

Review

At the frontier of the metaverse: NFTs, artistic expression, and digital immersions

Numa^{1,*}, Gustavo Godoy², João Teixeira³¹ Center for Arts and Communication, Federal University of Pernambuco, Recife 50740-550, Brazil² Department of Linguistics, University of Texas at Austin, Austin 78712, Texas, USA³ Department of Electronics and Systems, Federal University of Pernambuco, Recife 50740-550, Brazil* **Corresponding author:** Numa, contato@numadessas.com.br

CITATION

Numa, Godoy G, Teixeira J. At the frontier of the metaverse: NFTs, artistic expression, and digital immersions. *Metaverse*. 2024; 5(1): 2449.
<https://doi.org/10.54517/m.v5i1.2449>

ARTICLE INFO

Received: 28 December 2023

Accepted: 18 January 2024

Available online: 6 February 2024

COPYRIGHT



Copyright © 2024 by author(s).

Metaverse is published by Asia Pacific Academy of Science Pte. Ltd.

This work is licensed under the Creative Commons Attribution (CC BY) license.

<https://creativecommons.org/licenses/by/4.0/>

Abstract: This paper explores the multifaceted landscape of Non-Fungible Tokens beyond their role in digitizing artworks. It delves into the intersection of art, utility, and cultural preservation within the NFT realm. The discussion revolves around the duality of “art for art’s sake” and functional utility, sparking ongoing debates about the essence of art in both the analog and digital realms. The convergence of contemporary aesthetics with practical token utility challenges conventional definitions, offering an alternative to narrative retrieval and contributing to cultural preservation in the virtual sphere. As one enters the NFT ecosystem, a utopian quest for autonomy in healthy production becomes evident, albeit not without formidable obstacles. The paper examines the promise of NFTs to liberate creators from intermediary control and the entwined complexities accompanying their evolution. It sheds light on the cautious and ethical approach required for the mass adoption of these technologies, contrasting this with the current global context characterized by rampant consumerism, individualism, and the relentless pursuit of easy financial gains.

Keywords: NFTs; cultural preservation; digital autonomy

1. Introduction

Non-Fungible Tokens (NFTs) have evolved far beyond their initial role as a means of digitizing artworks, transcending conventional anthropological and cultural frameworks. This paper delves into the nuanced intersection of art, utility, and cultural preservation within the realm of NFTs, examining the ongoing debates surrounding the nature of art in both the analog and digital spheres. The convergence of contemporary aesthetics and the practical utility of tokens challenges established definitions, providing an alternative perspective on narrative retrieval and contributing to the preservation of culture within the virtual domain.

As we enter the expansive world of NFTs, a utopian quest for autonomy in healthy production becomes apparent. However, this journey is fraught with obstacles, accentuated by the rapid and intense impact of the digital space on its users. While NFTs promise liberation from intermediary control, their evolution is entwined with notable complexity.

The mass adoption of new technologies necessitates a cautious and ethical approach, contrasting starkly with the current global context steeped in consumerism, individualism, and a relentless pursuit of financial gains. Paradoxically, despite living in an era seemingly more connected, disconnections between humanity and nature persist.

The virtual world, mirroring our reality, presents challenges akin to the physical

realm, incorporating historical complexities that shape our progression. Amidst this evolution, a perpetual counteraction arises from the compulsive systems ingrained in human nature.

This paper explores the constant anxiety stemming from the dominance of web 2.0 platforms, such as Twitter and Discord, within NFT communities. It investigates how navigating these spaces involves compromising authenticity and saturating experiences by surrendering personal data to platform algorithms. The recent negative impact of Twitter, following its acquisition by Elon Musk, serves as an example of the adverse repercussions abrupt changes in centralized platforms can have on reach and the proliferation of dubious advertisements.

In this dynamic and effervescent system, cybersecurity emerges as a central challenge, directly influencing the potential for maintaining healthy production. Amidst the overwhelming flow of information, users find themselves vulnerable to suspicious directions and potential scams. Despite the inspiring utopian vision of autonomy and healthy production in NFTs, practical challenges persist, rooted in the intrinsic complexity of the digital environment and the loosely regulated dynamics defining it.

This paper's motivation is to perform an exploration and analysis of the broader implications and challenges of NFTs beyond their commonly discussed role in digitizing artworks. We aim to move beyond the conventional association of NFTs with digital art and explore their potential applications in various domains. We also investigate the intersection of art, utility, and cultural preservation within the NFT realm. This suggests a motivation to understand how NFTs might impact not only the art world but also broader cultural practices and the preservation of cultural heritage in the digital space. Also, we intend to contribute to ongoing debates about the essence of art in both the analog and digital realms. This suggests a desire to engage with philosophical and conceptual discussions surrounding the evolving nature of art in the context of NFTs. At last, the paper explores how NFTs contribute to cultural preservation in the virtual sphere, suggesting an interest in understanding how these technologies can play a role in safeguarding cultural heritage and expressions in the digital age.

Our text is akin to strolling through a conceptual art exhibition. Through artworks, their themes, and contexts, we catalog some discussions regarding art, NFTs, and the metaverse. In Section 1, we introduce the metaverse as a speculative theme depicted in a piece that is concurrently present in a practical metaverse. Transitioning from this piece in Section 2, we delve into the exhibitions where it was displayed, simultaneously at an art fair and on a 3D interaction platform, serving as an interface with the idea of the metaverse. To provide a broader understanding of these innovations, Section 3 delves into reflections on Web 3.0, offering a vocabulary of concepts and formats used in the circulation and production of digital content.

From the initial art exploration (Sections 2 and 3), moving through an elucidation of the intricacies of emerging internet structures (Section 4), we turn our attention to the famous urinal, compared to NFTs in some brief essays and posts we discussed (Section 5). We offer some brief reflections on the necessity for a serious understanding of the aesthetic and anthropological phenomenon of art circulating as NFTs. We revisit the idea that owning NFTs signals an unexpected return of an

artwork's aura, establishing lineages and underlines and enabling a new form of cultural and artistic accumulation in the era of digital reproducibility.

Following this, we present the first metaverse exhibition on the 3.land platform (Section 6) and finally address the perspective of promoting social initiatives through crypto art (Section 7).

2. News from the antiquity of the metaverse

The literature gap in this context might be the limited exploration of NFTs beyond their application in digitizing artworks. While existing literature may touch upon the basics of NFTs and their role in the art market, there might be a lack of comprehensive research delving into the broader implications of NFTs across various domains such as utility, cultural preservation, and autonomy for creators. The intersection of art, utility, and cultural preservation within the NFT realm may not have been thoroughly explored in the existing body of literature. Additionally, the ethical considerations surrounding the mass adoption of NFTs, especially in contrast to the current global context of rampant consumerism, may be an understudied area. The presented work is significant for its attempt to move beyond the current narrative on NFTs, offering a more comprehensive exploration of their potential impact on art, culture, and society. It not only addresses a literature gap but also contributes valuable insights that could shape future discussions and research in the evolving field of NFTs.

What's the use of a book without pictures or conversations? "Down the Rabbit Hole" (**Figure 1**) is a link to the book *Alice in Wonderland*, signifying a journey into a strange unknown world. Within the burrow, a cylindrical space with checkered walls, the falling objects consist of books, a chair, and a lamp. Distorted images persist: one, in the upper right corner, clearly distorts the chair, creating a sense of descent and transformation for the observer of this artwork. This type of distortion, coupled with the color tones, is a hallmark of the artist.

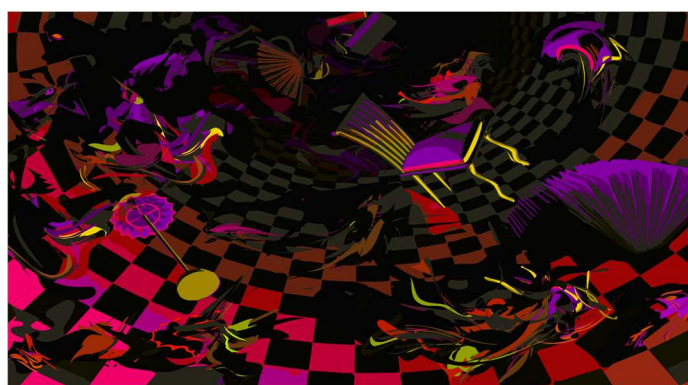


Figure 1. Down the rabbit hole.

The image portrays a disintegrating reading room slowly descending into a hole. This is an artwork by Sleepr. Artist's description: "I scratched the surface and found a key. I pulled the thread and found the door. I looked inside but don't know why. My tracks are gone and now I'm here. I fell down the rabbit hole."

The interplay between totality and light, where the colors are warm yet the environment is dark with focused light near the lamp, gradually diminishes upwards: We are falling upwards. This tension between brightness and darkness seems to

transition from the familiar reading environment to a yet-hidden place. Are things falling slowly? Or is the pit too deep?

One possible interpretation of the artwork is that reading serves as a portal to a metaverse, much like the rabbit hole for Alice. It's conceivable that the depicted environment visually represents this gateway to new worlds and ideas that reading provides—a invitation to immerse oneself in different realities and experiences through the pages of a book. A parallel: the artist employs an anonymous identity. Or rather, an avatar: Sleepr. Similar to the author of Alice, Lewis Carroll, who used a pseudonym. Avatars of the authors. According to Sleepr, art on the blockchain allows for the convergence of anonymity with the authenticity of the artwork, bypassing the artist's personal identity [1].

One can consider the metaverse as a new level of integration of technology and information, entailing various philosophical nuances [2]. However, this artwork reminds us that the metaverse is not necessarily a novelty but a new form of a primeval thing that has always been present. Art can function as a portal, connecting familiar elements to a metaversal imagination. Religion, literature, theater, music—they all toss us into different speculative rabbit holes of metaverses. It's no wonder that the concept initially emerged in literature and has more recently been widely represented in movies and series.

Anderson and Rainie [3] (citing Lehman Wilzig) highlight that we have been living in metaverse-like environments for a long time. Current and future interaction within immersive virtual environments is simply an updated version of something long foreshadowed in human nature, both intellectually and perceptually. Spiritual ecstasies, the use of power plants, artistic abilities, and storytelling have always placed us in quasi-metaverses. Perhaps the very notion of humanity can be defined by the capacity to imagine virtual worlds coupled with sensory reality. Creating and living in "virtual" realities has been present in humanity for a long time. This process of "virtualization" has persisted and evolved because it offers significant benefits that contribute to the human experience.

The difference today lies in the existence of immersive interfaces and the creation of digital stimuli that make the metaverse immediately tangible through multimedia and immersive experiences. As René and Mapes [4] remind us, virtual reality (which is the virtual emulation of bodily presence in a digital environment) and augmented reality (which is the digital overlay of virtual elements onto real-world perceptions) seek to stimulate the biology of human perception. This doesn't mean that all this captivating stimulation doesn't lead to any form of devolution, but its attraction demonstrates a kind of adaptation to the body.

Even though we might fall down the rabbit hole to realize that relatively new concepts and technologies are actually old human fantasies, one can try to define the metaverse in a more operational manner, as a virtual world accessed with avatars to engage not only with the created landscape but also with avatars controlled by other individuals. We can further add other technologies to the list. Some of these environments are 3D graphics accessible on screens, while others aim to integrate VR headsets and manual controls, making the perception of the digital environment more immersive. The metaverse is the convergence of the physical and digital worlds, establishing a virtual space where people can work, socialize, trade, play, and

consume, interacting through avatars [5]. In essence, it's a trend in virtual interaction that presents various aspects and dilemmas [6].

More than a clear-cut concept or easily defined phenomenon, 'metaverse' is a kind of fantastic desire linked to the spirit of our time, yet harkening back to ancient aspirations and demanding explorations into new technological interfaces.

This desire for a 'metaverse' mirrors our quest for a richer, more interconnected fusion of technology, imagination, and our wish for exploration and connection.

In a more individual and concrete sense, the term metaverse can be synonymous with an interactive platform, as in the case of the marketplace/metaverse 3.land, which will be discussed later. Its artistic application lies in creating spaces for displaying digital art, as seen in the exhibitions *Solana Is Alive* and *Artists in Residence*.

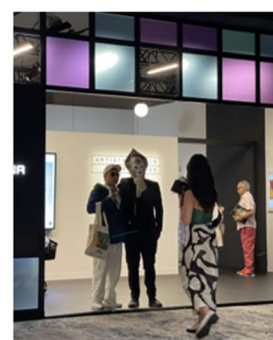
Transitioning from exploring the Rabbit Hole and the origins of the metaverse, we now pivot to the exhibition that showcases this artwork. This novel exhibition intertwines tangible and digital art within a metaverse platform. 'Artists in Residence' at Art Basel Miami Beach 2023 pioneers a live creation experience where artists build within a metaverse space, connecting art, audience, and creation in real-time—a fusion transforming the traditional art display into a studio celebrating the essence of the metaverse.

3. “Artists in residence” exhibition

The previously mentioned work by Sleepr (<https://www.sleepr.art/>) (**Figure 2**) can be seen in the Artists in Residence exhibition, an exhibition of artists working in the Solana ecosystem. The exhibition exists in the metaverse on the 3.land platform and was also part of Art Basel Miami, an international art fair. During the Art Basel event in Miami from 8–10 December 2023, Solana hosted the “Artists in Residence” initiative (**Figure 3**), providing a unique experience as an event activation. Three artists from the network, Eko33, Lisanne Haack, and Sleepr, showcased the process of creating on-chain art. Each artist led live studios at the Art Basel venue, demonstrating how they blend their inspirations from digital and traditional mediums. In person, the artist appears as an avatar; Sleepr wears a Venetian mask, as the anonymity of their persona is part of their art. In addition to creating new works, the artist's presence itself became a performance. Visitors used a phone to engage with the artist in their creative process, which is also present in the virtual exhibition.



(a)



(b)

Figure 2. Photos by Sleepr. (a) “I grew up being trained on ego-death experiences...”; (b) Sleepr and attendees during the exhibition.



Figure 3. Poster for the metaverse exhibition on the 3.land platform “Artists in Residence” made by Numa.

A notable feature of the exhibition is its simultaneous presence in Miami and its digital presence on the 3.land platform, replicating the space constructed for the event in the metaverse (**Figure 4**) [7]. Launched before the opening of the in-person event, the virtual version is still available for visitation, released on 6 December 2023. This initiative expanded the accessibility of the exhibition, allowing a broader audience to explore the event and bridging the physical and virtual worlds. The Metaverse Exhibition showcases these Solana NFTs against a background of the Miami skyline, engaging users with clickable art pieces and fostering a novel way of experiencing and acquiring these digital assets.

Interaction takes place on multiple levels: on the 3.land platform through virtual visits, on X with artists and visitors posting, on YouTube with Solana’s videos, but primarily in good old face-to-face (or face-to-mask) encounters. This is the proposal of the metaverse study: different connections, also allowing those who were not at the event to participate.

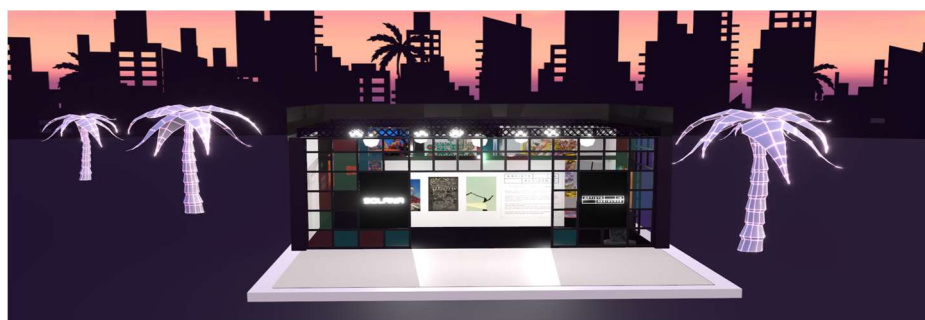


Figure 4. Metaverse exhibition from “Artists in Residence” in 3.land platform.

In addition to the Australian artist Sleepr, the exhibition also featured contributions from the Brazilian artist Lisanne Haack (**Figure 5**). Haack is renowned for her abstract art style, which is particularly noteworthy in her paintings. Yet, when

Haack's abstract art is translated into a 3D format, a whole new dimension emerges. The two-dimensional flatness of canvases transforms into intricate, interwoven paths of frozen, pasty-shaped paints.



Figure 5. Artist Lisanne Haack. Photo by ChrisHershman (@HershmanSnaps in X).

Embarking from the visual metaphor of “Down the Hole” to the expansive concept of the metaverse and culminating in the interactive Artists in Residence exhibition, our exploration unraveled the immersive potential of art. In the next section, we’ll embark on an initial endeavor into art criticism’s relationship with the commercialization of art as NFTs, examining the implications of this evolving artistic landscape.

4. The Web 3.0 way of thinking

The small “Web Museum” (**Figure 6**), conceived by Numa, one of the authors of this article, as part of the final project for the Virtual Reality discipline in the Master’s in Digital Artifact Design at UFPE, explains and illustrates in a simple and objective way the three distinct eras of the web. With a vivid color palette in shades of pink, purple, and blue, the metaverse room has three floors, each symbolizing a specific era. The first floor represents Web 1.0, embodied by a desktop with a CPU, while the second highlights Web 2.0 with a smartphone, and the third displays virtual reality glasses to symbolize Web 3.0. It also features works by other artists as part of the collection to enhance the space, such as the piece from **Figure 7**.



Figure 6. Metaverse by Numa, 2023.



Figure 7. Artwork from Agnudurte, 2023. Web3 architect: Join the architect and build together.

Web Museum: The World Wide Web eras represent the progression of this technology based on the characteristics of the functionalities and the evolution of the different dynamics of digital interaction. Metaverse room on the 3.land platform.

The enumerated eras of the World Wide Web represent the progression of this technology based on the characteristics of functionalities and the evolution of different dynamics of digital interaction.

Web 1.0: As the internet emerged, users were passive, only able to access HTML pages with static content without the ability to add comments or media. This provided the capability to make content available offline to online. Communication centered around email exchange.

Web 2.0: Blogs, social networks, and forums emerged, allowing for the insertion of comments and images (user-generated content). The popularization of AJAX technology (JavaScript, XHTML, HTML, CSS, and XML together) marked the maturation of the internet to create robust and interactive applications. This brought the main focus on creating amazing, user-friendly websites without complicated installations, as stated in the book “Pragmatic Ajax: A Web 2.0 prime.”

Web 3.0: This third era is established with the emergence of blockchain technology with Bitcoin in 2008 [8], becoming fully operational a year later. Ensuring security and transparency in the transfer of assets (files, information, and money), it is based on decentralization to prevent content accumulation in a single provider.

Despite the excitement surrounding Web 3.0, the reality of this futuristic vision has not fully materialized and remains utopian even for avid NFT users. In 2021, a tumultuous year that brought the NFT boom during the pandemic and a bull market, this transition seemed closer. However, the shift from Web 2.0 to Web 3.0, which was expected to bring more security and transparency in asset transfer, faces challenges.

The transition from the Web 2.0 model to Web 3.0 requires significant transformations in contemporary consumption, as it challenges traditional structures such as dependence on financial institutions and excessive attachment to material means. Contrary to these dogmas that permeate this unavoidable way of life, the culture of crypto-assets is grounded in principles of self-custody of currency and a

shift in the experience of things.

Critical issues such as data security and awareness of one's own rights are highly neglected when it comes to the reality of Web 2.0. The user has become the product by providing their data to access platforms, in return receiving a daily flood of advertisements and still facing the risk of encountering fake news and frauds, which often go unaddressed by platforms precisely because they bring profit.

Scammers are progressively refining their strategies, fraudsters who inhabit the NFT scene and generate money illegally by deceiving crypto creators and consumers through fake content [9]. These individuals employ persuasive approaches and invest in creating visually appealing content, aiming to establish a facade of credibility. Within this, there are cases where someone, ostensibly interested in commissioning art for a DeFi game (play-to-earn model, where users earn tokens as a reward for their performance), approaches an artist. These strategies can manifest in various forms, from fake emails to fraudulent smartphone apps filled with malicious code, posing a risk to data security. Additionally, fraudulent updates on illegitimate social media platforms can compromise profiles and spread misinformation or fake news.

In the artistic sphere, it clashes with how people engage with creators and creations, given that we inhabit social networks that impose a mode of behavior on us, clandestinely determining which content will be more prominently displayed and dictating the interaction behavior with posts. This "etiquette" of how to present oneself and interact with content poses challenges for creators in promoting their content organically. Attempts to bypass algorithms, plead for interactions within these rigid constraints, and often being compelled to pay platforms for reach that may not necessarily connect with their core audience.

This paradigm shift not only redefines economic relationships but also influences people's lifestyles. In this context, the use of NFTs emerges as an essential tool for cultural preservation, expressing the appropriation of technology for the perpetuation of memory. Furthermore, NFTs have the potential to rescue cultural narratives that might otherwise be forgotten or lost in the whirlwind of digital information. This convergence between the contemporary aesthetics of NFTs and their potential for functional utility offers a unique approach to reconcile cultural traditions with the demands of the digital age, highlighting the transformative capacity of technology in preserving and revitalizing cultural heritage.

It is crucial to learn from the mistakes and crimes of the present/past to avoid the same behavioral bias, affirming a truly revolutionary transition to Web 3.0, something that is often echoed in tweets by crypto community users. Otherwise, we face the imminent risk of remaining stagnant in a situation where Web 3.0 is nothing more than a Web 2.1, perhaps a 2.5.

A brief vocabulary

This section unfolds in the dynamic landscape of digital transactions, introducing foundational concepts crucial to understanding the contemporary fusion of technology and value exchange.

Cryptocurrency: Digital currencies that use blockchain technology for transactions.

Blockchain: Immutable networks that can be accessed via the internet by any

user, similar to a decentralized and digital “ledger,” where information is stored in multiple copies on many connected computers so that it is not controlled by just a single person or organization.

Fungibility and non-fungibility: A characteristic of something that can be replaced. Fungible is what can be replaced. Non-fungible is something unique.

Token: Units of value on a blockchain, coexisting with cryptocurrencies on the same network, different but sharing the same functional logic. There are four main types: Payment tokens, non-fungible tokens (NFT), security tokens, and utility tokens [9].

NFT (non-fungible tokens): In essence, they are unique records that cannot be replaced by another. We can understand NFT as the digital certificate of ownership for an item. This certificate is created within a blockchain network, benefiting from the transparency and security of this system. These records mainly refer to digital assets, but this is not a necessary feature; there are NFTs for physical objects as well. Through a digital record, it can contain a file, link, media, text, or code. NFTs are digital certificates of ownership for digital items (an image file in a specific format, such as .jpg, a text file in .pdf, even a .html, and so on). This file would not be replaceable by another or even have its content changed, marking a fundamental technological innovation. This is what “non-fungible” means. NFTs do not directly store the digital items themselves but rather a unique and immutable record confirming ownership of these digital items on a blockchain. This creates a link between the token and the digital asset, ensuring its authenticity and ownership. NFT, therefore, is a category of owning a digital resource (a digital asset). This type of certification allows for the establishment of authenticity in the digital age. Digital assets can be valued for their uniqueness, authenticity, and scarcity within the market. Thus, a unique digital artwork associated with an NFT can be considered a valuable commodity in the digital collectibles market.

Mint: A verb that means to upload/register a file on the blockchain.

Avatar: The term encompasses both two-dimensional representations in profile images and three-dimensional representations in virtual environments, such as metaverses. On social media and other online platforms, avatars are typically an image used to identify a user. In the context of metaverses, an avatar refers to a three-dimensional figure representing a user in these environments.

PPF: An abbreviation for “profile picture,” avatars used on various platform profiles. Specifically, within the NFT universe, it also refers to a category of image collection for use as avatars (**Figure 8**). These avatars are often represented as a bust, head and shoulders, or neck up image. Users (artists or collectors) commonly adopt a specific PFP as their favorite, even if they have several. There is also the practice of “derivative,” where a different artist than the one who created the original makes a reinterpretation on demand for the collector.

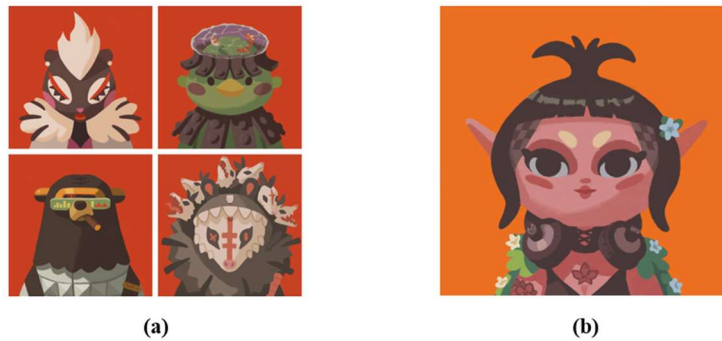


Figure 8. Durhminic artworks on Solana blockchain. **(a)** *Sol Badguys*, collection of PFPs; **(b)** *Numa*’s official PFP.

Virtual reality (VR): Virtual reality technology simulates an immersive artificial environment. It requires specific devices for a compelling and engaging experience, special lenses that provide the illusion of depth and dimension, stereo sound, and portable controllers and/or external cameras to capture user movements and reactions.

Metaverse: A virtual space where people can work, socialize, trade, play, and consume by interacting through avatars.

Augmented reality (AR): It involves real-time interaction and overlay of digital graphics onto real spaces, such as filters or 3D objects. Unlike virtual reality (VR), it adds graphics to the real environment without replacing it.

As we navigate the intricate landscape of blockchain technology, NFTs, and the evolving digital sphere, a natural progression leads us to delve into the realm of “Artistic Value within NFTs.” Having established the fundamental concepts and mechanisms that underpin the NFT ecosystem, the subsequent section scrutinizes the transformative impact of this technology on artistic expression and valuation. From the certification of ownership to the creation of unique digital artworks, our journey continues into the intersection of creativity, technology, and market dynamics within the NFT space. The exploration of artistic value not only extends our understanding of the NFT ecosystem but also sheds light on the broader implications of this innovative intersection between art and technology.

5. Break to go to the urinal: Artistic value within NFTs

Let’s start with a slight detour before delving deeper into our main topic. If our theme were bodily urination techniques and urinals, it would be intriguing to note that among the ancient Ka’apor people, men used to urinate while seated and women while standing [10]. Transitioning from this bodily technique to an object of Kuikuro material culture, the fascinating “gitsitoho” comes to mind—a urinal used in ancient huts, consisting of a bamboo piece placed across the thatched wall, enabling urination outside without leaving the house.

However, let’s move on to a much-discussed topic: men’s urinals and our tradition of inventing art. How many different urinals have men encountered? Perhaps we should question if there is any significant experience in admiring them: from simple communal stainless-steel urinals to automated ones that flush by themselves and include separators between users. Some are consistently dirty in bus stations,

while others remain clean in malls. Some incorporate urine stream attractors, like images of flies. There are those shaped like frogs or the controversial lip-shaped ones that sparked outrage due to their suggestive nature. Some are found in chemical toilets or as public permanent urinals in squares. Then there are the innocent and functional portable urinals for children, even representing girls, unlike the larger urinals, reflecting the case of Dutch women advocating for urinal equity. Others claim to be scientific by preventing any urine splash back. Indeed, the formal diversity of urinals is truly an aesthetic experience that could pique a collector's interest. Unfortunately, we are not aware of any such collectors, so we'll conclude the list here. Let's move on to the so-called artworld.

What follows is an old and well-known story: the urinal that left its mark isn't found in gender-designated bathrooms (**Figure 9**). Actually, it's not just one, as there were multiple replicas of the original. The year is 1917. It's said that Marcel Duchamp purchased a urinal, positioned it differently than intended, and signed it with the name of an imaginary avatar: R. Mutt, 1917. He treated it as a work of art: "The Fountain." He registered the artwork with the Society of Independent Artists, an exhibition that showcased anything for a mere \$5 payment. However, the art wasn't displayed, and subsequently, Duchamp, who was also the institution's director, left the society.



Figure 9. (a) Juxtaposition of the (anti-)artwork 'The Fountain', 2017, currently associated with doubts regarding Duchamp; (b) Nyan Cat (created in 2011, sold as an NFT in 2021) by Chris Torres. Image from Tingbin Tang's blog.

Interestingly, the authorship of "The Fountain" is now disputed, favoring Elsa von Freytag-Loringhoven, who is believed to have been the actual person to submit the famous urinal for the Society of Independent Artists' exhibition in April 1917 [11]. This casts doubt on Duchamp's attribution and highlights the issues surrounding notions of originality and artistic creation.

Whether it's a case of plagiarism or not, Duchamp had previously proposed these ideas of ready-mades, objects that, with the almost magical and illusionistic touch of someone, become art and worthy of being exhibited as such. A comparative pastiche between the notions of plagiarism and ready-mades could be made: both challenge the concept of artistic creation and originality. The ready-made involves appropriating everyday objects and presenting them as legitimate art, established by institutions, challenging traditional concepts of authorship and creation by conferring artistic value through simple selection and contextual displacement. On the other hand, plagiarism is an unauthorized imitation or reproduction without modification of someone else's work. Unlike the ready-made, plagiarism doesn't add value or original context to the

original work. Instead, it conceals or copies without crediting the original creator, contributing no new perspective or artistic intent. Plagiarism, whether it's imitation or reproduction without modification, is an act of dishonesty, its existence reliant on a legal decision: it does the opposite of the ready-made, as it doesn't add value or original context to the original work, concealing instead of presenting.

Anyone, in theory, could buy a urinal and sign it. However, if we were to do so, such an act would have no value as it would merely be an illegitimate staging, nor would it be plagiarism, given that the original work lacked productive creativity, existing more as an offering for consumption.

Duchamp proposed the domination of an idea, something intelligible, dominating the sensible and the aesthetic. He stood against the "retinal pleasure" in favor of the concept. According to Danto, it marked the end of taste, presenting anti-aesthetic objects, much like his work made from a shovel previously. The fact that an inverted urinal with a signature continues to be reported and debated to this day shows Duchamp's success.

Gell highlights the contradictory nature of Duchamp's choices in his readymades. Duchamp defended his selection as an act of pure will, explaining the choice as the "beauty of indifference", a form of deliberate arbitrariness. Paradoxically, the apparent lack of reason revealed a hidden motive, showcasing the boldness behind that selection. Although his creations were intentionally arbitrary, they influenced the artist, who was drawn to the unpredictability and anonymity of these pieces. Art became increasingly a philosophical reflection on itself or on specific phenomena.

Artists who might be seen as the antithesis of Duchamp delve directly into retinal-capturing structures without abandoning their conceptual attachment. Artists like Carlos Cruz-Diez or Julio Le Parc explore optical art, while others focus on the art of movement, as seen in Alexander Calder's mobiles. Much of the artistic production in the last century reflects on concepts, whether they are "retinal" and sensory or humorous, critical, or supposedly abstract.

With the twists in art, in which Duchamp certainly played a part, the result is that art today presents a pluralism and conceptual exploration, as emphasized by the philosopher Arthur Danto [12]. This certainly does not exclude traditional forms of art that valued technical skill but represents a strong current in the artistic field.

In the social dynamic, Duchamp's gesture points to the institutional and discursive nature of art, where the definition of "art" always depends on a defining power: institutions, critics, the public, among others, who determine what is considered art. Art, therefore, is circularly defined: it is labeled as "art" effectively, which is what is called the institutional explanation of art.

Why are we talking about the urinal? Because the ready-made dialectically became one of the basic paradigms for discussing art. So, to delve into NFT art, we must pass through the urinal. This is not a new idea, obviously. To avoid being accused of plagiarism like Duchamp, the comparison of his canon to NFT art is not new. It's almost a kind of historical obligation. This is evident from Coleman [13], Tang [14], Joselit [15], Laura [16], and so on.

According to art historian and Harvard University professor Joselit [15], a work like "In Advance of the Broken Arm" demonstrates how information transforms an object (in this case, a snow shovel) into the realm of art. Thus, "The Fountain" is more

a contour of information than an actual thing, a singular object. The “ready-mades” persist not as physical objects but as representations of information. This fact allowed for new performances or multiple editions of the “work.” Even the importance of the photograph of the work becomes the work itself. Art, according to Joselit, has been desublimated and relegated to discourse. He suggests that NFTs have reversed Duchamp’s intention and are more a way of turning information into a commodity, a process characteristic of the current stage of capitalist production. Joselit then comments on Beeple’s work.

A misleading description of Joselit’s work is ‘a large digital file of thoroughly ordinary Internet memes. This is where the injustice begins. It seems that the characterization as a ‘meme’ is merely an attempt by the art historian to belittle Beeple’s work. This strategy of directly approaching memes, although without defining what the meme would be, or with other vague notions, such as an update of pop-art, is present in other commentators on the arts that circulate as NFTs, such as Frieman 2022, who despite his interesting analysis proposal, conveys a hasty aesthetic analysis. Joselit emphasizes that the collage could have been made by anyone because, as he highlights, the images created by Beeple were being posted online (**Figure 10**). These online images were deemed fungible, meaning they were accessible to anyone with a computer who could download, organize, and assemble them (see glossary for more details).

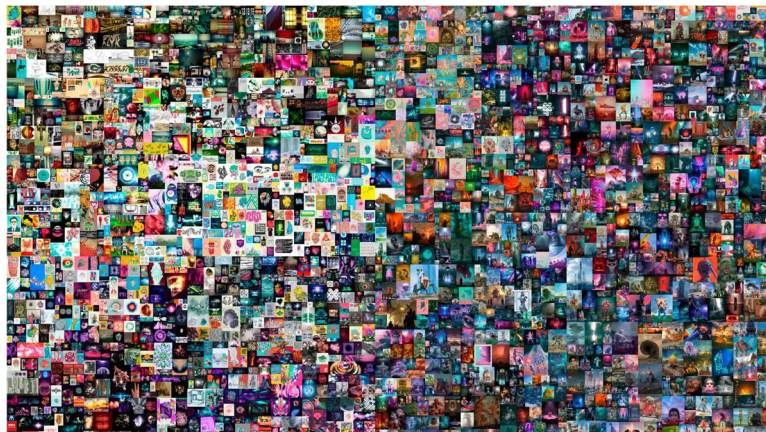


Figure 10. Beeple, 2021. Everydays: The first 5000 days 21,069 × 21,069 pixels (319,168,313 bytes) Minted on 16 February 2021.

At the auction where Beeple’s work was sold for \$69.3 million, these files that freely circulated became private property. The auction was held by the long-established luxury art and goods company, Christie’s. The work’s value lay solely in the buyer’s ability to control its circulation. The historian describes this as ‘perverse’, suggesting that the concept of ‘art’ had become an ideological tool in the service of pure speculation.

It seems to us a better example than Beeple’s work, the payment for which could be considered a sort of coronation or retrospective patronage. After all, what was sold was also Beeple’s intention and effort all these days and in the days when he will continue to produce similar work.

Perhaps the example of Nyan Cat would better represent the appropriation Joselit speaks of, as it seems more meme-like. This is the artwork featured on the blog image

of designer Tingbin Tang [14]. Nyan Cat was a Pixel Art creation by cartoonist Chris Torres, inspired by his cat, Marty, the year following its virtual success. Completed in 6 h, its themes were interactively chosen. Initially posted on Tumblr, it later went viral on YouTube in 2011 and became a collection of NFTs (<https://nyancatcollection.com>). This led Torres to explore the NFT market. He sold the original NFT for \$600,000, retaining the copyrights. Torres now works with other NFTs. Nyan Cat was created as a way to support social causes during natural disasters. It reveals the creativity behind the cultural phenomenon and how the idea became a valuable NFT.

Circulating in the form of an NFT contract, Nyan Cat became the basis for a series of micro-transformations around the same basis.

Both works, by Beeple and by Torres, were turned into NFTs, taking them from the public domain to the digital art market, generating monetary value. While Joselit focuses on speculation and the transformation of information into commodities as a point of criticism, the story behind Nyan Cat shows how a culturally popular piece can be monetized through NFTs, opening new financial opportunities for creators.

However, while Joselit views the commercialization of NFTs as a process of distortion, the Nyan Cat story can be interpreted as an opportunity for creators to monetize their works in a way that was not possible before, exploring the emerging market of digital art and NFTs.

In summary, Joselit's analysis could offer an interesting perspective on the transformation of digital art into property. It's worth noting that in his latest book, Joselit [17] overlooks the phenomenon of NFTs. A less simplistic approach is necessary to enrich the understanding of the impact of NFTs on art and contemporary culture. We must remember that an anthropological analysis of art cannot solely commit to valuing specific works but rather comprehend how revered works (or performances) are interpreted as products or instruments by those who inspire, produce, use, or contemplate them [18].

Like Joselit, the brief opinion of an art historian, Sally White Coleman [13], implicitly evaluates art circulating through NFTs based on aesthetic standards. However, Coleman doesn't seem to place as much belief in these standards. She proposes that NFTs represent a new avatar of fetishizing an authentic object tied to an author, a concept she believes emerged during expressionism when art was understood as emanating from the artist's expression. Coleman's text critiques the excessive commercialization of art and how the pursuit of authenticity and rarity shaped the art market. It observes that NFT artists, outside conventional art institutions, create their own virtual market, challenging established notions of aesthetics and profiting from the growing demand for their works. In essence, NFTs are conceptually considered brilliant as examples of the dark and costly side of contemporary virtual commerce.

Tang [14] emphasizes that NFTs ensure the unique character of ownership through the certificate of authenticity. Additionally, similar to Coleman, Tang stresses originality. The act of naming and exhibiting a urinal, with little modification, as art—whether one agrees or not—indicated a certain originality. Even if contradictory, as it is almost “raw” art, using a banal object. Originality stood out due to the singularity of the humorous choice, rendering replication irrelevant.

When evaluating NFTs, resolving the issue of singularity is crucial, but originality is equally important. Tang suggests a procedure to assess art in NFTs:

questioning whether the creator demonstrated their own creativity or merely reproduced common images or videos, similar to someone plagiarizing a urinal. To add to these comments, NFT arts bring about a transformation similar to what Andy Warhol achieved by using his experience as a magazine illustrator to create art, or what Beeple did with his knowledge in computer graphics. In both cases, they surpassed established uses, expanding technical or technological limits.

Furthermore, Beeple also incorporates a semi-scatological humor present in the urinal. Other works, like “Manifest Destiny”, are highly critical and reflective. However, unlike Joselit, Coleman’s connection between NFT art and Duchamp (or Freytag-Loringhoven) is positive. Similar to the urinal, NFTs challenge norms by allowing the sale of digital works as art, despite not fitting traditional visual standards. They are valued as conceptual artifacts, original digital works sold in limited editions using cryptocurrencies and blockchain technology to ensure authenticity and ownership.

We should remember, following Gell [19], that the art researcher must be guided by methodological philistinism, ignoring our culturally determined personal feelings and tastes about what is beautiful or artistic. Thus, certainly Beeple’s work is a captivating artifact worthy of anthropological description, just like Duchamp’s unremarkable shovel or the unattractive urinal that the artist may have plagiarized. Certainly, Beeple does not encapsulate the essence of all art circulating as NFTs; he is just the tip of the iceberg. Moreover, neither Joselit nor Coleman analyze the sensory form of any NFT art, what they represent, the themes they address, nor the relationships a work can create, where they circulate, how networks form around them, or how artists collaborate, share, and support one another.

Both Joselit, Coleman, and Tang suggest that NFTs lead the discussion to another concept in art history: the aura, which we’ll discuss further later on. It’s worth noting that the artworks circulating as NFTs also possess a critical character, often more refined than Joselit’s commentary.

Let’s see. One of the reflections revolves around them being ‘digital files.’ The following work, exhibited in the Solana Is Alive museum-metaverse (which we’ll address as follows), ironically embodies this. It’s a MetaNFTart (**Figure 11**):



Figure 11. Kannabis and Degen Poet (2021) .jpg.:Transformative collage of previous works by degen poet. Available on the 3.land platform.

A financial speculation and the concept of currency exhibit their art. In the prehistory of NFTs, the artist Boggs (<https://jsgboggs.org/>) drew banknotes and signed them as a form of sarcasm towards the monetary system. He was arrested for this. Later, he became a saint of cryptocurrency. Today, his banknotes are sold as NFTs.

Since artists working with cryptocurrencies and NFTs constantly interact with financial market issues, these themes and the very aesthetics of accounting become the subject of artworks. For example, in these two concrete poems by Dagen Poet, created with a typewriter and digitized, both dealing with the appreciation of an asset. In one case (a), it's about Bitcoins and other currencies like Solana and the dollar in 2022, and in the other, it touches on the inflation of tulips in the Netherlands during the 17th century (**Figure 12**):

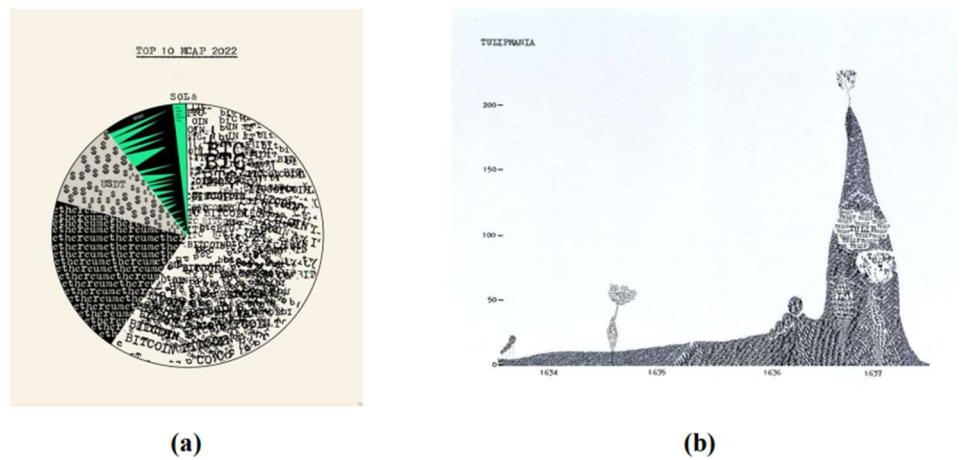


Figure 12. (a) Dagen Poet and mercury prime. Market cap; (b) Dagen Poet. Tulipmania.

Bangueroo presents a piece - Dump It - that blends the language of an attitude toward the cryptocurrency market, playing on the opposition between holding (HODL) and releasing (Dump It), creating a scatological pun, with tones reminiscent of an erotic cartoon style (a). In a variation of this theme (b), the graphs depicting changes in cryptocurrency value are represented as an orgasmic act (playing on Pump). Together, the two images may allude to the practice of Pump-and-Dump (**Figure 13**):

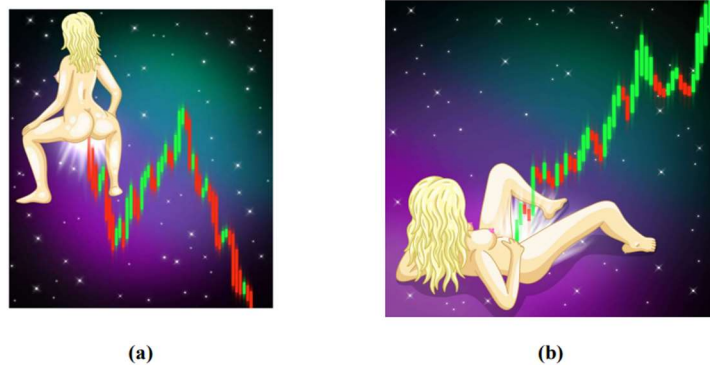


Figure 13. Bangueroo artworks on Solana blockchain. (a) Dump It, description: “Couldn’t HODL it in any longer...”; (b) Pump It, description: Who doesn’t love a good pump?

Dagen Poet, with his typed and digitized poems, delves into the history of finance to weave poetic parallels between historical events and the current dynamics of the market. On the other hand, Bangueroo uses impactful visual language to convey their perspective on the cryptocurrency market. Together, these works offer creative and multifaceted perspectives on financial dynamics, reflecting producers' desires through explicit blends of imagery. This kind of reflection, while not necessarily speculative, reveals deeper insights than a mere understanding of NFT art as unquestioned appropriation.

If Joselit's [15] pessimistic view implies that NFTs utilize the art category to convert available information into exclusive private properties, while the ready-mades represent a liberation of the object from commodification, it might be a bit overstated. Beyond redefining the aura surrounding the art possession subject (cf. Clifford, on collection) through ownership, we can draw parallels between the ownership structure of NFTs and the patronage financing model. However, while traditional patronage relies on a sponsor providing resources, NFTs and blockchain technology redefine this dynamic. In blockchain platforms, the structure itself acts as a sort of patron by enabling the circulation of value, regardless of its real or speculative nature, to fund creators. This change underscores not only technological evolution in art production but also the rise of digital platforms as enablers of contemporary art financing and promotion. It raises questions about the intersection of financial markets, technology, and art production, signaling a new era of support and funding for artists. Therefore, this form of dispersed patronage represents a generous perspective for artistic experimentation. A common occurrence in this space is artists exploring new media, learning more quickly, and reaching new formats of artwork.

Another aspect of this movement is the shift in the perception of what defines an "artist." The new parameters of decentralization and authenticity within NFTs allow individuals to claim the title of "artist" without relying on social endorsement from more traditional institutions such as galleries, museums, and academies. For instance, 3D artists can now venture into a new realm of creativity, breaking away from the former categorization limited to service provision. Similarly, developers are enabling new dimensions of interaction by utilizing creative programming to configure often interactive pieces, incorporating visual and auditory elements. In the realm of NFTs, the status of being an "artist" is no longer dictated solely by traditional artistic institutions but rather by one's presence within the community and the expressed authenticity.

Another questionable point by Joselit and others is the reduction of crypto art to merely a stylistic trend, treated as something between pop art and memes, often without a clear definition of these concepts.

NFT has become synonymous with a kind of digital art. However, NFT is a type of contract (as we will make clearer in the next section). It is something similar to what happens with the words 'painting' and 'frame'. In itself, a painting is simply the act of painting, and a frame is merely a support. NFT is a type of possession. In itself, neither of these refers to value as a work of art. But due to painting being the focal medium for much of the history of European art, the word has acquired a refined tone. The same with the frame, which identifies the works. NFT has taken a similar turn, being a means of commercial trading in digital art.

NFTs are digital certificates of ownership for a digital item (a file in a specific format, like .jpg, a text file in .pdf, even a .html, and so forth). This file wouldn't be replaceable by another or even have its content altered and emerges as a fundamental technological innovation. That's what "Non-Fungible" means. Fungible is what can be replaced. Non-fungible is something unique.

NFTs don't directly store the digital items themselves but rather a unique, unalterable record confirming ownership of these digital items on a blockchain. This creates a link between the token and the digital asset, ensuring its authenticity and ownership. Therefore, NFT is a category of ownership of a digital resource (a digital asset). This kind of certification allows the establishment of authenticity in the digital era. Digital assets may be valued due to their uniqueness, authenticity, and scarcity within the market. Thus, a unique digital artwork associated with an NFT can be deemed a valuable commodity in the digital collectibles market.

Benjamin [19] discusses how mechanical and mass reproduction impacts the "aura" of artwork. Aura represents the unique encounter of an artwork, tied to its singular existence in time and space. A sense of distance between the viewer and the original work. This aura is akin to a magical or supernatural force arising from the artwork's distinctiveness and exclusivity. He argued that technical reproduction distances the artwork from its authenticity and originality context, weakening its aura, meaning its uniqueness and authenticity.

When looking at NFTs, we see a resonating field to extend Benjamin's analysis. NFTs are digital tokens that confer ownership over specific digital items, such as digital artworks or other exclusive content. Despite being digital items, they seek to regain authenticity through a kind of digital signature on the blockchain, thereby creating a "unique" version of these items.

NFTs aim to regain this authenticity and singularity, valuing the exclusive possession of a digital item, even in an environment of mass digital reproduction and sharing. The initiative to reintroduce uniqueness to digital files, granting them exclusive ownership, can be seen as a digital reaction to the type of aura loss that Benjamin described. However, the aura here is not in the moment of exhibition, in the relationship with the cult of the object. The aura lies in possessing the file and, in a way, being its custodian. Additionally, the NFT regime contributes to producer autonomy, enabling users to register their creations autonomously, circulating their work as a digital asset.

Frieman [20] builds on Weiner's [21] ideas to view NFTs as a form of possession that can be exchanged and reproduced continually, maintaining a stable lineage and its unique mythology. These digital tokens hold transaction histories on the blockchain, ensuring their permanence. However, instead of a dilemma between keeping and giving, NFT enthusiasts gain prestige by both holding onto and sharing these tokens simultaneously. The distinctive reproducible nature of digital items, along with the norms within the NFT community, encourages holders to maintain ownership while granting access to others through legitimate copies and actions like right-clicking, resulting in wealth concentration and heightened prestige through reciprocal acts.

We sketched a brief reflection starting from the iconic urinal of "Fountain" to contemporary considerations about NFTs. We then delved into Joselit's criticisms,

contrasting the ready-mades with NFTs, emphasizing the transformation of information into exclusive property. We explored perspectives addressing the originality, value, and democratization brought by NFTs in the artistic sphere. We compared the traditional patronage model with the funding provided by NFTs, highlighting how these technologies reshape support for artists. Finally, we concluded with reflections on the transformations in artistic perception and practice, showcasing the decentering of the concept of the “artist”. The idea of “aura” in Benjamin [19] emphasizes the uniqueness lost in mass-reproduced art. In NFTs, this uniqueness is digitally recovered, granting authenticity and singularity to digital items through unique tokens. This quest for authenticity reflects the concept of aura in the digital age.

6. “Solana is alive” exhibition

A Solana personified in an exhibition called Solana Lives. This piece aligns with the exhibition’s concept by embodying the platform’s name. The exhibition’s title is a response to criticisms regularly directed at the Solana blockchain, alleging a lack of quality art or rumors questioning the network’s reliability for investment. Particularly after the FTX collapse in 2022, a brokerage holding many assets on the network, caused the coin to plummet over 40% at the time, experiencing “FUD”—an abbreviation for Fear, Uncertainty, and Doubt, a tactic to influence perceptions of specific cryptocurrencies or the cryptocurrency market by spreading inaccurate, deceptive, or misleading information (Nikolas Beutin and Boran) [10].

Numa’s journey, one of the authors of this article, on the 3.land platform began in January 2023 when the platform’s founder, Bangerz, collected her work “Cosmos Blumen” through the then-active Formfunction platform, now deactivated. This encounter marked the beginning of a significant connection with 3.land.

From that point, Numa became an active presence in the community, building relationships with the platform’s founders. Inspired by past events on the discontinued hic et nunc platform on the Tezos network, Numa proposed organizing similar events on 3.land to attract new users. These themed events, launched with specific hashtags, were a fun and organic way to engage the community. Examples of such events include the #WitchingHourOnHEN organized by the artist La Delmas (Figure 14) and the various #hen100k #hen200k #hen420k, celebrating the number of minted works on the hic et nunc platform.



Figure 14. #WitchingHourOnHEN flyer by La Delmas posted on Twitter (X) on 26 August 2021. Event on Tezos blockchain.

Adapting the idea to the metaverse context, the founders of 3.land embraced the suggestion not only to encourage the release of new artworks but also to uniquely create a dedicated metaverse room for the exhibition. The chosen theme, “Solana Is Alive” (Figures 15 and 16), delved into the resilience of artists on the Solana network amid cryptocurrency downturns, known as the bear market.



Figure 15. “Solana Is Alive” flyer posted on Twitter (X) on 14 February 2023.

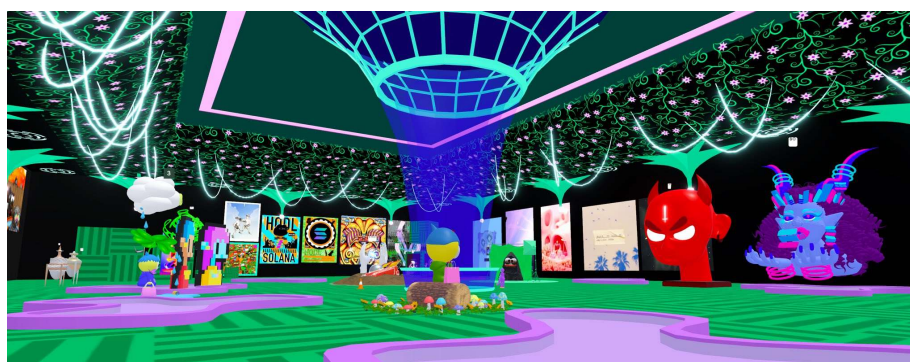


Figure 16. “Solana Is Alive” exhibition on the 3.land platform.

<https://3.land/h/DoqCmDAMVJg1G4jTevRKimuTUyiTv4PfMTspegT1JkeY>.

The implementation of this concept resulted in the creation of a unique room that blends elements of a forest and the metaverse, forming a modern virtual garden. Launched on 23 February 2023, the exhibition featured over 50 contributions, generating a diverse and colorful showcase.

To promote the exhibition, two Twitter Spaces sessions were conducted to facilitate discussions and interactions surrounding the event. The positive reception and substantial community engagement marked the success of the initiative.

Following this exhibition, Numa was invited by Bangerz to join the 3.land team. Initially as a volunteer organizing events, she later transitioned into an official role as a designer, underscoring the positive impact of the “Solana Is Alive” exhibition on her journey within the platform.

This narrative transitions seamlessly into the next section, which delves deeper into the social threads of cryptoart, exploring the role of community involvement, inclusion and potential impact on social values. Based on the collaborative principle and transformative experience of many users, exploring the social dimensions of cryptoart provides a possible and comprehensive understanding of its evolving meaning in contemporary digital culture.

7. The social perspective on crypto art

In a scenario where social projects often struggle to secure donations, whether through corporate support or public grants, the integration of NFTs emerges as an intriguing and effective alternative. It's worth noting that this technological reality remains elitized, especially in places like Brazil, where internet access in marginalized communities is challenging, and equipment costs are prohibitively high.

However, acknowledging that every tool can have a significant impact depending on how it is utilized is crucial. Mutual connection and collaboration are indispensable in the current time, and the responsible application of blockchain technology can contribute to a greater social good. Restoring the “aura” of things, a function that NFTs notably perform, is vital in a context where authenticity often gets lost in digitalization.

While social projects based on NFTs may not yet be widely recognized in the mainstream, significant movements indicate a shift in this landscape. Here are some examples within the Brazilian scene:

- **Coletivo OYX:** Elias Oyxabaten launched his goal to create a cryptocurrency, named OYX, in November 2020 at the online event Blockchain Connect. He formed a collective to articulate fundraising through NFT sales for the Suruí Paiter and Cinta Larga villages, located in the regions of Rondônia and Mato Grosso.
- **Social crypto art:** An art gallery focused on NFTs as a tool for social purposes, founded by Gean Guilherme and located in Morro Santo Amaro (Rio de Janeiro). Through the sale of digital collectibles, they finance projects for education and awareness about art and technology for social impact in the favela.
- **Casa NUA:** A space created by artist and curator Hugo Faz, which is a hybrid of a museum and gallery aiming to highlight the principles of web3. Located in São Paulo and focused on cultural, artistic, and technological education to accelerate the integration of more collectors and artists into the NFT scene.
- **MC.Metaverso Brasil—Territórios Brasileiros:** An exhibition conceived by the Movimento Cidade (ES) that traveled through various Brazilian states with initiatives for students, including lectures, discussions, and workshops about the metaverse.

The general lack of interest in socially oriented projects reflects deficiencies in community movements, attributed to the sluggishness of governments in implementing public policies and the lack of awareness among segments of the population with more favorable financial conditions. Issues of class consciousness and indifference, bordering on cruelty, contribute to the lack of support for charitable initiatives.

8. Conclusion

This exploration of NFTs has taken us on a fascinating journey through the intricate interplay of art, utility, and cultural preservation within the digital realm. Since their origins as a means of digitizing artworks, NFTs have transcended traditional anthropological and cultural frameworks, challenged established definitions of art, and contributed to the preservation of culture in the virtual domain.

As we navigated the expansive world of NFTs, a utopian quest for autonomy in

production emerged, promising liberation from intermediary control. However, this journey is not without its challenges, accentuated by the rapid and intense impact of the digital space on users. The complexity of the evolving NFT landscape requires a cautious and ethical approach, especially in a global context dominated by consumerism, individualism, and a relentless pursuit of financial gains.

The parallels between the virtual and physical worlds became evident, mirroring the historical complexities that shape our progression. Amidst this evolution, we uncovered a perpetual counteraction arising from the compulsive systems ingrained in human nature, with Web 2.0 platforms playing a dominant role within NFT communities. The compromises made in these spaces—sacrificing authenticity and surrendering personal data to platform algorithms—highlight the challenges inherent in the quest for autonomy.

The paper delved into the constant anxiety stemming from the dominance of Web 2.0 platforms, such as Twitter and Discord, and the potential negative impact of centralized platforms on the reach and proliferation of NFT communities. The cybersecurity challenges in this dynamic system directly influence the potential for maintaining healthy production, as users find themselves vulnerable to suspicious directions and potential scams.

The metaphorical journey through a conceptual art exhibition, examining artworks, themes, and contexts, allowed us to catalog discussions surrounding art, NFTs, and the metaverse. The exploration of the metaverse as a speculative theme, its practical manifestations, and reflections on Web 3.0 provided a comprehensive understanding of the innovations shaping the circulation and production of digital content.

From the initial exploration of art to reflections on the urinal compared to NFTs, this paper emphasized the necessity for a serious understanding of the aesthetic and anthropological phenomenon of art circulating as NFTs. The unexpected return of an artwork's aura through ownership of NFTs was discussed, establishing lineages and underlines that enable a new form of cultural and artistic accumulation in the era of digital reproducibility.

The paper presented the metaverse exhibition on the 3.land platform and an exploration of the perspective of promoting social initiatives through crypto art. In doing so, it opened avenues for further inquiry into the evolving landscape of NFTs, encouraging a continued dialogue on the intersections of art, technology, and culture within the digital domain.

Metaverse is a compelling concept, blending remote communication with immersive experiences. It's an ancient idea existing without this name, rooted in literature, and now finding a foundation in new internet infrastructures. One of its various uses is promoting art. However, there's a need for deeper discussions on the evolution of digital structures, the role of NFTs, and the metaverse in defining contemporary art. There is a lack of thorough study of the aesthetic diversity within crypto art.

These thoughts not only ponder the present but also contemplate the future directions at the crossroads of technology, culture, and art. This convergence holds the potential to significantly influence our comprehension of art, culture, and human interactions in the continuously evolving digital realm.

Future work in the realm of NFTs and their intersection with art and cultural preservation could explore ethical frameworks within NFT communities, focusing on decentralized governance models and community-driven standards. Additionally, research may delve into user education and cybersecurity measures to empower users to recognize potential scams and enhance overall transaction security. The impact of NFTs on traditional art markets is another avenue for investigation, addressing questions of art valuation, the role of intermediaries, and the coexistence of traditional and digital art markets. Long-term preservation strategies for digital art, considering issues like format obsolescence and blockchain integration in archival practices, also present a vital area for exploration. Further research can delve into the societal impact of NFTs, specifically examining how crypto art initiatives contribute to social causes and community development [22]. Finally, the dynamic nature of the metaverse, introduced as a speculative theme, warrants interdisciplinary studies exploring its impact on human interaction, identity, and the boundaries between physical and virtual worlds. Collectively, these future work suggestions aim to contribute to a more comprehensive understanding of the ethical, cultural, and societal dimensions of NFTs.

Funding: We would like to express our sincere gratitude to the National Council for Scientific and Technological Development (CNPq) for their financial support, which plays a pivotal role in the successful completion of this master's work. The support provided under the grant with process number 499113/2023-6 has been instrumental in facilitating the research and academic endeavors.

Conflict of interest: The authors declare no conflict of interest.

References

1. Khan AA, Laghari AA, Li P, et al. The collaborative role of blockchain, artificial intelligence, and industrial internet of things in digitalization of small and medium-size enterprises. *Scientific Reports*. 2023, 13(1). doi: 10.1038/s41598-023-28707-9
2. Huang X. What is the Metaverse?—In the view of philosophical perspective. *Metaverse*. 2023, 4(1): 12. doi: 10.54517/m.v4i1.2157
3. Anderson J, Rainie L. A sampling of overarching views on the metaverse. Available online: <https://www.pewresearch.org/internet/2022/06/30/1-a-sampling-of-overarching-views-on-the-metaverse/> (accessed on 2 June 2023).
4. René G, Mapes D. *The Spatial Web: How Web 3.0 will Connect Humans, Machines and AI to Transform the World*. Gabriel Rene; 2019.
5. Rodrigues F. Race and metaverse (Portuguese). Available online: <https://itsrio.org/pt/publicacoes/raca-e-metaverso/> (accessed on 2 June 2023).
6. Dwivedi YK, Hughes L, Baabdullah AM, et al. Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*. 2022, 66: 102542. doi: 10.1016/j.ijinfomgt.2022.102542
7. Solana Foundation. Solana creator community thrives at Art Basel Miami Beach. Available online: <https://solana.com/news/solana-creator-art-basel-miami-beach> (accessed on 2 June 2023).
8. Ragnedda M, Destefanis G. *Blockchain and Web 3.0*. Routledge, Taylor and Francis Group; 2019.
9. Beutin N, Boran D. *The Great Web 3.0 Glossary: All You Need to Know about Blockchain, Crypto, NFT, Metaverse, Service Robots & Artificial Intelligence*. *Fachmedien Recht und Wirtschaft*; 2023. doi: 10.5771/9783800595471
10. Ribeiro D. *Indian Diaries: The Urubu-Kaapor* (Portuguese). Global Editora; 2020.

11. Spalding J, Thompson G. Did marcel Duchamp steal Elsa's urinal? Available online: <https://www.theartnewspaper.com/2014/11/01/did-marcel-duchamp-steal-elsas-urinal> (accessed on 2 June 2023).
12. Danto A. *The Philosophical Disenfranchisement of Art*. Columbia University Press; 2005.
13. Coleman S. NFTs: The 21st-century urinals. Available online: <https://www.the-art-minute.com/nfts-the-21st-century-urinals/> (accessed on 2 June 2023).
14. Tang T. From Duchamp to NFTs. Available online: <https://medium.com/@tingbintang/from-duchamp-to-nfts-4b3ba81661ac> (accessed on 2 June 2023).
15. Joselit D. NFTs, or the readymade reversed. Available online: https://direct.mit.edu/octo/article/doi/10.1162/octo_a_00419/99143/NFTs-or-The-Readymade-Reversed (accessed on 2 June 2023).
16. Is NFT art worth anything or is it just a bubble? Available online: <https://obsessedwithart.com/nft-art/> (accessed on 2 June 2023).
17. Joselit D. *Art's Properties*. Princeton University Press; 2023.
18. Gell A. *Art and Agency: An Anthropological Theory*. Clarendon Press; 1998.
19. Benjamin W. The work of art in the age of mechanical reproduction. In: Arendt H (editor). Zohn H (translator). *Illuminations*. Schocken Books; 1969.
20. Frieman C. NFTs as skeuomorphs: Weaponized sameness and fascist utopias. *American Anthropologist*. 2023, 125(1): 194-198. doi: 10.1111/aman.1380
21. Weiner A. Inalienable Wealth. *American Ethnologist*. 1985, 12(2): 210-227.
22. Silva M, Neto A, Cabada C, et al. Metaverse and cultural preservation: An alternative through NFTs of social sustainability in Brazil. In: *Proceedings of the SVR'23: Symposium on Virtual and Augmented Reality*; 6–9 November 2023; Rio Grande, RS, Brazil. doi: 10.1145/3625008.3625028