

Overview of Non-Fungible Tokens (NFTs)

4Q 2020 - 2Q 2021



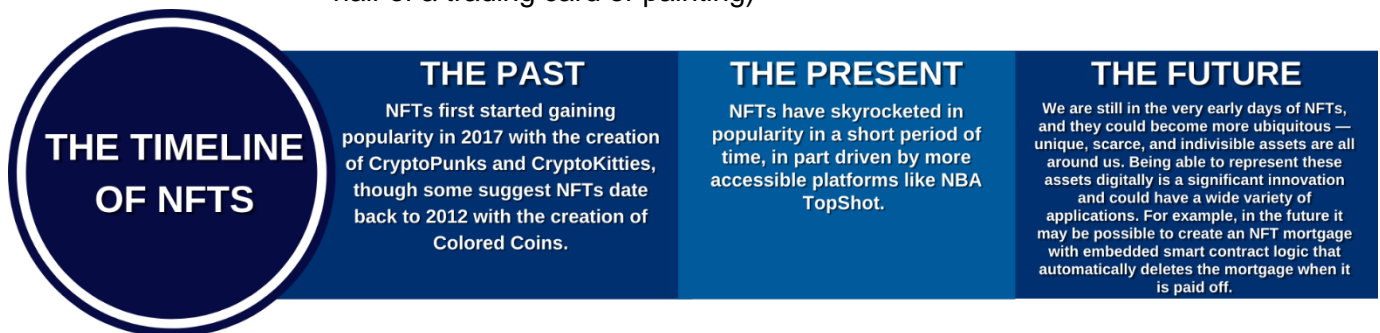
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Below is an overview of high-level headlines and public information on non-fungible tokens (NFTs) during the period 4Q20-2Q21. This is a space that has exploded in popularity in a short time, generating strong reactions, both positive and negative. The concept itself has existed for several years, initially gaining popularity during the CryptoKitties craze in 2017. However, its mainstream status is a recent phenomenon, propagated by adoption from artists, creators, and musicians. This overview will cover the basics of the recent rise of NFTs, notable NFT platforms, sales, purchases, and investments, environmental considerations, and regulation.

• The Basics

- NFTs [can be](#) many things – art, collectibles, video game items, music – that generally have three traits:
 - Unique – the NFT should carry immutable information that differentiates it from other assets
 - Scarce – there should be a set number of assets created
 - Indivisible – an NFT usually cannot be split into smaller units (you can't buy half of a trading card or painting)



• Notable NFT Platforms

- Dapper Labs
 - Dapper Labs created CryptoKitties in 2017; it was one of the first NFT-based games and its popularity led to a surge in transactions that [slowed down](#) the Ethereum network.
 - Dapper Labs, the National Basketball Association, and the NBA Players Association [agreed](#) in 2019 to create NBA Top Shot. [Created on the Flow Blockchain, Top Shot exploded in popularity in late 2020.](#)
- OpenSea
 - The Golden State Warriors, in April 2021, became the first U.S. professional sports team to [launch](#) an NFT collection, released on OpenSea.
- Sorare
 - Eleven teams in Series A – Italy's top soccer league – have [created](#) NFTs on Sorare.
- WAX
 - Topps [announced](#) in April 2021 that it will be creating Major League Baseball NFTs on the WAX blockchain, in partnership with the MLB and the MLB Players Association.



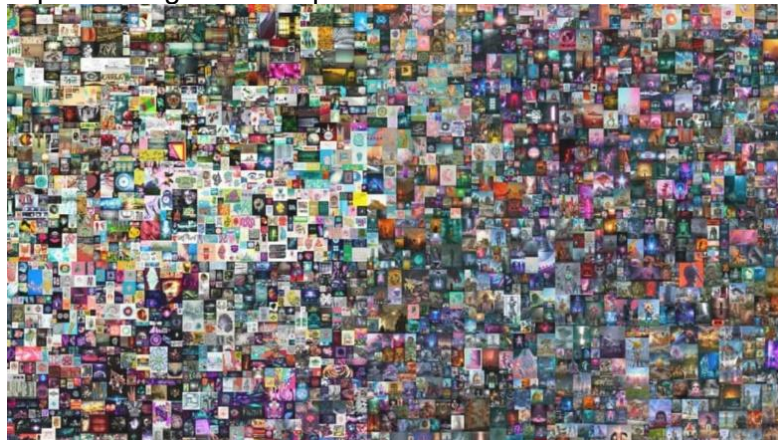
- Rarible
 - Rarible is a “a software allowing digital artists and creators to issue and sell custom crypto assets that represent ownership in their digital work. Of note, Rarible is both a marketplace for those assets, as well as a distributed network built on Ethereum that enables their trade without a middleman.”
- Shopify
 - Shopify has allowed eligible sellers to sell NFTs on its platform, with the NBA’s Chicago Bulls setting up the first NFT store.
 - A Shopify executive stated that the merchants “will eventually be able to choose which blockchain they’d like to sell on based on their products and customer base since Shopify supports multiple blockchains.”
- Christie’s
 - Christie’s sold a collection of nine CryptoPunks for \$16.9 million in May 2021.



Examples of CryptoPunks from [Christies.com](https://www.christies.com)

• Notable Sales and Purchases

- Beeple
 - Everyday: The First 5000 Days sold for \$69.3 million, after which Beeple said of NFTs: “I think it’s a bubble... If it’s not a bubble now, I do believe it probably will be a bubble at some point because there’s just so many people rushing into this space.”

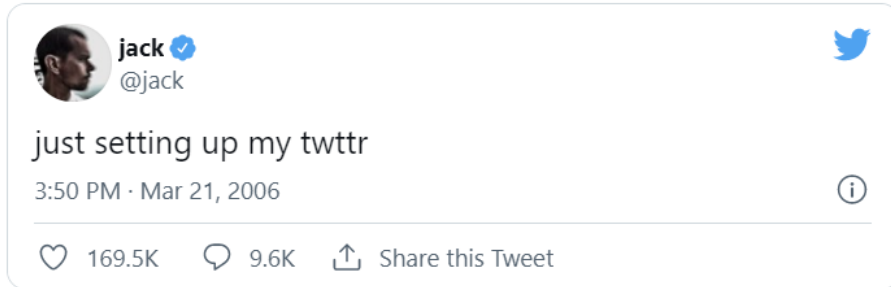


“The First 5000 Days” by Beeple (<https://www.beeple-crap.com/>)

- Justin Sun, founder of TRON, purchased “carbon neutral” art by Beeple, with proceeds donated to Open Earth.



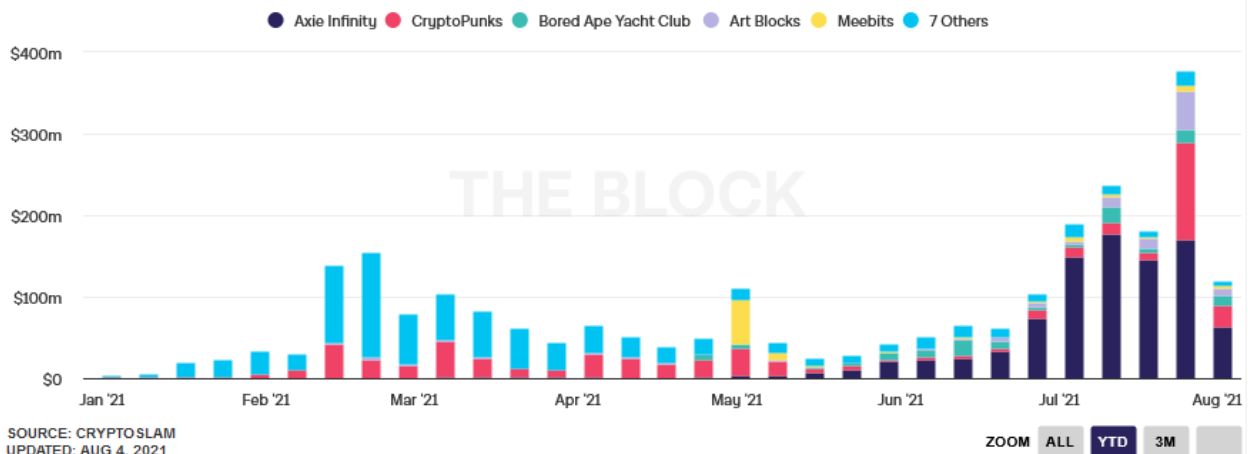
- Edward Snowden
 - Whistleblower Edward Snowden [sold](#) an NFT for \$5.44 million and promised to donate the money to the Freedom of the Press Foundation.
- Jack Dorsey
 - Jack Dorsey [sold](#) the first ever tweet for \$2.5 million on Valuables by Cent, with the proceeds donated to GiveDirectly Africa.



- State of the market
 - According to *Protos*, “NFTs [peaked](#) on May 3, when \$102 million worth were sold in a *single day*. The crypto-collectibles market made up \$100 million of those sales. But according to data analyzed by Protos, just \$19.4 million in NFT sales were processed [from May 26 to June 2].”
 - However, weekly trade volume of NFTs again surged in late July, led by Axie Infinity and CryptoPunks



Weekly Trade Volume of NFTs



[\(The Block\)](#)

● **Notable Investments**

- Dapper Labs
 - Dapper Labs is reportedly [raising](#) money at a \$7.5 billion valuation just weeks after raising \$305 million at a \$2.6 billion valuation.



- Kevin Durant and Michael Jordan [joined](#) the \$305 million funding round, led by Coatue.
- Bitski
 - Bitski [raised](#) \$19 million in a Series A led by Andreessen Horowitz, with Jay-Z and Serena Williams as additional investors.
 - “Bitski is aiming to allow mainstream brands and celebrities to bypass the crypto complexity of early marketplaces, hoping to give customers like early partner Adidas an on-ramp to the NFT world that’s more approachable to consumers who understand digital items but might not have fully bought into crypto.”
- Rarible
 - Rarible [closed](#) a “\$14.2 million Series A from Venrock Capital, CoinFund and 01 Advisors.”
- SoRare
 - Benchmark [led](#) a \$50 million Series A funding round.
- SuperRare
 - Mark Cuban, Chamath Palihapitiya, and Marc Benioff [joined](#) a \$9 million funding round led by Velvet Sea and 1confirmation.
- OpenSea
 - OpenSea [raised](#) \$23 million from Andreessen Horowitz, Mark Cuban, Alexis Ohanian, and others.
 - Four months later, OpenSea “[raised](#) \$100 million in a Series B round led by venture capital firm Andreessen Horowitz (a16z). The new funding values the company at \$1.5 billion... Participants in the round include talent and sports agency Creative Artists Agency (CAA), Michael Ovitz, Kevin Durant and Ashton Kutcher.”

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Interest over time ⓘ



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• Environmental Impact

- The quick rise of NFTs in the mainstream led many to express concern about the environmental impact of Ethereum, the blockchain on which many NFTs are created and traded.
 - Ethereum is currently a Proof-of-Work (POW) blockchain, which requires miners (computers) to solve complex mathematical problems – this is an energy intensive process. However, Ethereum is moving to a Proof-of-Stake (POS) consensus mechanism as early as this year.
 - Vitalik Buterin, one of the founders of Ethereum, has [stated](#) that the transition to POS will cut Ethereum’s energy usage more than a hundredfold.
 - Organizations have [estimated](#) that Ethereum currently consumes 58.49 TWh of electrical energy (comparable to the power consumption of Uzbekistan) and produces 27.78Mt of CO2 (comparable to Syria’s carbon footprint).
- Other popular blockchains for NFTs, such as Flow, use a POS consensus mechanism that requires significantly less energy.

• Regulation

- Given the recent popularity of NFTs, regulation or guidance in this space is extremely limited. They are generally considered to be property, similar to the treatment of virtual currencies in the U.S.
- Securities and Exchange Commission (SEC)
 - SEC Commissioner Hester Peirce [warned](#) that issuing baskets of NFTs or fractionalized NFTs could be considered the offering of a security: “You better be careful that you’re not creating something that’s an investment product — that is a security.”
- Thailand’s Securities and Exchange Commission [banned](#) the trading of NFTs in June 2021.

• Conclusion

- NFTs are an innovation that has existed for years, though it first exploded in popularity in late 2020 and early 2021.
- The most popular NFT applications are digitally native collectibles and artwork.
 - Significant investments are being made in NFT minting and trading platforms.
 - It is likely that future NFTs will be linked to real world assets, enabling a wide variety of efficiencies and previously impossible processes.
- The environmental impact of POW blockchains will remain a concern, though Ethereum’s likely transition to POS should mitigate some of these worries in the NFT space.
- Regulation in this space is extremely limited; it remains to be seen how governments, legislators, and regulators will respond.
- This space will continue to move quickly, and NFTs in areas such as gaming and metaverses will be something to watch.