

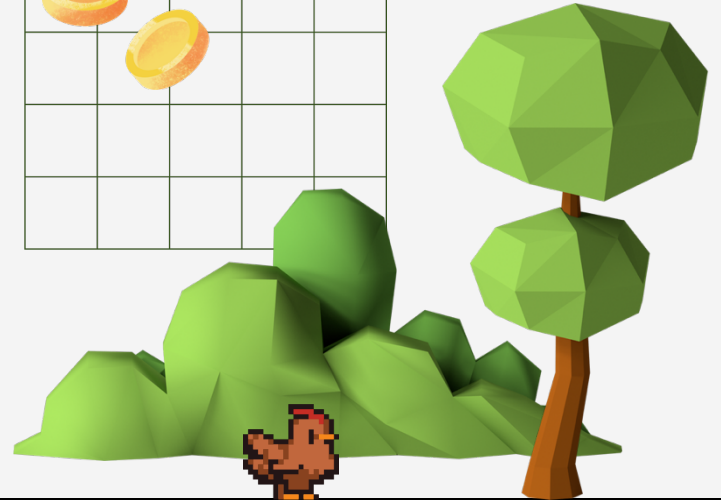
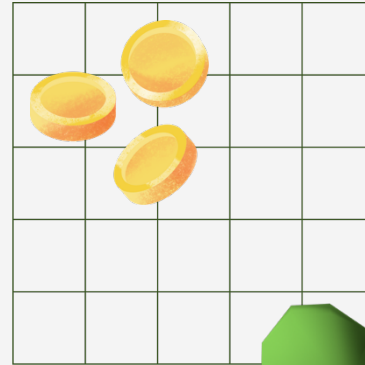


Blockchain Technology

Uncovering The Global NFT Market

Part 1

March 2022



Authors

First off, we would like to thank everyone who has supported our research journey that has led us to the production of our debut NFT report. As research analysts in this nascent space, we truly believe that NFTs, crypto and other blockchain revolutions will redefine our future.

We hope this report will be a trusted guide as you uncover the fast-moving, early days of the NFT revolution.

Connect with us, we would like to hear from you.



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Top crypto/NFT slang you should know

Address

Randomly generated set of numbers and letters that point to the location of a blockchain wallet and is used to send or receive digital assets.

Airdrop

Distributing digital assets like crypto and NFTs to holders of certain tokens or being an active participant on new or existing platforms or blockchains.

Anti-Money Laundering (AML)

A set of laws governing and preventing the transactions involving the conversion of illegally obtained money into legal income.

Blockchain

A decentralised and distributed ledger that records transactions in a chronological order that is verified by a network of computers.

Consensus

Any method or system that blockchain participants use to ensure distributed ledgers are cross-verified and in-sync.

Cryptocurrency

A type of digital currency secured by cryptography and is used in a peer-to-peer (P2P) fashion that enables anyone to send and receive payments anywhere in the world.

Decentralised Application (DApp)

Computer applications that run on a blockchain and is maintained by a network of computers on the internet.

Decentralised Autonomous Organization (DAO)

A governance system created by developers to automate and decentralise decision making via hard-coded rules.

Decentralised Finance (DeFi)

A virtual finance ecosystem that mirrors the physical environment but is built on blockchain DApps and cryptocurrencies.

Do Your Own Research (DYOR)

A popular slang to promote self-research of any crypto or NFT project rather than depending on advice from others.

Top crypto/NFT slang you should know

Fear of Missing Out (FOMO)

The feeling of fear and anxiousness due to losing out on potential profitable opportunities.

Fear, Uncertainty and Doubt (FUD)

A strategy or concept of spreading insecurity and negativity about certain opportunities among the users.

Fungibility

The interchangeability of an asset with other assets of the same type without a loss in value.

Gas

Payments made by users who are carrying out a transaction on the Ethereum blockchain.

HODL

A play on the word "hold" that means 'hold on for dear life' which describes the long-term ownership of assets.

Layer 2

A secondary solution and network built on top of an existing blockchain to improve the underlying efficiency.

Shill Bidding

Intentional fake bidding by a project owner on auctions to artificially inflate the final price and gain more attention.

Wash Trading

Fraudulent act of buying and selling assets between different accounts that are under the control of the same trader.

Whale

An individual investor who has large amounts of cryptocurrency and other assets enough to impact market prices.

Whitelist

The process of collecting trusted wallet addresses and providing early access to certain opportunities.



Pretext | NFTs, huh?

Before we start ...



Have you ever wondered what it means to **own digital files on the Internet?**

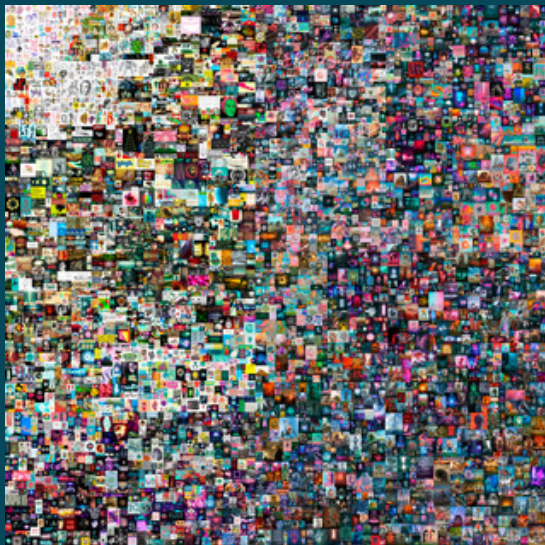
How is that even possible? Anyone can **“right click, save as”**, right?



Also, here's a small quiz
for you:

What is the world's most
expensive NFT sold to a
single individual?

The largest single NFT sale was worth **US\$ 69.35 million**



Everydays: the first 5000 Days NFT
by American digital artist, Beeple

is equivalent to



Appx. **55,488** shares*



Chapter 1 | Introduction to NFTs

NFT are non-fungible tokens ...

NFTs have many different definitions, according to different sources.

Essentially, they are blockchain-based tokens that use cryptography to store data such as text, images, and other files. These tokens have unique identifiers that allow the identification and designation of unique ownership of certain assets.

NFTs today most commonly represent digital assets or media files like pictures and videos on the Internet. These are intangible items that can be created, bought, sold, transferred or even destroyed.

All transactions and ownership records are documented on decentralised networks or blockchains such as [Ethereum](#) and [Solana](#).



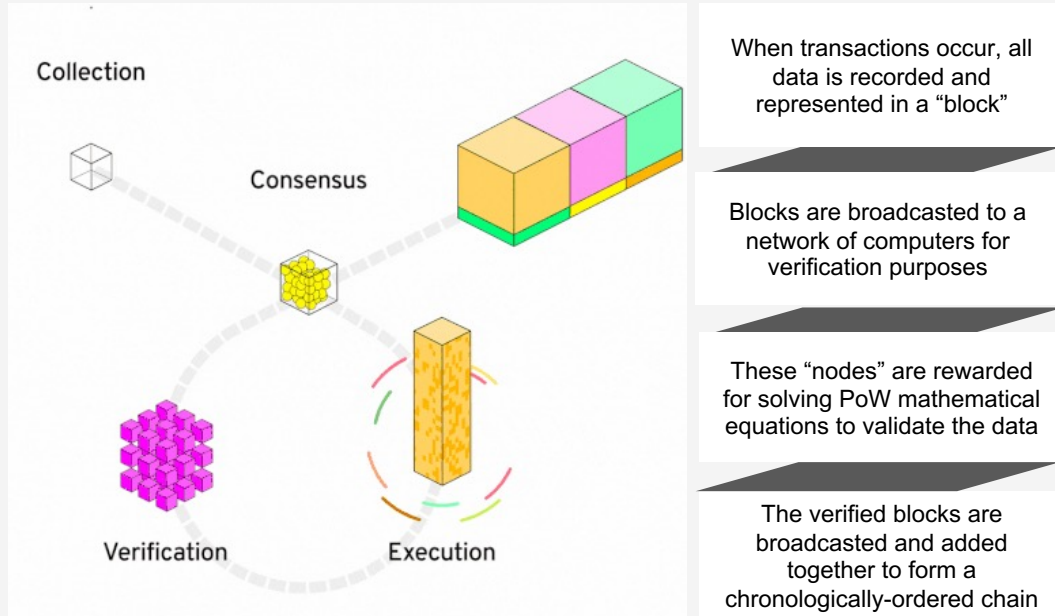
Twim-thoughts

With NFTs, users can now own digital assets. NFT holders gain exclusive rights to use, sell, and transfer ownership based on private key signatures and access to digital wallets.



... built on the **blockchain**, a distributed ledger technology

How does a blockchain work?



Features of blockchain



Decentralised and runs on a peer-to-peer network



Secured with cryptography and hashing



Transaction history is transparent and immutable

Are NFTs the same as cryptocurrencies?



Non-fungible tokens

Low

NFT Marketplaces

VS



Cryptocurrencies

High

Decentralised Exchanges

Fungibility
Programmability
Liquidity
Tradability

Yes, cryptocurrencies and NFTs use the same technology and tend to attract the same set of players. **However, the two digital assets have different characteristics.**

- Cryptocurrencies are fungible assets. This means that one unit is identical to another and can be exchanged without a loss in value (1\$ETH = 1\$ETH).
- An NFT is not interchangeable with another NFT at equivalency as they are unique and tied to specific properties and data. Hence, they cannot be replicated and interchanged.
- Both assets exist on a blockchain. Thus, NFTs can only be purchased with cryptocurrencies from the same blockchain or using a wrapped token for interoperability.

Think of NFTs as trading cards



Common



Uncommon or Rare



Ultra Rare

Each physical Pokémon trading card is unique because they each have different features: skill moves, editions, rarities, physical appearance and card condition.

Exchanging a common Pokémon card for an ultra rare card results in a loss of value since the latter is more sought after. This is because of its rarer features and scarcity.

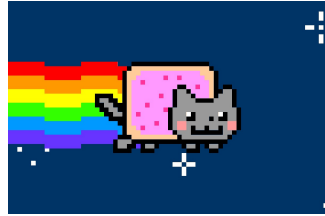
NFTs are digital representations of these trading cards stored on the blockchain. They allow us to differentiate a common card from an ultra rare card while ensuring authenticity.

NFTs exist in many different **formats**

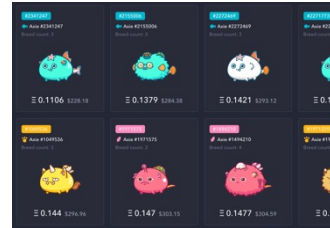
Any digital file or online content can be logged and “minted* on a blockchain. This process converts data into a unique token with trading and creation history, authorship details and ownership records. Here are a few examples:



Photos



Video & GIFs



Virtual Lands & Items



Others

Art and collectibles are the most popular NFT categories

Collectibles



Limited collection of digital items with different attributes, resulting in varying rarity and trait scarcity. Most popular for trading or flipping.

Metaverse



Virtual representations of real-life objects that have functionality and can be interacted with in the digital world. Tradable for value.

Gaming



Representation of cosmetics and functional in-game items and avatars that can be traded and enable Play-to-Earn (P2E) monetization models.

Art



Similar to physical art, these are digital versions of images, videos and music. There are supplementary physical items in addition to these digital art.

Sports



Collectibles, event tickets and rights to events and communities within the sporting realm. Similar to physical baseball trading cards.

Others



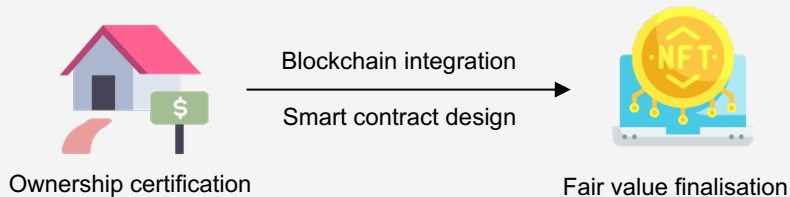
Digital assets with features that provide owners with rights on certain platforms. Could be domain names, de-fi collateral, governance tokens, insurance.

Debunking the myth: Can NFT exists in the real world?

NFTs can extend beyond the digital realm to represent physical assets such as real-estate, rare art pieces and used cars.

The process of tokenisation creates an NFT with strong ownership information and grants holders unique rights to the underlying asset. However, there are still uncertainties around linking ownership of the NFT to the title/contract of an asset.

Tokenising a real estate unit



What are the benefits of tokenisation?

Greater accessibility & liquidity

Better transparency & security

Enables fractional ownership



Case study



Propy is a Palo Alto-based proptech company, that helped TechCrunch founder, Michael Arrington auction his apartment in Kyiv as an NFT.

The property was recorded and held under a US LLC and the auction winner became the owner. The smart contracts contained proprietary-developed legal papers that will execute transfers of ownership to all future buyers of the NFT.

Debunking the myth: NFT is just another speculative asset class

With the headlines on millions of dollars in sales collectibles and traders making hugely profitable bets, it's easy to think that NFT users are only in it for the money (which is arguably true).

However, the potential capabilities of NFTs are endless. NFTs are programmable, and thus they can provide numerous options for utility beyond the proof of ownership. Consider some of the examples on how NFT goes beyond a speculative investment.

How Opportunists Snagged More than \$1 Million in NFTs For Mere Thousands

CryptoPunks Ethereum NFT Sells for Nearly \$24M, Doubling Previous Record



Bored Ape NFT sells for \$2.7 million, making it the most expensive in Yacht Club collection

PRABHJOTE GILL | OCT 20, 2021, 19:05 IST



Examples of NFT use-cases



Event tickets



Membership access



Financial collaterals



Authentication tool

The background is a vibrant, abstract digital composition. It features a grid of small, colorful squares in shades of blue, purple, and green. Overlaid on this grid are several 3D wireframe cubes and rectangular prisms, some of which are filled with a solid color like purple or blue. The overall effect is a sense of depth and digital complexity.

Chapter 2 | How do NFTs work?

NFTs are a new form technology with **unique capabilities**



Provenance

NFTs gives you the ability to track the ownership and the original creator of that content. A feature non-existent in today's current state of the Internet.



Digital ownership

With provenance, comes ownership. Unlike fungible digital files, NFTs create a unique file that specifies original creators and owners of a digital asset.



Digital scarcity

Since these digital contents can now have owners, NFTs brings scarcity to the Internet. With supply and demand dynamics, NFTs can accumulate value.

These capabilities reimagine the way people use and interact with internet



Uplifting creators with new monetisation opportunities

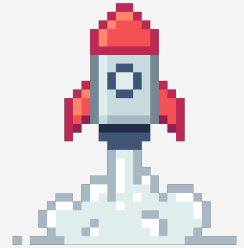


Kickstarting a trustless, token-based global economy

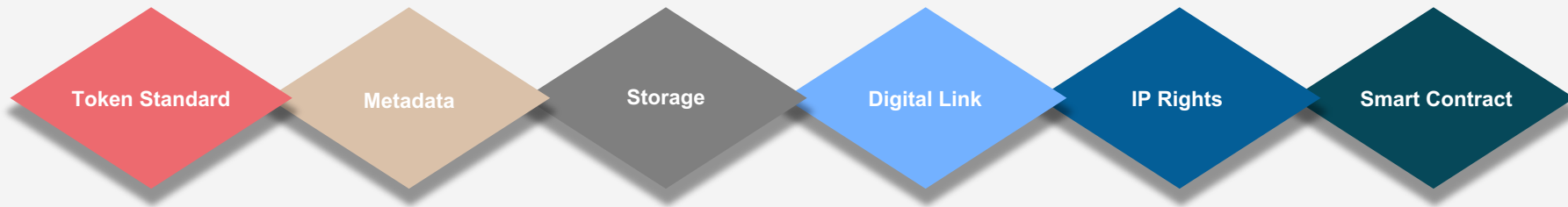


Enabling decentralised P2P transactions with minimal third-party involvement

Digital assets that are ownable and hold value enables an internet-native economy



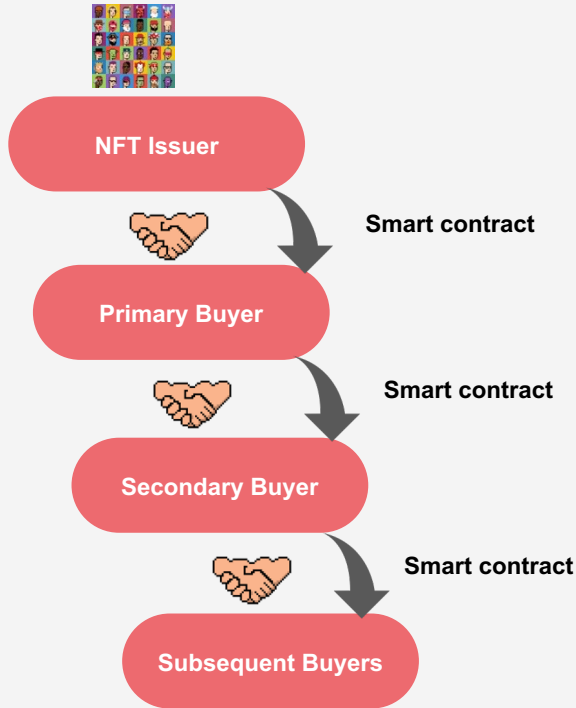
Made possible by the **NFT component stack**



<p>A set of rules for issuing uniquely identifiable tokens on a blockchain, like ERC-721 on Ethereum</p>	<p>A JSON doc with data that describes an NFT which lives outside the actual NFT and is located by a URI.</p>	<p>Software crypto wallets and cold hardware wallets provide access to underlying assets of the NFTs</p>	<p>NFTs often do not contain the image or video as storing digital data on blockchains is slow and inefficient</p>	<p>Clauses on IP rights such as copyright and ownership rights between creators and buyers</p>	<p>if/then and when statements written as codes that store data and executed upon meeting certain conditions</p>
<p>A standard interface for NFTs that provide basic functionality to track and transfer NFTs separately</p>	<p>Provides users with key information on the NFT such as names, descriptions, traits and links to hosted files</p>	<p>Users view and approve NFT transactions using crypto wallets protected by their seed phrases.</p>	<p>Acts as a mutable pointer to assets located off-chain (i.e. IPFS) and associates NFTs with URIs</p>	<p>Determines the authority of creators and buyers to use the underlying artwork within an NFT</p>	<p>Handles transfers, verifies ownership and authenticity whilst enabling the digital programmable aspect of an NFT</p>

 Description  Functionalities

Smart contracts are at the core of NFTs



What are smart contracts?

Computer programs stored on a blockchain that self-execute when predetermined conditions are met. These lines of code govern the transaction that occurs between the NFT creator and subsequent buyers.

Why is this important?

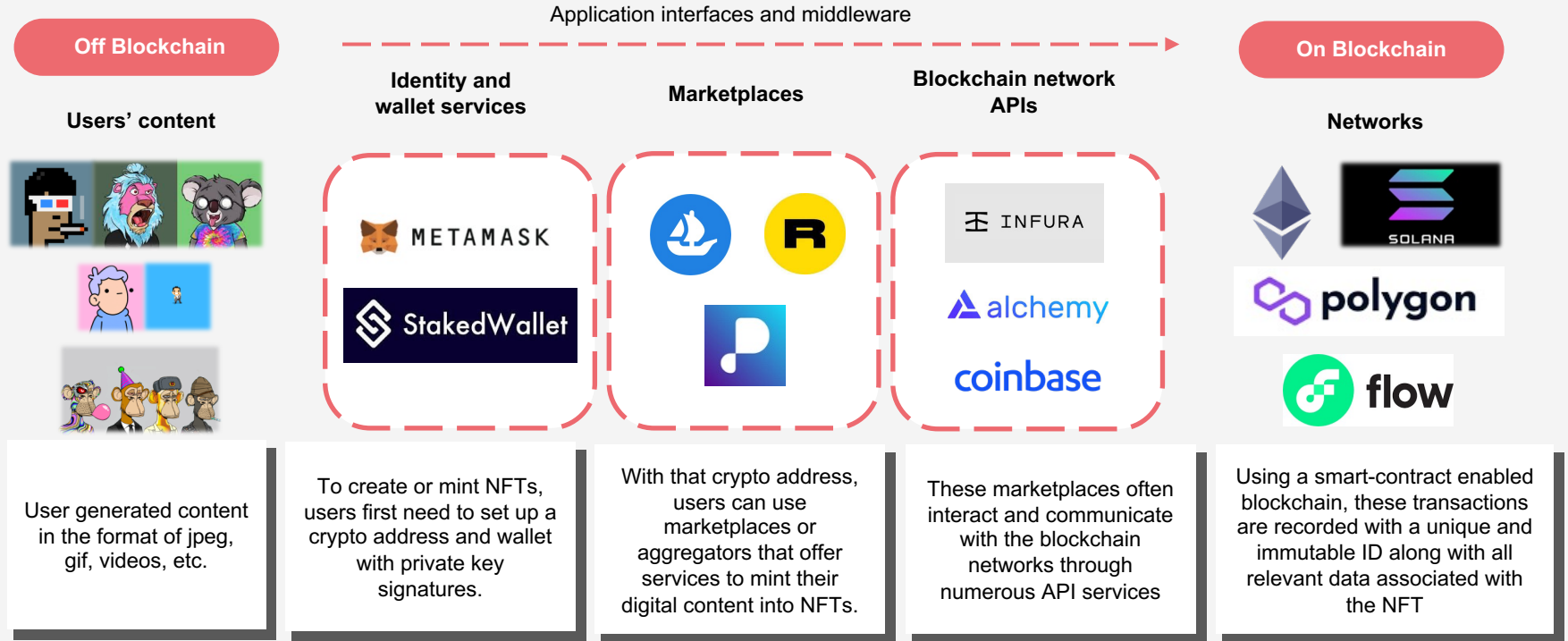
NFTs are essentially tokens. Smart contracts extend the use of these tokens by enabling the encoding of different functions into NFTs. This is where NFTs become **programmable and have some form of utility**.

For example, an NFT can act as a proof of membership that gives owners access to benefits that are only associated with owning a particular NFT.

Common examples of smart contract-based utility

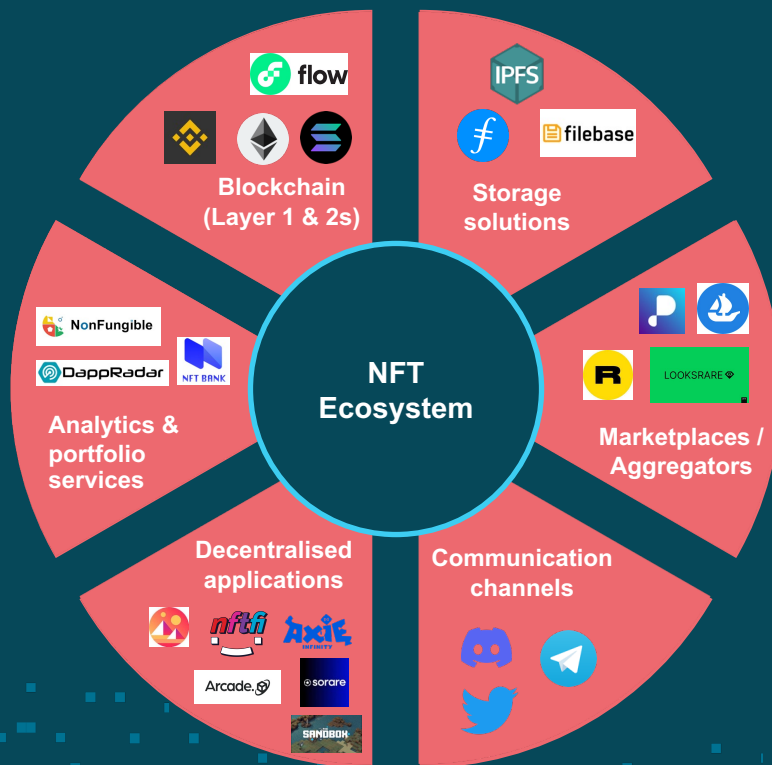
- Enables **collection of royalties** on each secondary sale and distributes them to all stakeholders involved in the creation.
- **Changing characteristics and properties** of NFTs depending on user's actions and information from real-world conditions.
- Used in **DAO governance** – social tokens that have voting rights
- Exclusive **merchandise and access to VIP events** for token holders.

Minting NFTs require various blockchain-based services

















An overview of the NFT ecosystem






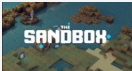



Core services facilitating the
ever-growing NFT community



Roles of the ecosystem components

Ecosystem component*	Major players	Roles within ecosystem
Blockchain (Layer 1 & 2s)	 <i>Ethereum</i>  <i>Flow</i>  <i>Solana</i>  <i>Binance</i>	The base underlying infrastructure of NFTs. These networks compete in terms of efficiency (TPS), scalability, security, developer experience, ease of contract deployment and other features.
Storage solutions	 <i>InterPlanetary File System</i>  <i>Filecoin</i>  <i>Filebase</i>	Solutions that provide alternative data storing methods due to the high costs of storing large amounts of data on the blockchain. They often utilise a decentralised storing solution to provide similar security features with the blockchain.
Marketplaces / Aggregators	 <i>OpenSea</i>  <i>Rarible</i>  <i>Pentastars</i>  <i>Looksrare</i>	Applications to view, trade, and create NFTs. Each marketplace differs depending on the community it wishes to serve. For example, SuperRare only serves the art community while OpenSea supports more than one category of NFTs.
Communication channels	 <i>Discord</i>  <i>Telegram</i>  <i>Twitter</i>	Marketing and community engagement plays a pivotal role in NFTs. These platforms act as the base for announcements on airdrops, whitelists, new projects, giveaways, etc.

Roles of the ecosystem components (cont.)

Ecosystem component*	Major players	Roles within ecosystem
Decentralised applications	Gaming   <i>Sorare</i> <i>Axie Infinity</i>	Apps that give you the option to use NFTs for digital gaming assets. In-game items are represented as an NFT. For example, player cards in Sorare are NFT-based, allowing players to resell them on marketplaces as collectibles.
	Decentralised finance   <i>NFTfi</i> <i>Arcade</i>	An intersection between NFTs and DeFi. Through these applications, NFT assets can be used to support financial transactions in markets such as real-estate purchases and act as collaterals in loan agreements.
	Virtual worlds   <i>Decentraland</i> <i>Sandbox</i>	An added interface use-case for NFTs. For example, these “worlds” allow user-generated assets and items to be used and traded across players. Virtual plots of land in these worlds are gaining significant popularity.
Analytics and portfolio services	   <i>NonFungible</i> <i>DappRadar</i> <i>NFT Bank</i>	Services that offer data tracking and portfolio management tools for NFT collectors. They collect blockchain data using block explorers and turn them into meaningful user information.

A 3D abstract scene featuring various geometric shapes on a circular blue platform. There are purple and blue pillars, a yellow spring, a blue vase, a purple cube, a white and blue sphere, and stacks of brown blocks. A large white crescent shape is visible in the upper left. A red rounded rectangle is overlaid in the center, containing the chapter title.

Chapter 3 | Market Development

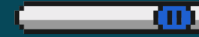
Key statistics of the global NFT market

\$40+ billion

NFT market cap value in 2021



2020



2021

\$250M

\$25B

+10,000%

Global NFT sales YoY growth

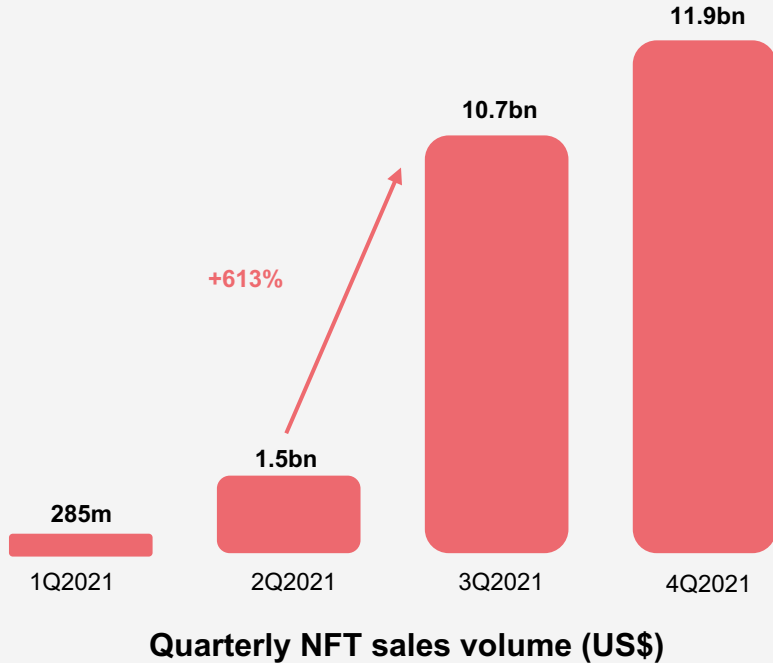
\$37M

\$4.8B

+12,878%

Global VC funding YoY growth

Total NFT sales grew by 613% from 1H2021 to 2H2021



Sales are dominated by the top 5 projects

(% of all-time total sales)



Axie Infinity

15%



Bored Ape Yacht Club

10%



CryptoPunks

8%



Art Blocks

5.5%



Sandbox

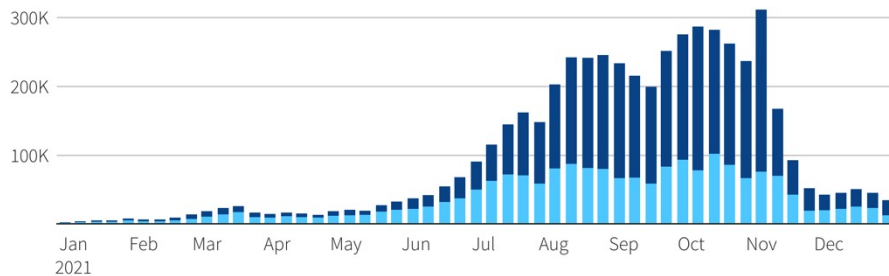
1.7%

NFTs are mainly driven by **secondary market** activity

Weekly NFT buyers - NonFungible.com

Number of wallets buying non-fungible tokens on the ethereum blockchain per week

● primary market ● secondary market



Note: Data only shows transactions on the ethereum blockchain and excludes "off-chain" sales. Figures for January to September have been revised higher than earlier estimates as NonFungible.com said it added more data sources.

Primary market



Secondary market

Digital assets that are issued for the first time. There is often a whitelist to give certain users early access to mint the NFTs.

Once assets are minted, users list and resell them on marketplaces. Has similar market behaviours to sneaker reselling.

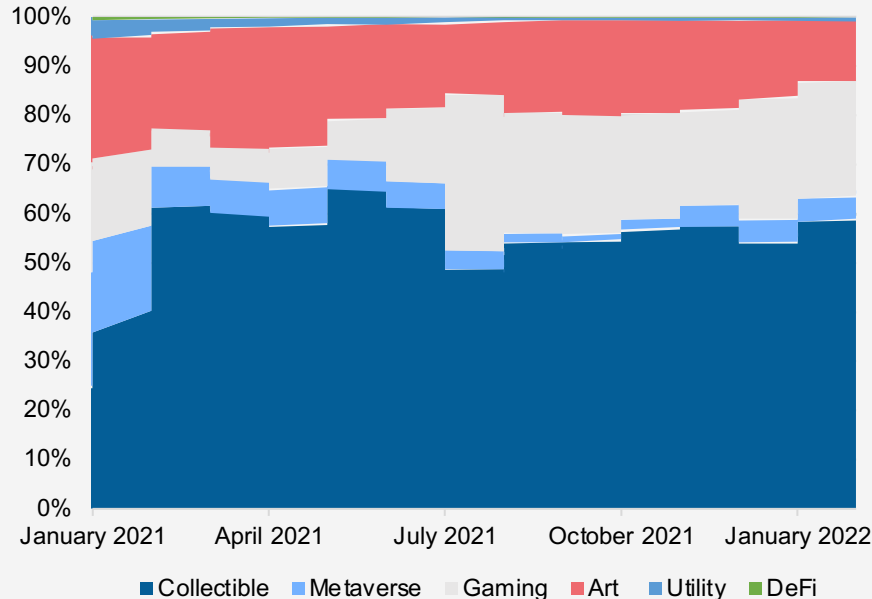
The NFT market is based on peer-to-peer activity and thus is heavily dependent on the secondary sales. Project creators benefit from every secondary sale as a royalty on each transaction is earned through the smart contract functions and marketplace protocols.

Higher volume of secondary market transactions over long periods typically mean a more mature and in-demand project. High resale prices only ever exists in secondary market activity as NFT prices are solely determined by how much a buyer is willing to pay.

Key secondary market metrics include floor price, average price, total volume traded, number of unique owners.

Collectibles surpass all other NFT activities in total sales

NFT Total Sales by segment
Jan 2021 – Jan 2022 (US\$)



Market Insights

The market is **heavily skewed towards collectibles** as they are the most popular use case for NFTs. The current market is driven by high-profile collectible projects such as BAYC and CryptoPunks. Expensive sales in this category have attracted the attention of retail traders and media outlets alike.

The varying levels of number of sales and USD traded indicates a **stark difference in the value of the NFTs between segments**.

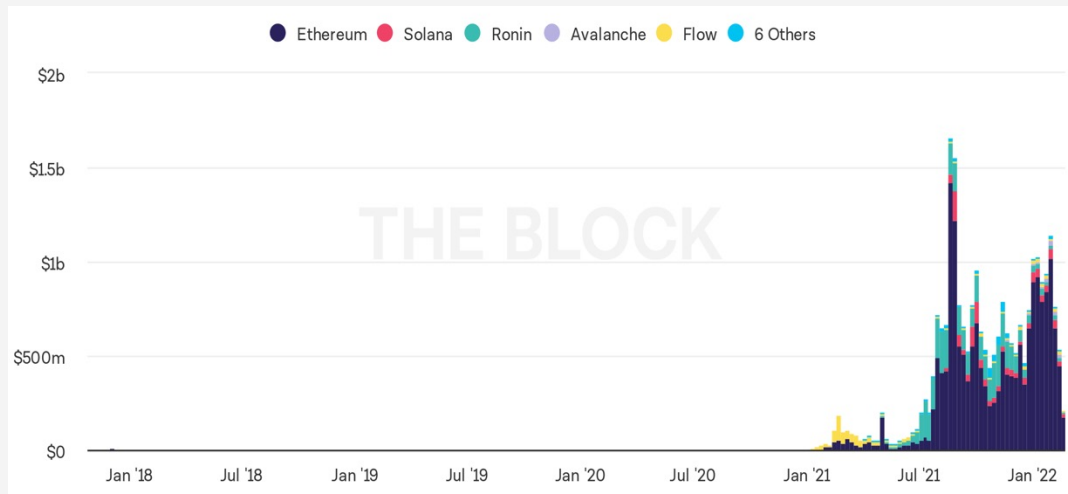
For example, the art market may gather significantly lower number of sales but may match the value of sales for metaverse items due to its higher average prices.

Indicators:

Volume – Account for the number of sales and total value exchanged between users. Influenced by the arrival or new players, whales, pre-sales.

Ethereum remains the superior blockchain for NFTs

NFT trade volume by chain (US\$)



Why is Ethereum the leading chain?

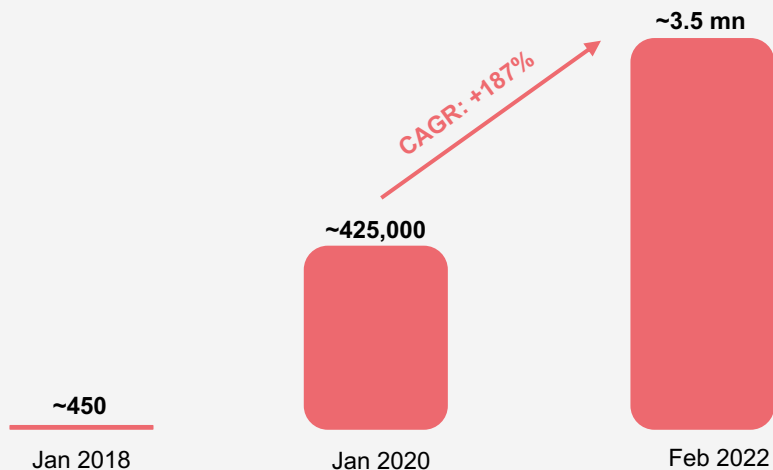
- Ethereum was the first blockchain, arguably after Bitcoin and its coloured coins, to support NFTs.
- The development of ERC-721 standard gave Ethereum the first-mover advantage.
- Additionally, DApps related to NFT (OpenSea, LooksRare) and De-fi (Uniswap, Curve) has contributed greatly to overall ecosystem growth. De-fi users can seamlessly purchase NFTs on Ethereum.

Who are the competitors?

- JP Morgan pointed out that Ethereum's NFT market share decreased from 95% to 80% in 2021; losing users to Solana due to high gas fees and frequent network congestions.
- Despite a high volume share, Ethereum holds only one third of total traders. Flow and Wax together have almost half of the total users in 2021 due to their cheaper transactions fees and ability to transact higher volumes efficiently.

Total NFT users have grown to over **3.5 million** in 2022

Cumulative number of unique wallets that have ever owned an NFT*



Top highlights

The NFT boom in April 2021 saw more than 60,000 new wallets interact with NFTs for the first time as global media coverage on NFTs started to skyrocket and capture public attention.

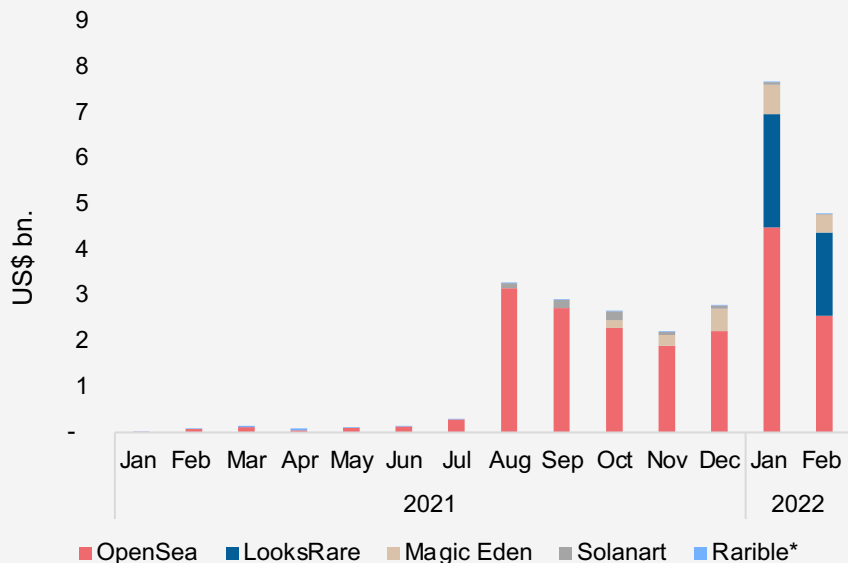
OpenSea has surpassed over one million active user wallets in January 2022, far outpacing the user base of competitors like LooksRare and Rarible.

Data shows that a significant proportion of new users became interested in NFTs at the beginning of 2021 and has remained active since with preliminary data showing a retention rate of 25% of new users.

The amount of new NFT users is also correlated to the positive performance of the cryptocurrency market as the public is increasingly risk seeking and looking out for more speculative investments.

OpenSea leads the **NFT marketplaces**, but for how long?

Top 5 NFT Marketplace Volume (US\$)



OpenSea is the largest NFT marketplace by market volume with over US\$ 20 billion traded since 2018. There are 3 key reasons:

First-mover advantage

Stable base of creators and users

Well-financed & significant cash inflow

The platform held majority NFT market share (~85%) in 2021 but has seen a decrease in recent months due to:

1. The recent launch of the highly anticipated user-centric marketplace, LooksRare in December 2021.
2. Poor platform experience and UI problems that led to stolen NFTs and slow customer support.
3. The banning of NFT projects that imitated blue chip, NFT projects that sparked major consumer backlash.
4. News of insider trading, phishing attempts in their name, front-running schemes, and IPO plans at OpenSea heightened safety concerns.

2021 saw an exponential growth in global VC funding

NFT Funding Volume (US\$)



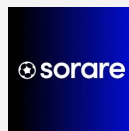
Leading valuations



\$13.3bn



\$5.0bn



\$4.3bn



\$3.0bn

Lead investors

- Paradigm
- Coatue Management
- Andreessen Horowitz

- Liberty City Ventures
- Sequoia Capital China
- Com2uS

- Softbank
- Accel and Headline
- Bessemer Ventures

- Andreessen Horowitz
- Accel and Paradigm

Behind the rampant growth of sales ... are whales



~85% of transactions

are performed by the **top 10%**
of NFT traders

What this says about the market?

1

The market is yet to reach the goal of 'democratization'. Despite the growing number of trade volume, they are heavily influenced by a small group of traders.

2

The next frontier for NFTs would be to ensure safe and secure onboarding of new users to drive mass adoption. The high prices of NFTs and costs to transact remain a key deterrent.

3

With upcoming regulatory developments, we can expect the NFT market to slow down to reflect the organic growth of NFT demand. The current market reflects an overly-speculative environment but is expected to shift as newer use cases hit the market.



Chapter 4 | Market Drivers & Challenges

Key drivers shaping the NFT market

Consumer



Shifting consumer behaviour
(speculative, risk-taking)



Increasing awareness and
education on the value of
NFTs

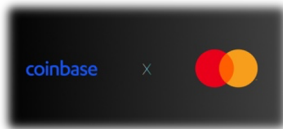


Performance of the
cryptocurrency market

Enterprise

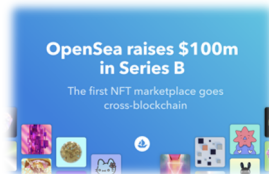


Growing adoption of enterprise
NFT use cases by large brands

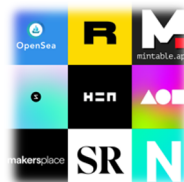


Partnerships with traditional
enterprises to simplify customer
onboarding

Institutions



Traditional and crypto-focused
VC fuels ecosystem development



Growing competition of
emerging NFT marketplaces

Technology

ERC721A

Improvements in smart contract
implementations



Developments of Layer 2
scaling solutions



Thriving efforts to build the
metaverse

NFTs are taking over prominent industries globally



Gaming



Art



Fashion



Real estate



Retail



Music

Gaming and art are two leading industries that catalyse NFT market growth.

NFTs enable the ownership of in-game items where users create real-world monetary value in a play-to-earn economy.

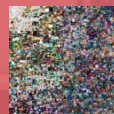
In the art world, NFTs act as authenticators and allow creators to monetize their digital content on a global scale.

Other industries with rising NFT use cases include fashion, real estate, music, events & ticketing, and supply chain.



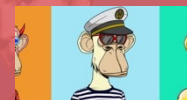
Headline milestones

Axie Infinity all time NFT sales surpassed \$4 billion and has 2.7mn players globally



Beeple's digital artwork sold for \$69 million, drawing attention from artists worldwide

High-profile celebrities like Justin Bieber, Eminem, Snoop Dogg buying a BAYC NFT



Retail giant Adidas launched an "Into the Metaverse" NFT collection

The NFT market faces several **challenges** to mass adoption



Education

- Lack of understanding of blockchain technology
- Informal and unreliable sources for information about NFTs



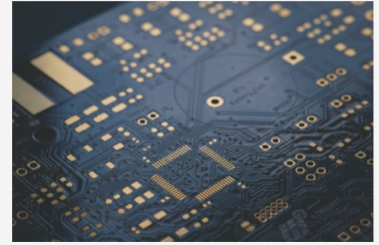
Talent

- Shortage of blockchain developers and NFT talents in the industry
- Nascent upskilling efforts from existing companies



Business

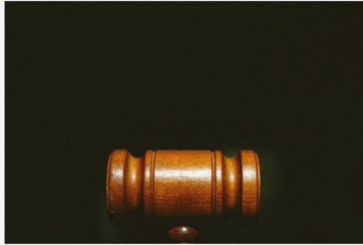
- Backlash from existing community or customers on the use of blockchain
- Exposing potentially sensitive company information



Maturity

- NFT use cases are under-developed across industries with success metrics still unclear
- Technology standards are still being developed

Underlying risks associated to NFT adoption



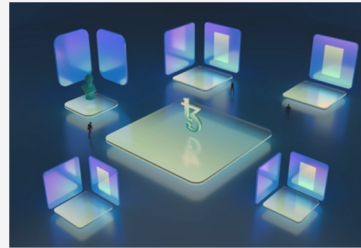
Regulation

- AML and Terrorism Financing concerns
- Unclear guidance around financial reporting
- Vague taxation policies
- Consumer protection responsibilities



Industry

- Intellectual property infringement
- Project originality & replication issues
- Lack of official standard for tokenisation of physical assets



Technology

- High volatility & speculative behaviour
- Insider & wash trading of NFTs
- Scams, fraud & shill bidding by malicious actors



Legal

- Smart Contract security vulnerability
- Dangers of hackers & exploits
- Malicious usage of bots
- Unsecured off-chain storage of NFTs

Sustainability remains a concern, but not for long

What fuels the global debates around the environmental impacts of NFTs?



The proof-of-work (PoW) consensus mechanism requires miners to solve complex mathematical puzzles (i.e. hashing functions). This process requires a huge amount of computing power and energy as compared to blockchains with less power-intensive consensus.



80% of NFT volumes are on the PoW-based Ethereum blockchain. A single transaction on Ethereum (i.e. minting an NFT) consumes roughly 30 kWh of energy and releases 33 – 48 kg of CO₂. This is equivalent to powering a household residence in the US for 1 day.



There is an inefficient transactions structure in the NFT space. A single transaction such as minting, bidding, listing multiple NFTs will contribute to incremental energy use and emissions. For example, minting an NFT on Ethereum can power a hair dryer for over 20 hours.



Innovative solutions that address sustainability concerns

Use of alternative Proof-of-Stake (PoS) based layer-1 blockchains (i.e. Tezos, Flow).

Ethereum will shift to a PoS system and reduce 99% of its environmental impact and energy use.

Layer-2 solutions will bundle and process transactions off-chain to reduce energy usage through economies of scale.

New smart contract standards aim to make blockchain transactions more energy efficient.

A photograph of a pizza shop at night. The shop has a red sign that says "SLICE" and a neon sign that says "FREE DELIVERY". A menu board is visible in the background with the name "MAMA'S PIZZA". In the foreground, there is a counter with a sign that says "WILSON" and another sign that says "We Support STATE EMPLOYEES STATE EMPLOYEES". A person is standing behind the counter. The image is overlaid with a large red rounded rectangle containing the text "Chapter 5 | twimbit Takeaways".

Chapter 5 | twimbit Takeaways

What can we expect from NFTs in
the NEAR-future?

NFTs in 2022

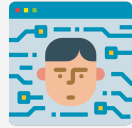


#1

Security will be the number one priority

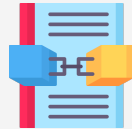
Despite the growing popularity, it's easy to dismiss how we're still in the early stages of the NFT market. Subsequently, we're studying the developments of a highly unregulated market which is only normal to attract bad actors into the scene.

However, the use cases and benefits are clear. The next step is to ensure users are provided adequate amount of safety and security when engaging with this technology. These three key areas are pivotal for the industry to move forward.



Identity

The biggest issue regarding identity in this market is there is a lack of KYC enforcement and authentication processes prior to minting or trading NFTs. This loophole introduces more opportunities for wash trading and plagiarized work.



Smart Contracts

Despite its efficiency, smart contracts remain vulnerable to developer risks. Malpractices or inadequate security protocols leave transactions open to attacks, ransomware, and spams.



Governance & Assurance

Currently, the NFT market depends heavily on a select few of centralised platforms like OpenSea. In the case of failures, users risk losing their valuable assets with no guarantee of any assurance. Most of these concerns come from the current solutions used for storing NFT's underlying assets.

#2 Enterprise adoption of NFTs will take off

NFT initially gained traction from primary retail applications such as tokenisation of digital art and digital assets. However, institutions have jumped on the bandwagon to implement and adopt NFTs in various formats. Current NFT strategies revolve around several core ideas:



Marketing & Fan Engagement

NBA Top Shots NFTs use a snapshot-based utility model to create unique brand experience. NFT holders receive invitations to exclusive NBA events such as the NBA Finals, NBA Draft; all for free.



Enhance Social and Brand Value

Corporate NFT issuance are often associated with supporting global social causes and charity donations to offset consumer backlash for the use of speculative and environmental-harming technology.



Establish New Digital Presence

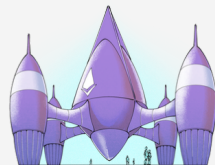
As consumer preference evolves, brands look to set up and extend their digital presence in the metaverse. This is where companies can create a virtual world and use NFTs to sell digitalised version of their products.

#3

The long-awaited arrival of a new Ethereum (formerly Eth2)

As majority of NFT activity happens on Ethereum, users are riddled with high gas fees, frequent network congestion issues resulting in poor experience. The network also faces high energy (processing power and electricity) usage and performance intensity.

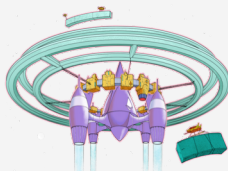
Thus, Ethereum developers are currently working overtime to roll out a series of network improvements that will improve scalability, security and sustainability.



The Beacon Chain

Live

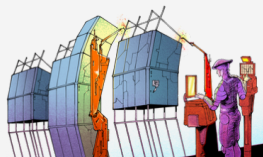
Introduces proof-of-stake (PoS) to Ethereum and a separate chain to manage an expanded network of shards and stakers in charge of securing the network.



The Merge

Est. 2022

Complete transition to PoS by joining the Ethereum Mainnet with the new Beacon Chain, thus making Ethereum more sustainable and eco-friendly.



Shard Chains

Est. 2023

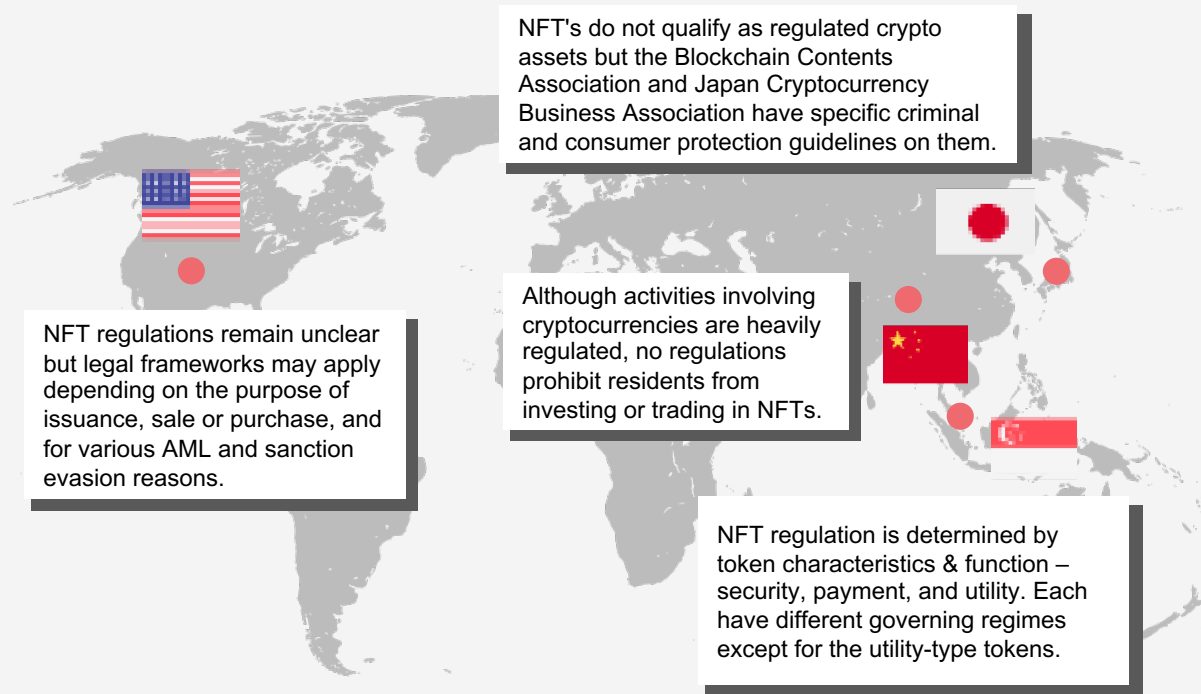
Break up the 'merged' network load horizontally by creating new chains to reduce network congestion, increase TPS, and encourage network participation.

#4

Global regulations will catch up ... eventually

While NFT issuance has grown significantly, legal and regulatory concerns have also mounted. Global authorities have made considerable progress with establishing guidance for cryptocurrency but treatments for NFTs remain unclear.

Although several markets have set out early jurisdictions to regulate crypto assets, including NFTs, below are highlights of these developments:





Web 1.0



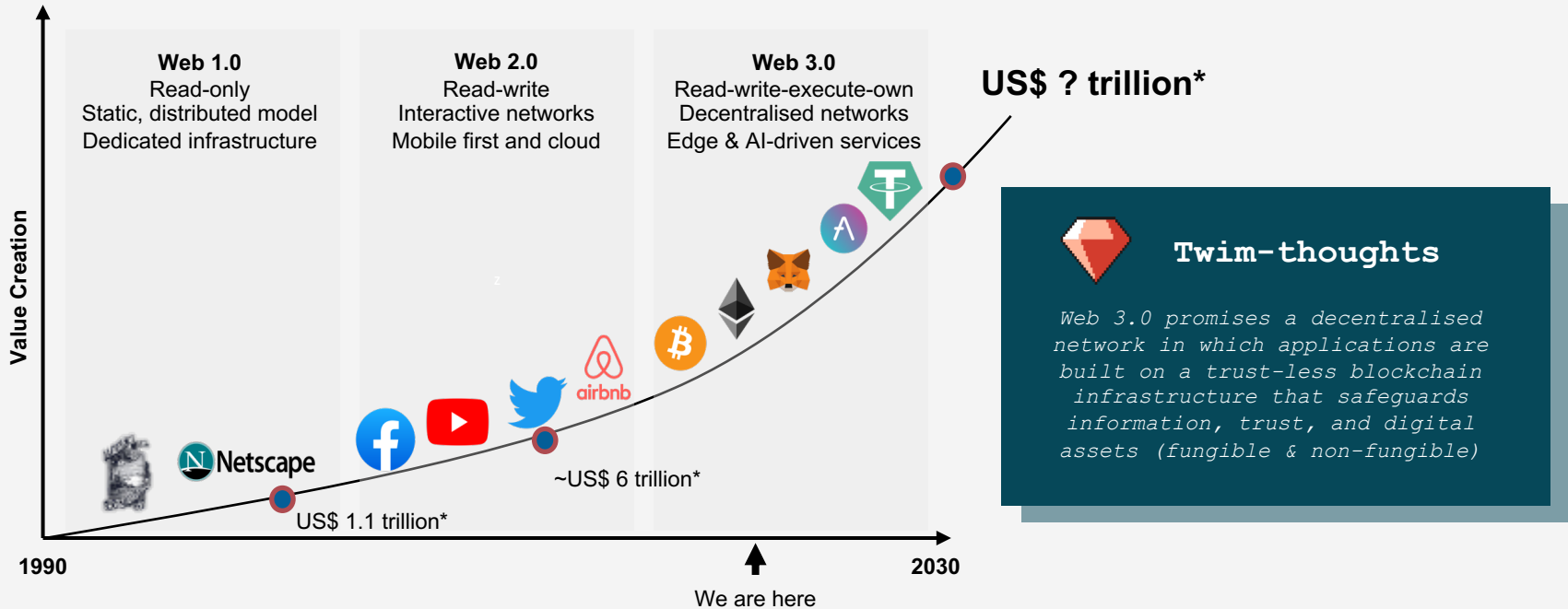
Web 2.0



Web 3.0

NFTs are part of a larger digital revolution taking place in Web 3.0

The new Internet will unlock greater **user utility** ...



Source: twimbit, Fabric Ventures

*Market cap of Internet-based companies in 2000, 2020 & 2030

... and NFTs will be the key to a **user-first future**

Non-fungible tokens have popularized tokenisation and is fuelling online democratization by stripping monopolistic power from Big Techs and giving Web 3.0 users more control over their interactions:

- The users' data, identity, and online activity are controlled solely by the users themselves, and not by centralised third-party platforms/databases.
- Fully-user-owned universal identifier to be used as single-sign-on across decentralised platforms.
- Democratised applications allows vested users to participate in the economics and support seed development of projects and creators.
- Tokenising digital assets and create new online economic models based on digital scarcity.
- Align and incentivise nascent token-holder communities to collaborate in a trustless governance system.

Enabling Web 3.0 concepts

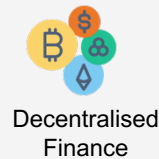
Tokenisation of unique digital assets

Implying digital scarcity and data sovereignty

Transfer and verification of proof-of-ownership

Fractional and mutual asset ownership

Creating trustless digital ecosystems and platforms



Decentralised Finance



Cryptocurrency



Smart Contract



Decentralised Storage



NFT



Metaverse



Blockchain



Congratulations!

Your NFT journey has only just begun!

The purpose of this report was to simply give readers a bite-sized overview of the NFT market and was never meant to be an exhaustive piece. With that said, we decided to put together a list of additional materials (by chapters) that we found useful in our research to guide readers, who are in search of more information, in the right direction.

We are also going to publish a series of articles that expand on the topics covered in this report. This will help us speak our minds better and provide you with much deeper insights.

Click on this [link](#) to access a Notion document containing the comprehensive list of resources (that will continuously be updated with your suggestions).



Help us, help you!

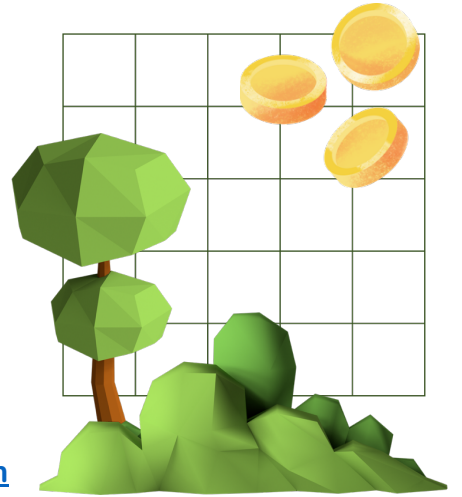
Thanks for giving this report a read. As much as we'd love to start writing our next piece, it would be great to hear your feedback and suggestions. This will help us better understand what matters to you. We will try our level best to take your inputs into consideration as we produce the next part our NFT series.



Scan this QR code to submit your honest feedback, anonymously.
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