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## Andrew Steinwold

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# The History of Non-Fungible Tokens (NFTs)

[Andrew Steinwold](#) Oct 7, 2019 · 9 min read

### What is a Non-Fungible Token (NFT)?

A non-fungible token is simply a unique digital asset. Assets like bitcoin are fungible, meaning that all bitcoins are the same and completely interchangeable. An example of a non-fungible token would be a piece of art. I can have two of the exact same pieces of digital art but each one is entirely unique. The example below shows two NFTs from the crypto-artist [Josie](#). Her two pieces, “Choose” edition #4 and “Choose” edition #5 might look the same but are entirely unique to the blockchain.

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(Source)

Now that we have explained what NFTs are, we can dive into the extensive history of these assets.

## 2012–2013: Colored Coins

One could argue that Colored Coins are the very first NFTs to exist. Colored Coins are made of small denominations of a bitcoin and can be as small as a single satoshi, the smallest unit of a bitcoin. Colored Coins can be used to represent a multitude of assets and have multiple use cases, including:

- Property
- Coupons
- Ability to issue your own cryptocurrency
- Issue shares of a company
- Subscriptions

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## Digital currencies

Colored Coins exemplified a huge leap in Bitcoin's capabilities, however, their downside was they could only represent certain values if everyone agrees on their worth. Bitcoin's scripting language was never meant to enable this type of behavior within its network, thus Colored Coins were only as powerful as their weakest participant. For example, 3 people agree that 100 Colored Coins represent 100 company shares. If even one participant decides they no longer equate Colored Coins to represent company shares, the entire system falls apart.

The earliest mention of Colored Coins appears to originate from a blog post in early 2012 by Yoni Assia, titled "[bitcoin 2.X \(aka Colored Bitcoin\) — initial specs.](#)" He discusses Colored Coins in his post, but not in reference to them representing various assets or use cases. Instead, he claims that since Colored Coins are bitcoins that were part of the "Genesis transaction," they are unique and identifiable from regular bitcoin transactions. The potential of these new assets seemingly was not explored until December 4, 2012, when [Meni Rosenfeld](#) published a paper titled, "[Overview of Colored Coins.](#)" A few months later in 2013, another paper was published titled, "[Colored Coins — BitcoinX.](#)" This paper was not only more in-depth than the first, but also had authors you might be familiar with; Yoni Assia, Vitalik Buterin, Lior Hakim, and Meni Rosenfeld.

Colored Coins' flaws are apparent; the system worked best in a permissioned environment which means in some instances it's better to simply use a database. Nonetheless, Colored Coins opened the door to further experimentation and laid much of the groundwork for NFTs. The immense potential of putting real-world assets onto distributed ledgers was clear, but implementation required a more malleable blockchain.

## 2014 — [Counterparty](#)

The creation of Colored Coins led many people to realize the massive potential for issuing assets onto blockchains. However, people also understood that Bitcoin itself, in its current iteration, was not meant to enable these added features. In 2014, Robert Dermody, Adam Krellenstein, and Evan Wagner founded [Counterparty](#): a peer-to-peer financial platform and distributed, open-source Internet protocol built on top of the Bitcoin blockchain. Counterparty allowed asset creation had a decentralized exchange

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## April 2015 — Spells of Genesis on Counterparty

The game creators of Spells of Genesis were not only pioneers for issuing in-game assets onto a blockchain via Counterparty, but they were also among the first to launch an ICO. So early, in fact, ICOs were then referred to as crowdfunding. Spells of Genesis funded development by launching a token called BitCrystals, which was used as the in-game currency.

## August 2016 — More Trading Cards on Counterparty

In August of 2016, Counterparty teamed up with popular trading card game, Force of Will, to launch their cards on the Counterparty platform. Force of Will was the 4th ranked card game by sales in North America; only behind Pokemon, Yu-Gi-Oh and Magic: The Gathering. This event was important because Force of Will was a large mainstream company that had no prior blockchain or cryptocurrency experience. Their entrance into the ecosystem signaled the value of putting such assets on a blockchain.

## October 2016 — Rare Pepes on Counterparty

It was only a matter of time before memes started to move to the blockchain. In October of 2016, people began to issue “rare pepes” on the Counterparty platform as assets. A rare pepe is a type of meme featuring this frog character.



[Source](#)

These memes have an intense fanbase. There is even a type of meme exchange called the Rare Pepe Meme Directory.

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Rare Pepe Directory  
Rare Pepes on the Bitcoin Blockchain.

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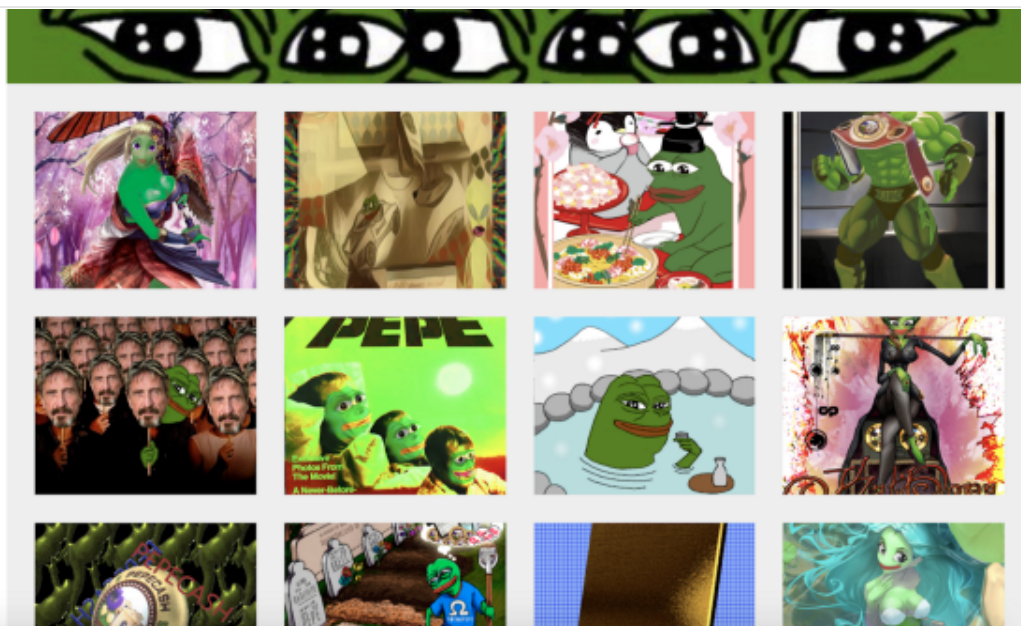
Series 15

Series 16

Series 17

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As if being on the Bitcoin blockchain isn't enough, the Rare Pepe Meme Directory has "experts" that certify the rareness of the pepe memes. Quirkiness aside, this example drives the point home that people want unique digital items.

Today, Counterparty has numerous projects built on its platform and many of them involve NFT-like assets. You can browse the various projects on Counterparty [here](#).

## March 2017 — Rare Pepes on Ethereum

With Ethereum gaining prominence in early 2017, memes started to be traded there as well. In March of 2017, a project by the name of Peperium was announced to be a "decentralized meme marketplace and trading card game (TCG) that allowed anyone to create memes that live eternally on IPFS and Ethereum." Similar to Counterparty, Peperium also had an associated token, with the ticker symbol of RARE, which was used for meme creation and paying listing fees.

## June 2017 — Cryptopunks

As the trading of rare pepes on Ethereum picked up, two "creative technologists" decided to create their own NFT project with a slight twist. John Watkinson and Matt Hall realized they could create unique characters generated on the Ethereum blockchain. Characters would be limited to 10,000 and no two characters would be the

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(Source)

Surprisingly, Watkinson and Hall opted to let anyone with an Ethereum wallet claim a Cryptopunk for free. All 10,000 Cryptopunks were swiftly claimed and started a thriving secondary marketplace where people bought and sold them. Interestingly enough, Cryptopunks do not follow the ERC721 standard, as it had not been invented yet, but they were also not entirely ERC20 due to its limitations. Thus Cryptopunks can best be described as an ERC721 and ERC20 hybrid.

## What is the Ethereum Token Standard (ERC)

The Ethereum blockchain has various technical standards for different types of tokens on its network to allow its interactions to work properly. The “ERC” stands for “Ethereum Request for Comment.” The most common standard is ERC20, which has rules that allow tokens to interact with each other in an expected manner. This standard framework is massively helpful for developers when they are creating tokens that need to interact with other tokens or applications on Ethereum. Although ERC20 tokens work well for many functions on Ethereum, they are not best for creating *unique* tokens. For this, ERC721 was invented. While similar to ERC20 in numerous ways, the ERC721 was purpose-built to be the technical standard for non-fungible tokens on the Ethereum blockchain. The main difference between the two standards is that ERC721 tracks ownership and movements of individual tokens in the block, which enables the chain to recognize the non-fungible tokens. The first project to use the new NFT technical standard was the famous CryptoKitties.

## October 2017 — CryptoKitties

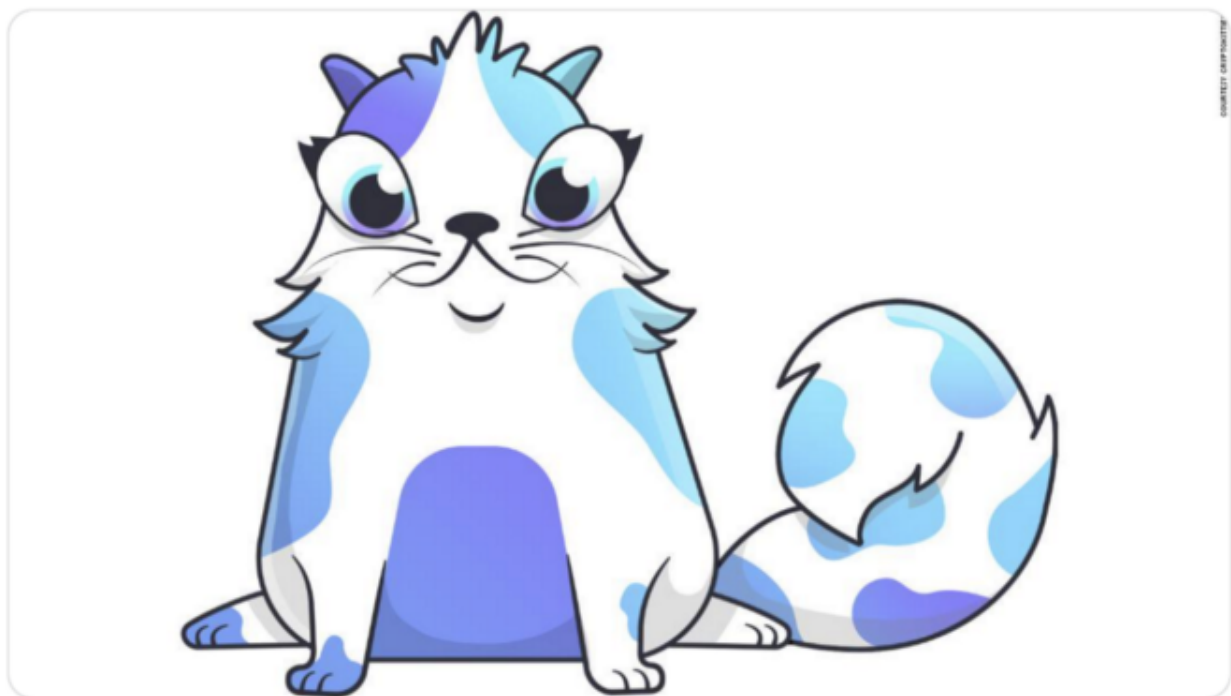


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This incredible project was seemingly on every news station, from CoinDesk to CNN. Perhaps it was because the game was clogging and slowing down the Ethereum blockchain or because people were making crazy profits trading them.

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Meet the CryptoKitties, a species of blockchain-based digital cat that you can now buy and trade with cryptocurrency  
[cnn.it/2FkrgCQ](https://cnn.it/2FkrgCQ) via [@CNNStyle](#)



9:51 AM - 6 Mar 2018

([Source](#))

Some virtual cats were even selling for over \$100,000.

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MARKETS

# Meet CryptoKitties, the \$100,000 digital beanie babies epitomizing the cryptocurrency mania

PUBLISHED WED, DEC 6 2017 • 12:42 PM EST | UPDATED WED, DEC 6 2017 • 5:30 PM EST

Evelyn Cheng  
@CHENGVELYNSHARE [f](#) [t](#) [in](#) [✉](#) [...](#)

## KEY POINTS

- Players have spent the equivalent of \$6.7 million and counting buying CryptoKitties, which can sell for as much as \$114,481.59, according to third-party research from developer Niel de la Rouviere.
- The ethereum-based kitten trading and breeding game clogged the digital currency's network this week, delaying at least one token sale and forcing CryptoKitties to raise its fees.
- "From a high level, abstract point of view, this stuff is almost digital artwork, if you will. It doesn't have any inherent value other than what you think it's worth," said Joey Krug, co-chief investment officer at Pantera Capital, one of the earliest investors in bitcoin.

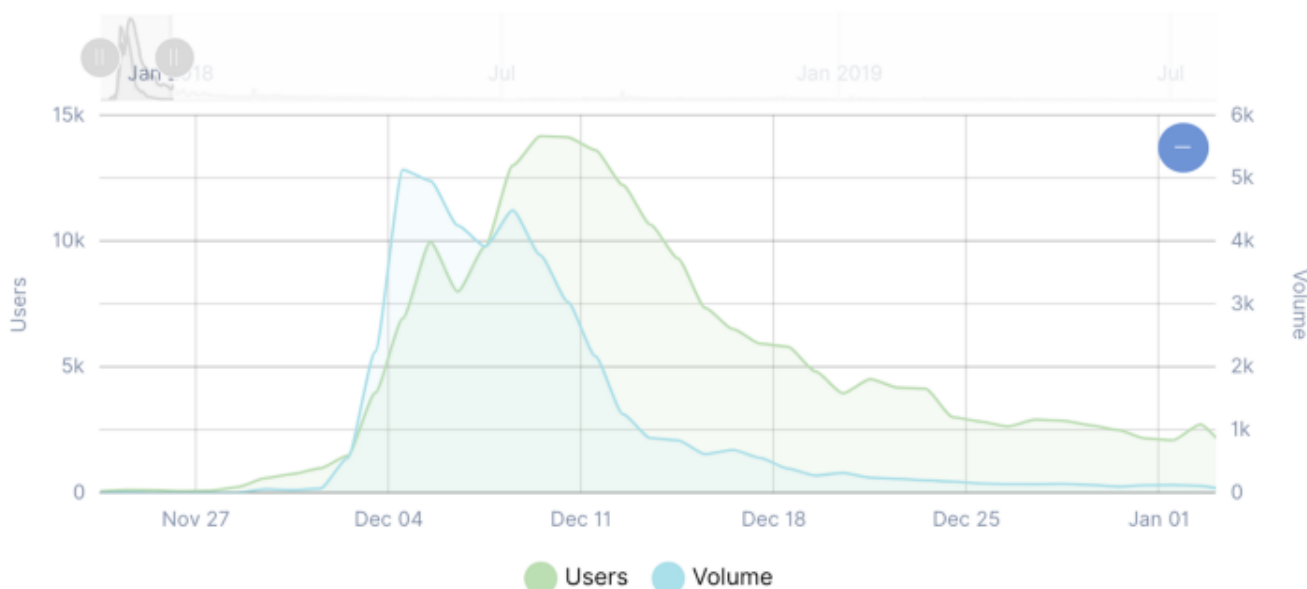
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How should the hunt for yield play out late in the economic cycle?

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CryptoKitties was launched in October 2017 in an ingenious manner by a Vancouver-based company called [Axiom Zen](#). The team had been working on the project for a few months when they released the alpha version during the ETH Waterloo Hackathon, the



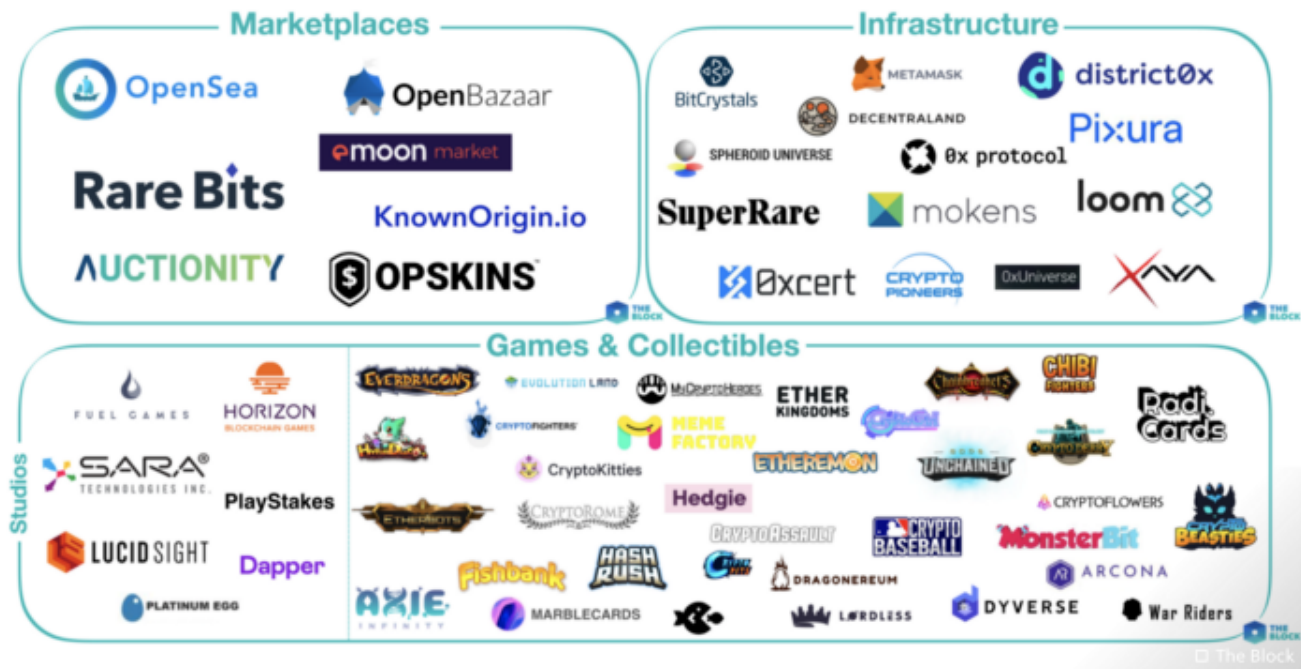
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team won first place in the hackathon and the game quickly went viral.

The rise of CryptoKitties coincided with the 2017 crypto bull market, which added more fuel to the fire. People were buying, breeding and trading virtual cats like crazy. This opened many people's eyes to the potential of non-fungible tokens. Axiom Zen then spun out a company called [Dapper Labs](#), which secured [\\$15 million dollars](#) in funding from top investors including [a16z](#) and [Google Ventures](#). After witnessing the activity within the CryptoKitties community and seeing top investors pour money into Dapper Labs, people began to realize the true power of NFTs.

## 2018–2019 — NFT Cambrian Explosion

2018 and 2019 have seen massive growth within the NFT ecosystem. There are now 100+ projects within the space and more in the works. NFT marketplaces are thriving, led by [OpenSea](#) and [SuperRare](#) gaining ground. The trade volumes are small in comparison to other crypto markets, but they are growing at a brisk pace and have come a long way. On-boarding into the NFT ecosystem has become easier as Web3 wallets, like [Metamask](#), continue to improve. Dapper Labs has also recently launched a [Dapper wallet](#) which requires no gas payments. Additionally, there are now websites such as [nonfungible.com](#) and [nftcryptonews.com](#) (shameless plug) which dive into NFT market metrics, gameplay guides and provide general information on the space. This graphic from [The Block](#) does a good job illustrating the current ecosystem.

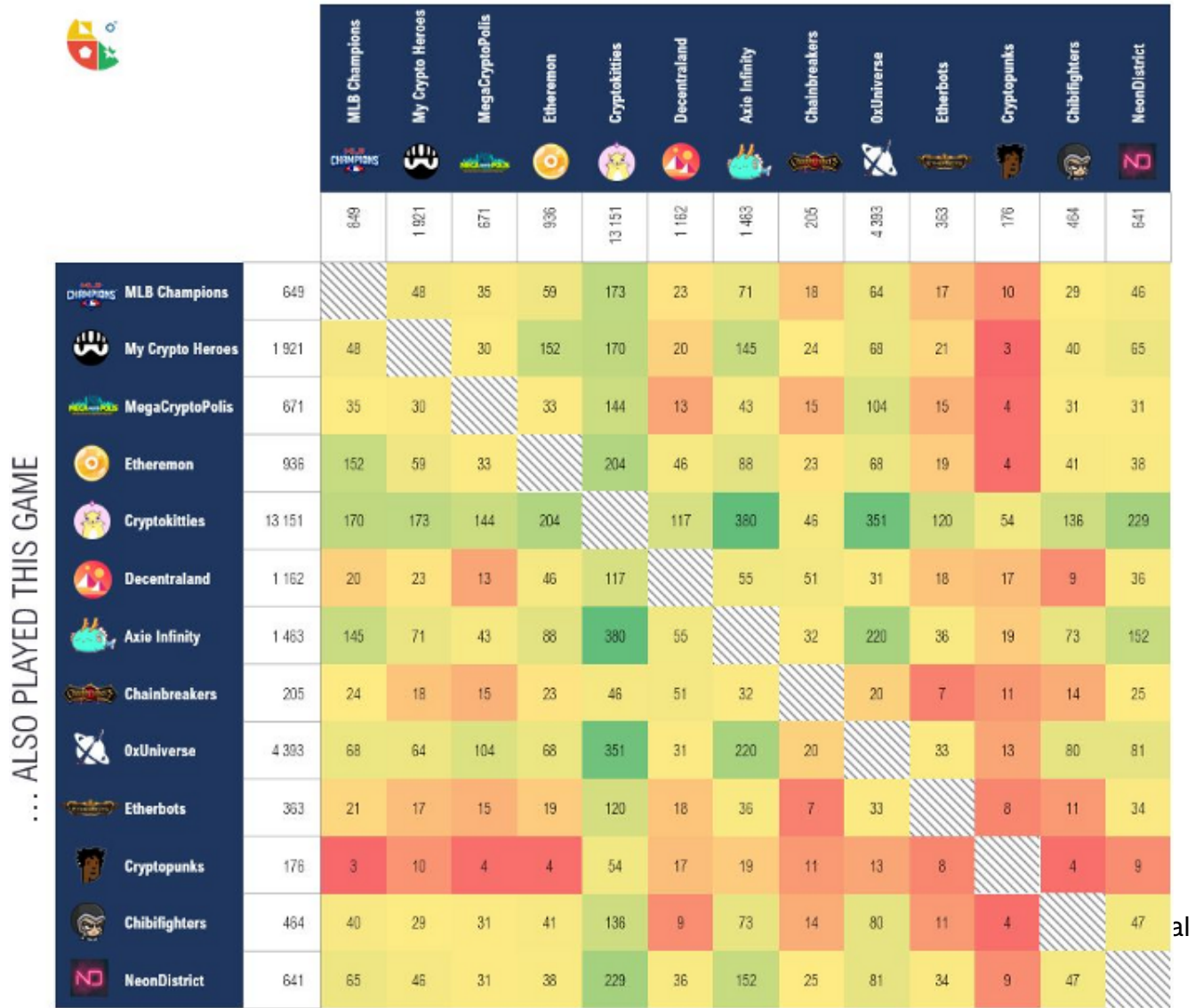
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Source

CryptoKitties blazed the NFT trail but they could not have done it without the prior projects that laid the groundwork by building unique digital assets. This interesting graphic released by [nonfungible.com](https://nonfungible.com) shows just how important CryptoKitties is to the current NFT ecosystem.

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This chart shows that people who own CryptoKitties tend to play other NFT games, while people who play other NFT games generally do not expand to play others. CryptoKitties acts as the perfect gateway into the world of NFTs.

CryptoKitties also may have experienced great growth due to the functionality of breeding different cats, which creates an entirely new cat or ERC721 token. There are now endless functionalities for NFTs, including character names (similar to domain names), plots of virtual land, virtual clothing, event entrance tickets, asteroid mining resources, and more. Perhaps the most exciting development within the space is the numerous NFT games and projects that are collaborating with each other to make items

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endless.

## Where To Next?

The history of non-fungibles is much longer than most people realize. The first attempts at NF were in the 2012–2013 Colored Coin era, but I believe now in 2019 we are still exceptionally early. Despite the massive growth we have experienced in the past two years, the space is still extremely young and growth will only continue. In fact, I believe the growth of the NFT ecosystem will accelerate as more people and companies realize the impact that NFTs can have and implement them more. Developers will continue to create innovative uses and interoperable items will be a complete game-changer. I suspect within five years the NFT space will look radically different than it is today, in which case I will have to write yet another update on the history of the ecosystem!



[Source](#)

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