

BACHELOR OF ARTS IN MULTIMEDIA STUDIES
Capstone/Special Project



**UNIVERSITY OF THE PHILIPPINES
OPEN UNIVERSITY**

BACHELOR OF ARTS IN MULTIMEDIA STUDIES

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EXPLORING DIGITAL ARTWORK AS NFT IN MULTIMEDIA

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16 August 2022

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Acceptance Page:

This paper prepared by **ANGELO JOAQUIN C. ASCAN** with the title: “**EXPLORING DIGITAL ARTWORK AS NFT IN MULTIMEDIA**” is hereby accepted by the Faculty of Information and Communication Studies, U.P. Open University, in partial fulfillment of the requirements for the degree Course.

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Biographical Sketch

The author, Angelo Joaquin C. Ascan, was born on July 29, 2000, in San Pablo City, Laguna. He is the first son among the two children of Apolinario C. Ascan and Tricia C. Ascan.

In 2018, he enrolled at the University of the Philippines Open University located in Los Baños, Laguna, in the Bachelor of Arts in Multimedia Studies program. He finished his secondary education in Colegio de San Juan de Letran – Calamba from the academic year 2013 – 2018 in Calamba City, Laguna. Furthermore, he took his primary education at The Learning Place from the academic year 2007 – 2013 in Los Baños, Laguna.

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Abstract

Non-fungible tokens or NFTs as popularly known have disrupted art as we know it. Thanks to blockchain technology, artists have been able to certify the authenticity of their works and take control of how they distribute their artwork. The same can be said with buyers and collectors of NFT art as they can now sell and resell their art for a fair sum of money. In order to break through to this new concept, one must first understand how cryptocurrencies and blockchain work, which are key parts of the NFT economy.

Incorporating my personal experience, this study aimed to determine the viability of NFTs as an art medium. I went through the full process of creating NFT art, from the actual artwork to the listing of digital artworks on OpenSea, one of the most popular NFT marketplaces. The study also observed the risks and benefits associated with selling NFT art and identified the issues and challenges that I have experienced in creating and listing NFT art.

The current model of creating, minting, and selling NFTs is still a work in progress. Hopefully, in the near future, the process would be more streamlined to entice more people to be engaged in the world of NFTs which according to famous NFT artist Gary Vaynerchuk a.k.a. GaryVee is here to stay.

Keywords: non-fungible token; blockchain; cryptocurrency; digital art

I. INTRODUCTION

Rationale

With the rise of cryptocurrencies' value in the market, there is also a rise in the sale of digital tokens, also known as non-fungible tokens (NFTs). NFTs are unique assets; no two NFTs are alike even though they may look physically the same. This is because of the blockchain technology that already exists in crypto wherein NFTs are authenticated and issued a certificate of authenticity much like a deed of sale. In the digital arts, NFTs are a way to verify the authenticity of an artwork. Even if other people have copies of the same art that you did, you still have a blockchain record that certifies you have created that piece (Sorilla, 2021).

This type of digital marketplace has been booming in Western countries in the past year, but NFTs are still in their infancy in the Philippines. Besides the digital arts, most Filipinos also associate NFTs with gaming. NFT gaming has a play-to-earn movement, where players can collect rewards that can be converted to actual cash (Lacsamana, 2021). Axie Infinity is one of these NFT games that are popular in the country.

There have been limited studies about NFTs, despite the technology being in existence for some time already. NFTs are still a relatively new topic but have many potential uses in the realm of multimedia. This study aims to explore NFT opportunities in multimedia, especially in digital arts, and how they will shape the multimedia landscape in the foreseeable future.

Objectives

This research aims to answer the question: To what extent is NFT art a viable medium for a digital artist like me?

In addition, it also aims to answer the following secondary questions:

1. What are the opportunities for NFTs as digital art?
2. What are the risks of NFTs as digital art?

Significance of the Study

NFT is an emerging technology that has started to become popular and has been gaining traction over the last few years. The more artists that create art in the NFT space, the more demand for NFT art would follow. NFT artists who are starting out in this space, as well as NFT enthusiasts, can benefit from this study as they would get to know more about the process of NFT art creation and minting, the benefits it entails, and the risks involved. I believe that the more research is done about NFT digital art, the more people would understand the whole concept.

Scope and Limitations of the Study

The study is limited to the creation and minting of NFT art and exploring its viability as an art medium. My observations and analysis are also limited to my personal experience of going through the process of NFT creation. I also did not go into buying an actual NFT art nor did I consider NFTs in metaverse as they are already beyond the scope of this study.

II. REVIEW OF RELATED LITERATURE

History of NFTs, Blockchain, and Cryptocurrency

Non-fungible tokens (NFTs) have taken the world by storm. These unique physical and digital assets can be bought, sold, or traded in a digital marketplace. Anything, from a simple meme to a complex work of art, can be sold as an NFT. Chow and Zorthian (2021) define NFTs as “computer files combined with proof of ownership and authenticity, like a deed.” Like cryptocurrencies, NFTs utilize blockchain technology, which is a tamper-resistant proof of validity. However, unlike cryptocurrencies, no two NFTs are worth the same value; they have unique values set by the highest bidder. NFTs enable digital artists to sell their artwork at a much higher price compared to traditional setups.

Jones (2021) documents how NFTs were introduced sometime in the early 2010s but did not skyrocket in popularity until early 2021 when an NFT artwork created by Beeple sold for nearly \$70 million. Since then, NFT sales are currently hovering over the ten-million-dollar range monthly. NFTs exist on a blockchain like cryptocurrencies, and they are minted the same way as crypto. There are no two identical NFTs that exist even if they look the same. This is due to the buyer earning a receipt of authenticity upon purchase, that the item is a sole, one-to-one version. It takes an incredible amount of energy to mine the cryptocurrency used to pay for NFTs. According to Jones, Ethereum, the primary cryptocurrency used to buy NFTs, uses as much energy as the country of Zimbabwe. This results in NFT selling and crypto mining being destructive to the environment.

Blockchain technology was first found in cryptocurrencies such as Bitcoin, Ethereum, Cardano, etc. Yat Siu (as cited by Onag, 2018) believed that the

blockchain can be adapted for mass use, following the success of CryptoKitties, a virtual pet game developed in 2017. The game was based on the Ethereum blockchain, which protects the game from being copied and gives it a digital identity in the blockchain network. Traditionally, games need a platform to be distributed such as Apple or Google. Through the NFT revolution, Siu thinks that this would encourage content creators to create more content as the blockchain can now become the platform.

NFTs are both physical and digital items. Holders of NFTs own the item, can do anything with them, and can also sell it at a higher price than what they have paid for. Ethereum is the most common cryptocurrency used to trade for NFTs, and in this case, uses the ERC-721 protocol. This protocol is used to produce unique tokens, each having its unique value attached to it (Gourtzilidis, 2021). Despite the security of the blockchain network, NFTs have been targeted by hackers in stealing users' assets as there has not been any protection in place for victims. This means that when buying an NFT, buyers still need to be wary of the risks involved, especially with the tremendous amount of money involved in the transactions. NFT art is one of those that fall under this classification.

Bart Galvin's (2021) article titled "NFTs and Cryptocurrency: Why They Are Changing How the World Does Business." discusses the way this new form of technology is making a mark on the world stage. More people are transacting using cryptocurrencies and NFTs have also exploded in popularity in the past year alone. Anything from pixel artwork to a pair of socks can be sold as an NFT. Galvin believes NFTs and Bitcoin are just the tips of the blockchain technology iceberg. He points out five reasons why people are jumping on board the blockchain train: first, the blockchain allows both parties to transact directly without having to clear any banks

in the middle; second, blockchain transactions are dictated by computer code which means they are not limited to geographical jurisdictions; third, the blockchain is not controlled by a single party and all transactions are shared throughout the system; fourth, blockchains act as a digital ledger which could be used to verify transactions; and lastly, blockchain allows transactions without even knowing who you are transacting with (Galvin, 2021).

Reuters (2021) wrote in an article that the e-commerce company eBay has started accepting NFTs to be sold on their platform, the first e-commerce site to do so. This was announced following eBay's statement saying that they would look into the possibility of accepting cryptocurrency as a form of payment in their platform and the eventual sale of NFTs that would follow. They also accept dollars in the sale of NFTs alongside Ether, making it easier for the average buyer to acquire NFTs. This also makes it eco-friendly by not having to require a lot of resources to mine crypto.

The Art Market

In a podcast interview by Dubner (2021), Candice Prendergast states that the traditional art market is one of the strangest markets there is. Currently, the structure of the art market makes artworks an elitist commodity. An item can be afforded by the wealthiest personalities only to be stored in a warehouse somewhere and never to be seen by the public again. Art is meant to be seen and appreciated, and one of its main problems is that there is a large supply of art but has small demand. Pieces of art must be sold at high prices because curators and gallerists must sustain the artists' careers that they are representing. Another reason art is expensive is that they are unique works. Despite all this, art is considered to be a bad investment.

Because there is a huge demand for artworks from different types of people, they command a hefty sum of money. The ones you would usually hear about being auctioned off are sold for hundreds of millions of dollars. According to Stein (as cited by Kraussl et al., 2014), artworks are consumer goods and at the same time, they are assets. People, mainly the elite, see artworks as a form of investment, which has been practiced since the 16th century to the present. While they represent social status, investing in physical artworks comes with risks such as forgery, theft, and physical damage. These factors would affect an artwork's resale value should they decide to auction it off. In the past year, \$2.7 billion worth of art was sold according to the 2021 Contemporary Art Market Report. This was mainly spearheaded by sales of digital art through crypto art and NFTs, and the rise of pent-up demand from 2020 when the pandemic was at its worst and the economy was down (Sherwood, 2022).

In the Philippine digital art landscape, such as the case of the 9th Art Fair Philippines exhibit, they made use of the online world to exhibit artworks from local and overseas artists (*Art Fair PHL Highlights Digital Art as It Goes Online*, 2021). This signifies that the country's art industry is catching up with the rest of the Western world in terms of showcasing digital art. However, this exhibit only displayed traditional digital art and not yet NFT art.

NFTs and Art

NFTs in the digital art world have shaped it into a billion-dollar industry. Celebrities such as Paris Hilton have been engaged in this lucrative business before NFTs exploded in popularity. NFT sales in the first half of 2021 alone have reached \$2 billion or about Php101 trillion. Other celebrities have also sold some form of NFT. However, some critics and traditional artists have questioned the quality of art that

creators put out for sale (McLaughlin, 2021). They argued that NFTs are a way for people to grab money over creations that barely even qualify as art. Because mining for crypto is an environmentally destructive process, critics debated that these actions done by the elite few would cause negative consequences for the general public.

High-profile celebrities are not the only ones engaged in the NFT art revolution. Teenage artists, who are just beginning to dive into the art world, have also caught wind of the NFT revolution (Bruner, 2021). They are astounded that the cryptocurrency used to buy NFTs translates to cold, hard cash in their bank accounts. This is because their generation grew up with the advent of social media, hence they are familiar with how digital marketing works. Some of these artists are so young that they require a parent to set up their bank accounts for their crypto wallets, as most require a minimum age of 18. Building a community matters the most to any teenage NFT artist and all the challenges that come with it are naturally a part of establishing their image.

One of these young NFT artists is Nyla Hayes. At 12 years old, she is now famous for her Long Neckie Ladies collection, which sold for over \$3.6 million. She was inspired to draw famous women with such long necks because of her favorite dinosaur, the Brontosaurus. She has become TIMEPieces' first-ever artist-in-residence. According to TIME's website, TIMEPieces caters to artists who are working their careers as NFT artists (Makoni, 2021).

Rachel Korsen's blog (2021) discussed how NFT marketplaces became safe havens for digital artists to sell their works directly to buyers. It is more secure, and the revenue earned here is more than selling art through a trader, which requires

additional fees. With the NFT space projected to grow even more, so has the number of artists becoming interested in putting their work on the blockchain network most of which have not heard about NFTs. They can put rare collections digitally in an NFT marketplace such as Rarible and OpenSea among many others. Content creators can develop and grow their fan base on these platforms rather than through social media sites since buyers usually flock to these marketplaces to research the artists they are buying from. This results in positive reviews for the creator and enables them to sell at higher prices which would offset the gas fees they have to pay to the marketplace.

One of the most well-known NFT artists globally is Gary Vaynerchuk, known in the NFT space as GaryVee, and the creator of VeeFriends. Besides being an artist, he is also an influential figure in the NFT ecosystem, helping other artists and even celebrities in starting their NFT careers. According to the VeeFriends website, GaryVee created VeeFriends to bring to life his ambitions of building a community around his creative and business passions using NFT technology and their smart contract capabilities. (VeeFriends, n.d.) VeeFriends has one of the most successful use cases of NFT ownership as they continue to release more items for sale since they give owners of a VeeFriends NFT exclusive perks. GaryVee even made the bold claim that NFTs would remain for the rest of his life (Thomas, 2022).

While not necessarily true, being a famous person or celebrity can be a factor in the ability to create a successful NFT collection and command high prices. In an article by Shawdagor (2022), celebrities may be successful in selling them but not all of them can be successful in the NFT space. Fame or celebrity status does not guarantee the success of an NFT art collection. Most well-known NFT artists have

become famous because of their works, not because they were famous in other aspects.

In the local scene, one of the most prominent names in NFTs is Luis Buenaventura II. He is the founder of Cryptopop Art Guild and is considered one of the Philippines' most successful NFT artists. He has collaborated with various content creators to sell NFTs on OpenSea. One of Luis' collaborations was with Argentinian comic book legend Jose Delbo, where they created the "Satoshi the Creator – Genesis" collection. They sold each of the 222 editions of their comic book art on the Nifty Gateway platform at \$1,999 each – or over P22 million in total. (ANCX Staff, 2022) Other Filipinos who have engaged in NFTs include Heart Evangelista, who has collaborated with Luis and Rodel Colmenar, a composer of the Manila Philharmonic Orchestra. They have sold a piece of their digital art in OpenSea worth 17.35 ETH, which at the time of writing, is worth P3.6 million (Legaspi, 2021).

Risks

In such a lucrative industry, NFTs do not come without their risks. According to Andres Guadamuz (as cited by Alpañés, 2021), Ethereum is considered to be an unstable cryptocurrency owing to its fluctuating prices this year alone. This is especially true as the market is constantly gaining and losing depending on the financial situation. There is also the risk of the marketplace being relatively new and any transactions in this space is still mainly uncharted territory. The success of NFTs depends on what is called the attention economy where the more attention a piece of art is receiving, the more it will earn in sales (Alpañés, 2021).

In terms of legal issues, the risks surrounding NFT art have been mostly on the subject of copyright, fraud, etc. One of the earliest legal cases involving NFTs was between art collector Amir Soleymani and Nifty Gateway, an NFT marketplace. For context, he lost out in an auction for a Beeple NFT called *Abundance*, in which the first edition was sold for \$1.2 million. Consequently, he learned that the top 99 bidders, himself included, were expected to pay for the second edition of the work worth \$650,000. Soleymani refused to pay and as such, Nifty Gateway froze all his NFT assets. This prompted him to file a lawsuit against Nifty Gateway in the United Kingdom's High Court (Pryor, 2021).

There are also risks involving smart contracts as their security is not adequate. They can be exploited by hackers and steal large amounts of crypto assets. This is exactly what happened to Poly Network, a decentralized finance (DeFi) protocol, where \$600 million worth of NFTs were stolen. Online fraud and scams are also prevalent in the NFT space as some people have been scammed by buying fake NFTs from counterfeit sellers. Some countries have begun the initiative to develop a regulating body for NFTs. However, with the ever-changing landscape on what can become an NFT, this body should not be a fixed entity like most legislative bodies today (Parmar, 2022).

NFTs are, without a doubt, disrupting art as we know it, especially the fine arts. Buyers and sellers should understand that NFTs are just a digital record of ownership in the blockchain, not a physical asset. In this context, the risk is that your NFT can be deleted from the website where it is stored. This is why it is important to have a reliable backup of the digital asset or have confidence in the website where it is stored, according to Adrienne Reid (as cited by DuChene, 2022).

The Surf Shark Society touted as the gamechanger in the Filipino NFT landscape had been a victim of a 'rug pull' which happened last March 3, 2022. Mislos (2022) defines rug pull as the act of a developer abandoning the project after they get paid. Some community members noticed that the public mint treasury was being drained of funds and converted to another cryptocurrency before it was transferred out. This meant that someone had gotten into the funds, took it for himself, and ran away with it, never to be found and contacted. In the end, the Surf Shark Team gave refunds to anyone who had bought their shark NFTs. This is one risk of NFTs that has not yet been mitigated nor have any preventive measures been taken for such incidents.

Definition of Terms

Binance - A cryptocurrency exchange where you can buy and trade cryptocurrencies.

Blockchain - A distributed database or ledger that is shared among the nodes of a computer network. Mainly used by cryptocurrency systems.

Cryptocurrency - A digital currency in which transactions are verified and records maintained by a decentralized system using cryptography, rather than by a centralized authority. Examples of these include Bitcoin, Ethereum, Cardano, etc.

MetaMask - A cryptocurrency wallet used to interact and store funds in the Ethereum blockchain. It is installed as a browser extension.

NFT - Short for Non-Fungible Token. These are digital items that are stored in the blockchain.

OpenSea - One of the most popular NFT marketplaces.

III. METHODOLOGY

Research Design

For this study, I used the autoethnographic approach because this topic is still relatively new, and not many people are familiar with NFT. I wanted to know the process of creating, minting, and selling digital art as an NFT. I shared my personal experience of going through the process of buying cryptocurrency, creating, minting, and promoting my NFT art. While I did not interview any particular NFT artist, I interacted with other NFT enthusiasts on popular online NFT communities to ask for assistance and tips on creating and promoting NFT art. I answered the research question based on this experience.

IV. RESULTS AND DISCUSSION

Creating My Crypto Wallet

For a first-time NFT artist, it is necessary to create a crypto wallet that will hold and store your cryptocurrency when you make a sale. The first step is to open a

bank account. I chose UnionBank because it is very open to cryptocurrency transactions and it is one of the first banks in the country to adopt digital assets management and operations.

Once I had my bank account opened, I then opened a Binance account to be able to buy Ethereum(ETH), the most common and acceptable cryptocurrency used in buying and selling NFTs. Binance is a cryptocurrency exchange where you can buy and trade cryptocurrencies. You can buy any cryptocurrency from them directly, or you can buy through P2P (Peer to Peer) trading. My initial try was buying BNB, a type of cryptocurrency because I thought I could mint and post NFT art in the Binance NFT marketplace. Unfortunately, not all Binance users can access the selling feature in their platform as this is still a “by invitation only”.

In buying the Ethereum(ETH) token in Binance, I used the P2P trading option as this was the fastest way to buy. The user interface is very easy to follow and there are a lot of choices from whom you want to buy. After choosing your seller, inputting the amount of ETH desired, and confirming the mode of payment, the final step is the actual payment. There is a time limit when making the payment, in my case, it was only 15 minutes using GCash as my mode of payment. The seller would send their payment details and I need to complete the payment within the time period. I also took a screenshot of the successful payment to them and then sent the screenshot so they can transfer the purchased ETH to my P2P wallet. Once the transaction is complete, I have to move my ETH token from the P2P wallet to the Binance Fiat and Spot wallet. This is necessary to transfer the funds to the MetaMask wallet.

The next step is to open a MetaMask wallet to be able to transfer the funds from my Binance fiat wallet. MetaMask is a wallet that supports Ethereum (ETH)-based tokens and is also a gateway to blockchain applications. It can be installed as a Chrome browser extension. MetaMask requires you to have a password and memorize a secret recovery phrase. The latter acts like a master key to the crypto wallet. If you forget this phrase, MetaMask management cannot help you recover your wallet and any funds inside it.

After creating my MetaMask wallet, it was time to transfer the ETH token from my Binance wallet to MetaMask. To do this, on the Binance Fiat and Spot Wallet page, you need to click Withdraw, which would load a page where to paste the address to transfer to. Then return to MetaMask and copy the wallet address located under the username, paste it on Binance, and wait for the funds to be transferred to MetaMask. I then reloaded the page to reflect the new wallet balance.

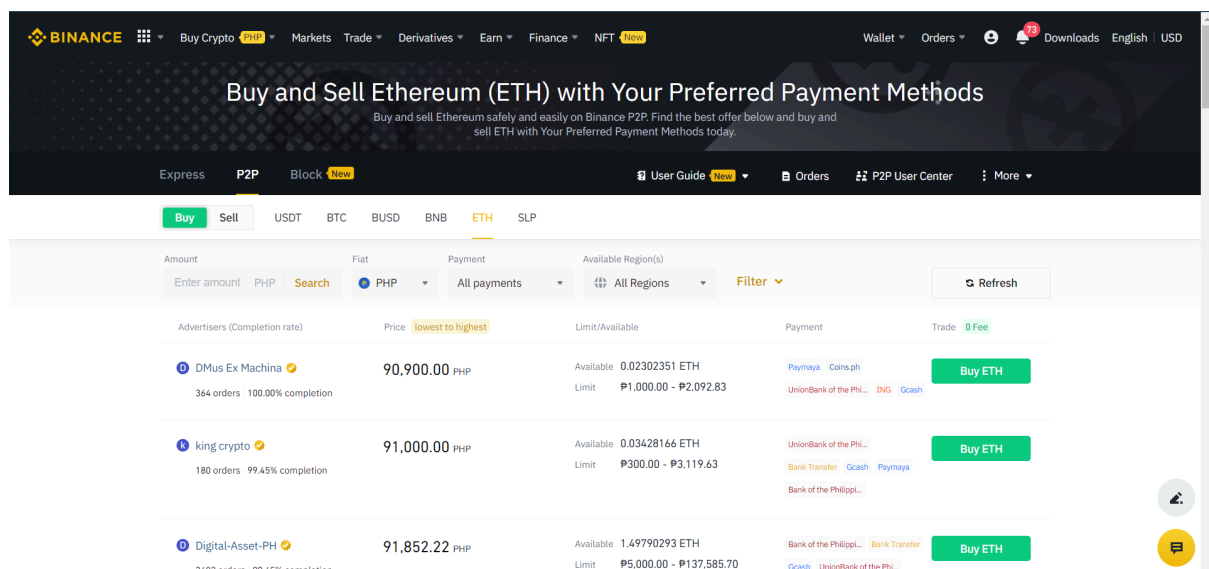


Figure 1: Screenshot of Binance P2P Trading Platform

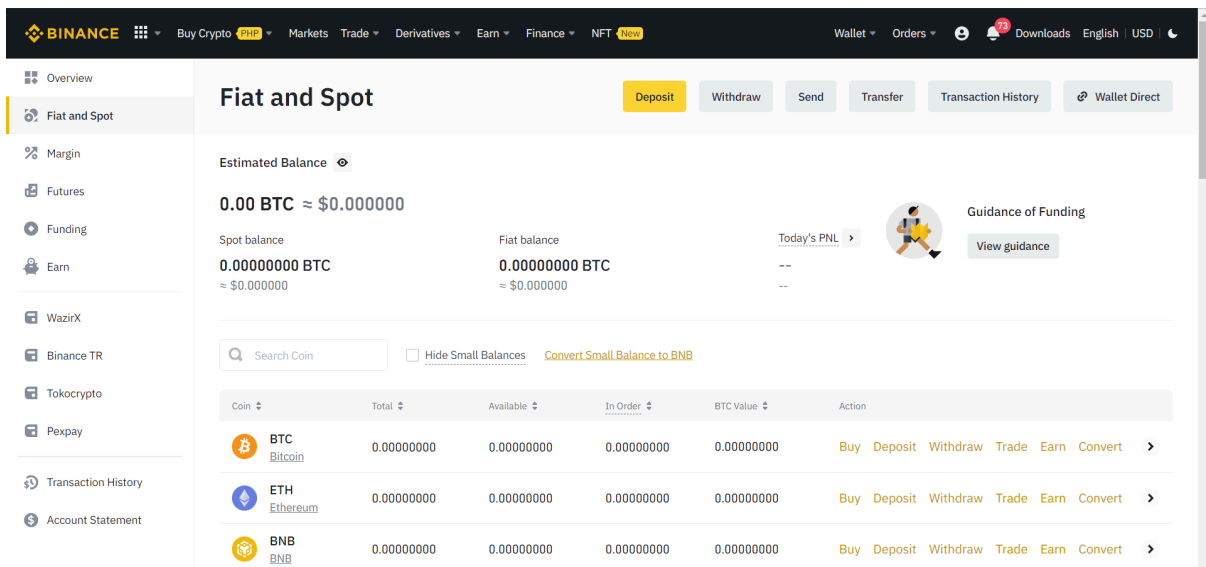


Figure 2: Screenshot of Binance Fiat and Spot Wallet

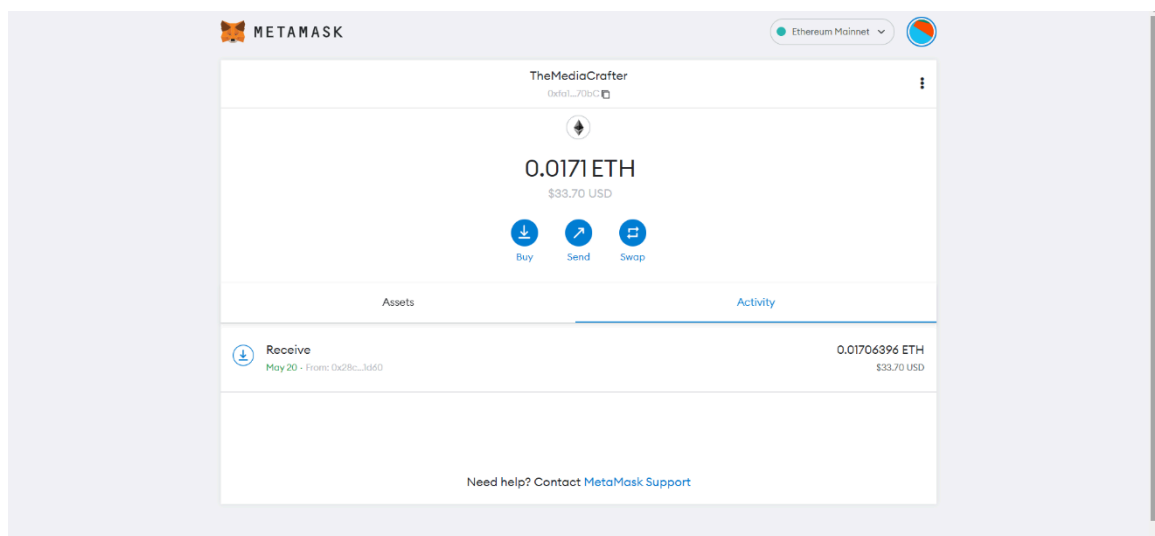


Figure 3: Screenshot of the MetaMask crypto wallet

Creating My NFT Art

I have been creating sprite and pixel art for more than a year. This type of digital art is very common in NFTs being listed for sale on OpenSea. This is also one of the reasons why I got interested in NFTs to see if I can turn my art into NFTs. Instead of pixelated apes or avatars which are popular NFT arts, I made pixelated

front-view trains inspired by the show Thomas and Friends. I mainly use Adobe Photoshop to create NFT art. As for the actual process, I start by searching for a front-view image of any train, which I use as a base. Then I resize the image to a size that is not too big nor too small, around 800px by 800px. On average, it takes me over a week to create one pixelated train from scratch. If I decide that the next character has the same base as the previous one, the process only takes me a few hours, a day at most, since I would only have to change the colors and face of the train. I have created a total of 14 front-view pixelated trains sized into profile pics for my NFT collection.

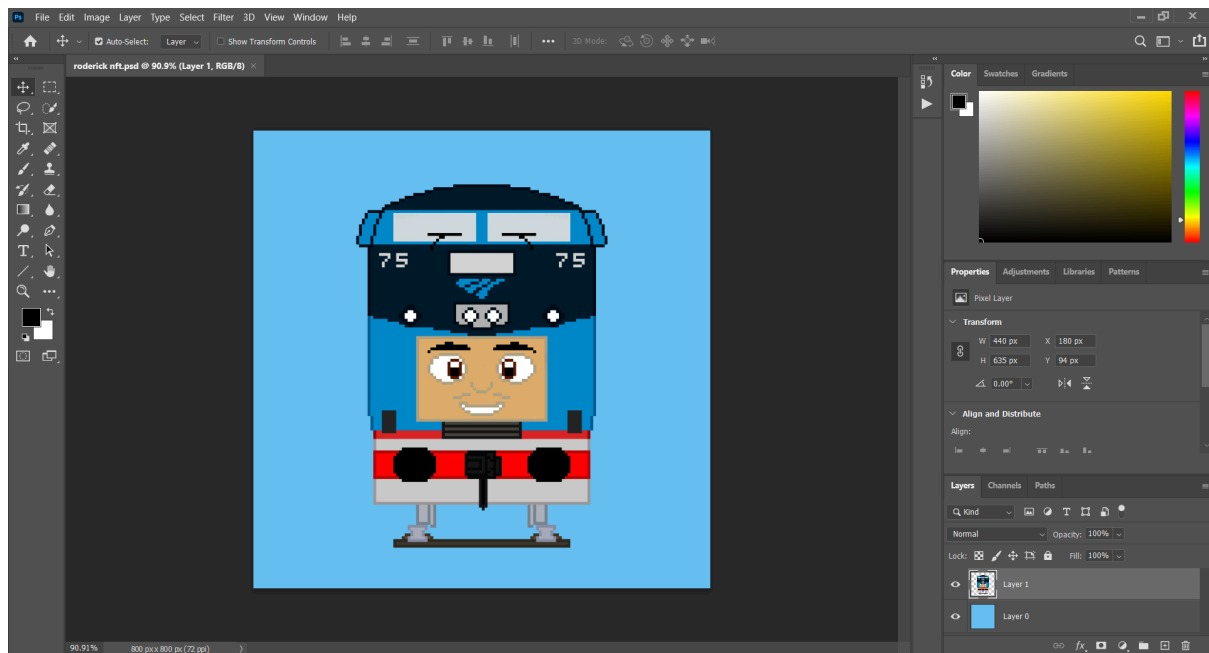


Figure 4: Screenshot of Adobe Photoshop workspace

Minting My First NFT

ETHEREUM MAINNET MINTING

Once the artworks are finished, the next phase is the NFT minting process. I created an OpenSea account and connected my MetaMask wallet. Once I had

created my basic profile, I began to mint my first ever NFT. OpenSea makes it easy to mint because the fields are easy to fill up and straightforward.

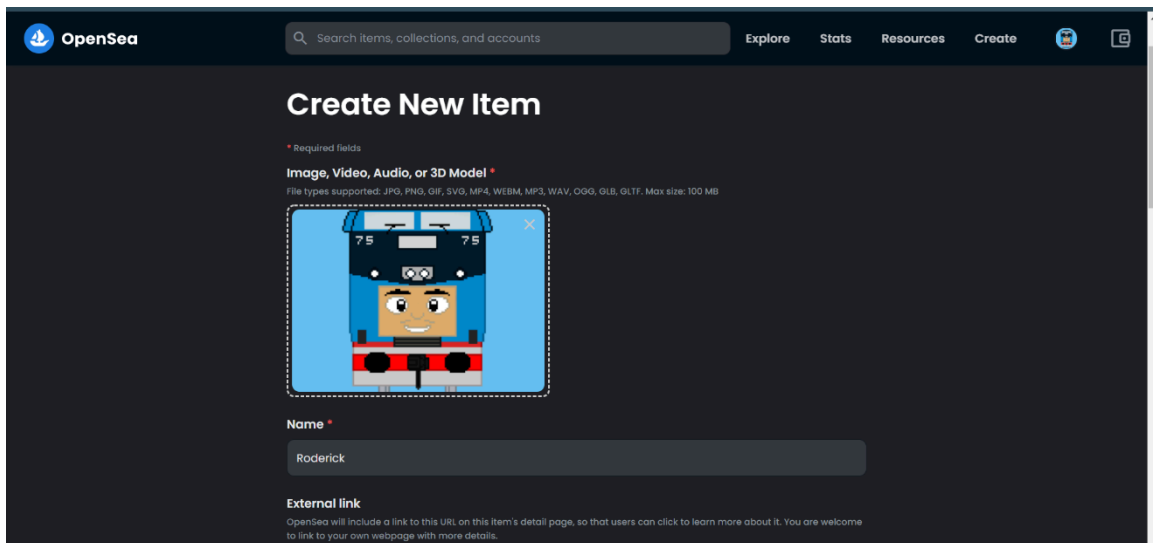


Figure 5: The User Interface (UI) for creating a new item on OpenSea

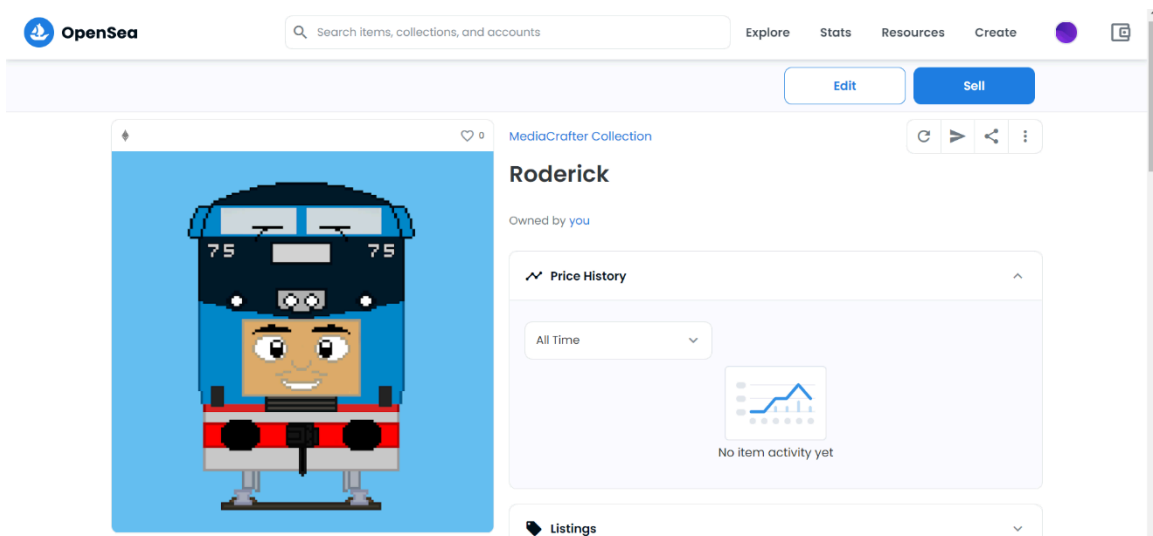


Figure 6: The item being minted on OpenSea

There are two one-time fees that OpenSea charges when you list an NFT for sale the first time. These are called gas fees. The first fee is to initialize your wallet for selling in OpenSea while the second fee is to set up auction listings where you also have to initialize the use of WETH or wrapped Ethereum. The fees fluctuate with

the price of Ethereum, so there is no fixed price for both fees. The minimum wallet balance required to process these first-time fees is 0.05 ETH.

Once those fees are paid for, they will only charge a 2.5% gas fee per sale or transaction. OpenSea does not charge a gas fee until you have made a sale, meaning listing is free. The only thing that is required to list new NFTs for sale is a digital signature.

This part has been a trial-and-error stage for me as I was not yet familiar with other blockchains that OpenSea supports besides Ethereum. Besides, I have a limited budget, and paying those one-time fees is a bit expensive on my part. So, I 'removed' my first NFT and started anew, this time using Polygon.

POLYGON-BASED MINTING

I discovered that Polygon has no gas fees and works well with Ethereum. Once I had a grasp on how Polygon works and the benefit of not paying any gas fees, I decided to create my first official collection and mint my first official NFT there. In the price box, when you hover over it, you will notice that it says ETH on Polygon.

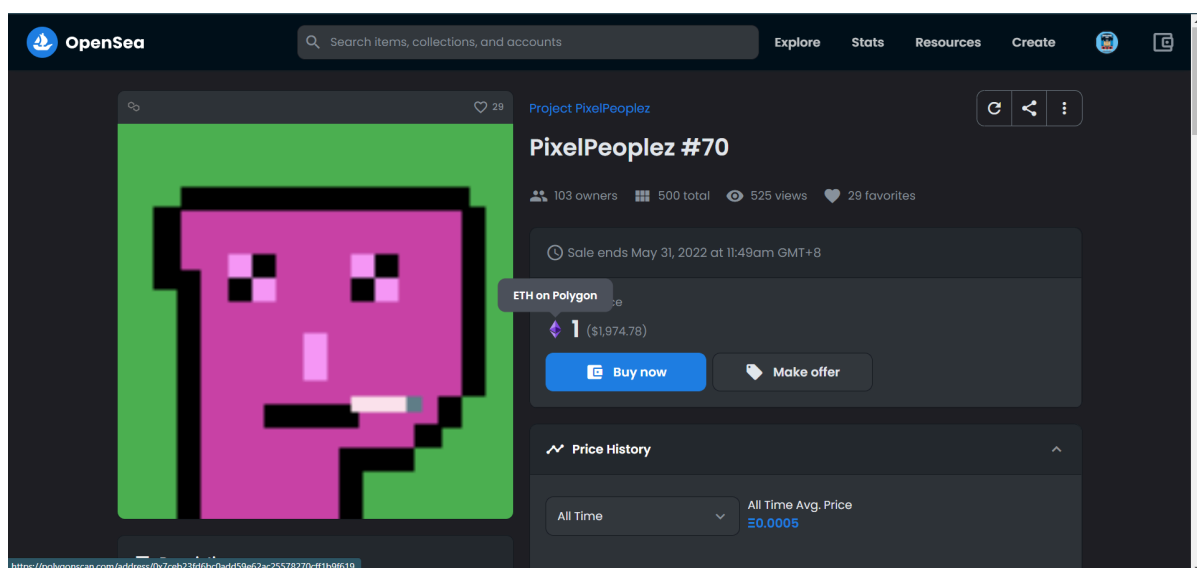


Figure 7: An example of an NFT listed for sale under the Polygon blockchain

After I had minted my first official NFT, I listed it for sale. You can sell multiple copies of the same NFT called semi-fungible tokens in Polygon. I have set a quantity of 10 and listed them for sale at 0.02 ETH each.

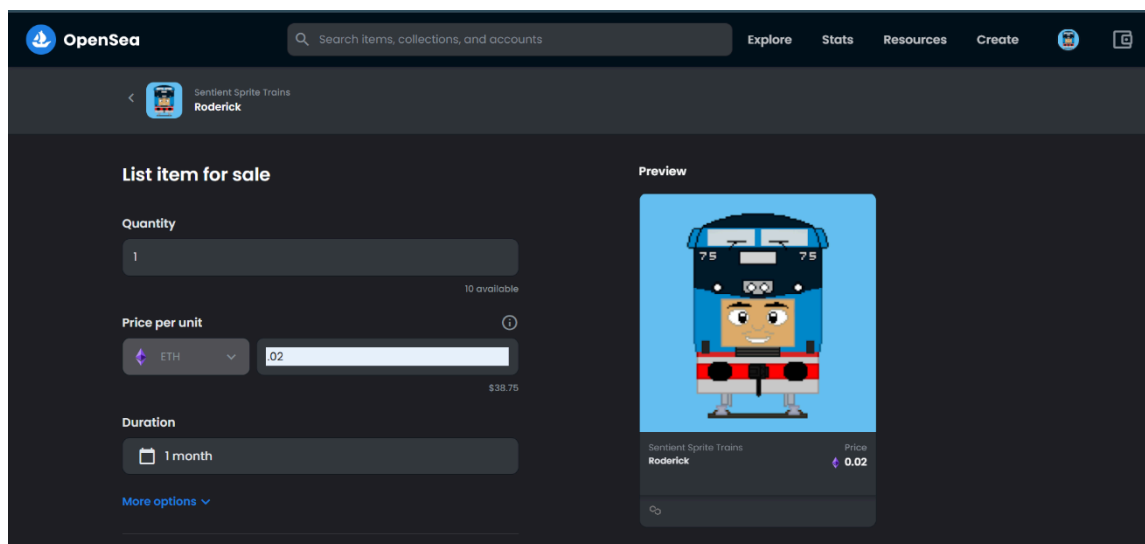


Figure 8: The UI of listing an item on OpenSea

Upon setting the quantity and price per unit, it was time to complete the listing. I was prompted by the message below, where I had to sign three parameters: selling functionality, currency, and sign message. The first two are only done once, while the sign message is done every time you make an item for sale.

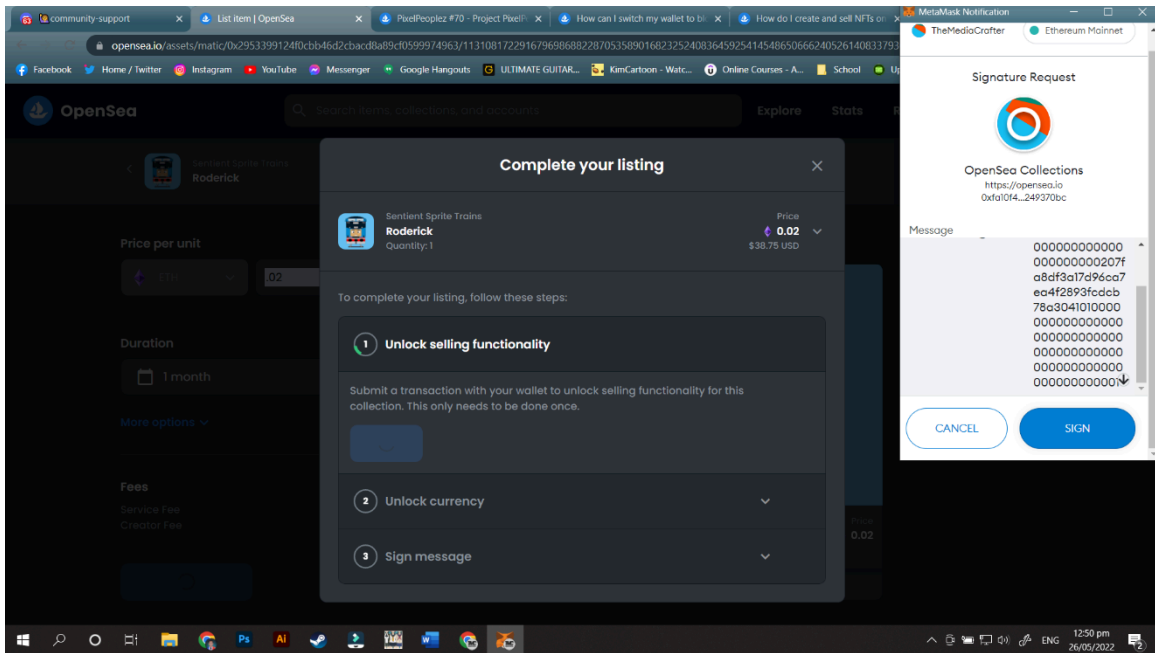


Figure 9: Completing the Listing

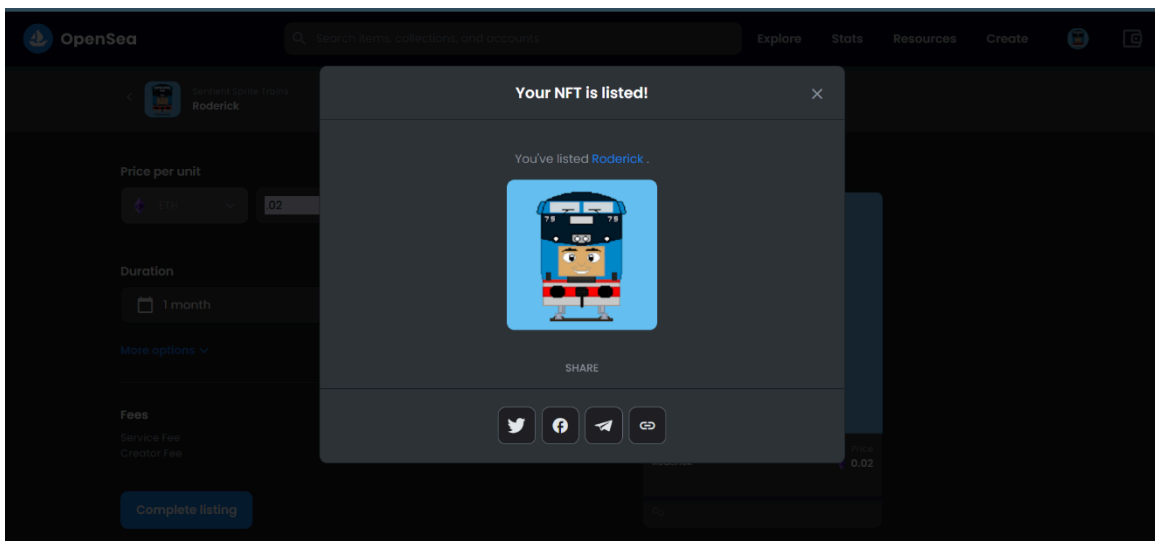


Figure 10: Listing Complete

With my listing up for sale, it was now time to mint the other NFTs in my collection. I minted three NFTs on OpenSea using Polygon. For this research, the first NFT had a quantity of 10, then the next NFTs were one of a kind.

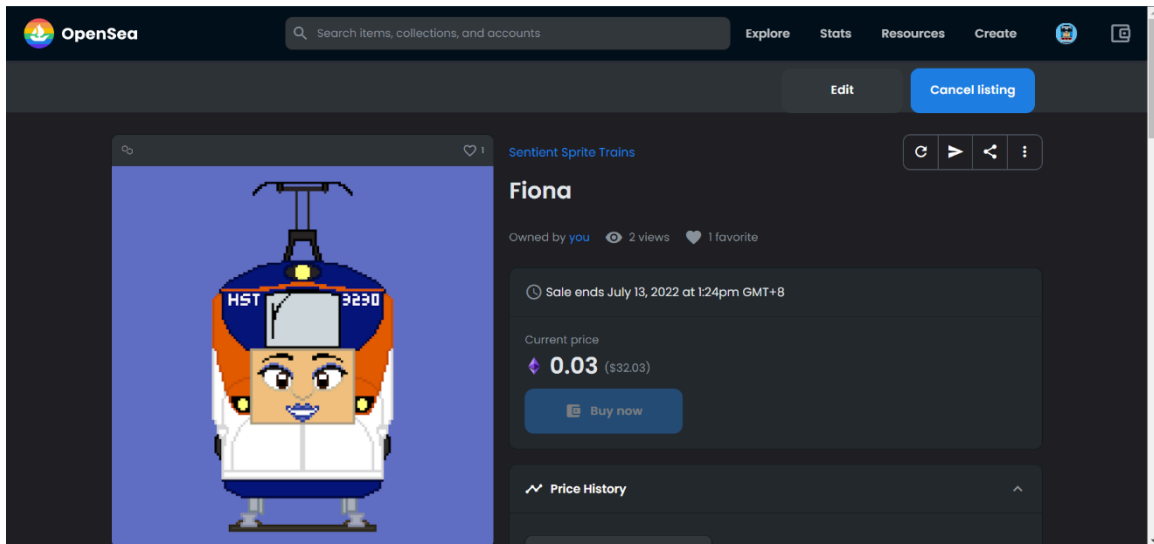


Figure 11: Second NFT for Sale

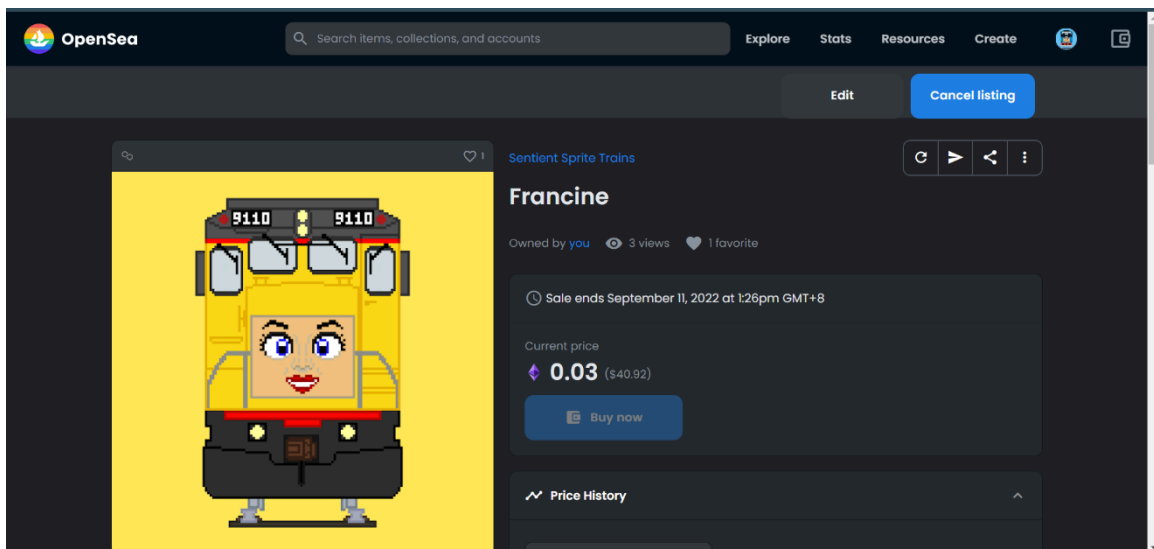


Figure 12: Third NFT for Sale

Promoting My NFT Digital Arts

I promoted my collection mainly through Discord, the site most popularly used by NFT enthusiasts. The NFT-related servers I joined have channels specially made for promoting collections. This is to prevent users from spamming messages of their collection. I introduced my collection to others and why it is worth checking out. I told a short story about my NFT collection. Other artists introduce their collections by

offering a reward or exclusive privileges. These are common in big collections with thousands of minted items and smaller ones with less than a hundred items.

I was trying to explore how to promote my NFTs using Instagram. However, people can easily copy them as image files and could claim them as their own. A possible solution to this would be placing a watermark but this is yet to materialize.

Ethereum Crash

The Ethereum crash, as well as with other cryptocurrencies, happened around mid-June of this year. According to an article by Gailey (2022), the value of ETH dropped below \$1100 from around \$3500 in March. This was attributed to surging inflation, rising interest rates, and the fears of a global recession. The crash of Ethereum also caused the value of NFTs on OpenSea and other marketplaces to drop, which in turn also dropped sales. NFT sales for June totaled just over \$1 billion, compared to the \$12.6 billion sales in January when it reached its peak. This is the worst in 12 months according to crypto research firm Chainalysis (as cited by Milmo, 2022).

The recent Ethereum crash validates how NFTs are vulnerable to cryptocurrency price volatility and economic downturns. The crash happened about a week after I had listed my items for sale. I was hoping that I could sell at least one of my NFTs during this research project. Unfortunately, I was unable to sell my NFTs even though I set them at a low price.

Issues and Challenges

Complicated process of listing and minting

To be able to enter the NFT marketplace, you need to become familiar with blockchain technology and cryptocurrency. Buying cryptocurrency to fund your crypto wallet is a very tedious process. In Binance's P2P trading platform, buying crypto has a time limit, usually around 15 minutes. That still depends on the mode of payment you have chosen. In my case where I use GCash as my primary mode of payment, I only have 15 minutes from the time I start the transaction up to the time the seller transfers the crypto asset to my wallet. You must also be familiar with how the Ethereum blockchain works which tends to be very complicated and also very unstable at the moment.

High gas fees and price volatility

High gas fees for first-time users are another barrier to entry in the NFT market, especially in the Ethereum blockchain. You must be willing to take the risk of investing a hefty sum of money just so you can post your first NFT for sale even if you are uncertain about whether you can easily make a sale or not. The fees often fluctuate because of the price volatility of the Ethereum token. There is no exact amount on how much you would have to spend on those fees. If you do not want gas fees, you can put your NFT on the Polygon blockchain.

Lack of information on other Ethereum-based blockchain

Not many in the general community know about Polygon as a blockchain technology that supports Ethereum. This causes people to doubt its credibility. It is

important to have trustworthy blockchain technology to make sure transactions are secured.

Stiff competition

Another issue is that NFTs, especially first-time sellers, do not sell quickly at all. According to some artists that I have talked to on Discord, it can take months or even years before your NFT gets its first sale even to those who have a large social media following. They also mentioned that NFT management is usually done by a small team of people and not a solo operation. This is the reason why many NFT artists prefer to do collaborations with other artists. The competition in selling NFT art is tight and since promoting collections is done through third-party social media sites, it is also unorganized. Without a good marketing strategy, even the best NFT art would not be able to catch the attention of potential viewers. Another source of competition would be celebrities like actors and well-known artists who enter into NFT and release their collection. As they already command an audience, it is very easy for them to launch their own NFTs.

Little support on blockchain platforms

The OpenSea website itself does not perform well all the time. Sometimes when I mint an item, it shows error messages or it takes a while before the item is reflected into the collection. While there is customer support to contact with, most of the time they do not answer quickly and it is quite frustrating when transactions do not go through as fast as they should. One reason could be that the site has a lot of traffic and could not handle the countless transactions.

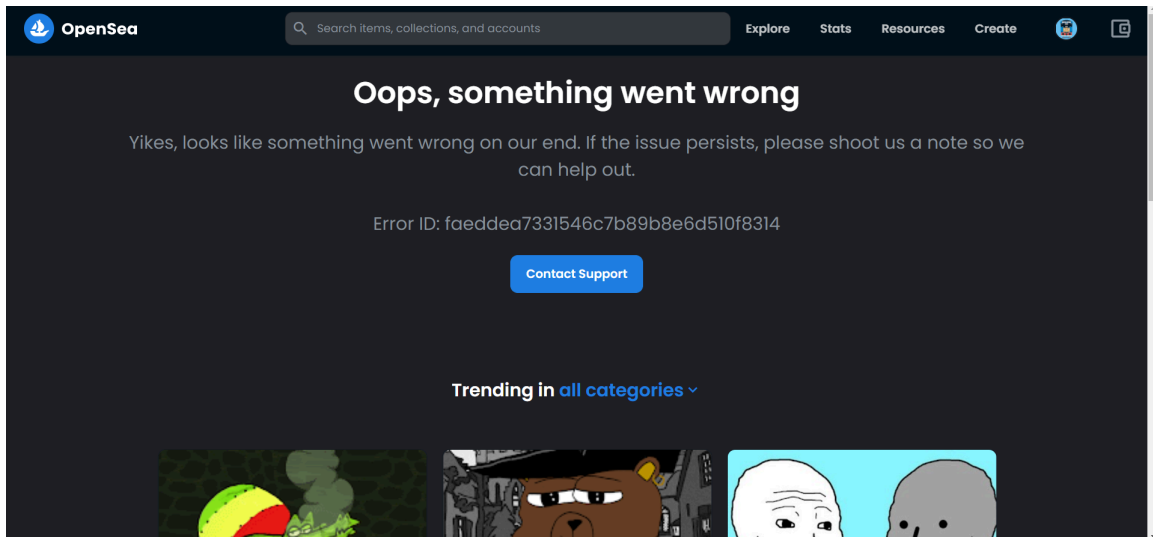


Figure 13: Error message in OpenSea just after I minted an item

Security and Privacy Issues

Because NFTs are digital assets, there will always be security issues that they will encounter. Transactions done in the Ethereum mainnet do not provide full anonymity and buyers or sellers could get scammed if they are not careful in securing their personal details online. There is also the issue of privacy, which is constantly being studied due to the rapid changes in the NFT ecosystem. Fraud is another issue, where fake sellers can sell fake NFTs to unsuspecting buyers.

Opportunities for NFT Digital Arts in the Future

There are certainly opportunities for creators of NFTs in the digital art space, some of which are listed below.

NFT art can level the playing field for artists

NFT artists, once they become popular in the NFT arena, can command the same level of respect and popularity as traditional artists. This results in higher asking prices and resale value for their works of art. NFT can also level the field for

people of color, for women, and for those who have a message to tell but are usually left out.

NFT art can help empower artists

Similar to the case with Nyla Hayes, NFT art has the potential to kickstart artists' careers. One viral piece of art or collection is all that it takes for someone in the upper echelons of the art world to take an interest in a startup artist and bring them under their wing. Artists can now find audiences on the internet without the help of art galleries and art curators.

NFT art can create more collaborations

The more collaborations artists have done with other artists, the more people would be curious about the NFT art space and would want to join in. Collaborations are also a great way to communicate with the NFT community and learn more about the trade secrets of creating a popular NFT art collection.

NFT art can be a good source of income

Consumers of NFTs are taking advantage of the convenient and secure way of buying NFTs, which is why they can pay exorbitant amounts of money even for the simplest of artworks. NFT art has been selling for millions of dollars though not all of them are worth millions. There will always be a buyer who would view your art and deem it worth paying a large sum of money. However, NFT art does not sell frequently. It usually takes time but the reward is enormous.

V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary and Conclusions

Non-fungible tokens have become revolutionary and disruptive in the art world, shaking the notion of what is considered to be art. However, it requires a lot of research about cryptocurrencies and blockchain technology to understand the full potential of NFTs. I would say that NFTs are still in their infancy stage and a lot of experimentation will be done before it truly soars.

Currently, the NFT creation process is still quite tedious. It requires a lot of steps especially when it comes to buying crypto needed for minting fees which still require two-factor authentication for extra security. I am hoping that as more artists discover and create NFTs, this tedious and often complicated process would be simplified and made more user-friendly. High gas fees are also a deterrent factor for NFT artists. The lower the gas fees, the more artists would be enticed to create and sell NFTs. In addition, NFT sales depend on the value of cryptocurrencies in the market. If Ethereum falls in value which happened this year, then NFT sales are also affected.

The extent of NFT art being a viable art medium for me is still very far. Getting into NFTs is a big challenge because it requires knowledge about cryptocurrencies and blockchain technology, not just how to make digital art. The process is quite tricky to learn if you are a complete newbie like me. The experience of interacting with fellow NFT artists and community members familiar with NFT makes it more interesting because they have first-hand experience with the process. Promoting an NFT art is also a challenge because competition is stiff and creating a

team to promote the collection on social media is quite expensive when you are just starting.

The risks associated with creating NFTs include having to invest in cryptocurrency to fund the wallet, paying gas fees on OpenSea which is expensive, security issues in the blockchain, and dealing with the volatility of crypto prices in the market. On the other hand, NFTs sales could give you a high return. Other benefits include possible collaborations with other artists and being exposed to a welcoming art community who are always eager to help those who are just starting out in the NFT space. From my experience, neither the risks nor the benefits outweigh one another.

Recommendations

NFT as a viable art medium must take into consideration not only the portfolio of an artist but the whole process of NFT creation. One must become familiar with cryptocurrency and blockchain because these are parts of the whole NFT space. A clear understanding of both the risks and rewards associated with entering the NFT space is a must.

Artists should create a story about their NFT collections: what is special about their art and why is it worth buying? Besides the digital art portfolio, artists should also build a good social media presence with a decent amount of followers. They should actively engage with fellow artists in the community, both in the non-NFT and NFT spaces. A collaboration with other artists can also increase the viability of being noticed and followed. However, all of these things mentioned cannot be done by the artists themselves. They should have a team to handle the marketing of art

collection, social media, etc. Whereas, as a digital artist you want to focus more on creating art and practicing your artistic skills. I believe NFTs are definitely here to stay and hopefully, in the future, their long-term viability will be more evident.

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