

## Non-Fungible Tokens Education and Emerging Practices

This document provides an overview of the diverse use cases for Non-Fungible Tokens (NFTs) and details emerging practices within this field. It was developed by the NFT working group of the Commodity Futures Trading Commission's (CFTC) Global Markets Advisory Committee. It illustrates the dynamic nature of this nascent innovation, its applications, and industry practices.

As a foundational document, it is designed to support not only the CFTC but all stakeholders, including policymakers, in understanding and adapting to emerging standards and practices. This document is intended to inform future regulatory developments, ensuring they are harmonized with these evolving practices and the tenet that transforming an asset into an NFT should not inherently alter its regulatory treatment.

The document includes the following sections:

- I. Definitions
- II. Education
- III. Regulatory Protections
- IV. Emerging Practices
- V. Recommendations
- VI. Conclusion
- VII. Appendices

### I. Definitions

We define an NFT as a ***unique digital identifier that is recorded using distributed ledger technology and may be used to certify authenticity and ownership of an associated right or asset.*** These rights may relate to digital files or other assets, such as the right to attend a ticketed event or a certificate of ownership of a digital good or a physical item.

Given that the value and potential uses of NFTs are still being explored and are likely to evolve over time, regulators and policymakers should adopt a flexible principles-based approach to any definition of an NFT as it may need to be revisited. Likewise, given the evolving nature of NFTs and their uses, it is recommended that individuals and companies interested in using NFTs seek legal guidance to ensure compliance with applicable laws and regulations.

### II. Educational Section

NFTs grew in popularity between 2021 and 2022, with transaction volumes peaking at the beginning of 2022.<sup>1</sup> Since then, NFT builders have continued to innovate with this flexible technology, developing new use-cases and expanding the ecosystem of influential creators contributing to the development of NFTs.

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<sup>1</sup> The Block. (n.d.). NFT data and charts: Transactions, users, and trading volumes. The Block. Retrieved January 16, 2024, from <https://www.theblock.co/data/nft-non-fungible-tokens/nft-overview>

What makes NFTs distinct is their unicity. Each NFT has a unique digital identifier that is used to link it to a URL containing NFT metadata<sup>2</sup>, which is typically recorded in JSON format.<sup>3</sup> This metadata could include multiple URLs linking the ID to a digital file, such as an image. If the NFT is bound to an image, then the face of the NFT usually displays that image.

NFTs are recorded and exchanged on a blockchain, which ensures their provenance and transaction history are immutable. On a public blockchain, this information is transparent to the public. The original creator of an NFT generates its metadata and linked files. These characteristics can be used to certify authenticity, convey ownership or licensing rights, provide rights to redemption, verify identity, and more. Creators can leverage flexible NFT standards to deploy this technology in support of potentially limitless use-cases.

NFTs can convey multiple rights, such as ownership and other legal rights. Indeed, a single NFT can function as a museum ticket, an invitation to a private discussion with an artist, and verification that its holder is a member of that artist's fanbase. Critically, NFTs are early in their development. No one can predict how this vibrant corner of web3 will continue to develop. Stakeholders should closely follow the development of NFT use-cases and encourage the development of this novel technology. The foregoing use-cases represent much of the current NFT industry:

- Digital art NFTs: One of the most prevalent NFT use-cases are digital art NFTs. NFTs associated with drawings, paintings, graphic art, photos, video art, and more are popular within and beyond web3. These digital art NFTs enable artists to designate ownership of an original work, while enabling collectors to display their work across multiple spaces.
- Sports NFTs: Several professional sports teams have begun experimenting with the development of digital collectible NFTs. Digital Collectible NFTs generally grant a consumer holder a limited, non-exclusive license to digital media, such as a digital image, a video clip, or some other digital file. In most cases, Digital Collectible NFTs closely resemble the experience of physical collectibles (such as baseball, football, or basketball cards) but can also be tethered to commemorative memorabilia or voting rights to decide on the team's player of the game, enabling fans to showcase their support.
- Music NFTs: NFTs can create new ownership possibilities for musicians. Indeed, musicians can generate NFTs linked to content, like a digital audio file, and attach relevant metadata, like the name of their band. These NFTs can be used to provide musicians with greater control over how their work generates value and can allow fans to demonstrate their support for an artist. Sound.xyz, for example, powers Sound NFTs, which grants holders the ability to make a public comment about a song that will disappear if the NFT is sold, generating an open-ended, engaged community around a song's development.<sup>4</sup>
- Redeemables: NFTs can also be used to redeem a physical item. For instance, an NFT may give its owner the right to claim a pair of sneakers. NFTs for real-world goods allow users to understand key factors that may be relevant to their decision on whether to purchase the item, such as provenance and the number of times the NFT has been previously resold.

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<sup>2</sup> Metadata is like a label or tag that provides information about other data. Think of it as a description or details about something, like when a photo has information about where and when it was taken. It helps to organize and understand the data better.

<sup>3</sup> JSON stands for JavaScript Object Notation. It's a way to store and transport data. Imagine it like a locker where you can keep your stuff (data) and then retrieve it when you need it.

<sup>4</sup> Sound.xyz. (2023, June 6). What is Sound.xyz? Sound.xyz. Retrieved January 16, 2024, from <https://help.sound.xyz/hc/en-us/articles/5304493670939-What-is-Sound-xyz>.

- Online games/virtual world NFTs: With NFTs, ownership of in-game items (e.g., character outfits and accessories) becomes possible. Unlike traditional digital items, NFTs allow for true ownership over in-game items, enabling holders to transfer and sell them. Moreover, because blockchain-based games can be interoperable, users can transfer their NFTs from game to game.
- Membership/ticket NFTs: NFTs can also be used to enable holders to access events, community resources, and more. Membership NFTs can also be used to promote social cohesion and consumer loyalty programs, such as the Starbucks loyalty program which uses NFTs to track certain customer actions.
- Identity/credential NFTs: NFTs can also be used to validate identity while preserving privacy. Another use of these NFTs is to validate authenticity. Both use cases will become increasingly important as AI-generated content proliferates.
- Fractionalization: NFTs can be fractionalized by dividing a single NFT into multiple, smaller fractions. Each fraction, represented as a token, signifies a portion of ownership in the original NFT. This division results in derivative ownership stakes, which may confer different rights than the original NFT, such as governance rights or a share in potential revenue.

Recognizing these use cases, regulation should prioritize not stymieing innovation and, instead, allow builders to continue experimenting with the potential of this technology. As we pivot towards a detailed examination of applicable regulations, we hope this section provides a richer understanding of how NFTs operate in real-world contexts.

By outlining specific regulatory examples, we illuminate the pathways through which NFTs interact with existing laws, providing a concrete foundation for comprehending the broader implications of digital asset utilization and governance.

### **III: Some illustrative examples of existing applicable regulations to some NFT use-cases**

The federal government has not regulated NFTs. Their classification, which determines the extent of regulatory oversight, varies based on their unique rights and attributes. In principle for regulatory purposes, where an NFT represents ownership in an underlying asset, the NFT should be regulated as the underlying asset.

Consequently, it is important to take stock of various existing legal frameworks that may apply to NFTs for the protection of consumers. Notably, the Wire Fraud Act, with its broad scope, impacts transactions involving NFTs, particularly if there is deceit or misrepresentation involved. Additionally, sanctions and anti-money laundering (AML) laws are pertinent, considering NFTs' potential use in international transactions and their growing popularity as a digital asset class. U.S. AML laws could require customer due diligence and recordkeeping and reporting requirements for Bank Secrecy Act (BSA) covered entities - commonly money services businesses (MSBs) who engage in transmission of NFTs in a custodial fashion. Although FinCEN has not specifically stated that NFTs are convertible virtual currency (CVC), a circumstance could exist in which a NFT has certain characteristics or is used such that it is considered "value that substitutes for currency" and therefore could trigger BSA requirements for issuers or custodial transmitters. Certainly, as valuable property that could be used for money laundering, like high-value art or luxury vehicles, federal criminal violations under Title 18 of the United States Code would be applicable to use of certain NFTs for those illicit purposes.

Furthermore, laws pertaining to Unfair, Deceptive, or Abusive Acts or Practices (UDAAP) could also be relevant, promoting fair dealing and consumer protection in the NFT market. This overview is not exhaustive, and the evolving nature of NFTs means that their regulatory environment is dynamic and subject to changes and interpretations in various jurisdictions.

In addition to federal statutes, states have laws against false advertising and deceptive practices, enforced by state Attorneys General, applicable to NFT sellers. Likewise, individual states have started to lead in regulating individual NFTs as consumer products.

Securities laws may also apply to NFT transactions when securities products and services are implicated, but the Securities and Exchange Commission (SEC) has failed to provide guidance about what types of NFT products, services and transactions could trigger such laws. In September 2023, the SEC charged an NFT creator with conducting an unregistered offering of crypto asset securities. This charge, which was ultimately settled, signaled to industry that securities laws can apply to some transactions involving NFTs, but did not offer any principled guidance or clarity about what types of transactions are subject to securities regulation.<sup>5</sup>

Moreover, this case (and others like it) may also create perverse incentives that harm users. If creators believe that communicating about the services or value that their NFT will extend to holders post-launch could trigger securities laws, then they will be discouraged from doing so. In effect, this action incentivizes projects to launch and then disappear, undermining the potential of this technology.

Indeed, as SEC Commissioners Peirce and Uyeda pointed out in a statement on this action, “The application of the Howey investment contract analysis in this matter lacks any meaningful limiting principle[...]Were we to apply the securities laws to physical collectibles in the same way we apply them to NFTs, artists’ creativity would wither in the shadow of legal ambiguity. Rather than arbitrarily bringing enforcement actions against NFT projects, we ought to lay out some clear guidelines for artists and other creators who want to experiment with NFTs as a way to support their creative efforts and build their fan communities.”<sup>6</sup>

Other NFT-related SEC settlements have raised similar questions for the industry, highlighting the need for a clear framework<sup>7</sup> dictating under what circumstances securities laws apply to NFT transactions. Without it, users will continue to bear the cost. NFT transactions which do not implicate securities products and services, and which relate to personal or consumptive purposes (such as individual enjoyment, hobbies, household use, admission to an event or community, business identification or display), should not be regulated by the SEC. Doing so would risk hindering innovation and the development of blockchain technology in consumer markets.

Lastly, it is important to note the existing, and evolving, tax treatment of NFTs. NFTs are taxed like property, with corresponding short- and long-term capital gains rules. In March 2023, the IRS proposed and sought public comment on plans to tax some NFTs as collectibles like art or gems, using a “look-through analysis” to determine if an NFT is a collectible. Under such analysis, an NFT would be

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<sup>5</sup> Peirce, H. M., & Roisman, E. L. (2023, September 13). Statement on Stoner Cats 2, LLC [Press release]. U.S. Securities and Exchange Commission. <https://www.sec.gov/news/statement/peirce-uyeda-statement-stonercats-091323>

<sup>6</sup> *Id.*

<sup>7</sup> Carbone, C. (2023, October 23) Digital Chamber SEC NFT Dissent Questions. Chamber of Digital Commerce, [https://digitalchamber.wpenginepowered.com/wp-content/uploads/2023/10/Digital-Chamber\\_SECs-NFT-Dissent-Questions-1.pdf](https://digitalchamber.wpenginepowered.com/wp-content/uploads/2023/10/Digital-Chamber_SECs-NFT-Dissent-Questions-1.pdf)

considered a collectible under section 408 “if the NFT’s associated right or asset is a section 408(m) collectible. Collectibles are taxed at a higher long-term capital gains rate of 28%.

Moreover, the IRS proposed regulations regarding gross proceeds and basis reporting by brokers in late 2023, which would treat all NFTs as digital assets for tax purposes. The proposed rules explained that because NFTs raise tax administration concerns, meaning they can be transferred easily and give rise to gain or loss, they should be treated like other digital assets.

We acknowledge these existing regulatory frameworks in the U.S. and their applicability to NFTs to illustrate that if purchasers of NFTs are deceived or defrauded, they have regulatory redress under legal, regulatory, and policy frameworks governing consumer products at the state and federal level, albeit frameworks that could be clarified so that market participants know the rules and purchasers are protected.

Transitioning from the discussion of regulatory frameworks to the exploration of industry emerging practices, it becomes clear that the intersection of law and innovation within the NFT ecosystem is not just a matter of compliance but also a driver of evolution. As we delve into the intricacies of how the NFT market is forging new paths, we find ourselves at a pivotal juncture.

Here, the legal safeguards established at the state and federal levels serve not only as a protective layer for consumers but also as a foundation upon which the industry can innovate responsibly. The following section on industry emerging practices invites us to consider how these regulatory environments indirectly foster a space for creativity and standardization, signaling a forward momentum in the ways digital assets are managed and owned. This narrative not only highlights the adaptability of the NFT sector but also emphasizes its potential to redefine digital ownership in a landscape that balances innovation with consumer protection.

#### **IV. Industry Emerging Practices**

In the ever-evolving landscape of the NFT ecosystem, a myriad of practices is steadily moving towards standardization, heralding a new era in digital asset management and ownership. This section aims to shed light on these emerging practices, underscoring the dynamic and innovative nature of NFTs that continuously shapes their functionality and application.

It is important to note, however, that this overview is not exhaustive. The rapid pace of technological advancements and creative explorations in the NFT space means that practices are in a constant state of flux, adapting and evolving in response to the cutting-edge developments that define this groundbreaking field. As such, this document serves as a snapshot of a moment in time, capturing the current trends and standards that are shaping the NFT ecosystem today.

##### **A. Offers and sales**

The initial offer and sale of NFTs are critical stages that set the precedent for value and demand. This process involves a careful orchestration of marketing, technological deployment, and strategic pricing. The integrity of these initial offers is paramount for establishing trust and credibility within the NFT marketplace.

## **B. Secondary sales**

Following their introduction to the market, NFTs enter the secondary market, where their true economic vitality is tested. NFT project managers, resellers, and marketplaces all play pivotal roles in nurturing a vibrant economy for these digital assets. The secondary market is where the principles of longevity and IP licensing come to the forefront, ensuring that the value of NFTs is sustained over time. **For an in-depth analysis, refer to Appendix A (pg. 11).**

## **c. Disclosures**

Disclosures are aimed to ensure that users, purchasers, and/or consumers of NFTs are fully informed. This enhances the transparency of NFTs to match those of the underlying public blockchains on which they are often issued. As a baseline, disclosures should be comprehensive, clear, and aimed at ensuring transparency and consumer protection.

To date, NFT disclosures have primarily taken the form of “Terms of Use” that are displayed on a project’s website. Yuga Labs, for example, includes a terms of use section accessible on the main page of their website detailing intellectual property rights and also has terms of use specific to individual NFT collections.

Building on these initial efforts, emerging practices have ensured that consumers are fully informed and that the disclosures related to NFTs are not misleading. These practices have maintained transparency and trust with consumers. They prioritize empowerment of and protection of participants in the NFT space, highlighting the most important features and risks concerning NFT technologies to inform and empower users in their transaction and decision-making. **For a detailed set of emerging practices, see Appendix B (pg. 15).**

## **D. Anti-Money Laundering**

The strongest NFT platforms and wallet providers have adequate anti-money laundering (AML) programs in place to guard against potential abuses of NFTs for illicit finance. They typically involve thorough vetting of NFT creators, ongoing monitoring of NFT projects for signs of malintent, and robust reporting mechanisms to address illicit activity. Additionally, NFT platforms and wallet providers may find value in closely partnering with intelligence platforms such as TRM Labs and Chainalysis to monitor for projects that are being used for money laundering or other illicit purposes and take active steps to flag and take down these projects. Wallet providers may consider building capabilities that make it easier for consumers to do a risk assessment of a particular NFT or NFT collection ahead of purchase. This empowers buyers to understand potentially suspicious activity related to an NFT collection, as well as avoid potential fraud or rug pulls (see below).

## **E. Fraud**

As NFTs gain popularity, innovative practices are emerging to ensure their authenticity and security. One such practice is the implementation of enhanced verification processes. Marketplaces are now employing more rigorous methods to authenticate creators and their artworks. One of the most pervasive forms of fraud in the NFT space is the “rug pull,” a scenario where creators of an NFT project suddenly withdraw all their funds and disappear, leaving investors with worthless assets. This deceptive practice has become a significant concern, prompting NFT creators and platforms to adopt strategies to combat it.

To address the issue of rug pulls, NFT creators are now often required to undergo thorough verification processes (like traditional due diligence processes) before they can list their NFTs on reputable platforms. This might include providing personal identification, demonstrating a history of legitimate work, and connecting their social media profiles. By ensuring that creators are who they claim to be, platforms can reduce the risk of rug pulls.

The innate nature of blockchain technology underlying NFTs is also helpful in combating fraud. Each NFT has a unique digital signature, and its ownership and transaction history are recorded on the blockchain, making it easier to track provenance. This transparency helps in identifying and preventing fraudulent activities like the sale of counterfeit NFTs.

Smart contracts are also becoming more sophisticated. These self-executing contracts with the terms of agreement directly written into code are being designed to include more complex conditions. They can now enforce certain rights and rules, like ensuring royalties are paid to the original creator with every resale, which adds an additional layer of security and authenticity to the transaction.

Lastly, there's a growing emphasis on education and awareness. By informing investors about the risks associated with NFTs and teaching them how to perform due diligence before investing, platforms are empowering users to make more informed decisions. This includes understanding the NFT project's roadmap, the credibility of its creators, and the specifics of the smart contract governing the NFT.

## **F. Privacy Risks (publicizing ownership of NFTs) and related disclosures**

The benefits of programmable blockchains range from security to community engagement to interoperability, and more. Yet because existing blockchains rely on transparency to promote trust, some do not offer privacy. Blockchains publicly display transaction history to create auditability and eliminate the need for intermediaries to manage data, mitigating centralization risks.<sup>8</sup>

While this characteristic of blockchains allows for illicit funds moving on-chain to be traced, default transparency can also create challenges for users, imperiling their privacy and leaving them vulnerable to fraud and cybercrime. Indeed, although blockchains offer pseudonymity by only displaying the wallet addresses of individuals, blockchain analytics firms and others have demonstrated that this principal protection against identification can be overcome using techniques like heuristic analysis. However, it is possible to reconcile this seeming tension between privacy and transparency using emerging techniques and technologies to safeguard user data while achieving the trust that comes from decentralization.<sup>9</sup>

NFTs epitomize this seeming paradox. Because NFTs are publicly associated with a wallet address—and in some cases even a personal identity via social media platforms—they can create challenges for user-privacy. For example, many NFTs are associated with personal identities through platforms such as X, where some use the related digital file as their profile picture, which can have the effect of linking their real-world identity with their wallet address, potentially making them the target of social engineering attacks.<sup>10</sup>

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<sup>8</sup> Burleson, J., Korver, M., & Boneh, D. (2022, November 16). Privacy-protecting regulatory solutions using zero-knowledge proofs: Full paper. a16z crypto. Retrieved January 16, 2024, from <https://a16zcrypto.com/posts/article/privacy-protecting-regulatory-solutions-using-zero-knowledge-proofs-full-paper/>

<sup>9</sup> *Id.*

<sup>10</sup> IF Labs. (2023, October 4). NFTs and the privacy paradox. Iron Fish Blog. Retrieved January 16, 2024, from <https://ironfish.network/learn/blog/2023-10-04-nfts-and-the-privacy-paradox>

This does not, however, mean that NFTs, and Web3 more broadly, inherently threaten user privacy. Indeed, as has been written about extensively, it is possible to resolve this seeming tension between transparency and privacy using modern cryptographic techniques and taking basic security precautions, like avoiding publicizing identifying information on social media.<sup>11</sup> Moreover, this reconciliation can be achieved in a manner consistent with the national security needs of regulators and law enforcement. Privacy-preserving systems and techniques including layer-1 privacy blockchains, zero-knowledge proofs, and decentralized ID management systems can protect the privacy of users, preserve the decentralized trustworthy nature of blockchains, and further national security and the effort of law enforcement. Zero-knowledge proofs, for example, enable private transactions on a public blockchain, simultaneously facilitating the needs for privacy and trust. As these solutions have been covered extensively in other publications, we do not include them here.<sup>12</sup> These privacy-preserving techniques can also be used to enhance the privacy of NFT holders, simultaneously supporting the need for blockchain ecosystems to maintain transparency and security.

## G. Royalties.

Royalties are a critical source of income for creators. NFTs present new opportunities for creators to continually monetize their work and retain an ongoing ownership stake through royalty compensation across products and platforms. In addition, NFTs enable creators to directly engage with their community and build loyalty among their fans. Yet while creators are the backbone of Web3, smart contracts do not currently enforce NFT royalties. The NFT ecosystem is exploring ways to embed and enforce royalty terms within smart contracts to ensure that creators are compensated fairly and consistently across different platforms and sales. **Appendix C delves into the mechanisms and emerging practices around NFT royalties (pg. 17).**

## H. Buyer/Owner Rights

Web3 innovations are straining the fabric of traditional law. Though legal innovations like Creative Commons (CC) licenses once provided creators the freedom to release copyrighted versions of their work to the public for free, powering the rapid innovation of the early internet, today those frameworks do not address the unique needs of NFTs. Indeed, while some NFT projects today use the CC0 (no-rights reserved) license, many omit the use of licenses altogether.<sup>13</sup> Nonetheless, prospective purchasers want specific clarity on the exact rights associated with an NFT, especially in terms of licensing, e.g., does the NFT give them the right to reproduce the artwork, use it commercially, or merely display it in a digital gallery? Additionally, transparency around costs and potential ongoing fees is also crucial to prospective investors. Prospective purchasers want details not only on the initial purchase price, but also on any potential ongoing fees, such as maintenance costs, platform fees, or royalties that might be due on future sales or uses of the NFT.

The rights of NFT owners are a mosaic of legal, technological, and community norms. Clarifying these rights is essential for the healthy functioning of the NFT market. Buyers need certainty about what they are purchasing, including the scope of their rights and any ongoing costs or fees associated with their NFTs. **The nuances of buyer and owner rights are expanded upon in Appendix D on Pg. 19.**

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<sup>11</sup>Burleson, J., Korver, M., & Boneh, D. (2022, November 16). Privacy-protecting regulatory solutions using zero-knowledge proofs: Full paper. a16z crypto. Retrieved January 16, 2024, from <https://a16zcrypto.com/posts/article/privacy-protecting-regulatory-solutions-using-zero-knowledge-proofs-full-paper/>

<sup>12</sup>*Id.*

<sup>13</sup>Jennings, M., & Dixon, C. (2022, August 31). The Can't Be Evil NFT Licenses. a16z crypto. Retrieved January 16, 2024, from <https://a16zcrypto.com/posts/article/introducing-nft-licenses/>



## **I. Accounting.**

In line with the principle that where an NFT represents ownership in an underlying asset, the NFT is treated as the underlying asset for regulatory purposes, so should it be treated for accounting purposes. This principle requires organizations to classify and value NFTs differently depending on whether they are held for investment, as collectibles, for operational use, or other purposes. Standardized guidelines may be developed to categorize and value NFTs appropriately, ensuring that their treatment on balance sheets accurately reflects their nature and aligns with the underlying economic realities. This approach allows for a more nuanced and accurate reflection of NFTs in financial statements, in line with existing financial regulation and reporting standards.

## **V. Recommendations**

The following recommendations, drawn from the insights of the Report, aim to guide the CFTC in fostering a regulatory environment that not only protects consumers but also supports innovation and market integrity in the burgeoning NFT space.

### **Recommendation 1: Update GMAC-Approved Taxonomy to Use Proposed NFT Definition**

Given the rapid evolution and expanding utility of Non-Fungible Tokens (NFTs), we recommend that the GMAC adopts the Report's definition of NFT into its adopted Taxonomy with a commitment to maintaining a principles-based and flexible approach to its application.

This definition is intended to provide a clear framework that captures the essential characteristics of NFTs while accommodating the diverse applications and innovations within this space. Given the dynamic nature of NFTs and their potential applications, this definition should be revisited periodically to ensure it remains relevant and effective in capturing the nuances of emerging use cases.

The NFT working group appreciates the work of the Digital Asset Markets subcommittee in providing a clear and consensus driven approach to classification of digital assets in general. This structure may be particularly helpful in categorizing digital assets presently traded on futures exchanges, or which represent claims on CFTC regulated commodities or other financial instruments. We anticipate that the flexible definition for NFTs and observations of emerging practices in this Report will be of value when considering non-financial and consumer-facing digital assets, which are prevalent in the NFT space and do not consequently fall under the CFTC's regulatory perimeter.

By adopting this recommendation, the CFTC can provide regulatory clarity that supports innovation and consumer protection, while also retaining the flexibility to adapt to future developments within the NFT ecosystem.

### **Recommendation 2: In the absence of legislative clarity, solely prioritize enforcement actions against actors engaging in fraud, manipulation and abuse in accordance with its statutory mandate**

As it relates to NFTs, in accordance with its statutory mandate, we recommend that the CFTC keeps prioritizing its resources on exercising its enforcement authority to combat fraud, rug pulls, pig

butchering, manipulation and other malicious activities in the NFT market to the extent NFTs do qualify under the CFTC's jurisdiction.

This focused approach allows the CFTC to protect consumers and maintain market integrity while legislative parameters are being established. Concentrating on enforcement within its current jurisdiction, in accordance with its current statutory mandate, enables the CFTC to deter bad actors effectively and mitigate risks associated with NFT transactions, ensuring that the market operates fairly and transparently.

By adhering to this strategy, the CFTC will position itself as a vigilant and adaptive regulator, capable of guiding the NFT marketplace in a manner that supports innovation while safeguarding the market and its participants from emerging threats. This measured and pragmatic approach will ensure that the CFTC remains effective in its role until a comprehensive legislative framework can be developed and implemented.

**Recommendation III: The CFTC should put forth clear, consistent, predictable and empirical parameters that transparently define the characteristics of assets that fit within the commodities definitions under U.S. law.**

We recommend that the CFTC publish clear, consistent, transparent, predictable, and empirical guidelines for defining commodities. The guidelines should be created with the assistance of an established working group consisting of key industry stakeholders. The CFTC should focus specifically on the characteristics and properties that qualify commodities, moving beyond the current broad criteria that exclude only "securities, onions, and movie receipts." This nuanced and tailored approach is necessary to address existing jurisdictional uncertainty and ensure fair and efficient market functioning and the development of initiative projects and businesses.

By adopting these recommendations, the CFTC can take significant steps towards creating a regulatory environment that is both adaptive to the innovations within the digital asset space and protective of its stakeholders.

## **VI. Conclusion**

In conclusion, this document has aimed to highlight the multifaceted applications and emerging practices of NFTs, offering insights for stakeholders including the CFTC, policymakers, and industry participants. By presenting these educational components, regulatory landscape, and evolving practices, it serves as a crucial guide for navigating the dynamic NFT industry.

Importantly, this document underscores the principle that transforming an asset into an NFT should not inherently change its regulatory treatment, thereby fostering a regulatory environment that evolves in tandem with the industry's advancements. This approach ensures that future regulatory developments remain congruent with these changing practices, fostering a balanced and forward-looking framework for the NFT space.

Public Working Draft  
Comments to be submitted by April 26, 2024.

## Appendix A: Secondary Sales

### **NFT Project Managers**

#### ***Provide for appropriate longevity of digital assets***

As discussed above, the blockchain component that comprises an NFT is typically a unique ID listed on a distributed ledger. But most NFTs are prized not for their value in column A of a spreadsheet, but for artwork, membership, or other rights that come with them. This can lead to a disconnect, where the on-chain NFT asset—an ID number—outlives the off-chain artwork or rights it was associated with. This can pose a problem for secondary sales because the seller may not have retained copies of the off-chain assets that made the NFT valuable, and the buyer may not be able to easily contact the original rightsholder or other party associated with the NFTs.

Developers and other companies launching an NFT project are encouraged to guard against this issue by ensuring that the off-chain assets supporting their project's NFTs last for the trading length of the NFT. How long will depend in part upon the nature of the NFT. For example, artwork for an NFT concert ticket should be hosted at least until the concert is over (although the distributor might want to provide a longer hosting time, so that the NFTs retain value as a memento for digital scrapbooking). By contrast, an artist minting digital collectable art might intend for that artwork to last indefinitely. Whatever the case, the anticipated longevity of off-chain assets should be clearly disclosed, not only for the initial buyer, but also subsequent purchasers of the NFT.

How should this longevity be secured? There's no one answer to this question, and solutions are still evolving. Some developers, in the case of bitcoin "ordinals," promote publication of metadata directly on-chain. However, this is very expensive. As of late 2023, publishing one kilobyte to the bitcoin blockchain costs about \$3.50. That price is manageable for profile pictures and other small jpegs, but cost-prohibitive for larger media. At the opposite end of the spectrum, other developers host NFT content in traditional centralized storage, which is extremely cheap, but entirely dependent on the creator to continue paying hosting fees for the life of the asset.

Between these extremes, many NFT issuers have turned to semi-decentralized solutions. One of these is IPFS, which hosts content in a decentralized swarm of parts of files. This provides broader access to files, and some resiliency, but still typically depends on a creator (or third party) paying a hosting fee, to incentivize hosters to keep hosting the file bits they need. Another solution is Arweave, a blockchain specifically for data. Users host data on this blockchain by pre-funding it, incentivizing miners to continue making the content available indefinitely.

#### ***Secure Appropriate IP Licensing***

Secondary purchasers of NFTs are also rarely able to verify the title chain for IP rights associated with an NFT. Rather than rely on users to resolve these disputes downstream in the sales cycle, the person launching the project is in the best position to secure appropriate rights to the material.

Most of the time, the best solution is securing and disclosing a clear, broad, and unambiguous way for the project manager and subsequent owners of the NFT to copy and distribute the work in connection with the NFT.

However, this may not always be possible, particularly with legacy licenses that did not anticipate the proliferation of NFTs. Here, substantial legal uncertainty exists, with licensors arguing that NFTs

constitute a distribution of their intellectual property, while licensees argue that the actual blockchain portion of the NFT that they are minting does not intrinsically incorporate the IP. Given this legal ambiguity, a play book of best practices is yet to develop, but project managers are also encouraged to monitor this space closely. As mentioned below, a variety of NFT-specific licenses are evolving to fulfill this need.

#### ***Publicly Update NFT State Data***

An exciting aspect of NFTs is that they can be used dynamically, transforming from a simple work of art into a membership to an online chat server, to a badge for a conference, to a voucher for physical goods or services. To make sure that end-users are not surprised, e.g., finding that their NFT has already been used to get into a concert or redeemed for a stuffed crypto-kitty-bear, NFT project managers may make efforts to publicly distribute any relevant NFT state data.

Ideally, this information would also be published on a distributed ledger, but in some circumstances, for example, where publishing thousands of blockchain transactions may be cost-prohibitive due to associated fees, the information could be published via a centralized data source.

The industry is also developing standards for recording NFT states. For example, ERC-7496 and ERC-7498 provide proposed standards for dynamically recording NFT traits and enabling off-chain redeemables for NFTs respectively. As these standards mature, project managers could lean into these standards to promote interoperability and common frameworks for communicating critical information about NFTs.

#### **NFT Resellers**

##### ***Use Native Transfer Functions***

Like smart contracts for fungible tokens, NFT smart contracts will generally have built-in functions to grant access to, and transfer tokens, such as in the ERC-721. The vast majority of NFT platforms that enable peer-to-peer exchange of NFTs implement these commands and therefore have become default tools used to transfer NFTs.

Alternatively (and potentially less desirably), a reseller may transfer an NFT by disclosing the private key or similar credentials of the blockchain wallet address holding the NFT to the transferee. However, this type of transaction may be disfavored as it is difficult or impossible to prove that the reseller has not retained a copy of the private key, creating the potential for future claims—or false claiming—of fraudulent transfers of NFT. The one virtue of such private-key transfers is that they maintain user privacy. This can be a valid use case but should be supplanted as other useful technologies such as zero-knowledge proofs and similar privacy-enhancing systems (further covered below) mature.

##### ***Refrain From Self-Dealing***

In order to ensure fair market functioning, resellers are encouraged to refrain from arbitrary blockchain transactions involving NFTs they own, as this could be used to give a false impression of the market activity in an NFT and distort public impressions of its value. In many cases, such activity is actually nefarious, part of a pump-and-dump or shill bidding scheme prohibited under state and federal unfair competition laws. Even when not illegal, resellers should refrain from such self-dealing conduct where it manipulates the price of an NFT, including by creating a floor price, or otherwise causes buyers to pay more than they otherwise should.

##### ***Provide relevant disclosures***

As discussed in greater detail in Section C below, disclosures are a key emerging practice for all aspects of the NFT ecosystem. This is particularly true with resellers, who are often, along with NFT project managers, in the best position to know the “state” of the NFT, and where the project manager has absconded, they may be the only user reasonably in the know.

A reseller posting a freeform sale offer for an NFT is encouraged to state, in plain language, any warranties they are offering with the NFT or whether it is being sold “as is.” If known, the reseller should also disclose:

- Any known problems with access to or licensing of IP associated with the NFT, e.g., if the images are no longer available because of a takedown request;
- If they declined to pay royalties when purchasing the NFT, and if royalties will or will not be collected and paid with the pending sale;
- Whether any redeemables associated with the NFT have already been collected;
- Whether any physical goods are associated with the NFT, if they will also be sent to the buyer, and any other terms or restrictions associated with such physical goods.

### **NFT Platforms**

#### ***Support transferability outside of the platform***

NFTs are typically distinguished from other digital goods or representations of value in that, by being hosted on a decentralized ledger, rather than on a private server, end users enjoy a degree of freedom of ownership of the NFT, greater than found in previous generations of web2 game assets and other digital goods. This not only allows users to freely transfer the NFT without an issuer’s permission but allows third parties to leverage existing NFT ecosystems in new ways, for example, if you owned an NFT castle in a Medieval-themed metaverse, it could be rendered as a spaceship in a third party’s sci-fi themed metaverse.

When compatible with the NFT use case, one possible way to support this evolving technology and facilitate transferability of NFTs could be to use some NFT platforms to support transferability of NFTs to user-controlled wallets. For example, non-custodial platforms – where users control their own wallets and NFTs purchased using the platform are delivered directly to such wallets – intrinsically support NFT transferability.

Alternatively, some platforms offer a hosted solution, where the platform server keeps the private keys for a user’s NFT wallet or maintains an internal ledger to keep track of NFT ownership. Often this provides advantages, like lower transaction costs, or the ability of users to recover assets after losing account credentials. But the downside is that user assets could potentially be unable to sell NFTs on other marketplaces or link their NFTs with third-party web3 projects.

Accordingly, an emerging practice for hosted service providers is to provide users functionality to export their digital assets from the platform, either through safely offboarding their digital asset wallet (with care taken to ensure that the platform does not receive a copy of the private keys) or to efficiently transfer the NFTs to the user’s self-hosted wallets.

Finally, while such end-user autonomy over NFTs could be seen as beneficial practice for end users is ideal, it should not be at the expense of development of distributed ledger technology more broadly, user safety and security, regulatory compliance, and continued experimentation and development in the

digital asset space. As such, some platforms may choose to move conservatively and deliberately towards a user-custodied model as the NFT landscape develops.

***Establish Clear Norms For Acceptable Content and Practices***

NFT Platforms can range from companies broadly welcoming content from across the web3 spectrum, to those focused on curating content from certain artists or genres. If the platform will delist content that does not fit with its intended audience, it is encouraged to make those policies clear, especially if delisting for noncompliance will cost either the platform or user transaction fees. The Platform is encouraged to also clearly disclose how and when platform fees, royalties, and other costs will be collected and enforced.

Likewise, Platforms are also encouraged to clearly communicate that they do not tolerate and will not promote content that:

- Knowingly infringes on the intellectual property rights of a third party;
- Deliberately confuses or misleads buyers on the platform about the nature of the NFT; or
- Violates applicable laws or regulations.

When a platform, through its employees, has specific knowledge that content posted by users violates these norms, it is encouraged to take action to delist the content from any centrally controlled (e.g., web2) frontends to the platform. If violative content remains accessible directly through publicly accessible, non-censorable web3 assets, the company is encouraged to distinguish the platform components it directly owns and controls, and those decentralized components that are freely accessible via the blockchain, and not subject to direct restriction.

## Appendix B. Disclosures

- **Clear and prominent:** It's important that disclosures are made in a way that is easily noticeable and understandable by the average consumer. They should not be hidden or buried in fine print or hyperlinks. The NFTs purpose and use-cases should be consistent across any materials relating to the project.
- **Plain language:** Use of technical jargon or legalistic language that may not be understood by the average consumer should be avoided. Instead, plain language that is easily understood should be used.
- **Timely:** Disclosures should be made before the consumer makes a purchase decision. This means that any important information should be presented in a way that the consumer will see it before they decide to mint, buy, or in any other way interact with the NFT.
- **Near the claims they qualify:** Any disclosures should be near the claims to which they relate. This means that if a particular feature or benefit of an NFT is being advertised, the disclosure related to that feature should be nearby, so it is seen at the same time.
- **Consider the various devices and platforms consumers may use:** Since consumers may access information on different devices with different screen sizes and capabilities, disclosures should be designed to be effective across various platforms.
- **Understandable in the context they are seen:** Disclosures should not only be clear on their own but also in the context of the surrounding information and the overall message being conveyed.
- **Address the full range of possible NFT use cases:** This includes detailing how the NFT fits within a broader project ecosystem, any rights, or utilities they confer, potential applications in various scenarios, and how these use cases may evolve over time. It's important to outline both current and prospective uses, especially if the tokens or services have the potential to be used in ways that intersect with regulated financial systems or could impact the broader economy.

### Specific Disclosure Practices:

- **Clear Description of the NFT:** Provide a detailed description of the NFT, including its unique attributes, provenance, and any intellectual property rights associated with it.
- **Risk Disclosure:** Clearly outline the risks associated with purchasing and holding the NFT. This should include market risks, technological risks (such as smart contract vulnerabilities), and legal risks.
- **Secondary Markets:** If the NFT can be traded on secondary markets, disclose how these markets function, any limitations on trading, and the risks associated with liquidity.
- **Smart Contract Audit:** If the NFT involves smart contracts, provide information on audits that have been conducted to ensure the code's integrity and security.



- **Rights and Obligations:** Clearly state what rights a holder has with respect to the NFT, including any limitations or responsibilities. This should include explicitly conveying what rights are not included.
- **Consumer Protection:** Outline measures taken to protect consumers, such as Know Your Customer (KYC) and Anti-Money Laundering (AML) policies.
- **Data Privacy:** Disclose how personal data is collected, used, and protected in the context of NFT transactions.
- **Conflict of Interest:** Disclose any potential conflicts of interest that the issuer might have.
- **Technology Understanding:** Ensure that disclosures are not only legally compliant but also accessible to non-technical investors, explaining blockchain and NFT technology in understandable terms. This includes technology or business risks that result from NFTs referencing external servers.
- **Blockchain Properties:** Disclose the primary limitations of the blockchain protocol on which the NFT is located, and how they impact use or interaction with the NFT.
- **Updates and Changes:** Have a system in place for updating buyers on any changes to the NFT or its underlying smart contract, as well as any changes in regulatory status. This should include any condition in which the smart contract code can be changed, as well as how those changes impact end users or investors.
- **Contact Information:** Provide clear contact information for customer support and legal inquiries.
- **Governance:** If the NFT is part of a project with governance features, disclose how governance decisions are made and how NFT holders can participate. It is imperative that NFT issuers disclose any centralized entity, or groups of centralized entities, with the ability to modify, delete, or in any other way alter the NFT. If the NFT is any way related to a Decentralized Autonomous Organization (DAO), issuers should ensure that disclosures accurately represent the overlap between the two.
- **Interoperability:** Disclose information about the interoperability of the NFT with different platforms and wallets, and any restrictions that may apply.

## Appendix C. Royalties

Royalties are a critical source of income for creators. NFTs present new opportunities for creators to continually monetize their work and retain an ongoing ownership stake through royalty compensation across products and platforms. In addition, NFTs enable creators to directly engage with their community and build loyalty among their fans. Yet while creators are the backbone of Web3, smart contracts do not currently enforce NFT royalties. When appropriate, the following emerging practices could be encouraged to help safeguard the rights and rewards of creators within the Web3 ecosystem while supporting greater NFT adoption.

- Standardization of Royalty Rates, Disclosure, and Smart Contract Encoding: The encoding of royalties into NFT metadata and smart contracts (i.e. “royalty logic”) could be transparent and standardized across products, marketplaces, and blockchains to ensure a triggered condition prompts an automatic, predetermined payment to the creator. The following measures will help ensure that creators receive equitable treatment for their contributions.
- Embedded Royalties & Interoperability: Royalties could be programmable in smart contracts and travel with the NFT across platforms and owners. Royalty encoding standards could allow consistency across marketplaces and compatibility with future innovation. The EIP-2981 standard, for example, allows royalty percentages to be programmed directly into an NFT’s metadata, which then follows it across marketplaces. However, as this standard does not enforce royalties on-chain, and is not backward compatible, additional enforcement mechanisms are required.
  - Note on Creative Neutrality: Preferential treatment or disadvantaging specific formats, platforms, or business models should be avoided.
  - Note on Taxation Guidance: Guidance on how royalties should be categorized and reported under existing regulatory frameworks could be developed.
- Transparency & Honoring Intent: Disclosing royalty terms to buyers before transactions has been identified as an emerging practice. Marketplaces could display royalty information prominently. ImmutableX has already implemented enforceable royalties via its application-specific Layer-2 solution, which it plans to extend to Ethereum.
  - Note on Royalty Registry: A transparent on-chain registry of royalty rights and terms, traceable to creators, could also assist enforcement. For example, the Manifold Royalty

Registry is a decentralized on-chain royalty registry that is both generalized and backward compatible. In addition, the OpenSea Operator Filter Registry allows NFT creators to enforce royalties on their creations.

- Note on Proactive Vigilance: Royalty schemes could be monitored for predatory behavior, and platforms may implement mechanisms to monitor NFT usage for royalty distribution purposes. Violations of royalty terms, rights, and unauthorized usage of works often carry penalties proportionate to infractions.
- Note on Efficient and Collaborative Dispute Resolution: the development of efficient dispute resolution processes for royalty conflicts could also be encouraged. be developed.
- Incentivize Innovation in Royalty Models: New royalty models could be developed to further safeguard the rights and rewards of creators while encouraging NFT adoption and commercial use.
- NFT Licenses: Creators can retain ownership of copyright/IP and license usage rights to the buyer in the form of an NFT. The license terms can include ongoing royalty payments.
  - Case Study: Story Protocol, an open-source solution for creators and IP in a digital age, is building the provenance layer for Creative IP by providing transparent IP maintenance, provenance tracking, and fair attribution via blockchain.
- Locked Content or Utilities: Creators can build exclusive content, access, utilities, etc. into an NFT that requires ongoing royalty payments to unlock. In addition, the self-executing features and programmability of Autonomous NFTs could enable greater creativity and experimentation with respect to utility and could also be governed by a decentralized community.
- Dynamic and Stepped Royalties: Creators change royalty schemes over time based on the sale amount. For example, royalties could vest over time to balance creator and buyer interests, or they could increase based on time held. Further, royalties may expire after a set period or amount to encourage commercial use.

## Appendix D. Buyers/Owners Rights

To help address this challenge of buyers' rights and ongoing fees, a16z created and released a set of free, public licenses, designed specifically for NFTs. In brief, these “Can’t Be Evil Licenses” are freely available for use by the community, and achieve three goals.<sup>14</sup>

- Helping NFT creators protect (or release) their intellectual property (IP) rights;
- Granting NFT holders a baseline of rights that are irrevocable, enforceable, and easy to understand;
- Enabling creators, holders, and their communities to unleash the creative and economic potential of their projects with a clear understanding of the IP framework in which they can work.

These licenses clearly outline the buyer’s rights pertaining to the content of their NFTs, such as whether these rights are exclusive, commercial, and how they enable, or disable, the ability to change the content. They also cover how and if NFTs can be reproduced. As with CC licenses, these licenses offer a range of open-source models for creators to choose from. Specifically, a16z offers six licenses on the a16z crypto GitHub, along with a legal primer that provides several additional considerations for potential modifications.<sup>15</sup>

Generally, the licenses make the rights they offer irrevocable to protect creators, and offer a permissive approach to adaptation, encouraging creators to evolve these licenses to suit their unique needs. The licenses also aim to protect buyers in case creators use third-party material without permission. These licenses are deployed on-chain, leveraging Arweave to ensure that they are public, permanent, and immutable. By making these licenses available for free, a16z hopes to democratize access to high-quality legal protections, facilitating the development of this exciting area of web3.<sup>16</sup>

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<sup>14</sup> a16z Crypto. (2022, August 31). Introducing NFT Licenses: The “Can’t Be Evil” Licenses for NFTs. a16z Crypto. <https://a16zcrypto.com/posts/article/introducing-nft-licenses/#:~:text=The%20%E2%80%9CCan't%20Be%20Evil%E2%80%9D%20licenses%20aim%20to%20minimize,who%20illegally%20acquires%20their%20NFT.>

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

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