



NFT Marketplace

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Abstract: A non-fungible token (NFT) is a new kind of block chain-based token that is unique and indivisible. They were first introduced in late 2017. Fungible tokens have pioneered new use cases such as initial coin offerings, but the value of his NFTs as a component is still unknown. This study fills a gap in theoretical and practical knowledge by demonstrating the effectiveness of NFTs in the event ticketing arena. Using a rigorous design science research approach, we design, build, and extensively evaluate a prototype event ticket system based on NFTs. As a result, we demonstrate how NFTs can be used to tokenize digital products, reduce fraud, and increase control over secondary market transactions. We also provide generalizable information on the benefits and challenges of NFTs and their implications for researchers and practitioners.

Key Word: NFTs, Block chain, Solidity, Polygon Testnet, Hardhat, Ethereum, Next JS.

I. INTRODUCTION

A non-fungible token (NFT) is a protection along with virtual statistics saved in a block chain, a shape of disbursed ledger. The possession of an NFT is recorded with inside the block chain, and may be transferred via way of means of the owner, permitting NFTs to be offered and traded. NFTs may be created via way of means of anybody, and require few or no coding abilities to create. NFTs usually incorporate references to virtual documents which include photos, videos, and audio. Because NFTs are uniquely identifiable, they vary from crypto currencies, which can be fungible. The marketplace price of an NFT is related to the virtual document it references.

As of December 2021, Non-Fungible Tokens (NFTs) have generated over \$22 billion in revenue, with companies such as Open Sea, So rare and Sky Maven securing valuations of \$444.4 billion. Market intelligence company has launched a tool that aggregates sales and pricing data for various NFT collections and presents this information to the market. These statistics are often quoted in the media to compare different collections. However, differences in marketplace design are not considered, which can lead to misleading comparisons between collections sold in different marketplaces. Particularly, we focus on bid costs that depend on Marketplace policies related to transaction fees, bid bots, or user interfaces for placing bids. Most NFT marketplaces are peer-to-peer (similar to E bay). They require sellers to list items at a fixed price, but also allow participants to bid, usually at a lower price than the list price. Sellers can choose to accept the bid or wait for someone to purchase the item for the listing price or make another bid.

Proponents of NFTs claim that NFTs provide public certificates of authenticity or proof of ownership, but the legal rights conferred by NFTs may be uncertain. As defined in the block chain, ownership of NFTs has no inherent legal meaning and does not necessarily confer copyright, intellectual property rights, or other legal rights in the associated digital files. There is none. NFTs do not restrict the sharing or copying of related digital files, nor prevent the creation of NFTs that refer to the same file.

II. LITERATURE SURVEY

Literary NFTs are digital literary works (books, poems, or articles) minted directly into the block chain as non-fungible tokens. The beauty of literary NFTs is their versatility. NFTs can showcase written works, serve as items for digital collectors, or act as keys to an exclusive fan base. Some creators even publish individual girlfriend NFTs of fictional literary characters. But it is still early days, but the past year saw the emergence of many literary NFT projects by prominent independent authors. Ether Poems released one of the first collections of on-chain poetry, and The Verse regularly influences the work of Crypto native poets such as Sasha Stiles and Ana Maria Caballero. Neil Strauss created; the first major decentralized book copyrighted to the general public. Kalen Iwamoto is a pioneer at the intersection of cryptography and art. Creatokia brings it all together by building a new world and marketplace for publishers, authors, creators, and collections.

Market	Traders	Volumes
Open Sea	46,067	\$73.45m
Axie Infinity	40,429	\$19.44m
Crypto Punks	12	\$2.45m
Atomic Market	7103	\$1.03m
Pancake Swap	1342	\$783.74k

Table 1: Top Nft Marketplaces

NFTs exist on a block chain, that's an allotted public ledger that data transactions. as non-fungible tokens. You are likely maximum acquainted with block chain because the underlying procedure that makes crypto currencies possible. Specifically, NFTs are generally hung on the Ethereum block chain despite the fact that different block chains guide them as well. Basically, NFTs are like physical collectibles and s are digital only. So instead of hanging the actual oil painting on the wall, the buyer receives a digital file instead. NFTs are created or “created” from digital objects representing tangible and intangible items such as:

1. Art
2. GIFs
3. Videos and sports highlights
4. Collectibles
5. Virtual avatars and video game skins
6. Designer sneakers
7. Music

They additionally get different possession rights. That is right: NFTs will have handiest one proprietor at a time. NFTs precise statistics makes it smooth to affirm their possession and switch tokens among owners. The proprietor or author also can save precise records inner them. For instance, artists can signal their art work with the aid of using which includes their signature in an NFT's metadata.

Monetization strategies adopted by the most popular NFT marketplaces

1. **Listing fees** – the NFT platform charges sellers for posting (listing) their digital items.
2. **Transactions processing charges** – the marketplace takes a certain percentage from each transaction on their platform. For example, Open Sea charges a service fee of 2.5% for each sale.
3. **Initial setup fees** – the NFT marketplace charges content creators to list their first non-fungible token.
4. **Bidding charges** – buyers pay a particular fee for bidding successfully for a digital asset they want to acquire.
5. **Affiliate programs** – some NFT trading platforms may introduce specific affiliate programs for their partners.

We develop a stylized empirical model of the strategic interaction between participants, motivated by the descriptive statistics. We model each listing as a sequential game between one seller, one bidder, and one representative buyer (referred to as “the market” in Figure 1, which illustrates the sequence of actions), and make the following assumptions:

1. Each listing is an independent sequential game.
2. First, the seller decides on which price to set to maximize her expected returns for the listing.
3. Each listing is considered by a single bidder who infers the bid amount and decides to place the bid or not, accounting for the seller's bid acceptance probability.
4. The seller moves again after the bidder and decides to accept the bid or not.
5. Each listing is considered by a single representative buyer who moves after the bidder and seller, and decides to purchase the item at its listing price or not.
6. All participants are myopic, but sellers assign a holding value to the NFT if it does not sell



Fig 1: System Design of NFT Marketplace

We Items exchanged in NFT markets are most often organized into collections, which are sets of NFTs that share some common characteristics. Collections can be very different in nature, from sets of trading cards to assorted artwork to virtual rooms in online games. Most collections fall into his six categories: Art, Collectible, Games, Meta verse, other, and Utility.

III.CONCLUSION

Non-fungible tokens (NFT) are one-of-a-type bits of facts recorded on a block chain. Digital art, music, video clips, and tickets are only a handful of the virtual items being converted into NFTs. Some agree with that is a bursting bubble, whilst others agree with that NFTs will power the virtual economy. Because the generation remains in its early phases, we need to be patient the way it develops. It is critical to don't forget that the NFT area remains in its early stages. As a result, new systems are anticipated to supplant the existing crop of pinnacle NFT initiatives in 2021. Currently, the phrase NFT is steadily evolving far from mind of gaming and Crypto Kitties and in the direction of numerous use instances which includes art, DeFi, ticketing, virtual identification, and others. In fact, its utility opportunities are best restrained through the developers' and crypto currency community's imaginations.

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