The NFT Marketplace

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Abstract: *Non-Fungible Tokens (NFTs) have suddenly become popular High investor interest, some of NFTs have been successful Incredible selling value for non-fungible virtual assets. Through the lens of the non-fungibility of digital assets, this increases exciting questions about related "Value" and "Rarity" the purpose of this paper is as much as these questions can shape you, pay attention to these questions alternative space for blockchain development and exchange future.*

Keywords: NFT, Token, Blockchain, Asset, Ethereum, Fungible

I. INTRODUCTION

A non-fungible token is a unit of processing (token) of data. Managed by a non-exchangeable blockchain other Digital Assets (Non-Fungible) as defined in this definition. The term "fungible" means economic and accounting literature refers to all possible it will be replaced with an equivalent or identical product. Traditional payment methods, whether of equivalent value or not banknotes or precious metal equivalents Fungible and valuable as a medium of exchange because they are perceived to be of equal value $5. Since then, banknotes can replace with five one-dollar bills the two currencies are interchangeable.

Regulated products, common stocks, financial options, paper money is an example of an alternative asset. Non-fungible assets, on the other hand, may be personal assets. A person who borrows a friend's car is not so, the car able to repay the loan to their spouses by giving them someone else's car. Baseball cards, for example, are a classic example of non-fungible assets because each card has its own characteristics. Something that increases or decreases one's worth compared to others baseball card. Objects in virtual worlds were once considered difficult prove uniqueness and originality considered "irreplaceable". Code is code: 1 and 0 important because it can be played Replaceable.

II. TECHNICAL COMPONENTS OF NFT

2.1 Blockchain

As Nakamoto explained, Bitcoin is "Proof of Techniques for reaching agreement in deals Data in distributed systems. Blockchain is decentralized, A freshly attached database that tracks a list of data Entries linked and protected in encrypted form method. Blockchain technology is the long-standing Byzantine dilemma it solved a large network of dishonest people. For whatever reason changing the recorded data renders all subsequent data incorrect. Shared data is on the blockchain Immutable after being verified by majority node. To provide a smart and safe environment Contract processing, Ethereum is most commonly used a blockchain platform for NFT schemes.

2.2 Smart Contracts

Smart Contract was originally proposed by Szabo as he find way to accelerate, validate and act on digital data agreement. Ethereum Advanced Smart Contracts in blockchain technology. Blockchain-based smart contract Leverage and execute a turing-complete scripting language replication of complex operations and exact state transitions through a consensus procedure to ensure finality Consistency. Smart contracts allow unknown parties, for decentralized participants to conduct fair transactions you need a trusted 3rd party, and a 3rd party also offers a 3rd party a unified standard for designing a wide range of applications industrial set. Apps based on smart contracts Benefit from the state transition mechanism. All users have access to state, including directions and parameters, allow instructions to be executed transparently action. Furthermore, the arrangement of states is distant nodes should remain constant consistency. Most NFT systems utilize smart contract-based blockchain platforms and are sensitive to orders execution.

2.3 Address and Transaction

Blockchain addresses and transactions are fundamental cryptocurrency concept. One blockchain address a unique identifier that allows users to move and receive assets like a bank account when spending money at a bank, that is consists of a sequence of generated alphanumeric characters via a public/private key pair. To transfer the NFT, owners must prove that they correspondingly Enter the key private to send the asset to another address with a valid address. digital signature. This simple activity is usually it runs on a bitcoin wallet and is called ERC-777 sending transactions to use smart contract basis.

2.4 Data Encoding

Enoding is the process of changing data from one type to another. Many files are often efficient or Compressed or uncompressed format to save disk space to achieve high quality/resolution. In popularity Blockchain systems such as Bitcoin, Ethereum and hex value are used to specify transaction components such: as function names, arguments, and return values this means that the actual NFT data should follow these rules. If someone claims ownership of NFT-based intellectual property, they basically claim creator ownership a chunk of the original hexadecimal value. Others are free to copy the raw footage however, you cannot claim ownership. As a result, may see an increase in NFT-related action.

III. HOW NFT WORKS?

The process used to create NFTs involves uploading files Stored as an NFT on the NFT Marketplace, on a digital ledger and to be able to buy and sell using digital currency. NFT's artistic creation, reflecting the work of art may be theirs and they can maintain the copyrighted, so more NFTs are created based on it at the same job. So people who buy NFTs don't automatically obtain the copyright of the original digital file, He or she cannot have exclusive access to it either. One of the things that caught the attention of casual NFTs Market watchers will see buyers quickly is the owner of the original object and does not have a method for it Ensure files are not duplicated or used other artists or purchasers. Appearance problem Ubiquitous in other forms of blockchain technology , also available in the NFT range: potentially anyone Post your own or third party artwork to her NFT Without knowing they were the original artists. this Increased real risk of scammers uploading her NFTs on an auction platform under the guise of authenticity valuable product owner or manufacturer.

IV. HYPE BY NFT

NFT sales estimated at $12 million In December 2020, it jumped to $340 million. A few months later, February 2021. Of course, great works of art are considered unmistakable. Items that consumers pay exorbitant prices to save due to their rarity. equivalent channel due to The value of digital art was born. Purchasing digital art, especially Beeples Title Everydays: The First 5000 Days It has contributed greatly to the recent popularity of NFT. 2021 Christie's Auction Acquires His NFT For This Digital His Item He made $69.3 million, a record number. Discussion in the auction market. This has led to price increases Number of NFT artists looking to tokenize their work to the application form. Because not all his NFT artwork submitted will be shown Online customer, virtual his artist hastily published the list Works with NFT exchanges. This creates new possibilities for artists to commercialize Work in the digital age. Digital collectible NFTs such as B. His NFTs related to basketball Sells for $208,000[10] and features his video game-based NFT also sold for a very high price. video games sometimes NFTs mirror user-created objects in-game. This is possible. It was then traded for a much better gaming experience. NFT codes allow the exchange of video game objects. on third-party platforms (such as online marketplaces); Video game developer knowledge

V .TOKENIZATION OF NFTS

This part describes the token standards that exist related to NFTs, these tokens contain ECR-20 [11], ECR-721 [11] and ERC-1155 [12]. NFTs have Various token standards. Since it is composed of divisible Solidity smart contract mechanism to enable developers create new contracts by simply importing from the library (OppenZeppelin source library), Ethereum ERC-721 is CryptoKitties standard was first used in NFT category. Another important Ethereum version is ERC-1155 standards that provide a "semi-fungible" alternative and ability to create ERC-721 assets. Bitcoin cash and flow (by the founder of Cryptokitties) besides Ethereum are the two NFT compatible protocols.

Algorithm 1: NFT Standard Interfaces

```
"interface ERC721
{
func owner_Of(uint25_ token_Id) external view returns (address):
func transfer_From(address_from, address_to, uint256tokenId)
external payable;
}
interface ERC1155
{
func balance_Of(address_owner, uint256_id) external view returns(address);
func balance_OfBatch(address calldataowner, uint256 calldata_ids) external view
returns (uint256_memory);
func transfer_From( addressfrom, addressto, uint256_id, uint256_quantity) external payable;
```

The most widely used token standard is ERC-20. It shows the concept of fungible tokens that fungible tokens can be issued in Ethereum if certain conditions are met satisfied. Tokens are compared to each other accordingly standard. All other tokens have the same value: a random token. This facilitated an "initial coin offering".(ICO)" Mania from 2015 to the present. many public chains And blockchain-based DApps receive initial funding on this. On the other hand, ERC-721 provides NFT. a different standard than a fungible token. That is a unique token that distinguishes it from others. Everyone NFT has token_Id uint256 variable and combination the contract address and uint256 token ID combination is globally unique. Additionally, it can be generated using a token ID as input. Unique identifiers such as zombies or cartoon characters picture.

VI. NFT PROPERTIES

Since the nft system is inherently a decentralized application, it can leverage the functionality of the underlying public ledger. Below is a list of the most important properties.

6.1 Authenticity
Presence of NFTs and their token metadata and ownership can be verified publlicaly.

6.2 Transparent Performance
Activities in NFT such as minting, selling, and purchases are open to the public.

6.3 Accessibility
The NFT system is impervious to failures. Alternatively, all tokens and issued NFTs are available forpurchasing and sell at any time.

6.4 Tamper-Resistance
Once the transaction is deemed genuine, the NFT Metadata and transaction records are stored indefinitely and Cannot be change.

6.5 Usability
Each NFT has up-to-date ownership data, Which is user friendly and informative.

6.6 Atomicity
Consistent, isolated persistent and durable (ACID) transactions can be used to trade NFTs. All NFTs can be in the same working state at the same time.

6.7 Tradability
All NFTs and related articles can be exchange and trade at any time.

VII . ARE NFTS REALLY WORTH IT?

How Much Are NFTs Really Worth? Worth of only others are happy to pay for it. buyers and sellers of fragmented and dispersed online markets send signals about how much you want the (digital) object. This applies to collectibles and works of art for which large sums of money are paid get real physical objects based on perception rarity. However, NFT has the following two problems.

1. Are they really as rare as they claim?
2. Is it true that the NFT "owner" owns the object?

There are still questions about NFTs here.

In theory, you can build multiple NFTs for a single asset. Each claims to be a "real" token representing one an idea, image, or object. Anthropogenic shortages are still needed Marketplaces that accept tokens as "rare" thing. The second point is even more difficult. NFTs are not always means "ownership" in the traditional sense. Or image-like token representations are distributable may be reproduced and viewed without restrictions. Besides, if initial tokenization of NFT misrepresents original owner, the token has fake ownership Distributed ledger. Or worse, you might get one 404 error because NFT actually claims exclusivity online location - but where the object is located "Ownership" means transfer, but NFT doesn't even do disclosing the correct location of the claimed property. Also, token hacking and theft, etc. Crypto instruments such as currencies and DAOs will continue to anxiety. The code may have been stolen or simply lost the suspicious owner examines the wallet one day. A few in terms of guarantees, the NFT standard is more reliable NFT protection.

VIII. CONCLUSION

In the blockchain space, non-fungible tokens are fast Extended technology. In this article, we take a look at the latest developments of NFT system with the potential to redesign the digital order virtual asset market. First, we talked about the NFT method. Works the same as creating an asset and then uploading market. Also how the property works when NFTs. Then we talked about technical components such as the distribution method of NFT, how blockchain and smart contracts can help keep us in safe transaction. Then learn why the NFT concept is like this it was a big hit in the market. For example, why are there so many artists? Move to NFT instead of selling artwork off-line. Then we talked about tokenization. Components that help NFTs to be above all unique. Finally, we shared data on the NFT market their sales. We hope this report provides an overview of what NFTs are and how they can help a new generation of artists to prove their work..

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