *Ars Technica* 6 April 2022, available at https://arstechnica.com/gaming/2022/04/ubisofts-first-nft-experiment-was-a-dumpster-fire/?comments=1&comments-page=1, accessed on 21 November 2023.

[35] See Anonymous, 'Roleplay (RP) Servers' *Rockstar Support* 18 September 2022, available at https://support.rockstargames.com/articles/11374598771091/Roleplay-RP-Servers, accessed on 5 December 2023; Orland, 'Crypto and NFTs aren't welcome in Grand Theft Auto Online', *Ars Technica* 23 November 2022, available at https://arstechnica.com/gaming/2022/11/crypto-and-nfts-arent-welcome-in-grand-theft-auto-online/, accessed on 21 November 2023.

[36] Orland, 'Minecraft blocks the blockchain from its block game' *Ars Technica* 21 July 2022, available at https://arstechnica.com/gaming/2022/07/minecraft-blocks-the-blockchain-from-its-block-game/, accessed on 21 November 2023; Mojang, 'Minecraft and NFTs' available at https://www.minecraft.net/en-us/article/minecraft-and-nfts, accessed on 21 November 2023.

[37] Mojang, 'Minecraft and NFTs' available at https://www.minecraft.net/en-us/article/minecraft-and-nfts, accessed on 21 November 2023.

[38] This is done by employing techniques to create 'artificial scarcity'. While this concept is not new and often used in the real world, especially in the realm of intellectual property law, it is even easier to limit the availability of a good or commodity if it is digital. For example, digital rights management (DRM) has been used for many years to effect control over digital goods. Using these control mechanisms, everyone who does not have permission or 'rights' to an item can be excluded from access to such items. NFTs have just developed this concept somewhat by making the control over a digital object easier and more secure. For a more in-depth discussion on artificial scarcity and digital property see Erlank, (LexisNexis 2021) 635.

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speculative investment and pricing as well as the risks of players being cheated or exploited.

Other platforms, such as Discord have tested the waters, only to quickly change their minds about integrating NFTs and cryptocurrency wallets directly into their platforms.[39]

III THE METAVERSE

A place where NFTs could eventually come to be truly relevant is with the development of the metaverse. While many people might immediately think of the developments undertaken by Meta[40] (previously Facebook); whatever form the Meta-created metaverse[41] might take, it will not necessarily be exactly like the *metaverse* envisioned by Neal Stephenson in his seminal science-fiction work *Snow Crash*,[42] first published in 1992 — which arguably paved the way for (or at least foreshadowed) the Internet, virtual reality and virtual worlds. Simplistically explained, the *metaverse* is an online, interconnected virtual world, where everyone participates from a first-person perspective and interacts on the same platform making use of an immersive three-dimensional environment.[43] Think of it as the 3D immersive version of the current internet, where instead of 2D websites that one navigates via the Internet, the *metaverse* contains everything in a 3D interface, which one navigates via one's avatar, and feels (or is perceived) to be almost indistinguishable from the real world while one is using it. The point here is that, at least from a property viewpoint (which forms the foundation of NFTs, since NFTs focus on the exclusionary aspect of ownership), if everyone made use of a single *metaverse* platform, eventually most (if not all) virtual property/digital objects will be sellable, tradeable, transferable, transportable and usable all over the *metaverse,* without proprietary restrictions dependant on the continuous development and support of a discrete developer.[44] The ultimate form of digital or virtual property (object) is one that is

[39] Orland, 'Discord CEO backs away from hinted NFT integration after backlash' *Ars Technica* 11 November 2021, available at https://arstechnica.com/gaming/2021/11/discord-ceo-backs-away-from-hinted-nft-integration-after-backlash/, accessed on 21 November 2023; Hatmaker, 'Discord pushes pause on exploring crypto and NFTs amidst user backlash' *TechCrunch* 11 November 2021, available at https://tcrn.ch/3kqP2DG, accessed on 21 November 2023.

[40] Meta, available at https://about.meta.com/, accessed on 5 December 2023.

[41] Meta, 'The metaverse', available at https://about.meta.com/metaverse/, accessed on 5 December 2023.

[42] Stephenson, *Snow Crash* (Bantam Books 1992).

[43] See Erlank, (2012) 43, Erlank, (Edward Elgar 2018) 639.

[44] See the discussion about the restrictions imposed on the Ubisoft *Quartz Digits* above.

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similar in form and function to a real world counterpart. Since we started out discussing NFTs that come in the form of digital artworks, in the real world; if one were the owner of a (real/tangible) artwork, you could take it with you when you travel, move to a new house, move countries, change jobs, sell it, destroy it, give it away, and all the other competencies or entitlements derived from ownership.[45]

If one buys a chair in the real world at a furniture shop, one is not constrained to using the chair only inside the shop. You can take it home with you and use it wherever you want. The ability to sit on the chair is not dependent on the shop's (or factory's) continued existence or dependent on a subscription service for the chair to continue functioning. The problem with NFTs that have such digital objects as virtual chairs connected to them is that such an NFT chair (or DLCs/skins/virtual guns), while similar to a real-world counterpart inside the virtual-world digital confines, is still connected to the discrete platform for or from which they have been bought. If the developer such as Ubisoft switches off the servers of the *Ghost Recon Breakpoint* game platform, the NFT of the gun that was functional and usable in the virtual environment will immediately lose all usefulness and value. Such NFTs cannot now be moved by the user to a different gaming platform and used there. Technology at the moment just does not allow for this. If the NFT was not a virtual gun, but rather a virtual chair, the outcome would be the same. The problem discussed here is not unique to NFTs but is generally applicable to all types of digital assets and virtual property (where NFTs are but one new category of virtual property or digital assets).

The answer to this, as I see it, even before we see the rise of the mythical (Stephenson's) *metaverse*, will be standardisation, compatibility and interconnectedness. To a certain extent, one can argue for a type of technology-neutral standard to facilitate the transfer and use of virtual objects and NFTs between platforms, servers, virtual worlds and users. To a certain extent virtual property objects already exist that can be used by the owner on various platforms and for which the usefulness thereof is not dependent on the support of a specific developer or platform. As an example, one could look at someone who is the owner of a photo or picture digitised in a digital file format such as a JPEG or GIF. The owner of such a picture can copy and paste the picture between computers in the real world, display it on screens and digital displays wherever they may wish to do so, and even choose to put such

[45] For an example on how these entitlements of ownership apply to virtual or digital property see Erlank, (LexisNexis 2021) 639.

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picture up in a virtual world home or even a virtual art gallery. An example of a virtual world where this has been a core element of the user experience is from *Second Life*. If, after placing the picture on the wall of their (*Second Life*) home, the virtual world is discontinued, the owner of the digital artwork is still able to use it in other places in the real world as well as in the virtual worlds which might support such functions in the future. Because the use of JPEG and GIF files are so ubiquitous and almost all devices and internet sites support the display of such files, the usefulness of such files (or digital objects) is not dependent on the continued support of a single platform or environment. If such a standard[46] for NFTs could one day be agreed upon, the usefulness of NFTs in the digital environment and eventually the *metaverse* will be exponentially expanded.

Ironically, if one were to have an NFT with a JPEG or GIF file as its object, that picture is still displayable, usable and transferable by the owner, outside of the constraints of the NFT or the blockchain on which it runs.[47]

On this matter, Orland notes the following:

> This can mean anything from a Neopets JPG that's associated with your account to a collection of powerful gear in World of Warcraft. In either case, your virtual property stays linked to you and doesn't disappear between sessions. Recently, people have tried to use non-fungible tokens as a decentralized way to track and establish ownership of virtual goods, independent of any controlling authority or corporate server. In theory, such NFTs could allow virtual goods to be moved freely between metaverses controlled by different companies. In practice, the level of

[46] As with all standardisation, there will need to be agreement on who decides on such a standard. One of two developments in this area is foreseen. In all probability, the dominant market player (Meta) will create a standard that everyone else will have to adopt to be able to participate in the existing metaverse. In such a case compliance and regulation are easy, if you don't adopt the existing standard, then you cannot participate. The other option is often encountered where a standard is proposed by someone and either adopted as is or adopted after input, development and refinement by other role-players. At the end of the day, it will be in the interest of all role players to agree on a standard for the interoperability of NFTs. All of this presupposes self-regulation by the industry. Eventually, one might see government regulation being introduced when the technology matures.

[47] Of course, this only applies to NFTs where the object to which it refers is something as ordinary as a digital picture or music file. It the NFT is part of a complicated smart contract where programming and program execution needs to take place each time the NFT is used, the use of the object without the integration and actioning of the NFT-associated code becomes impossible without the cooperation of the blockchain and or platform on which it is run.

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standard-setting and inter-corporate cooperation necessary for this kind of portability writ large remains a pipe dream.[48]

As such, in order to determine whether as a digital object it should (or needs to) be encapsulated in or tied to an NFT, the following questions should be considered. One needs to ask oneself what the value is of associating a virtual good or digital property object with an NFT? Is the NFT a nice record to have that shows proof of ownership, or does it perhaps grant initial access to some digital good for a user? Can the user then use such digital good without reference to the NFT? Is the NFT needed because it is used for running a smart contract or employed in allocating (or restricting rights)? Is it necessary to have the database that allocates and authenticates the rights associated with a specific form of digital object decentralised and running on a blockchain, or could the same effect (and control) be achieved by hosting the database in-house for a developer?

IV THE BORED APE YACHT CLUB

Moving on from the online gaming environment, but by no means moving away from the future evolution of Web3 and the metaverse, we now return to the topic of the speculative investment world of the *Bored Ape Yacht Club (BAYC)* and their expensive NFTs. The *BAYC* and its developer or owners, Yuga Labs, mentioned at the beginning of this article continue to be controversial and divisive. They (and the people investing in their ecosystem) are often ridiculed online and mostly attract negative publicity.[49] Irrespective of this, it seems that Yuga Labs has created something that fills a niche market, and that market is supported by people willing to throw ridiculous amounts of money at the developers. Additionally, the developers, their followers and their exploits provide lots of material for writers (both popular and academic) to write about. Apart from the court case mentioned above concerning the value (or lack thereof) of the *BAYC* NFTs, the developers continue to empty the pockets of the unwary by providing such interesting and must-have items such as their first NFT game *Dookey Dash*, which cost

[48] Orland, 'So what is "the metaverse," exactly?' *Ars Technica* 11 July 2021, available at https://arstechnica.com/gaming/2021/11/everyone-pitching-the-metaverse-has-a-different-idea-of-what-it-is/2/, accessed on 21 November 2023.

[49] This is evident from reading a wide range of commentary on their exploits, both in the form of main-stream journalism and in particular the contributing Web2 masses commenting in the feedback and commentary sections below such articles. See for example: Mole, 'Bored Ape creator says UV light at ApeFest burned attendees' eyes and skin' *Ars Technica* 10 November 2023, available at https://arstechnica.com/health/2023/11/bored-ape-creator-says-uv-lights-at-apefest-burned-attendees-eyes-and-skin/, accessed on 20 November 2023.

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US$2 300 per player and only provided some rudimentary gameplay for a three-week period.[50] Of course, in the spirit of all things *BAYC* this was not just a normal game, but incorporated various elements of competition, NFTs, and other cryptocurrency aspects and bragging rights. As part of the *BAYC* ecosystem, participation in the game was dependent on the acquisition of a 'Sewer Pass NFT' that would allow a pass holder to access the game during the period of the event. Only *BAYC* members (ie, people who are owners of *BAYC* NFTs) could buy these passes, but once bought, such passes could be used by anyone. In other words, a *BAYC* member could resell their pass to a non-member. Depending on the level of commitment (and investment) into the *BAYC* ecosystem (read how much a member has spent on their NFTs and the status/tier and amount of *BAYC* digital assets that such member held at the time of playing the game, including digital pets), the points won during the game would vary. One could also pay-to-win a little more by purchasing boosting 'powershart packs' *[sic]* using the *Bored Ape* cryptocurrency, *ApeCoin*. The developers are making hay while the sun shines. Winners and participants in this game could then win so-called 'power sources', which might or might not have any value in the future.[51] The supporters of *BAYC* saw the speculative value of this and the money once again poured into the pockets of Yuga Labs.[52]

Now back to those Apes mentioned in the introduction of the article. After soaring to a height of about US$420 000 at the peak, those *BAYC* NFTs are now worth about US$50 000, down from the initial selling price of US$238 000. To put things into perspective one should take a peek at what these *Bored Apes* (and their NFT artworks look like).[53] Objectively speaking they are not bad. A print of this would look good on the wall next to a painting of the '*Dogs playing pool*' painting and the '*Three ducks flying away*'.

[50] Orland, 'The first "Bored Ape" NFT game costs $2.300 for three weeks of play' *Ars Technica* 19 January 2023, available at https://arstechnica.com/gaming/2023/01/the-first-bored-ape-nft-game-costs-2300-for-three-weeks-of-play/, accessed on 22 November 2023.

[51] One area where this might see future development is if such NFTs are implemented into and tradable in the *metaverse*.

[52] One thing that Yuga Labs is getting right is creating hype about the exclusivity of NFTs and the speculative value connected to their engineered artificial scarcity. The use of these power sources is supposedly aimed at future use in Yuga Labs' *Otherside* metaverse — which is still a work in progress after raising an initial round of seed funding to the value of US$450 million. Orland, *Ars Technica* 19 January 2023, available at https://arstechnica.com/gaming/2023/01/the-first-bored-ape-nft-game-costs-2300-for-three-weeks-of-play/, accessed on 22 November 2023.

[53] Some examples can be seen at: OpenSea, available at https://opensea.io/collection/boredapeyachtclub, accessed on 2 December 2023; as well as inside the *BAYC* itself, available at https://boredapeyachtclub.com/#/home, accessed on 5 December 2023.

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The outfall from this (possibly) forthcoming class-action by the outraged[54] buyers, has included adding the following prominent defendants: Yuga Labs and Sotheby's as well as various celebrities who are said to have promoted the NFTs including Paris Hilton, Gwyneth Paltrow, Kevin Hart, Snoop Dogg, Serena Williams, Madonna, Jimmy Fallon, Steph Curry, and even Justin Bieber.[55] Amongst other allegations '(t)he lawsuit alleges that Yuga Labs and Sotheby's violated the California Unfair Competition Law, the California Corporate Securities Law, the US Securities Exchange Act, and the California Corporations Code. The plaintiffs also claim that Sotheby's Metaverse, an NFT trading platform opened after the auction, 'operated (or attempted to operate) as an unregistered broker of securities.'[56] While one can, for the moment, only speculate as to the outcome of this court case, the *BAYC* has already blessed the legal community with some more concrete judgments, some of which are less fantastic than the current topic.[57]

[54] To add insult to injury, one of the perks of being a (proud) owner of a *BAYC* NFT is automatic membership in the *BAYC*, with the NFT acting as a proof of membership (amongst other benefits). As noted by Mole: 'However regretful, people who own the cryptocurrency-backed digital images of nonchalant cartoon primates are automatic members of the BAYC.' One such membership perk is the ability to join *BAYC* meetings such as the annual APEFEST meetup event recently (3–5 Nov 2023) held in Hong Kong. One thing that attendees probably did not envision was a restriction in their own vision. A number of attendees were left with severe skin and eye injuries most probably caused by UV exposure emitted by UVA lights located in a corner of the event. Mole, 'Bored Ape creator says UV light at ApeFest burned attendees' eyes and skin' *Ars Technica* 10 November 2023, available at https://arstechnica.com/health/2023/11/bored-ape-creator-says-uv-lights-at-apefest-burned-attendees-eyes-and-skin/, accessed on 20 November 2023. To gauge the sentiment of the general public concerning the *BAYC* NFTs and the buyer thereof scroll through the reader comments on the article, which are, to put it nicely, unsympathetic. See also https://apefest.com/.

[55] *Johnny Johnson, Ezra Boekweg, Mario Palombini, and Adam Titcher, individually and on behalf of all others similarly situated, plaintiffs, v. Yuga Labs, INC., Wylie Aronow, Greg Solano, Kerem Atalay, Zeshan Ali, Nicole Muniz, Jasmin Shoemaker, Patrick Ehrlund, Christopher Lyons, Alexis Ohanian, Amy Wu, Maaria Bajwa, Sotheby's Holdings inc., Guy Oseary, Mike Winkelmann, Madonna Louise Ciccone, Paris Hilton, James Fallon, Electric Hot Dog, INC., Universal Television, LLC, Justin Bieber, Austin Richard Post, Calvin Broadus jr., Kevin Hart, Wardell Stephen Curry II, Adidas America INC., Adidas Venture B.V., Ivan Soto-Wright, and Moonpay USA LLC*, Case no 2:22-cv-08909-FMO-PLA. The amended court filing can be viewed here: https://storage.courtlistener.com/recap/gov.uscourts.cacd.870128/gov.uscourts.cacd.870128.114.0.pdf, accessed on 5 December 2023.

[56] Brodkin, 'Buyers of Bored Ape NFTs sue after digital apes turn out to be bad investment' *Ars Technica* 18 August 2023, available at https://arstechnica.com/tech-policy/2023/08/buyers-of-bored-ape-nfts-sue-after-digital-apes-turn-out-to-be-bad-investment/, accessed on 27 October 2023.

[57] For example, from an IP law perspective we have developments in terms of freedom of expression in the guise of parody and social comment. Yuga Labs has (partially) won a case where they sued Ryder Ripps and Jeremy Cahen for violating their trademarks. The defendants tried to argue that their ripped-off version of the BAYC was a form of satire. See Brittain, 'Bored Ape NFT maker Yuga Labs sues artist, claiming he copied tokens' *Reuters* 27 June 2022, available at https://www.reuters.com/legal/transactional/bored-ape-nft-

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I think that many of the aggrieved buyers are now possibly feeling much like the 'Bored Apes' depicted in the artwork.

V CONCLUSION

Starting from a discussion of some investors who regretted their enthusiasm when choosing to buy NFTs from the *Bored Ape Yacht Club*, this article set out to investigate the concept of an NFT and the duality of how it can be either a digital record and proof of ownership on the one hand, which refers to a separate discrete object (either physical or digital), or understood to be a unitary concept where the NFT is also the object to which it refers.

It has become clear that while NFTs were initially seen as an investment vehicle, mostly having some type of (digital) artwork connected to it, there are various other areas where NFTs have already been employed, with various levels of success, such as in the realm of online gaming. Additionally, the utility aspect of NFTs does indeed seem to be promising, especially (ao) as a form of proof of ownership, and or as proof of provenance, which is bolstered by the benefits associated with blockchain technologies, on which it is based. Leading on from this discussion, the possibilities of its use in the development and participation in the metaverse were also investigated. As people continue to investigate new ways and areas to use NFTs, we will most likely continue to see many instances where the technology will either work or else be deemed to be counterproductive. This will only become apparent over time.

In so far as the NFT remains an investment vehicle, and with specific reference to the *BAYC* members, here the adage continues to remain relevant: *caveat emptor* — buyer beware.

maker-yuga-labs-sues-artist-claiming-he-copied-tokens-2022–06–27/, accessed on 5 December 2023; and Reynolds, 'Judge rules Bored Ape Yacht Club ripoff NFTs violated Yuga trademarks' *Coindesk* 22 April 2023 available at https://www.coindesk.com/web3/2023/04/22/judge-rules-bored-ape-yacht-club-ripoff-nfts-violated-yuga-copyright/#:[]:text=A%20federal%20court%20in%20California%20has%20handed%20Yuga,its%20case%20against%20Ryder%20Ripps%20and%20Jeremy%20Cahenm, accessed on 5 December 2023. This eventually ended up in the United States Supreme Court as *Yuga Labs Inc v. Ripps,* 9th U.S. Circuit Court of Appeals, No. 22–56199. See also Brittain, 'US appeals court weighs NFT "counterfeiting" in Bored Ape case' *Reuters* 17 October 2023, available at https://www.reuters.com/legal/litigation/us-appeals-court-weighs-nft-counterfeiting-bored-ape-case-2023–10–16/, accessed on 5 December 2023. See in general about the defence of freedom of expression in terms of IP rights: Van der Merwe et al, (LexisNexis 2021) 260.

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