



Blockchain Based Non-Fungible Token Image Generator

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Abstract: An NFT (Non-Fungible Token) image generator is a tool that allows users to generate unique, digital images that can be stored and traded as NFTs on blockchain technology. The images generated can range from simple illustration to complex digital artwork and can be bought and sold as one-of-a-kind collectibles, with their own secured and recorded on the blockchain. They are one-of-a-kind, verifiably owned and their ownership is recorded immutably on the blockchain. An NFT (Non-Fungible Token) image generator is a platform that creates unique, digital images or artworks that can be tokenized and traded as NFTs on blockchain technology. NFTs will hasten the expansion of cryptocurrencies outside the financial sector and provide fresh perspectives and ideas from a variety of producers, artists, digital goods collectors, developers, and others.

Keywords: Non-Fungible Token, Blockchain, Art Work, Artists, Cryptocurrency.

I. INTRODUCTION

The word "NFT" refers for a non-fungible token, which suggests that these oddball works of art and digital goods may include a wholly unique and non-transferable unit of information that leverages blockchain technology to establish ownership. Audio samples, digital artwork, games, and other items, whether tangible or digital, make up these tokens. These tokens are made up of digital media data like as music, videos, and images, the value of which may be expressed in terms of cryptocurrency. Even though they are a component of the Ethereum blockchain, NFTs are not like Ethereum coins, which may be exchanged for other assets of a similar kind.

"Non-fungible" in the acronym NFT indicates that each token cannot be exchanged for another, giving each token a unique entity representing a single object. The new digital world has given rise to digital investments and digital currencies. The cryptocurrency has transformed into a large industry subsequently rising the demand of investors all across the country willing to speculate in these digital assets and cryptocurrencies. With lack of security and authenticity the artists and creators are left with face value of their creations. The NFTs reflect ownership of a certain object, which is subsequently connected to a token through the blockchain, in order to address this issue. The ability of an asset to be easily swapped out for another similar asset is known as fungibility. A token can have either fungible or non-fungible qualities. A fungible token is an easy-to-understand idea; it is a currency like the dollar, bitcoin, ether, or pretty much any asset that can be traded for another similar asset. On the opposite side of that equation, there is the idea of a non-Fungible, which is a little less understandable but still simple. As one might have already begun alluding to it is the exact opposite of a fungible; meaning that cannot be frictionless and cannot be exchanged for another. Using this property of NFTs, there is a way to generate a set of unique Non-Fungible Images and deploy it on the blockchain platform.

The number of NFT works are represented in the economic value's technical difference. For the collection of NFT artworks, collectors may prioritize financial worth over aesthetic and cultural significance. Either the owners may pledge the artwork or sell NFT them using online trading systems, which can provide an accurate approximation of the financial value of the artwork. Ethereum may be a decentralized Blockchain network that makes a peer-to-peer setup so smart contracts can be executed in a very, very safe setting. Ether, sometimes known as ETH, is one of the most well-known native cryptocurrencies. It is a digital asset token made specifically for the blockchain network. In Ethereum, there are accounts that may be used for transactions and have specific ETH balances. The NFT movement has made it feasible for



musicians, singers, influencers, and other celebrities to sell their digital works, such as music, memes, sports memorabilia, and more, as NFTs on online markets. NFTs enable artists a secure way to commercialize their work and deliver it directly to customers without the need for middlemen. As part of the NFT process, the artwork is tokenized on the blockchain, allowing ownership to be verified and the artist to get credit for their efforts. NFT art is a brand-new way for designers to make money and connect with people all around the world via digital platforms.

Nevertheless, in order to convert an audience into consumers, you must establish an emotional bond with them and develop a successful marketing strategy. The next issue is ownership of digital art; before it can be sold, creators must acquire some type of "legal" ownership of it. As a result, once NFT art has been created, it is "minted" or tokenized on the blockchain cryptocurrency network. Tracking copyright ownership and recording creative production are made possible by blockchain. Theoretically, you should mention any digital art you create. Digital artists should eventually be able to earn official acknowledgement for their efforts thanks to this process.

II. PROBLEM STATEMENT

Non-fungible tokens (NFTs) have received a lot of attention in recent years because of their unique capacity to represent digital asset ownership and validity. NFTs have been employed in a variety of applications, spanning digital art, music, and even digital real estate. Yet, one significant obstacle that has surfaced in the NFT domain is the problem in producing high-quality, unique photos that can be utilized as NFTs. For artists and producers, it has been challenging to make high-quality NFTs that can separate out in the competitive NFT market due to the lack of a trustworthy and effective NFT picture generator. Several NFT picture generators currently available are either overly sophisticated and necessitate a substantial amount of technical knowledge, or they make lower standard images that do not match the NFT specifications. Additionally, current NFT picture generators do not include customization possibilities, allowing users to build one-of-a-kind and personalised NFTs.

Artists and creators' originality has been hampered as a result of being obliged to use standard NFT graphics that do not match the artistic style or perspective. Another serious problem with today's NFT image generator is the absence of safety measures. Because of their digital nature, many NFTs are theft-prone, and without sufficient security precautions, they can be easily duplicated or counterfeited. This has resulted in a lack of faith in the NFT market, which makes it hard for artists to distribute and purchasers or invest in NFTs. To address these issues, a dependable and fast NFT image generator with customization possibilities, high-quality images, and solid security measures is required. A online application like this would allow artists and producers to create one-of-a-kind and customised NFTs that represent particular artistic-style and ideas. Additionally, it would give buyers and sellers a safe environment to exchange NFTs without worrying about theft or counterfeiting. To summarise, the lack of a dependable and effective NFT image generator is a critical barrier that must be overcome in order to accelerate the growth and acceptance of NFTs. A online application with customizable possibilities, high-quality picture output, and solid security measures would certainly go a long way towards overcoming these obstacles and uncovering the maximum potential of NFTs.

III. LITERATURE SURVEY

[1] (Andrei-Drăgăș 2021) The author states that how Content producers, personalities, and artists from numerous industries dominated the news due to their involvement in different Non-Fungible Token projects and how NFTs can revolutionize the world of ownership and will reshape diverse industries such as entertainment (gaming, media) and arts. The author offered a novel architecture for digital assets to be introduced to a global audience, allowing them to sell their artwork without the need for any other middlemen. While the process of buying and selling is simplified, this key characteristic allows for a fair distribution of income, particularly towards the artist or producer of the artwork. Another essential element that can be incorporated is a royalty system, which can be integrated into the digital artwork and routed to the original creator for every and every transaction of their work.

[2] This paper reviews the already existing research papers of NFT and states how there is a There is a disparity between cryptocurrency-related studies and the degree of focus paid to NFT. The research published in finance and economics journals were created after 2021 and are primarily empirical in nature, concentrating on asset price. Bao et.al., (2022) contemplating that NFT, cryptocurrency and block-chain technology are still evolving at a high rate, they have explained promising areas for further work in the areas of financial theory, token-omics, and threat and regulation. They only assessed 13 papers, the majority of which were empirical literature; this may raise issues, as a good evaluation in other domains normally includes both theoretical and experimental material. They considered that more theoretical research was urgently needed by scholars in the discipline.



[3] (Shahriar et.al., 2022) The authors presented a unique NFT art generating application in this paper. StyleGAN2, a style transmission-based model, was trained using a series of publicly available NFT arts datasets. The visual quality of the developed arts was great, and it functioned well on the FID and KID assessments. Moreover, volunteers were asked to assess the quality of the artworks, and they found that the art forms were on par with actual examples from the collection. In comparison to the somewhat better overall grading of 3.35 out of 5 for the authentic samples, the generated artworks received a grading of 3.24 out of 5. The presented study may spark further research into Generative adversarial network NFT applications.

[4] In this study, the author examined how the cryptocurrency market and the NFT market interact, adding to the growing body of knowledge on the latter. He discovered that while the NFT market has a little impact on the price of crypto currencies, the price of BTC and ETH has a larger impact on it. Lower purchasing power results from a decline in bitcoin value, which will probably cause the NFT market to slack down. The opposite is also true, according to Ante et.al., (2022) who noted that as cryptocurrencies gain, investors frequently search for fresh or alternative investment options.

[5] (Rafli et.al.,2022) NFT is typically seen as a proof of ownership for the creation of a digital asset. While the contested digital assets may include, but are not limited to, images, movies, audio, GIFs, PNGs, and others. Since NFT is still a relatively new technology and not everyone is familiar with it, there are still a lot of unanswered questions. We thus anticipate that in the future, technology like NFT will advance and be able to offer exceptional security to uphold a work's authenticity, allowing the work's creator to introduce his creation in the form of NFT with ease. Of course, we may easily purchase a digital work with it.

[6] (BaytaĀÿ et.al.,2022) Has presented a stakeholder model in the NFT ecosystem, which created a huge technological, social, and economic event in 2021. They also emphasized implications and recommendations for future HCI and interdisciplinary research, as well as a nuanced and information-backed examination of motivations and value propositions for NFT artists or creators and owners, which can inform HCI; identifying VC firms as knowledge creators with powerful interests and auction sites as value arbiters, which calls for additional studies.

[7] (Sharma et.al., 2022) Has suggested about the system of ownership which has been used from a long time which is not new it has been using in gaming from a long time which allows players. In this context novel model is used for NFT generation. The paper implements oscillatory function it is a mix of both Relu and Gcu models. The authors describe about datasets which carry 10000 images with the help of bored apes yacht club which they have used. NFT helps develop cryptocurrency and it creates a platform for artists, creator etc.

[8]0020The digital art has become more popular in recent years with the help of NFTs. NFTS are the cryptographic assets held on block chain networks that represent digital proof. NFTs helps the contractor to gain profit from the future sales. The digital art producers can greatly benefit from NFT, they take time to produce. The paper implements and evaluates a GAN based architecture for a new NFT style digital art (Shahriar et.al., 2022)

IV. PROPOSED METHODOLOGY

An NFT is a one-of-a-kind cryptographic record tied to an asset, such as a work of art, music, a collectible, or another believed valued article. They can be compared to trading-cards for the modern age. NFT methods, in essence, offer an underlying shared digital ledger for records and combine them with transactions to make them transferrable in a very "peer-to-peer" network. These records, referred to as "tokens", can purchased, exchanged, or sold in ways that are similar to actual goods in some aspects but are vastly different in others. Because they employ blockchain technology to show the ownership of an item, all transactions linked to this relationship (i.e., among both record and actual object) need to be recorded. NFTs are typically purchased, sold, and exchanged through "wallets" and can be researched, if available, on websites such as Blockchain.com, Token View, and BTC.com.

There are a few prominent NFT characteristics that have been proposed to boost stability and consistency. An NFT owner appropriately formats and digitally digitizes the transaction data before storing it in a repository separately from the blockchain. The owner then hashes the transaction and sends the information to a contract. Following data processing, the smart-contract mints or trades it as a "transaction" on the blockchain-network. Once evaluated through a mathematical consensus, the NFT is permanently linked to the unique hashed-identity and the shared blockchain record, preventing it from being amended.

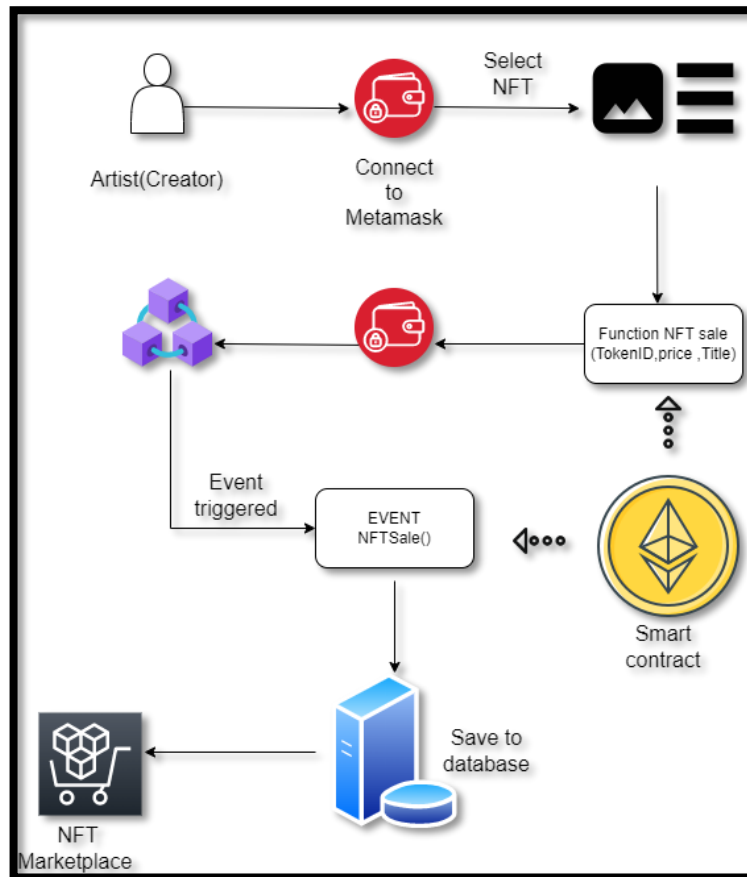


Figure 1: Non-Fungible Token Architecture.

Figure 1 depicts the overall working of minting procedure. In the beginning, the creator would connect their account to their pre-existing Metamask account. After linking of the account to Metamask is done, the creator would choose their Art and choose to upload it. Metamask would then check if there is sufficient balance in the User Account which would be then followed by a verification of the same by a Smart Contract using a “functionCall”. Once the verification is successful, the Event will get triggered and it will be stored in the Database, which can be verified under the Etherscan.io website. The Art that would have been deployed, will be reflected under the Creator’s Art Work field.

V. RESULTS AND DISCUSSION

The NFT Image Generator will provide a web application that will allow users to produce distinctive digital photographs that can be saved and exchanged as NFTs using blockchain technology. With the use of this technology, creatives such as musicians, influencers, and celebrities may sell their work straight to consumers without worrying about copycats. In addition to giving artists a new means to sell their work, this provides a safe and unchangeable record of ownership, recorded on the blockchain. With a global audience, the NFT image generator online application offers a cutting-edge solution for the production and marketing of digital art. By providing a platform for artists to create and sell unique digital images as NFTs, NFT Image Generator Application have the potential to level the playing field and give artists more control over their creations and earnings.

Furthermore, the use of blockchain technology in NFTs creates an unchangeable and secure record of ownership, obviating the need for middlemen and guaranteeing the legitimacy of NFTs. This might result in the formal acceptance of digital art as a valid medium for artistic expression and financial investment. The creation of NFT picture generation software also has the ability to introduce fresh viewpoints and ideas from a wider audience to the creative industry. This might result in the creation of fresh, cutting-edge digital works of art as well as new perspectives on ownership of art in the digital sphere. In conclusion, NFT Image Generator is anticipated to lead to a more diversified, open, and innovative art market where artists may make and sell their work directly to clients and where the ownership of digital art is secure and verifiable. The future growth of NFTs, which has the potential to change the art world, will be fascinating to watch.



VI. CONCLUSION

To conclude, the NFT (non-fungible token) image-generator market presents a special chance for companies to deliver a useful service to a developing market. NFT image generators can help people and companies develop and commercialize their digital creations since there is a rising demand for uncommon and distinctive digital assets. A good NFT picture generator should be simple to use, have a visually appealing interface, and have a wide variety of customization choices to satisfy the requirements of a wide range of users. In addition, it's critical to have a strong sales and marketing plan that successfully reaches and interacts with the target audience.

By focusing on providing a high-quality product and excellent customer service, a NFT image generator business can establish a strong brand and reputation in the market. The way digital artwork, music, and other creative works are traded and commercialized has been completely transformed by the emergence of NFT image generator online apps. This makes it possible for inventors and artists to generate one-of-a-kind digital goods that can be traded on the blockchain. By using blockchain technology, ownership and authenticity are permanently documented, enabling artists to sell their products directly to consumers without the use of middlemen. The development of NFT image generating software has created new opportunities for the monetization of digital works, and it represents a novel way for designers to make money and connect with a worldwide audience. In general, the NFT movement has the ability to transform the art market and present fresh options for both artists and investors.

In general, the creation of NFT image generating application marks a significant advancement in the usage of blockchain technology and the development of digital art. The potential advantages and chances of NFTs are clear, but there are still issues and difficulties that need to be resolved. It will be interesting to see how they continue to influence and develop the art world in the years to come.

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