[Ben Yu](#)

Oct 6, 2021
·
111 min read

NFTs 101 — Why NFTs are a generational innovation

In the past three weeks, I've spent over $600,000 on NFTs (update: now over $1 million, since in the course of writing this I convinced myself to spend [$400,000 on a CryptoPunk](#)). I fully plan on spending much, much more, and my wife and I have both quit our jobs to fully devote ourselves to building tools and resources for the NFT ecosystem.

This. I bought [this for $33,000](#). A few days later, it's [now worth over $48,000](#). I am insane, the world is insane, and over the course of the next 110 minutes, I will make you insane, too.

Why? In the course of the past month and change, I've become progressively more and more convinced that NFTs are one of the foundational technological revolutions of our generation — and once I actually started buying NFTs myself, this abstract conviction became visceral certainty.

I don't hype things up or go all in on things like this too frequently. The last time I seriously wrote a post on Medium was in 2017, with a piece called [Cryptocurrency 101](#) that explained in depth from the ground up what cryptocurrency was all about and why you should get in on it, and how I personally made $400,000 off $10,000 investing into Bitcoin and Ethereum. That article went surprisingly viral with a single Facebook post and became the most read piece of its length on Medium.

My earnings from cryptocurrency investments are now north of $7 million, and I'm more certain now than ever that they will continue to rise even more — on the order of 10–20x at least, in the next 5–10 years (with about a million caveats on multi-year bear markets in the interim time and many other pitfalls, of course. Don't uh, invest until you thoroughly read [Crypto 101](#) and/or otherwise do your research and fully understand the beast you're about to get into).

I’m now convinced that the returns can be far greater in NFTs than even cryptocurrency at large, and that these returns are, far from being baseless and rooted in mere greater-fool-theory hype and bubbly fadness, in fact extraordinarily justified for a few select investments.

I’ll explain my reasoning in long-form expository format below as I’ve found, as with Crypto 101, with a technology so new and paradigm shifting and prone to an immediate knee-jerk reaction of skepticism and scam tingly senses, just explaining the facts in a quick 5 minute summary is wholly insufficient to truly paint a perspective broadening picture of the landscape in its entirety to a not-yet-believer.

That said, I know not everyone is an unemployed degenerate like me who has all the time in the world to devote to studying NFTs, so **I’ve demarcated the major sections of this article so you can skip the parts that you’re not interested in**, or stop reading any section and move ahead once you get the point and don’t want to hear my 7 more hours of emphatic beating of the already dead horse.

Part 1 covers my own prior feelings on art and all other intangible goods to convince you I am truly the last person in the world who would become sold on NFTs.

Part 2 covers the technical and conceptual fundamentals behind NFTs and why they have value and addresses the predominant criticisms people have against NFTs.

Part 3 will discuss how NFTs make just about everything better, and align incentives for creators and collectors better than ever before.

Part 4 is a practical tutorial on how to start interacting with NFTs, beginning from the ground up with buying cryptocurrencies, setting up a wallet, and not-financial-advice advice on which NFTs to consider buying and where and why. This section also covers the flip side of how to get started creating NFTs and selling them.

Alright, let’s get started. This is a doozy.

Part 1: Art is Fundamentally Worthless, amirite?

The NFT art market (profile picture projects excluded) is in a bit of a lull right now, so I’ve been snapping up pieces left and right by truly astounding artists at near-criminal prices, and I fully intend to do this until the world finally wakes up to NFT art and I get priced out of the market.

If you’re at all a reasonable person who hasn’t been firmly entrenched in NFTs for the past year+, you probably think NFTs are at best a bubbly fad, and at worst a downright scam of truly monumental proportions. A few weeks ago, I would have agreed with you.

I bought this for $2,000, and now it's worth at least $46,000 a few weeks later. Like, I could buy a Tesla for the price of this pixelated toad, but I won't, because I value this toad more than I value a Tesla, and so should you, for reasons that may or may not remain unclear to both of us

In fact, I'm just about the last person who would possibly have ended up as an NFT art collector — up until a few weeks ago, I didn't even understand the concept of art at large at all.

For the entirety of my life, I've been a firm science, reason, technology and logic kind of guy — living my life entirely devoid of any appreciation whatsoever for the arts and humanities, all of which seemed like intrinsically useless endeavors that didn't in the slightest propel human progress forward at all unlike tangibly manifest scientific discoveries and technological inventions that give us things like refrigerators to preserve our food and microwaves to heat it up and magic ethereal internet beams that shoot through the sky and transmit millions of bytes of data a second so that I can write this article and beam it up into the internet for infinite numbers of people around the world to access and read for free in milliseconds.

That, I thought, was where true value was created, and the only bastion of real value. If something doesn't improve our quality of life in some tangibly meaningful way, it's just collective human hype, motivated by the dumbest things humans are motivated by — we value one piece of art for millions just because everyone else values it for millions, and another piece goes unnoticed for decades before being 'discovered' and lauded as the second coming of Jesus and suddenly an artist can transform seemingly overnight from being a nobody into being the greatest thing since sliced bread.

The fact that Van Gogh could have gone only selling at most a few paintings in his lifetime and been denigrated as a madman and a failure while alive to posthumously become one of the most universally known and lauded and commercially successful painters of all time seemed insane to me, and clear proof that there was no true rhyme or reason to the subjective valuation of art, and it was all essentially just overhyped bullshit. Microwaves and refrigerators and integrated circuits and transistors — the value in those things are self evident and cannot be denied. Art, on the other hand, is entirely an exercise in arbitrary mercurial human subjectivity.

And don't even get me started on 'modern' and 'abstract' art — at least the old masters had to have demonstrable skill to make their intricately complex yet still intrinsically worthless masterpieces. Now, metal balloon dogs and giant polka-dotted pumpkins are where the real money is at. A saturation of technical capability and an inability for the art market to support every technically masterful artist clearly has caused the industry to implode with a schizophrenic break from reality and entirely divorce value from technical merit. Now, the market is driven purely by cultural speculation and mania with absolutely no grounding in intrinsic value.

I thought for a while and I actually don't have a caption for this. It is worth $58.4 million, though.

This, of course, all the more so applies to NFTs, or so I thought. Wow — now we're paying digital artists who have been going decades making half assed daily art earning pennies all the while hundreds of millions? To see someone go from a rounding error of zero to centimillionaire in the course of a few months clearly is a symptom of some collective mania and cannot have reasonable grounding in fundamental merit.

Consequently, with these dismissive thoughts in mind, I ignored the NFT art market out of hand when things started blowing up late last year and early this year. Thankfully, I wasn't fully against NFTs at large, however, and had in fact been a collector since 2017, back when I was running a blockchain company working to better reward content creators.

Okay, art is dumb, but digital assets in games make a little sense

I grew up playing games of all kinds, digital and physical, like a proper degenerate, and here, at least, I could see real value in a digital analog to the physical world. Take Magic the Gathering or Pokemon trading cards versus Hearthstone, for instance.

In the former, played with physical cards, cards had tangible value made manifest by their inherent scarcity. Certain cards were highly valuable for winning the game, and thus commanded premiums on secondary markets, and users could trade cards freely between one another and create an effective economy for cards. All of this made sense to me, because I had played these games and knew firsthand how desirable it was to own the best cards in the game and how rewarding it felt to crush your enemies and hear the lamentations of their weaker creatures as they were driven before you.

And so I could understand how deeply unfair it was that in digital trading card games, such as Hearthstone, which is essentially Magic the Gathering but a video game, users would pay hundreds of millions of dollars for cards but get absolutely nothing of tangible value in return. As Hearthstone, the game, owns all assets in their proprietary and centralized database, they can strictly disallow any trading of anything any user has bought so that they can maximize profit for themselves and force everyone to buy through them.

When you eventually inevitably get tired of the game and leave it, too — all that money you paid is essentially tossed down the drain. With a physical trading card game, you can at least sell all your cards once you leave your hobby behind and in a neutral case scenario break even, and in a best case scenario possibly even break a hefty profit if you were a savvy collector all along the way.

So when Gods Unchained, a blockchain trading card game, came on the scene, I was sold immediately on the premise. For the first time ever, NFTs enabled provable digital scarcity that no one could violate (more on this later), and also inherently gave all ownership and transfership rights to the owners of the NFTs. No longer did the corporation behind the game have any right or any power at all to dictate what a user could or couldn't do with their digital cards once they purchased them — providing a perfect digital analog to the reality that had already been playing out for hundreds of years with physical trading cards.

One of the earlier NFTs I ever got, for free in a Twitter promotion for Gods Unchained years back. Some have sold for ~3.5 ETH, now worth $10,000+. This card is exceptionally rare, with only 689 ever created, ironically precisely because it was only given away for free on Twitter to anyone who wanted one, which was just about no one at the time.

This, to me, made NFTs for digital assets inside games, if nothing else, self-evidently a profound revolution and clearly objectively better in every which way than games without provably scarce trustless fully user-owned NFTs.

But art? That was still a different story. Digital items in games, at least, have intrinsic value in the games themselves. Digital art, on the other hand, suffers from the perennial right-click argument.

NFTs are worthless because you can right click save them

What value can something possibly command when anyone can just right click and save that thing and replicate it perfectly at no cost ad infinitum? Who cares how much blood, sweat and tears the artist might have poured into their work, and who cares how profound it might be, or how technically complex and groundbreaking — all digital art is inherently devoid of monetary value because there is no way to bottle it up and force it to be scarce by inherent nature of its infinitely replicable substrate of choice that stands in stark contrast with the natural scarcity of physical substrate.

This may seem unfair, but it's just a fact of life. Digital artists should have acknowledged this practical reality before they chose a profession destined by its inherent nature to lead to a life of starvation and physical want. For shame, ye fools.

Perhaps we can acknowledge that at face value, there's no reason a digital artist is any less an artist than a 'physical' artist, and digital artworks can take every bit the same degree of skill, if not more, than physical art.

Okay, fine, here's a 'real' piece of art I bought for $2,400. Certainly has *some* value and took *some* skill, right? *An internet enabled serendipitous collaboration, incidentally, between an incredible Zimbabwean artist who would have been entirely gatekept from traditional art markets, and an amazing Portuguese artist halfway across the world.*

Digital art can also transcend the static possibilities afforded to physical art, and create and discover entirely new art forms, such as generative art, which is art made with the aid of computer algorithms or even AI neural networks and other technological innovations entirely impossible in the real world.

This, for instance, is a generative piece of art I bought made, along with 999 other incredibly different yet equally striking pieces, by a single piece of code just ~6KB in size. The artwork 'lives' in real time, by rendering in your browser from scratch every time you load it, evolving from a grainy outline to an incredibly photorealistic finish over the course of minutes or hours, depending on how powerful your computer is. This is not possible in the real world.

Despite all these incredible new art forms made possible by digital technology and the intrinsic artistic skill digital artists may have and may imbue in their work that might rival that of physical artists, the market value for all of this work has been approximately ~$0 to date, due to the simple fact that each work can be infinitely and perfectly replicated for free by anyone with a simple right click and save.

This pure dearth of funding has stifled innovation in digital art for decades, and yet some digital artists have still fully embraced consigning their physical selves to starvation and pushed forward this nascent frontier of artistic innovation, day in and day out for years, with absolutely no hope of recompense until…now, when they're all getting butt rich left and right?

Yeah, great sob story bro, but this is still a scam

Okay — maybe that's a feel-good warm-your-heart ending to an underdog story, but it's all still a scam, right? Even if that scam is breaking down the gatekeepers of the traditional art world dominated by Western society and allowing artists from all around the world — Africa, Asia, South America, and elsewhere — to finally at once have their art valued equally right alongside the art of their Western counterparts on pure merit alone, and even if that scam is finally distributing wealth to incredibly talented digital artists who have toiled away for decades for nothing more than the pure love and joy of creating in their chosen field of creation, it's still a scam that's just stealing money from chumps like me sucked into the hype and fad and bubble of it all, right?

Ultimately, these artists might finally be able to pull themselves out of poverty and some of them might even end up categorically rich, but it's the foolish overly inflated cryptorich and the ignorant retail masses that follow blindly into the bloodbath of the bubble that are going to end up paying the price when all of this inevitably falls to zero like Dutch tulips, no?

Maybe. And maybe not. We most certainly are in a bubble, and I'll be the first to tell you that. Plenty of NFTs will end up being overhyped and go to zero — probably the majority of them, in fact. But does that mean NFTs aren't a once-in-a-generation transformative technological innovation, here to stay for the long run and fundamentally change every aspect of the digital economy in the future? Absolutely not.

NFTs are the real deal, just like the internet was and is the real deal, despite the dot-com bubble being wildly overhyped and many people proclaiming the internet at the time just a complete fad that would fade away with time. Time has proven that anything but that has happened in the end, and ultimately today, far from the internet being a transitory trend, the internet permeates just about everything we do on a daily basis, and most of us couldn't live without it.

People are skeptical about literally everything at first

All nascent technologies are first met with extreme skepticism, regardless of how profoundly obviously revolutionary they seem to be to us now. There's the famous article penned in 1995 that talks about how the internet won't change the world and replace newspapers and bookstores and in person education and how 'telecommuting' is an absurd concept, and a million other things that literally all came true in the end but in 1995, with the internet just being a few years old (just as NFTs are now), seemed all but impossible and extraordinarily farfetched to any but the most delusional and/or prescient of addled pioneers on the frontier.

That's far from the only thing the world has been skeptical about, though. We were also extraordinarily skeptical about airplanes, cars, computers, calculators, bicycles, and pretty much everything else that's ever been invented. One of my favorite newsletters is called the Pessimist's Archive, which chronicles the spectacular skepticism just about every single major technological advance initially encountered.

Here's a fantastic article from 1987 about the fleeting computer 'fad' that faded, as students became disillusioned about the prospects of a future in computing. Crazy to think about now — Microsoft and Apple were both founded in the mid 70s, and are two of the largest companies in the world now. Hard to believe that even then people were still skeptical on computing's future, but apparently they were.

Here's an even crazier article from 1984 denigrating calculators and claiming that slide rules were just as effective and quick, with the added undeniable advantage that your slide rule would never run out of battery power. Wish I could find the newspaper article decrying the slide rule back in the 1600s, where I'm sure mathematicians were shaking their heads and face palming about the hacks the young people were using to get out of truly learning the 'right' way to do mathematical calculations without shortcuts.

Here's another favorite compilation of lambastations on Apple from its early days. Apparently the advent of a GUI was lamented as much as the calculator — there was even a study that suggested students were dumber when they used GUIs over command lines. Really, I have to quote this, just bear with me:

The assistant director of the writing program in the University of Delaware's English Department, Halio, says that freshman in her writing program who chose to enroll in the course using Macintosh computers produced far poorer compositions than students in the same course who chose IBM Personal Computers.

Her observations were based both on her own teaching experience in 1987 and on a comparison of the work done by students in 25 sections of the composition course in late 1988. The results showed Macintosh users on average wrote shorter sentences and paragraphs, made significantly more spelling and punctuation mistakes and wrote at an eighth-grade level instead of the college level of their IBM-using counterparts.

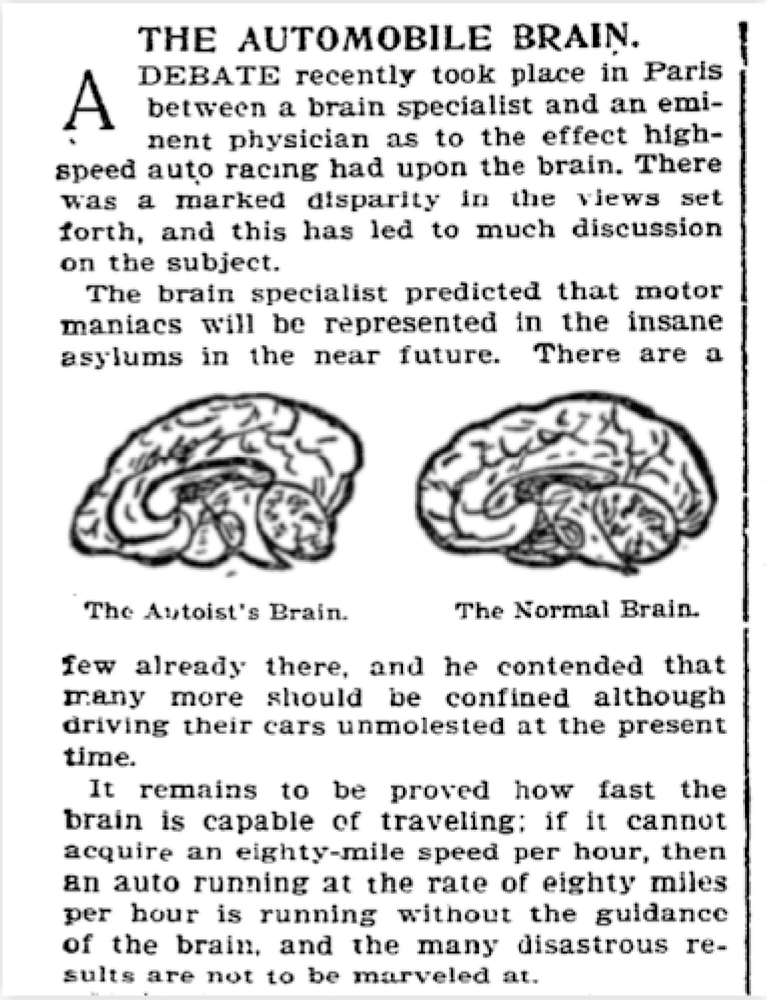
Further, the subjects the Macintosh students chose to write about were "fluffier" — fast food, dating, television — than the IBM topics, which included teenage pregnancy and nuclear war.

The implication, Halio says, is that the Macintosh's picture-oriented interface is somehow to blame. The same icons, mouse, fonts and graphics that make the machine easy to use may well turn off the brain's creative-writing abilities.

So — GUIs were apparently the 1980s equivalent of reality TV today. Back to the command line, everyone, lest you lose your capacity for creative thought. Probably already too late. Likely explains the whole crazed fad of NFTs, frankly — our capacity for critical thought has been so irrevocably damaged by the advent of GUIs that we can no longer resist the tempting lull of YOLOing hundreds of thousands of dollars in buying stupid cat memes.

Two months before the Wright Brothers took flight, the New York Times ridiculed the attempt to achieve flight, estimating it would take between 1–10 million years for humans to actually succeed at the endeavor. The New York Times — 1 million years.

When the automobile was invented, a 'brain specialist', whatever that means, predicted that drivers would soon go insane, and claimed that many indeed already had gone insane, because your brain would literally get squished by traveling so fast. (To be honest — I can actually see myself believing these things at that point in time. It obviously can't be good for you for your brain to be subjected to never-before-possible speeds of 80 miles an hour, can it? Just as much as it obviously can't be justifiable that a worthless heretofore entirely free cat meme is now suddenly worth $900,000, right?)



THE AUTOMOBILE BRAIN.

A DEBATE recently took place in Paris between a brain specialist and an eminent physician as to the effect high-speed auto racing had upon the brain. There was a marked disparity in the views set forth, and this has led to much discussion on the subject.

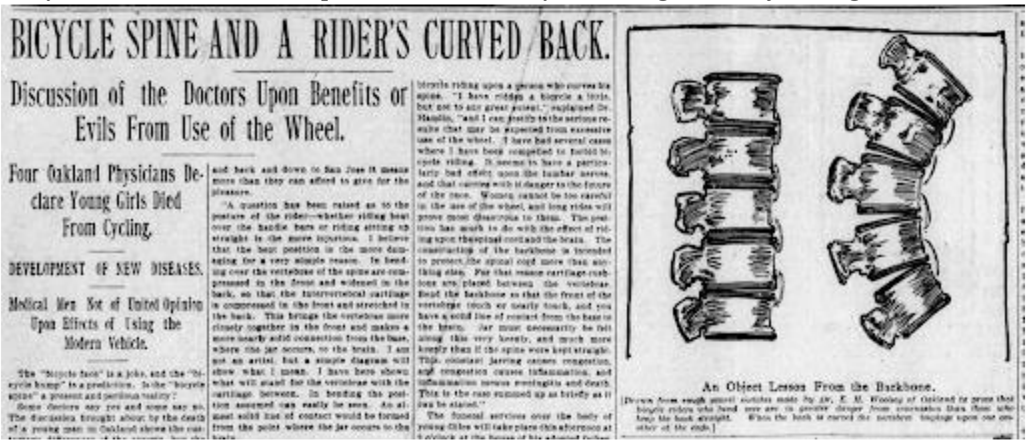
The brain specialist predicted that motor maniacs will be represented in the insane asylums in the near future. There are a

The Autoist's Brain. The Normal Brain.

few already there, and he contended that many more should be confined although driving their cars unmolested at the present time.

It remains to be proved how fast the brain is capable of traveling; if it cannot acquire an eighty-mile speed per hour, then an auto running at the rate of eighty miles per hour is running without the guidance of the brain, and the many disastrous results are not to be marveled at.

Even bicycles were deemed evil upon invention, with claims that your spine would become permanently curved and your face would become squished and also that you would go insane, just for good measure.



BICYCLE SPINE AND A RIDER'S CURVED BACK.

Discussion of the Doctors Upon Benefits or Evils From Use of the Wheel.

Four Oakland Physicians Declare Young Girls Died From Cycling.

DEVELOPMENT OF NEW DISEASES.

Medical Men Not of United Opinion Upon Effects of Using the Modern Vehicle.

An Object Lesson From the Backbone.

All this to say — when confronted with novel technological advances, both big and small, we should question any immediate visceral feelings of skepticism we might feel bubbling up. If there could have been so much skepticism and backlash against bicycles, automobiles, airplanes, calculators, computers, GUIs, and the internet when these things were first invented — things that now any five year old could tell you are obviously profound technological advances with untold economic and societal implications — frankly, it's shocking there's not *more* backlash against NFTs and cryptocurrency. We're doing pretty damn well by historical standards.

Take the skepticism of the present world towards these novel technological innovations with a grain of salt. Cryptocurrencies and NFTs are both rooted in incredible technical breakthroughs (there's a reason these concepts have only taken root now, and NFTs are fundamentally impossible to create without the prior innovation of the blockchain, which itself took decades of academic research and prior work to ultimately create), but they're far more abstract in conception than these prior tangibly manifest inventions such as cars and planes. We have two mountains to climb over here — the mountain that faces down all new inventions, and the mountain that faces down things that are abstract and not tangibly manifest.

So we've got our fair share of work cut out for us to do here. Let's get started.

Part 2: NFT Fundamentals — Why NFTS have value

Alright, let's get into why NFTs have value and are the future. First, let's talk about just exactly what NFTs are and a tad bit about the technology that underpins them (much more on this in Part 3).

NFT is an acronym for non-fungible token, which essentially means an asset that's unique, rather than an asset that's identical to many other assets.

An example of a fungible token, for instance, is like a US dollar or bitcoin — every US dollar is meant to be identical to every other US dollar, and can be used interchangeably and all of them represent the same amount of value. Same thing with bitcoin — there are 21 million bitcoin that will ever be created, and every single one of them is worth the exact same amount and is totally interchangeable with any other.

An example of something that's non-fungible, on the other hand, is say, a piece of artwork, like the Mona Lisa, or your dog. There are many paintings in the world, but there is only one Mona Lisa, and you can't just replace the Mona Lisa with some other random painting and call it the same thing. Same with your dog — plenty of dogs out there, but you'd probably be pretty upset if someone just decided to swap your dog with a random other dog one day.

In essence, an NFT is just a digital representation of this intrinsic concept of non-fungibility, or uniqueness, that we're already intimately familiar with in the physical world. Houses are non-fungible, people are non-fungible, your mother's cooking is non-fungible, for better or for worse, and so on.

This MoonCat is non-fungible. His name is Alfredo, there is no other MoonCat that looks exactly like him, and if you replace him with another MoonCat, I will be mildly upset, because I paid $3000 for him, and your replacement MoonCat is probably cheaper and doesn't have a space helmet. Also, his ilk is going to Sothebys.

The blockchain enables NFTs to exist

Digitally, to date, non-fungibility has been a bit difficult to come by, because any digital asset just consists of bits, strings of 0s and 1s all amalgamated together in a specific way, that are trivially easy to replicate perfectly a trillion times over by anyone in the world. How can you possibly create immutable uniqueness in a digital world?

Enter the blockchain. A blockchain, which is the technology that underpins cryptocurrencies such as Bitcoin and Ethereum, can be thought of as essentially a global public ledger that can permanently record any kind of data for anyone else to see and verify forever.

At first, the blockchain was envisioned for just recording financial transactions between two parties, e.g. me sending 10 bitcoin to my friend Alice. Fairly quickly along the way, however, people realized that you could essentially record any kind of arbitrary data in the blockchain as well, and this could serve as essentially irrevocable proof of anything — say, a binding contract between two parties.

If someone wanted to record, for all time immemorial, that they got married to some random person they met in Vegas a few hours ago, the best way for them to do that would be to both sign a transaction on the blockchain with their private keys attesting to that fact — that attestation would stay around for as long as any nodes (computers) in the world continued to maintain a copy of the blockchain, and would indisputably prove that they had, indeed, genuinely both certified this attestation.

This is a lot easier to both do in the first place and to verify later by literally anyone in the world than via a paper marriage certificate or going to the local county office or whatever. This is, incidentally, why public legal documents will almost certainly one day be filed away on blockchains and not on paper or in arbitrary siloed and fragmented government databases.

But back to NFTs. Okay, so we know now that we can store any sort of attestation on the blockchain as well as record simple financial transactions. What does that give us? In short, the ability to store, in a globally public, permanent, and trivially-verifiable-by-anyone manner, certifications that a given digital asset is the *genuine* article — the original true copy of something, and the *only* true copy of something, signed by the private key of the original creator of that asset.

Thus, no matter how many identical replicas of the genuine article are created, only the single asset, or NFT, certified by a digital signature from the original creator, can be appropriately designated as the true 'original' copy of the asset, so to speak.

Fully explaining and selling someone on the technological revolution that is the blockchain that underpins everything about NFTs and explains why NFTs weren't possible until just right now is outside the scope of this article and requires another 75 minutes or so to explain, so if you're interested in hearing more about that, please go see Cryptocurrency 101. Or just take my word for it if you have better things to do with your time, unlike me (the real reason most people aren't into NFTs, imo, is because most people are respectable hard working individuals with real jobs who don't have enough time on their hands to spend hours of it exploring stupid new extremely convoluted fads).

The Value of the Original Versus the Replica

Alright — at this point you might be protesting that this is all bullshit, and just because an artist of some digital artwork might say that one specific NFT is the original artwork and nothing else is, that's pointless, because all the copies are literally identical and thus can be equally enjoyed/utilized in whatever way the original can.

Okay, sure — that may all be true, but if we're being honest with ourselves, that's not really why any piece of artwork or anything else in the physical world truly has the value it does.

At the most analogous level, plenty of artists today — let's take photography as the easiest medium of comparison — already often release arbitrarily limited edition prints of their work, so as to induce artificial scarcity and thereby drive up the value of their work even if there are no technical limitations that make this a necessity.

Clearly, this technique works, as plenty of photographs that could easily have been reproduced ad infinitum have instead sold as limited edition prints for millions of dollars.

Okay, some of you might not even consider photography real artwork and are purists for hand painted art. I've often heard the argument that a real physical painting takes real skill to create, and cannot ever be recreated quite precisely identically to the original, and thus the original always preserves its value in never being fully imitable.

The fact that famous auction houses often sell and museums often buy entirely fake works, and that possibly up to 20% of all paintings owned by museums may not be authentic, puts a little dent in this argument. These auction houses and museums go to extreme lengths to verify the authenticity of a work, and employ extremely specialized professionals utilizing extraordinarily fine equipment to attempt to distinguish between the genuine article and a replica — and they often fail at this task and replicas frequently go entirely unnoticed for decades or even lifetimes.

Be honest. Can you actually tell the difference between the real and the fake Mona Lisa here? Does staring at one versus the other make an emotional difference to you? Why is one worth more than the global median annual income of 80,000 people and the other isn't?

If a replica is so identical to the real thing that even experts can't tell it apart after extremely close examination, why exactly is the replica worth less than the original, if the value of the art comes from its intrinsic physical properties and not something a little more abstract? Why, indeed, do museums even bother at all to spend hundreds of millions of dollars to acquire the original versions of priceless paintings instead of just simply commissioning indistinguishable replicas of all the pieces at a fraction of the price? Even the experts can't tell them apart — definitely no chance a casual museum visitor would ever be able to.

Would you feel excited to go to a museum filled entirely with known replicas of famous artworks, which to you would seem entirely identical to the original genuine thing? My guess is that probably isn't quite as appealing to you for some reason, and that's probably why there are no famous museums filled entirely with publicly known replica art. Yet chances are in a 'real' museum filled with 'real' art, you've actually spent time staring at a replica that you thought was the real thing and that the museum and everyone else thought was the real thing, and up until the moment everyone realizes it is in fact fake, everyone appears to appreciate it just as much as they would the original.

So what is the reason we appreciate genuine originals over replicas? Ultimately, what we've grown up intrinsically knowing and understanding about physical objects is that the original of a rare, highly-prized-by-society object, has some inimitable value that transcends that of any replicas, by sheer dint of being the original genuine artifact.

Humans love the concept of genuine authenticity and scarcity, and knowing that the Mona Lisa that you own was truly personally created and signed by da Vinci (okay, da Vinci never actually signed the Mona Lisa because it was never actually completed because he was ADHD and barely ever completed anything in his entire life, but that's beside the point) is the difference between it being worth $850 million and a replica being worth just tens of thousands, if that.

We inherently understand this at an emotional level because that's the way the world has always worked as long as we've lived and we've grown up with this understanding of the world, but NFTs are an entirely different story. Not only is the idea of an NFT having value an idea so novel just a few years ago the term didn't even exist, but the entire concept of the digital world is still a nascent notion.

Hopefully we can keep that fact in mind and remember that humans are literally skeptical about every new thing at first, and wait to judge NFTs for just a *few* more decades longer until some generations have grown up natively with NFTs their entire life — and then see how those generations feel about the intrinsic value of NFTs :).

Okay, that's nice, but art is still worthless, right?

Okay — at this point in time, hopefully we're somewhat on the same page in acknowledging that a technology that allows for trusted and permanent certification of the authenticity and originality and uniqueness of digital assets such as digital art allows for digital assets to at least retain value along the same premises as physical assets of a like kind.

That is to say, hopefully we both somewhat agree that the original Mona Lisa has more value than an almost indistinguishable replica simply by dint of the fact that the former is certified by some trusted certifying body, such as a professional art appraiser or auction house or museum, to be the original, and that fact alone is what gives the Mona Lisa the bulk of its value.

That doesn't, however, answer the question of why precisely the original Mona Lisa is worth ~$850 million and a work by a contemporary artist of the same degree of technical skill or philosophical merit or whatnot is almost certainly worth infinitely less.

Perhaps some of you reading this already understand why the Mona Lisa is worth $850 million and agree that it *should* be worth something in that approximate ball park, but I certainly wasn't in that camp up until just a few weeks ago, and so I'd like to take some time to speak to my former self here. Spoiler alert — this ends in me attempting to justify why several pixelated images of sickly-colored barely identifiable punks are worth multiple millions of dollars, at least.

So I think we can all agree this isn't exactly the Mona Lisa, which is probably why it only sold for a reasonable $11.7 million instead of $850 million. Contrary to popular belief, the quality of your art *does* matter.

Okay — so one reason people may give for why the Mona Lisa is so expensive is because it's arguably the finest painting made by the finest painter ever to live. Seems not unreasonable that the literal greatest painting ever should be worth a lot of money. That's something I could buy.

There's just a slight catch here — what *exactly* makes the Mona Lisa the best painting ever made? There's no question that Leonardo da Vinci was an incredible artist, and that the Mona Lisa was executed with masterful skill, but there are countless works of similar quality, including many by Leonardo himself, that don't fetch nearly as high a premium.

Here's another reason people may give, that at face value might seem like the same argument, but is in fact slightly different in its nuance — the Mona Lisa is the most expensive painting in the world because it is the most *famous* painting in the world.

Why exactly is it the most famous painting? One could argue that it's the most famous painting *because* it's the objectively best painting, which would be the same argument as prior posited, but there's a slight catch here too — the painting was almost entirely unknown by anyone outside the art world for literally four hundred years, from the early 1500s to 1911. Weird for the objectively best painting in the world to only be recognized as such after 400 years.

What exactly happened in 1911 to begin a chain of events that today makes just about everyone in the world aware of the Mona Lisa? Well — the Mona Lisa was stolen from the Louvre, and overnight the scandal became a global sensation and thrust the Mona Lisa into the spotlight forevermore. From Wikipedia:

The Mona Lisa was regarded as "just another Leonardo until early last century, when the scandal of the painting's theft from the Louvre and subsequent return kept a spotlight on it over several years."

The 1911 theft of the Mona Lisa and its subsequent return was reported worldwide, leading to a massive increase in public recognition of the painting. During the 20th century it was an object for mass reproduction, merchandising, lampooning and speculation, and was claimed to have been reproduced in "300 paintings and 2,000 advertisements".

Today, this is the kind of attention the Mona Lisa can pull:

In 2014, 9.3 million people visited the Louvre. Former director Henri Loyrette reckoned that "80 percent of the people only want to see the Mona Lisa."

In New York, an estimated 1.7 million people queued "in order to cast a glance at the Mona Lisa for 20 seconds or so."

It wasn't the heist alone, however, that caused the Mona Lisa to be thrust into permanent prominence as the most famous painting of all time. The heist was just the catalyst — an event that initially cast the Mona Lisa into the global spotlight. From there, the Mona Lisa was able to essentially enter a self-perpetuating chain reaction of fame, where the initial fame lent to the piece by the heist inspired the Mona Lisa to essentially become a 20th century meme, with endless parodies and reproductions, each of which made it yet more famous, and yet more parodied, and so on, and so forth.

From Britannica, if Wikipedia isn't your jam:

The Mona Lisa was certainly more famous after the heist, but World War I soon consumed much of the world's attention. Some scholars argue that Marcel Duchamp's playful defacement of a postcard reproduction in 1919 brought attention back to the Mona Lisa and started a trend that would make the painting one of the most-recognized in the world.

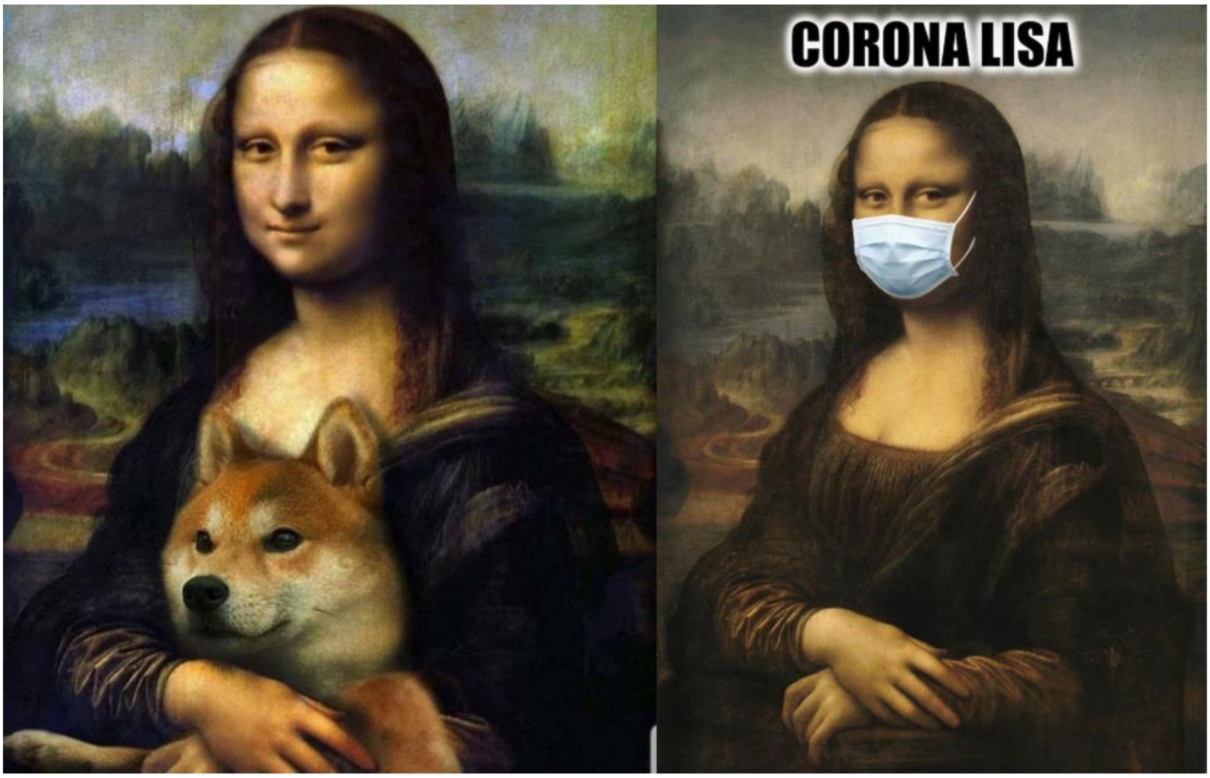
He played against the worship of art when he drew a beard and mustache on the lady's face and added the acronym L.H.O.O.Q. (meant to evoke a vulgar phrase in French) at the bottom. That act of irreverence caused a small scandal, and other cunning artists recognized that such a gag would bring them attention. For decades after, other artists, notably Andy Warhol, followed suit.

As artists distorted, disfigured, and played with reproductions of the Mona Lisa, cartoonists and admen exaggerated her further still. Over the decades, as technology improved, the painting was endlessly reproduced, sometimes manipulated and sometimes not, so that the sitter's face became one of the most well known in the world, even to those who had little interest in art.

You think the 1910s didn't have memes? You think memes aren't the reason the Mona Lisa is worth $850 million? You think that's air you're breathing, Neo?

The actual power of memes

At some point, people begin parodying the Mona Lisa simply *because* it's famous, and every parody makes the Mona Lisa *more* famous, and this becomes a self-perpetuating cycle forever, until the Mona Lisa becomes firmly entrenched as the most famous painting of all time. Hell, we're *still* memeing the Mona Lisa today.



I chuckled.

So now that we know that the Mona Lisa isn't the most famous painting in the world solely on the basis of its obvious artistic merit, but rather due to a lot of arbitrary happenstance and memeing, do we appreciate it a little bit less? I know I would have — this is precisely why all art is bullshit and it's all predicated on hype and has little to do with objective tangible value.

Now, I think quite differently. The fact that it *is* so famous, regardless of *why* it is so famous, has extraordinary actually justified value in of itself. You can even quantify some of this value in monetary terms — if a company were to produce an ad parodying the Mona Lisa to sell its products versus an ad parodying an equally well drawn yet wholly unknown to the public art piece, the former would obviously perform far better and earn the company far more in revenue.

Ultimately, the strength of the brand of the meme, or shared mythology, in a sense, behind the Mona Lisa is what lends it its value, and justifiably so. How powerful is it to have a singular art piece that occupies rarefied air in the mindspace of just about everyone in the world, for whatever reason that it does?

This brand value of the Mona Lisa, so to speak, imparts priceless value to the original Mona Lisa as the ultimate status symbol — if you were to say you were the owner of the Mona Lisa, everyone in the world would understand how monumental a statement that is, versus if you were to say you were the owner of the Lady with an Ermine (which also has value, but principally in the fact that it is also painted by Leonardo da Vinci, and the Leonardo da Vinci brand altogether has immense value now as everyone knows Leonardo da Vinci because of the Mona Lisa).


I wouldn't say I'm the world's *best* fine art critic, but that's an evil looking ermine. Probably mostly the reason this piece isn't worth remotely as much as the Mona Lisa.

Heck, if you were to deign so low as to prostitute priceless fine art for money, you could honestly probably even turn the Mona Lisa into a direct cash flow asset — if we take the former director of the Louvre's word at face value that "80 percent of the people [at the Louvre] only want to see the Mona Lisa" and combine that with the fact that ~10 million people visit the Louvre every year and admission to the Louvre costs ~$20, you could cash in on ~$160 million a year by owning the Mona Lisa.

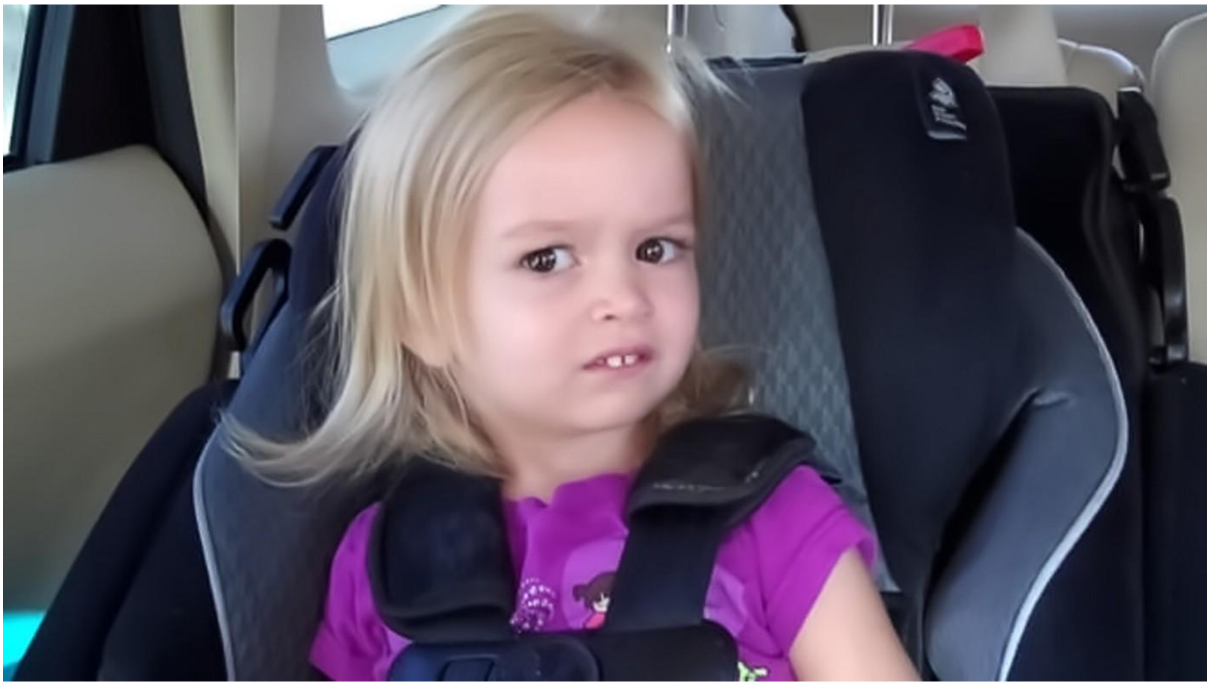
As any real estate investor would tell you, a cap rate of ~15% (let's say it generously costs ~$30 million in operating expenses to run your Mona Lisa prostitution enterprise, and thus $130 million revenue / $850 million asset purchase price == 15% cap rate) is pretty damn good, and you'd be crazy not to put your money in a dumb obvious can't-lose investment like this.

I love that there's someone just rubbing her hand on a random other painting in the background and no one cares because no one ever made a meme about that painting, so clearly it's worthless. But back to the point — if you can draw millions of tourists around the world to your art piece, that is worth real money, whether or not you decide to capitalize directly on that fact. Indirectly capitalizing on that fact by utilization of the art piece as a status symbol is also a very valid justification for its price.

Crazy at face value that someone would pay $850 million for essentially something that just got famous because of a meme that doesn't even impart you with any rights like copyright or licensing or royalty fees or anything, but when we dig into it a little bit more, it seems to make a lot more sense, no?

Keep in mind the Mona Lisa is a brand that's developed its value over literally more than a century of free perpetuation in the public mindspace as a news sensation and a parodied meme. It wasn't always viewed as the foregone conclusion is it now as "the best known, the most visited, the most written about, the most sung about, the most parodied work of art in the world".

Back in the early days, perhaps four years after it first blew up, in 1915 or so, even professional accomplished art critics might have (read: definitely would have) scoffed at someone who boldly proclaimed that the Mona Lisa would one day be worth close to a billion dollars (inflation adjusted, of course, so actually more like $30 back then).



At just $75,000 in the current NFT bear market, this is starting to feel like a steal, no? How many of you have seen this meme and how much mindshare does it occupy? Possibly more than even the Mona Lisa for the certain more degenerate generations among us, no?

Maybe that's how we feel about the nascent internet memes fetching five and six figures today. Just a few decades ago, people weren't even sold on the internet — how could we possibly expect people to see the value in owning internet memes yet? The mere word meme itself is still viewed as a neologism not yet fully appropriate to use in polite company, despite actually having been coined in fairly academic settings in Richard Dawkins' landmark 1976 book The Selfish Gene.

Ironically or perhaps extremely fittingly, Dawkins' academic definition of a meme was literally memefied itself and 'evolved' into the commonly known internet meme phenomenon, where instead of concepts and content attempting to replicate themselves accurately and naturally evolving and altering in the course of doing so just like actual genes might, internet memes deliberately alter themselves in transmission — yet at the same time, thanks to the perfect replication power of digital assets, the original form of the meme is always preserved with complete fidelity, unlike pre-digital cultural memes where maybe what Jesus really wanted to teach his followers isn't at all what his followers now believe he wanted to teach them. Funny aside.

Regardless, the core concept and power remains the same across all memes — memes are a self-replicating unit of cultural transmission, analogous to the self replicating unit of biological transmission, the gene. This is an incredibly powerful concept when fully grasped at its core — the power of a meme derives directly from its degree of transmission and saturation and permeation in the cultural mindspace of the world.

Memes are profound, and not a new concept at all. In The Selfish Gene, Dawkins argues that language itself is a meme (how are new words invented and transmitted? Someone comes up with a word, others catch on, and soon everyone uses it and it becomes canon, like...the word meme). Religion is a meme, fashion is a meme, customs, traditions, and rituals are memes, philosophies are memes, political affiliations are memes, diets and ethnic food preferences are memes, fine art is a meme, and so on, and so forth. Yeah —just about literally everything that collectively constructs the fabric of human society as we know it came about through transmission as a meme, for one arbitrary or not so arbitrary reason or another. Hell, your name was probably transmitted as a meme. Memes are, like it or not, accept it or not, just about the most powerful things in the world.

A meme, just like a gene, can perpetuate itself to the point of cultural mindspace saturation on the basis of multiple merits and on pure happenstance alone — a more clever or useful concept may find itself more easily transmitted, for instance, just as a more 'fit' gene might find itself more likely to survive through generations, but just as well a meme might just catch a lucky break and be at the right place at the right time, or have to wait 400 years for a catalyst like being stolen from the Louvre to awake from dormancy and start spreading — but whatever the reason it spreads, when it does, its value is justified in that spread alone.

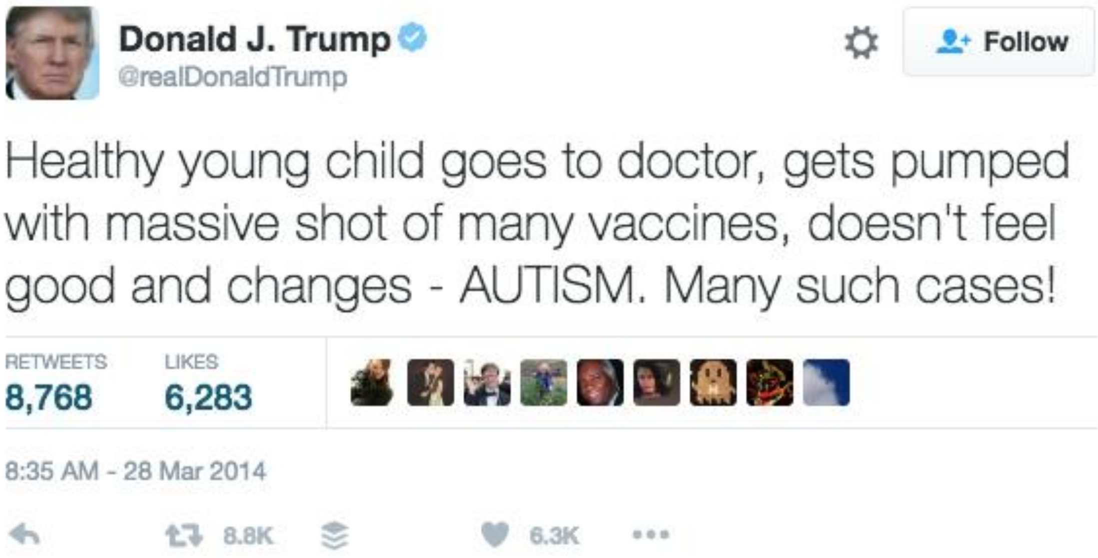
A virus, frankly, might be a reasonable analogy fitting in its present day visceral significance. There's almost certainly a parallel universe in which COVID-19 never made the leap to humans (or never made it out of a lab or what have you), and in that world, it would have literally had zero significance and meaning in the world, despite existing all the same in exactly the same form, lying dormant in a bat or in a lab or whatever the prevailing conspiracy theory is these days, having all the same merits as the COVID-19 that did become a worldwide phenomenon — kind of not unlike an incredibly talented starving artist who never has the opportunity to have their work see the light of day, though in different circumstances and in a different universe, they could have become just as famous as Leonardo da Vinci (please excuse the uncouth comparison between an undiscovered incredibly talented artist and a latently virulent virus).

And yet, for whatever reason and whatever unfortunate chain of arbitrary circumstances, COVID-19 did become a worldwide phenomenon, and the selfish genes of COVID-19 have self-replicated themselves to a profound extent with undeniable worldwide consequences, both economic and otherwise.

Memes are just about the same thing, and for whatever reason, some memes self-replicate themselves to become cultural cornerstones of the world that anyone of a specific demographic can understand and utilize to effectively communicate, identify, or signal status or value with one another, and when that happens, those memes have real value.

This sold for half a million dollars, and given how much cultural penetration this meme has, I hope you're making your way around to seeing how that *might* be a bit of a steal some day far in the future, when the internet and the early memes on the internet as well as the earliest memes to be NFTs on the Ethereum blockchain are viewed as cultural artifacts, in a future in which the Ethereum blockchain may be as culturally ingrained in our collective human heritage as much as the internet and computers and the rest of our hallowed technological lineage are now, and owning this is like owning, I don't know, some sacred primitive cave painting from the earliest days of known human civilization, which I'm sure to our future AI heirs apparent will be approximately indistinguishable distinctions. I'm like 90% positive some eccentric AI octillionaire in the future will definitely pay at least a trillion dollars for this, in inflation adjusted non-existent dollars, of course. I mean, how cool is it to own a quaint early human cultural artifact from a time when humans were just beginning to wrap their minds around abstract concepts like money and NFTs?

Thanks to the internet, memes can now spread at speeds never before fathomable — just like thanks to air travel, COVID-19 can now spread at speeds never before fathomable for a virus. The world is more interconnected than ever before, both physically and digitally, and thus, internet memes can rise to global worldwide prominence and saturation in what feels like (or literally is) a matter of days, and not months, years, and decades, like it once used to take. This makes it feel almost unfathomable to us that an internet meme just a mere few years old could possibly become worth six or even seven figures — and yet no one questions that the damage wrought by COVID-19, despite its equally wildfire never-before-seen spread in just a few months, is very real indeed (unless you don't believe in COVID-19, in which case I'd say you already viscerally understand the true power of internet memes in the cultural transmission of any form of information and the real power that has, for better or for worse).



Twitter is the greatest memeifier, for better or for worse. With a single click of a button, a retweet replicates a meme — in this case a tweet, carefully regulated by Twitter to be distilled down into a 140/280 character maximally transmissible individual unit of information — and spurs it on in its quest for global mindshare domination. Tweets are literally self replicating cultural transmission units, and the ones that spread widely are profoundly impactful.

Let's just call it brands if you want

Okay — I recognize that for some, memes as a term is just definitionally too much of an intrinsic turn off for any amount of nagging coaxing to overcome. In that case, let's just consider these things a brand — the Mona Lisa is a brand, and Leonardo da Vinci is a brand, and the Louvre is a brand, and all these brands play into and support each other, and they all have real value from doing so.

Louis Vuitton is a brand, and Nike is a brand, and Air Jordans are a brand. I never understood this until getting into NFTs either, frankly, and always thought it was a hilarious rip off (and still do, because these brands don't cater to the Silicon Valley culture I'm a part of — our brands are Teslas and MIT diplomas and tickets to space — and, more so with every passing day, CryptoPunks) that anyone would buy a Coach or Louis Vuitton bag that could be made for like 1% of the selling price and be indistinguishable in quality and merit from an identical generic bag without the brand tag.

It says a tiny bit about the power of brands that the only centibillionaire in the world (and top contender for richest person in the world, period) who isn't a technology entrepreneur or Warren Buffett is the owner of a luxury brands conglomerate. The only thing that can compete with technology, apparently, is a brand. What about…a brand powered by novel technology? :O Here's a Novel Fucking Technology — NFTs

Now I get it — the brand has real value in that it occupies real mindspace in billions of people around the world and owning a Louis Vuitton item, in the right circles, instantly communicates in a provable way that cannot be faked (spoiler alert: this is actually an advertisement for NFTs, because Louis Vuitton bags can be and are in fact trivially faked, but NFTs are much less easily faked as sources of incontrovertible truth that can be trivially verified by anyone in the world instantly on demand, unlike with physical goods) status that can in very tangibly manifest ways open doors for you and create connections and generally beneficially modify the way you are able to move through life in a way that can more than justify the price of membership in that brand.

Dogecoin too is a brand, to the tune of $25 billion+ dollars. Caveat emptor — brands can be fragile, and while brands can propel themselves to unfathomable and also justifiable heights, they can also collapse spectacularly, so might I suggest possibly investing in more established brands like Bitcoin and Ethereum first before dipping your toes into a brand that as of yet predominantly caters to an audience that's into crypto for possibly all the wrong and entirely uninformed reasons. That said, weeks ago, I would have called Dogecoin and Gamestop and AMC obviously dumb and doomed to fail investments based on faddy memes, and now I'm not so sure. If everyone rallies around going to see movies at AMC again just because everyone decided to buy into the stock because of a stupid WallStreetsBet meme, hasn't that meme actually become a self-fulfilling prophecy in justifying its own value? Memes can change cultures — and if the culture of seeing movies in theaters was dying out and gets respawned by a random arbitrary internet meme, what really is the difference? The culture and the revenue for AMC is back, and the market cap is once more justified. Same with Dogecoin — it's a terrible joke currency with incredibly shaky technical foundations, which ultimately are unlikely to be overcome by pure meme adoption, but still — the power of memes can't be ruled out, and if everyone decides they want to use Dogecoin over every other cryptocurrency just because of the much stronger meme power of it, which kind of is happening right now for a lot of the mainstream public, it totally is possible that Dogecoin attracts incredible developer talent, fixes all its technical problems, and become the de facto cryptocurrency of the future. I'm much less willing to bet against memes now, however absurd and capricious their origin stories may be. The fact that they are is fact enough. (N.B. Never trust an article that has captions on its pictures longer than some other articles)

All subcultures have brands, and these brands open doors of membership when you possess them. These brands have incredible value and often have near unassailable moats protecting that value in that they are incredibly difficult to replicate, and often impossible to do so intentionally. Most of the most famous memes on the internet were all entirely accidental, like side-eyeing unimpressed Chloe being actually just a sidekick in a video that was supposed to showcase her sister's excitement on being gifted a surprise trip to Disneyland. Many subcultures value authenticity above all, and are like sharks drawn to blood when they sense any whiff of a scent of intentional brand formation.

Fair or not, these brands are often also winner-take-most markets, such as in the art world, where only 0.2% of artists ever sell work for more than $10 million, and yet 32% of the entire $63 billion in annual art market sales a year derive from those $10 million+ works by those 0.2% of artists.

As status symbols, the best brands in a subculture become Veblen goods and positional goods (if, at least, money isn't firmly antithetical to the values of that subculture — and it most certainly is not for the subculture of crypto, incidentally, hint hint), where the price of the good becomes an inherent motivation in of itself to acquire the good as a mark of status in being able to afford that good, and this becomes a self-perpetuating up-cycle in propelling the price of the good ever yet further up, until it reaches an equilibrium only dictated by the scarcity of the good and the amount of buyers willing and able to afford the given price.

That, in of itself, is one reason why the price of the highest priced works of art every year continue to grow and break records — because the wealthiest people in the world continue to grow wealthier as both the overall economy of the world continues to expand as a non-zero pie and also as inequality rises due to a myriad of factors, and thus, the price of admission to the most elite circles of status in the art world continues to rise to keep pace and retain an equilibrium in its quota of members, so as to not dilute that status.

Jesus, will you talk about CryptoPunks and NFTs already?

And finally, we arrive at our justification for why CryptoPunk NFTs can be worth millions of dollars, and some day, may be worth yet still many multiples more.

Just to remind you what these things look like:

This is one of the less cool CryptoPunks, worth only $1 million at time of sale this April. You're only semi in the cool group if all you can afford is this guy.

For a little history, there are precisely 10,000 CryptoPunks in existence, and their total combined market cap value exceeds $4 billion at present day.

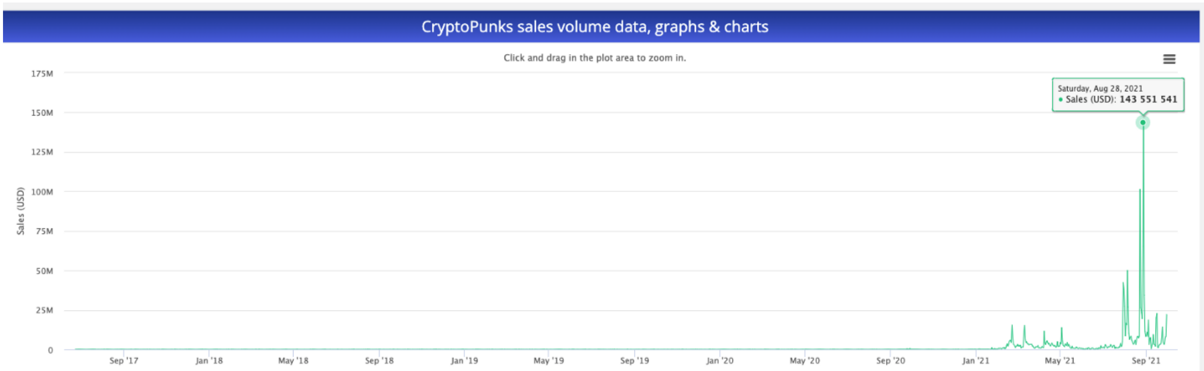
So, in short — 10,000 of these little questionably cute most certainly pixelated punks are worth about *five* Mona Lisas — the most valuable and famous and memed painting ever to exist in the world. How is that possibly justifiable?

Well, for a little history — CryptoPunks are broadly known as the first NFTs to ever be created on the Ethereum blockchain (disclaimer — this is not technically true, and several projects arguably predate CryptoPunks on Ethereum, such as Etheria, PixelMaps, and Curio Cards), all the way back in June 2017, which may as well be prehistoric in Ethereum time (I'm not even really kidding — the 'second' NFT project on Ethereum, MoonCats, was literally rediscovered recently in the digital analog of an 'archeological' dig).

They're also the first ever PFP (profile picture) NFT art project, which refers to an NFT collection that can be used as profile pictures on social media. These two facts (among many other factors, of course) created the perfect storm for CryptoPunks to take off in classic meme replication, Veblen and positional good fashion. But let's rewind a bit and start at the beginning, and maybe we'll see the CryptoPunk story isn't so unlike the story of the Mona Lisa, though as with all things internet and crypto, the timescale has been compressed from ~400 years to approximately 4. No big deal.

When CryptoPunks were first launched to the public on June 23rd, 2017, just about no one paid it any attention whatsoever, despite the fact that punks were literally offered for free (plus shipping and handling, er, Ethereum gas transaction fees). Only 20–30 punks were claimed in the first week post launch. It was only when Mashable covered the project with an incredibly prescient and open minded article titled, no longer at all hyperbolically, "This ethereum-based project could change how we think about digital art", that things started to take off, and within hours, every single last punk out of the 10,000 offered had been claimed.

Sales then stagnated, to put it mildly (though there remained a resilient, active though small community of enthusiasts all the while very passionate about CryptoPunks — perhaps consider these rare folks akin to the art intelligentsia who were the only ones to see value in the Mona Lisa before it blew up for arbitrary reasons, 400 years after inception, though I'm sure you still find that a bit of a stretch right now — more on this later), for about the next four years, before things started taking off in real force in early 2021.



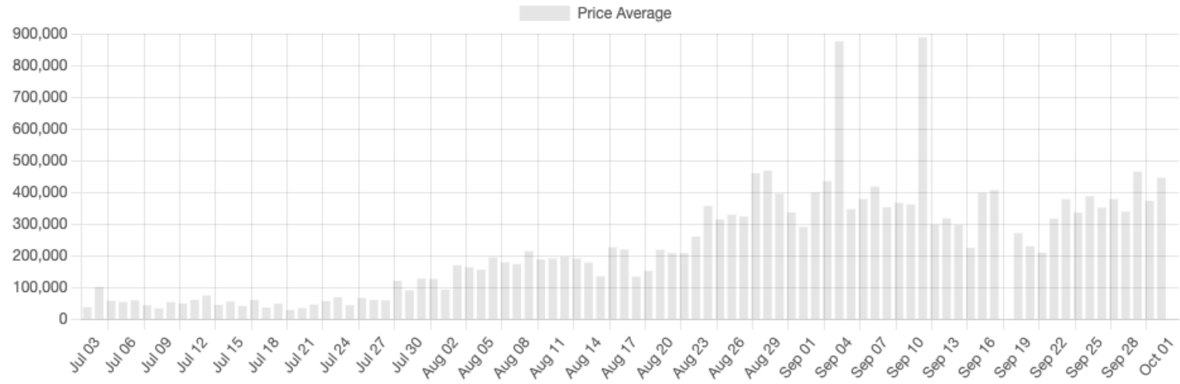
You think Bitcoin is volatile? (hot take — I actually think CryptoPunks are the bitcoin of NFTs)

Why did things take off? In part because the entire market for NFTs began taking off this year and last (as collectibles all around the world surged in price, quite possibly thanks to the pandemic forcing people into more eclectic homebound hobbies), with projects such as NBA Top Shots (created by Dapper Labs, which was also behind CryptoKitties, the most successful and widely known NFT project of 2017) which launched October 2020 doing over $700 million in revenue by the end of May and digital artists such as Beeple selling NFTs of his artwork for millions, culminating in a gargantuan $69 million sale at Christie's in March.

As interest in the NFT space at large grew, the projects and artists with the most compelling narratives (along with a healthy dose of randomness and luck, as is true with all things that succeed, even the Mona Lisa) quickly found their way to the top, such as NBA Top Shots building off the colossal brand and fan base of the NBA, or Beeple building off his reputation as a pioneering digital artist for decades, or CryptoPunks building off its reputation as the OG NFT project on Ethereum.

As each of these projects began to take off, most certainly a bubble did form, as news of every record breaking sale fueled the rise of the next record breaking sale, and the promise of overnight untold riches lured ever more speculators to the front lines. NFT projects proliferated, and just about every single one seemed like it was guaranteed success, with or without any fundamentals whatsoever. Things, not unexpectedly, faded as quickly as they came. The NFT market peaked at $102 million in sales volume on May 3rd, but dropped to just a few million in sales volume just a few weeks later.

Notably, however, CryptoPunks was not remotely as affected by this drop in volume as other projects in the space, and while average sale prices did fall from their spring highs for a brief blip in the summer, prices have charted a remarkably steady and remarkably strong rise up and to the right ever since. The average sale price of a punk in early July was ~$40,000, and today, just three months later at the start of October, the average sale price is more than 10 times greater, at ~$450,000.



What's the difference between an asset that rises solely because of bubble economics and a Veblen good, exactly? The bubble asset eventually pops and as it does, we learn that there was nothing inside after all but thin air, and it goes to zero, and the Veblen good…doesn't?

Why have CryptoPunks remained so resilient even in the so called popping of the first NFT bubble in spring 2021, and why are they steadily gaining value so quickly as time continues? To answer that, we might want to turn to some insight from some of the earliest true believers in CryptoPunks.

CryptoPunks True Believer Case Study

Dylan Field, the co-founder and CEO of the multi-billion dollar collaborative design tool Figma, made headlines for selling a very rare CryptoPunk (all CryptoPunks are unique, and some have traits that are much rarer than others, and thus command higher prices) for $7.5 million on March 11th, 2021.

This guy, to put it mildly as the understatement of the century, is not what you might conceive of as your average uninformed retail YOLO investor in NFTs, as most publicly evidenced by the fact that he's been on a one-way ticket to stratospheric success for just about the entirety of his life. I've had the tremendous privilege of actually knowing him personally for just about a decade now as a fellow Thiel Fellow, and as such I vividly remember just how much potential everyone saw in Dylan from the very beginning. Some quick excerpts, from when he was literally a 19 year old intern at Flipboard:

Flipboard CEO Mike McCue still can't believe how excited people got when he hired a Brown University student for an ***internship****.*

At a barbecue celebrating the second anniversary of the mobile news-reading app, McCue told a story about how ***John Doerr, the lead partner at legendary venture-capital firm Kleiner Perkins Caufield & Byers****, called him about Dylan Field, an intern McCue was recruiting.*

"Do you need any help with Dylan?" Doerr asked him, as McCue recalled.

"I think I've got this," McCue replied.

At the time, Field was 19. He just turned 20 in March.

But it's not like Doerr was alone in his interest in Field. After Flipboard hired him, Oren Jacob, the former ***CTO of Pixar*** *who now runs a startup called ToyTalk, spotted McCue across a parking lot and shouted, "I heard you got Dylan!"*

Here's one big reason why Field is such a big name. A math whiz from an early age, in high school he interned at O'Reilly Media, a publisher of technical books which also produces geeky events like Foo Camp and Strata. So he got to know the Valley's technical elite by helping out with those events. He went on to become an expert on data analytics and now speaks himself at O'Reilly events.

So yeah — this was a guy who at age 19 had the billionaire lead investor of one of the biggest VC firms in Silicon Valley and the former CTO of Pixar interested in and personally helping him, and who at age 29 now helms a startup worth literally $10 billion. He's also possibly the world's best Werewolf/Mafia/Settlers of Catan player, to the point that all the Thiel Fellows eventually just decided the correct strategy was to always kill Dylan first no matter what in every game as the objectively game theoretically optimal move in categorically all situations. In short, this guy is prescient genius incarnate (he's also just about the most down to earth, humble, kind, thoughtful and giving person ever, which is another reason why everyone loves/admires/respects him so much).

And what's this guy doing in his spare time, when he's not busy becoming the most successful person on planet earth in record time? Buying CryptoPunks before literally everyone else. Here's his story about how he got into CryptoPunks and why he's still unbelievably excited about CryptoPunks, and — get this — why he thinks some CryptoPunks are literally the closest thing to a digital Mona Lisa (emphasis mine):

Go back to, like, 2017 Dylan. How did you get into CryptoPunks in the first place?

Well, I was really into Ethereum. And the reason I was into Ethereum was because I had lived in a house with Juan Benet, who was the creator of IPFS and Filecoin. And I was a Thiel Fellow. And in that community, with Juan, with the Thiel Fellowship, everyone was into crypto. I was actually the person that wasn't into crypto. I was like, "Y'all are absurd, it's crazy!"

In 2017, that was when the ICO craze was starting to happen. And I was looking at, you know, ERC20 tokens, which are fungible. I was looking at centralized organizations, DAOs like Aragon Project, for example, which I remain fascinated by. And I started just to pay attention to CryptoPunks, which I thought was just genius. I didn't do anything when it launched. And then I kind of watched the community form from afar, and started getting really excited about it as I saw more and more people resonate with it just the same way I was. And so, as an observer, I didn't do much with it until the holidays, because I was just busy running Figma. And then right before the holidays, I bought my first CryptoPunk, which is now my avatar. The one with the messy hair, which I think kind of looks like me.

But wait, you skipped a step I think is really interesting, which is to go from this moment of vague awareness that "this is a space that is interesting" to putting down real money and buying into it. Is that the flip you're talking about?

Yeah. ***Before I put down real money and whatnot, I went and I read the contract code.*** *And that, to me, was a really interesting moment. Because if you look at the CryptoPunks smart contract, first of all, the code is very elegant. It's very simple and beautifully written.*

Essentially with CryptoPunks, what you get is an entry in an array. There's an array from zero to 9,999 for the 10,000 punks, and that array indexes to a two-dimensional image. Basically 01 is in the top left, 9,999 is in the bottom right. The image is not stored on Ethereum. It's just an image that exists in the world somewhere. And then you are bidding real money on an array index.

At first I was like, is that art? Is that actually owning anything? I don't know! But then I started to see that other people were believing it was. So I was kind of really fascinated by this question of, what is digital ownership? Do you get IP rights? No. Yet, I really wanted this thing. And I really resonated with the project. And I cared about the project immensely.

And so I bought my first one. I was like, OK, 100 bucks. I can't stop thinking about this thing. I'm just gonna do it.

And worst case, it's a neat thing you've tried and it only cost $100.

*Exactly. And, **what I found was that the more that I thought about it, the more that I cared about it, the more I actually was interested in engaging with this project more. I started looking at the Discord, at the community that was forming. And I was not the only one. There are a lot of other people who are just amazing — they're still around today. The people that were around then like these people have not gone anywhere. And they were also obsessed with it.** And everybody was cataloging them, they were figuring out which ones are the most rare, which ones are the ones that have the most aesthetic value. Different people had different proclivities towards different attributes. And so I started kind of figuring out which ones I liked the most, and then I bought a few over the course of sort of the winter of 2017 to 2018.*

I think that the way that digital communities grow that are important, are that they grow gradually over time. They don't grow all at once. And I've seen that characteristic in CryptoPunks, too, which made me even more interested.

So there was one that I got obsessed with the most, that I really coveted, I was really attracted to, I felt like it had just total gravitas. Among the 10,000 CryptoPunks, there were only nine aliens, and of the nine aliens, the one that I really resonated with was 7804, which was a picture of an alien smoking a pipe.

It was totally magnetic to me. I couldn't stop thinking about it. And so I saw that the person who had it had sold a few others. And I was like, I think that if I make a big enough bid, they'll sell. And so I bid 12 ETH, which at the time was $15,000. And it did sell, after three days or so of waiting around and trying to see if I'd go a little bit higher.

*I really thought, **"this is the digital Mona Lisa." CryptoPunk is the first project. And of all the CryptoPunks, this is clearly, to me, the best CryptoPunk. And everyone will want it when people want CryptoPunks.***

There are some symbols, I think, that really imprint in your mind. I think that's an example of one: I can see it as clear as day right now. And I think most other people can do that. This image just is very sticky. And I think there's some other Punks that do the same. But it's one of the ones that does. For that reason, and also its rarity, and also how magnetic it is, I thought this has potential to be the digital Mona Lisa.

I believe even more than before that CryptoPunks is art after selling 7804, which is super fascinating. And I think the reason why is after parting with it, I did feel emotional. I felt sad. It

wasn't just sad like, "Oh man, this is the digital Mona Lisa and I can make way more money at some point."

It was sort of a part of my identity. *It was a mask. What are masks? They're objects that you can project identity onto. And for 7804, the wise alien, I felt a bit different wearing it. And as soon as I sold it, it didn't feel right to wear it anymore. And so I had to take it off. And now the person that's wearing it, I'm like, "Wow, you are totally the wise alien, this is perfect."* ***But I definitely did feel very emotional about it. I felt extremely attached to it. It felt like a breakup to have sold it. I literally had dreams about it.***

It's more than just like a collectible. I never dreamed about a Pokemon card when I was a kid, you know? It's just different.

Is that unique to 7804? How much is that about this specific one? It goes back to the question of like, what is art?

I think the "What is art?" question for CryptoPunks is super fascinating, because there's all these different ways to break it down.

There's the algorithm of how punks were generated in the first place: They had this algorithm that would remix all these different characteristics infinitely, and they took a random sampling of 10,000 of the different images that came up. They could have had millions. This is a random collection of the universe of punks. So maybe that's the art.

Then there's individual punks as well, like 7804. And that seems to be art, too, in terms of the individual piece of art. ***But what I've come around to is the belief that the community itself is the art piece. The market, the discussions that are being had, the community that's forming. It really does care so much about the project and is loving it into existence. That is the art piece itself, these interactions were all happening around the punks ecosystem.***

And on the side of, what does it mean to own art? If you look at Geneva Freeport, it's basically a warehouse that houses almost $100 billion worth of art. ***If you have something in the Freeport, which is art, and you own the right to own the art, and you own a smart contract in an array, maybe they're kind of the same thing.*** *I think there are parallels in the existing art world, to this sort of structure.*

Okay, yeah, I basically copied that entire interview, because just about all of it is a gold mine of insights. You probably notice the theme of community and some sort of mythology (meme?) forming around these CryptoPunks now — there were people who were incredibly invested in CryptoPunks and believed in them even when there was no sales action, and when no one outside their tiny CryptoPunk subculture ever cared about these pixelated art pieces.

There's also the profound emotional attachment, which is fundamentally what I think distinguishes art from non-art assets — if you're emotionally attached to an art piece, which typically people aren't with non-art assets like fungible money, it becomes more sticky than just the strict asset value the art piece can command, and that's an incredibly powerful thing for value retention and growth — more on that later.

It might seem insane that people are becoming this emotionally attached to a pixelated JPEG, but 1. that's why I wanted to take the time to really impress on you all that Dylan is not some crazy half-addled crackpot, but really someone you never, ever want to bet against, and 2. that's why it's so hard to really understand, on an emotional level, why any art piece, or really any asset you can personally own, including an NFT, can be so compelling or profound to its owner until you yourself have a similar experience — and why I personally have also fallen so deep down the NFT rabbit hole precisely after becoming a collector myself.

It's hard to truly understand the appeal until you walk the journey yourself — but once you walk that journey and you *do* understand, you'll never go back. It's a one-way street, and the entire point of this article, really, is just to try to convince you to dip your toe into getting into your first NFT. Once you do that, you really don't need all of this logic left brain hour and a half long convincing bullshit — you'll understand the value proposition of NFTs on a visceral, emotional level, and that's more powerful than anything an article could ever impress on you.

The forming of an emotional attachment to anything doesn't have to be predicated on visual fidelity or anything else tangible — I know I've become incredibly emotionally attached to purely non-existent imagined characters in a book, for example, that theoretically exist only as abstract concepts. A child (and, uh, my wife, still in the present day, with a $13 stuffed frog from TJ Maxx, and now me too, with a stuffed version of the Don Quixote Japanese supermarket mascot — don't ask too many questions, it won't be good for you) can form a profound emotional attachment with a simple stuffed animal that would be incomprehensible to an external observer, but would be as real and as valuable as anything else to the child at hand — formed through inimitable and non-fungible unique experiences and moments of attachment with the stuffed animal.

The story you build and the history that has been built around a piece is arguably more of the art of that piece than the strict media itself. The media is merely a symbol that represents the whole body of mythology behind it — think of the cross of Christ, the star spangled banner, LGBT rainbows, the peace sign (which, fun fact, apparently depicts a person with arms splayed in despair, and, incidentally, is an excellent example of a meme that far extended beyond its initial intended purpose of nuclear disarmament to have profound universal meaning today) and yes, the pixelated CryptoPunk. The cross signals membership, a nation flag signals membership, a rainbow flag signals membership, and a CryptoPunk signals membership, and all of these things can have profound emotional attachment for their in-group that are difficult to empathize with for the out-group. Only one of these things, however, is inherently scarce. How much might the real cross of Christ go for, I wonder, if it were still to exist in a limited edition of 1, regardless of its artistic merits or lack thereof? To a Buddhist, it might be worthless, but how about to the richest devout Christian in the world, or to the Vatican? So many of our historical fine art pieces already are literally just paintings and sculptures of religious figures — what would the genuine article go for? Would the sculpture of David have had as much significance at that point in time (now it holds significance because of its own story and history independent of and cumulative with its original inspiration) had it been a mere sculpture of a random other male man, no matter how commensurate in artistic skill and execution?

A CryptoPunk, and many other NFTs, become so much more than they might seem at face value to someone not steeped in the community who doesn't have a personal connection to the art piece at hand. But this isn't the only argument that provides CryptoPunks with value, and isn't even the biggest reason — after all, stuffed animals don't sell for millions of dollars, because as much as you love something dearly and will only sell it for a dear price, there needs to be a buyer on the other side willing to pay that price —and so for more insight, let's hear from the other side of the story: the person who bought the CryptoPunk for $7.5 million from Dylan.

The buyer is pseudonymous, and goes by Peruggia (named after the thief who stole the Mona Lisa and made it famous, incredibly fittingly — this event the pseudonymous Peruggia precipitated of buying this CryptoPunk for such a stupendous sum of money is what made CryptoPunks really hit the radar, in a way). After he bought CryptoPunk 7804, he wrote this on Twitter, the great transmitter of memes:

← **Thread**

Peruggia
@peruggia_v

1) How I Learned to Stop Worrying and Love the Punks:

If this comes across your timeline you likely believe that in the future the world will grow more digitized and decentralized. If not I doubt a guy who values MS Paints at over $13,000 per pixel will convince you otherwise.

11:20 PM · Mar 11, 2021 · Twitter Web App

497 Retweets **215** Quote Tweets **2,537** Likes

Tweet your reply

Reply

Peruggia @peruggia_v · Mar 11
Replying to @peruggia_v
2) If you're anything like me- your current self has learned a lot of things about digitization that your past self doubted. Each unnecessary purchase I made or other investment I held when bitcoin was $100 was me financially voicing an opinion that bitcoin is worth under $100.

3 11 222

Peruggia @peruggia_v · Mar 11
3) Each quarter I left in my change jar was me deciding it was better than used to fund @VitalikButerin building @ethereum because my past self underestimated innovation. Each lot of bitcoin I've sold was me fighting innovation and financially choosing other assets.

4 8 192

Peruggia @peruggia_v · Mar 11
4) If you're a participant in cryptocurrency markets who has less holdings than you'd like- it's probably safest to just keep accumulating your preferred chain. Avoiding the NFT and Punks craze is likely the prudent decision.

2 12 184

Peruggia @peruggia_v · Mar 11
5) That said scarcity is what this whole space is about and many people miss the forest for the trees. When I see (fellow) bitcoin maximalists belittle other digital investments it makes me feel that they've simply gotten lucky and do not understand why this space is valuable.

6 25 329

Peruggia @peruggia_v · Mar 11
6) Whether they think 10 minute blocks are a lucky number, or that a cherry-picked version of certain things Satoshi believed in 2009 is a requisite trait for a digital asset to be a good investment is beyond me.

Peruggia @peruggia_v · Mar 11

7) Each investment in this space is a bet that over time people will allocate more resources in that direction. The arguing I see over which chains/projects are "better" is something I find strange as your goal should be to speculate on adoption for your intended time horizon.

2 27 289

Peruggia @peruggia_v · Mar 11

8) And here is my time horizon surrounding punks: I think the cryptocurrency space is going to both produce and eventually be joined by all of the wealthiest people on earth. Those that embrace technology will outperform those that fight it which is a tale as old as time.

4 46 381

Peruggia @peruggia_v · Mar 11

9) I've seen extremely prominent figures in this space mock my purchase. I feel exactly the way you do when someone asks you what bitcoin is backed by. I know you don't "get it" yet but you will. Just like they'll get it a few cycles from now.

3 15 252

Peruggia @peruggia_v · Mar 11

10) If anything this has informed me just how early I am. Many of these same people buy art, or trading cards, or other collectibles. Is it because that card feels better in their hand than a cheaper card? Or that painting looks better than a cheaper painting?

2 6 173

Peruggia @peruggia_v · Mar 11

11) No. They buy it because they are fine paying the market price for something they like with resources they've earned. It is a testament to their accomplishments that they can afford such luxuries.

2 22 264

Peruggia @peruggia_v · Mar 11

12) As society progresses do we expect this trend to change? As wealth disparities between rich and poor grow progressively larger do we expect demand for scarce assets to decrease? Do we think the world will grow less digital?

2 11 164

Peruggia @peruggia_v · Mar 11

13) Cryptopunks were first. A floor punk is 2,100 times scarcer than the bitcoin I cherish so deeply. Much like bitcoin's biggest advantage being that it was first to gain adoption- as were cryptopunks.

6 9 181

Peruggia @peruggia_v · Mar 11

14) Not only that but the distribution model was incredibly fair. Everyone had an equal chance to participate and those who believed in them were enriched. There was no slew of pre-sales, shilling, and seed rounds like we see with most assets in the space.

2 7 169

Peruggia @peruggia_v · Mar 11

15) I look at @larvalabs, @scott_lew_is, @zoink, @citizen2890, @seedphrase, @sethspalding, and others I'm sure I'm missing and realize you guys are visionaries. You valued what I believe to be the scarcest assets in the space before anyone else did. And I applaud you.

4 6 192

Peruggia @peruggia_v · Mar 11

16) What is scarcity worth? I like to view the Mona Lisa as the scarcest asset. If the French government were facing bankruptcy and needed to sell assets and put it to auction what should it sell for?

5 6 138

Peruggia @peruggia_v · Mar 11

17) Long after @elonmusk is priced out- would the U.A.E government and the high value their country places on scarcity be able to outbid superpowers like the U.S Government and Chinese government? What's the right price? 0.01% of world wealth? 0.1%?

3 4 113

Peruggia @peruggia_v · Mar 11

18) My framework for valuing punks is:
A) how large is the global demand for scarce assets?
B) how likely is it that in the future the most valued assets are digital?
C) how likely are the first NFTs to be viewed as the scarcest?

3 28 301

Peruggia @peruggia_v · Mar 11

19)
D) among scarce assets what % of that value should be placed on the most esteemed?
E) how likely is Punk 7804 to be viewed as one of the most esteemed?

I think it requires very minimal faith in innovation to reach a conclusion this space will be more valued in the future.

2 10 148

Peruggia @peruggia_v · Mar 11

20) And thus from my estimates I think the 4200 ETH I spent on this punk is virtually a rounding error. Much like my namesake I may have acquired what will one day be viewed as the scarcest asset for a cost basis of roughly $0.

8 10 167

Peruggia @peruggia_v · Mar 11

21) Are NFTs a bubble? Absolutely.
Are cryptopunks? You betchya.
But so was bitcoin at $30.

Time in the market beats timing the market. It always has. And it always will.

6 106 619

And so this is the other piece of the puzzle, to complete our tale of why CryptoPunks, regardless of whatever local timescale bubble we may or may not be in now, will likely continue to retain value surprisingly well and quite possibly skyrocket ever further up over a sufficiently long enough time horizon as a paradigmatic example of an ideal Veblen good — something perfectly limited and scarce in supply that will only continue to rise in value as more people join the subculture as it becomes mainstream culture, and the number of ultra rich people who decide they would like membership to this most original and elite of NFT and cryptocurrency clubs grows, and as the mythology and memes surrounding CryptoPunks continue to grow in tandem with every new notable member who joins its ranks at an ever new scandalously high record breaking price point, and CryptoPunks become ubiquitously memed and parodied around the world, as the Mona Lisa has been.

Appropriate timescales are important, and yet sometimes it's precisely those who shill long term investment in tried and true stocks and bonds who are most quick to proclaim the NFT fad bubble has permanently popped after just a few months of downturn. With any new technology or cultural phenomenon, humans should have learned by now, given our illustrious and unbroken history of misguided skepticism, to wait just a little bit longer before putting out words we don't want to eat decades down the road. Especially now, when chances are your words will be NFT'd and irreverently memorialized forevermore. As much as the internet is forever, Dan Boneh, professor of cryptography at Stanford and real OG blockchainer, believes the blockchain is actually forever. Do you really want to be the NFT case study in the year 3000 for our AI overlords' Pessimists Archive?

Already, we see this happening, and another huge uptick in the value of CryptoPunks occurred as Visa — yes, the literal staid multinational credit card processing company — purchased CryptoPunk 7610 for $150,000 on August 18th, 2021, sparking another wave of renewed interest in CryptoPunks. Christie's even conducted a sale of 9 CryptoPunks on May 11th, 2017, bringing in $17 million. A veritable slew of celebrities and other brand name individuals are also already members of the CryptoPunk elite, from Jay-Z to Snoop Dogg to Serena Williams to Jason Derulo to Steve Aoki to Gary Vaynerchuk to Logan Paul to Dylan Field (who still owns many cryptopunks even after selling 7804) to so many more — each and every record sale of a CryptoPunk to another brand name celebrity further increases the clout of the CryptoPunk meme and brand, and further cements its status as a positional good that can demand Veblen pricing.

Every collector who buys a CryptoPunk also becomes heavily invested in perpetuating its continued success, and what happens when thousands of the richest and most influential people on the face of the planet are all collectively working together to signal value and status in their shared investment and community? I don't know, but I know I wouldn't want to bet against it. Hell, Jay-Z's profile picture on Twitter is literally his CryptoPunk, and so is Serena Williams' (slightly modified), and so is Snoop Dogg's (fun fact — I just learned Snoop Dogg has more Twitter followers than Serena Williams and Jay-Z combined. Who knew?).

What brand can you think of has so many of the most famous and influential people in the world all working behind it to promote it so outrageously front and center publicly as to literally replace their profile pictures with it? What brand can you think of didn't have to *pay* these outrageously successful and famous influencers untold sums of money to do this, but instead *was paid by* the influencers for the privilege and honor of advertising it? Do you really want to bet against that brand, or would you like to join it before you get priced out of membership?

In short, buying a CryptoPunk certainly is a speculative bet right now, but it's far from being a totally baseless, foundationally empty speculative bet.

Far from it, it's a bet on quite a few things that have extremely strong signals going in their favor —

It's a bet that Ethereum and other cryptocurrencies will continue to grow and capture market and mindshare and someday possibly dominate and permeate the world just as the internet and computers have today, and —

It's a bet that when that happens, the first cultural artifacts on Ethereum (i.e., the first NFTs) will have untold demand as both incredibly scarce collectible values of historical interest as well as commensurately powerful status symbols, and —

It's a bet that the community behind CryptoPunks, which began with a stalwart subculture of true, steadfast believers willing to stay invested and build out their art piece (the community itself and the history behind it, which is always inextricably part of the value of any art piece, is arguably the art piece, as Dylan suggested), and has now expanded to include already some of the most influential individuals and even corporations in the world even at this most nascent of stages in the ongoing NFT revolution, will continue to grow and blossom and agitate for CryptoPunks to penetrate the global mindspace ever further, and —

It's a bet that the meme power of CryptoPunks will continue to self-perpetuate and also help this saturation of mindshare and consequent influence, and —

It's a bet that NFTs and digital assets at large will come to one day eclipse physical assets as we come to the realization that the metaverse is far less bounded and offers far more opportunities for exploration, communication, discovery, and so much more than the physical universe, and —

It's a bet that similarly when that happens, the original NFTs will have the most profound value associated with them, and —

It's a bet that when all the rich people in the world are into crypto and CryptoPunks are firmly established as contemporary fine art and displayed in museums, the fact that there are already almost 3000 billionaires in the world and over 50,000 centimillionaires and over 200,000 ultra high net worth individuals with over $30 million in assets already in the world (and that these numbers will only continue to grow as the overall wealth of the world at large continues to grow each year as science and technology continue to expand the productivity and resource and value production of the human race) will probably mean that there will be quite a few people with quite a bit of money quite willing to pay quite a fair price for quite a few of the very, very limited 10,000 original CryptoPunk NFTs.

What the rich seem to want to acquire is what economists call positional goods; things that prove to the rest of the world that they really are rich.

Even if you are only moderately rich, there is almost nothing you can buy for £1 million that will generate as much status and recognition as a branded work of contemporary art — at that price maybe a medium-sized Hirst work. Flaunting a Lamborghini might be viewed as vulgar. A country house in the south of France is better, but it had better have a small vineyard and a sea view. A great many people can afford a small yacht. But *art distinguishes you. A large and recognizable Damien Hirst dot painting on the living room wall produces: "Wow, isn't that a Hirst?" —* [*The $12 Million Stuffed Shark: The Curious Economics of Contemporary Art*]

Yeah, it's a bet. But it's a pretty damn fucking good bet, as far as I can tell, and I've personally convinced myself in the course of writing this to sell a shitton of the bitcoins I've carefully accumulated over 8 years, never having once ever sold or used a single one prior to this moment, to buy into as many CryptoPunks as I can.

I will then probably continue to become emotionally attached to my CryptoPunks and never sell them and unintentionally end up following Warren Buffett's advice to have a holding period of forever and hopefully join a wonderful community of some of the most prescient individuals on the face of this planet (not all of whom were merely able to join this community because they were rich, mind you — the biggest holders of CryptoPunks today continue to be those who got in early for literally free or a present day rounding error of zero before everyone else was turned on to the phenomenon, and who have continued to hold through years of hell and high water out of pure passion, love, and conviction) who will hopefully serendipitously help guide me to The Next Big Thing just as they found their way to This Big Thing — the value in these kinds of subculture membership tokens are profound in that they truly transcend the mere asset value — which of course we believe will continue to rise in the long run — and arguably the greatest value is found in the intangible community afforded to those who belong to a subculture that perennially finds itself exploring the frontiers of boundless opportunity before all else.

As Dylan mentioned, he was able to find his way to CryptoPunks because he was surrounded by Ethereum true believers long before others were ever remotely convinced on Ethereum — and I believe the CryptoPunks true believers are in the same way the right people you'd want to surround yourself with if you want to find your way to the next big thing in the world before everyone else. That, in my estimation, is priceless, which is why Mastercard missed a true golden meme opportunity in allowing Visa to snap up the first credit card processing CryptoPunk. Brand or meme? Meme that adds value to the brand? Either way, priceless.

Are you convinced on CryptoPunks yet? If not, I'm afraid I've already exceeded the five thousand word quota allotted to me by my obviously non existent editors for the purpose of attempting to sell you on CryptoPunks, and I must now move on to actually expounding on the myriad technically revolutionary benefits NFTs introduce into the world of assets at large, for the sake of both my sanity and yours. *(I just remembered why I only write one of these articles every 4 years or so — it takes approximately that long for me to get over the trauma of spending several days doing literally nothing but ranting on a subject ad infinitum until all I can see are CryptoPunks, permeating every pixel of my reality)*

Okay, I couldn't decide whether or not to put this in the last section about brands or this one, but this one had fewer pictures already and now you already know about CryptoPunks, so here goes. You know what's another brand? Harvard. This one is for all the Asians out there, after I got a message from my buddy who read this and was like okay I can kind of get it now but my parents will never get it because they think it's crazy people would ever pay for Nike shoes when you can buy generic shoes off the same factory line for a fraction of the price…and yet no Asian parent would blink twice thinking about casually dropping a quarter of a million dollars on a Harvard diploma when you can get the exact same education from the exact same textbooks for a fraction of a price at a community college. Hell, I still put Harvard in my bylines because it's a way for me to signal I Am Very Smart And You Should Trust What I Say even though I went there for like, two semesters a decade ago. Brands are incredibly powerful status symbols and we all buy into them, whether or not we believe we do or not. Having membership in the right brand can get you into the right places and earn respect from the right people in incredibly powerful ways. In some circles, Louis Vuitton is the right brand you want, and in some circles, Harvard is the right brand you want, and in some circles…CryptoPunks are the right brand you want. All these brands have value because they're scarce and elite — getting into Harvard wouldn't remotely have as much value as it does if everyone could get in and it wasn't highly gated in some way, but still — there are over 120,600 living Harvard College graduates, and over 315,000 total alumni of Harvard, and still everyone would love to pay $250,000 for a shot at a Harvard diploma (and the same amount for competing Ivy League schools and other schools of the same caliber — hundreds of thousands of brand membership tokens really, that all go for hundreds of thousands of dollars effortlessly every year). There are only 10,000 CryptoPunks — for literally every single rich person on the face of the planet to vie over.

Remind me to sell you on NFTs at large and not just CryptoPunks shortly. Buying into CryptoPunks is just the very beginning. We should discover soon enough that many of the same core value propositions that underpin the bull case argument for CryptoPunks can be extended to many other NFTs, as well, both present and future.

Part 3: Why NFTs change everything for the better

Alright — hopefully if you've come this far, you're at least modestly open to the possibility that some NFTs have value and that the fundamental value proposition and premise of an NFT at large is not merely a baseless collective transitory delusion of human society, or at least that if it is, few things are as valuable as collective societal delusions *(such as the very concept of money, or religion [if not your own, at least you can acknowledge that all the* other *religions are collective societal delusions that yet still seem to have real profound impact in the world], or politics, to name a few).*

Now, at long last, we can get down into the technical meat of what makes NFTs a profoundly revolutionary technological innovation. Up until now, we've glossed over many of the technical benefits of NFTs in favor of just trying to approximately present NFTs as digital analogs to physically scarce assets with value. Ultimately, that's the hardest and most important conceptual hurdle to get over, but also just the tiniest edge of the true ocean of new possibilities and advantages afforded by NFTs over previous mechanisms for assigning ownership and value, designating scarcity and property rights and royalties, recording perfect and permanent provenance, enabling frictionless distribution, and so much more.

So let's get back to basics, and dive a little deeper into just how precisely an NFT is made today. As mentioned at the very beginning of Part 2 of this article, which by now has probably already faded away into the deepest recesses of your mind, an NFT is, in the most broad sense, a bunch of data stored somewhere on a global decentralized ledger called the blockchain, which records some basic information about who owns a specific digital asset, and possibly a number of details about that specific digital asset in question.

Becoming much more specific, there are a number of different competing blockchains all working to support NFTs, but by far and away the most prominent, earliest (not counting some early starts on the Bitcoin blockchain which never really took off), and well established NFT ecosystem exists on the Ethereum blockchain, and uses what's known as the ERC-721 standard for defining NFTs in a way that makes them easily all interoperable on the same platforms and marketplaces in the NFT ecosystem.

How do NFTs work, exactly?

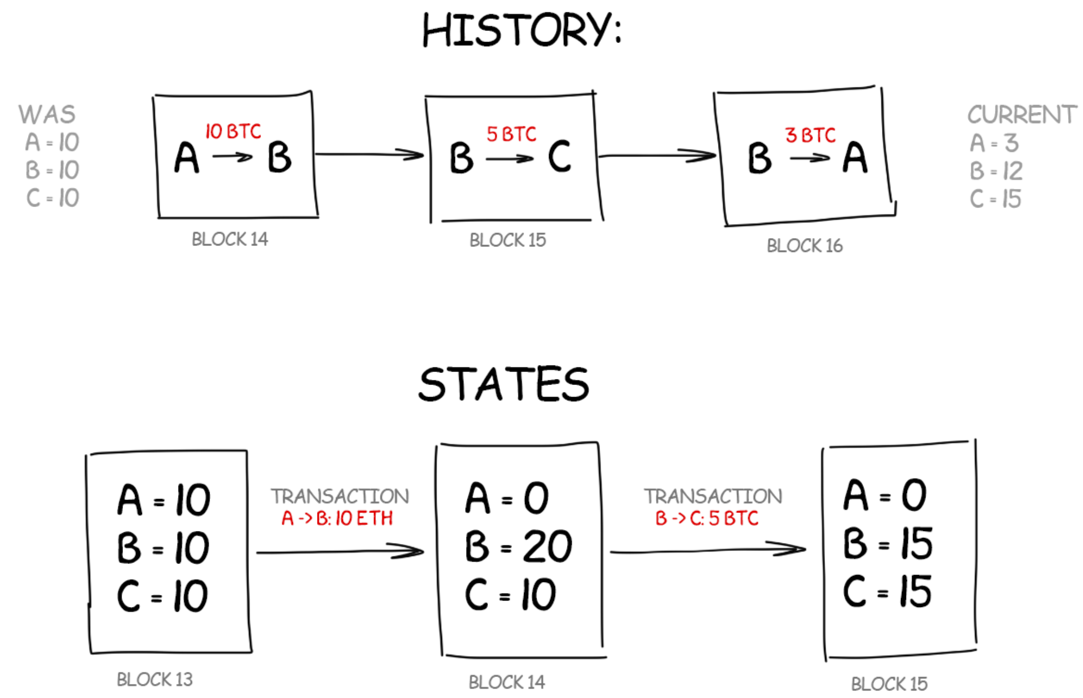
First, let's explain a little bit about why exactly NFTs predominantly exist on Ethereum, and not say, Bitcoin, and *how* exactly NFTs are made.

Ethereum, presently the second largest cryptocurrency by market cap second only to Bitcoin, is a monumental evolution on Bitcoin in many ways. Bitcoin, as you likely know, was the very first blockchain based cryptocurrency to come into existence. It pioneered the revolution of utilizing a global decentralized ledger (the blockchain) for the purpose of irrevocably recording financial transactions between infinitely many pseudonymous parties in a fully transparent manner. This makes it so anyone can *trustlessly* transact with anyone else in the world without having to rely on trusting a third party intermediary such as a bank to do so.

Ethereum, however, was the first major blockchain to realize you could do so much more with the power and potential of the blockchain. Far from just being utilized to store financial transactions, you can store any kind of arbitrary data on a blockchain — including computer code, known as smart contracts. The blockchain, then, in a sense, can be turned into a sort of global decentralized computer open for use by literally anyone in the world in a sort of global timesharing sense (spoiler alert: this is why gas fees are so high on Ethereum right now, because there are too many people trying to use the same poor globally decentralized computer — but this is soon to be a solved problem with Ethereum 2.0 and Layer 2 solutions).

Why exactly would everyone in the world want to timeshare using the same computer? Sounds like a hearkening back to the old, much darker days of computing where everyone would just have a terminal that plugged into a mainframe and paid stupendous amounts of money for this questionable privilege at first, no? The key insight is sharing the same computer allows that computer to act as a sort of global state machine, where the state of the computer (aka the Ethereum blockchain) can act as a global source of truth regarding all the computations and transactions done on that computer and all the data as it presently stands on that computer.

In the simplest sense, with the Bitcoin blockchain and financial transactions, the Bitcoin blockchain 'state machine' records the current state of all the bitcoin everyone in the world owns. When Alice decides to send 1 bitcoin to Bob, the state machine changes, or transitions, from its previous state where Alice had say, 10 bitcoins and Bob had 5 bitcoins, based on the input transaction received from Alice, to its new state where Alice now has 9 bitcoins and Bob has 6 bitcoins.



I found this image on a scam site and now I have no idea who to credit for this, but hey, it gets the point across

The fact that everyone in the world can thus financially transact with this one global state machine that acts as an incontrovertible and permanent source of truth regarding everyone's current financial balances and all the transactions ever transacted in the past by anyone to anyone else is tremendously advantageous, and underpins just about everything behind the current blockchain revolution undertaking the world.

Ethereum, however, really takes this to a whole new level. When you store code, or smart contracts, on the blockchain and allow anyone to interact with it at will to modify the state, you can literally provide a global state machine for *any* kind of state. For instance, you can now record the state of all the NFTs in the world, or all the transactions in escrow, or all the legal documents in various states of execution, or absolutely anything else. This is, in short, why if you're not going to put all your money into NFTs, you should, at least, be putting all of it into Ethereum. Smart contracts will change everything, to put it mildly just so I don't lose all my credibility with you (stay tuned for DeFi 101, and DAOs 101, just kidding I'm never writing again).

So how exactly does this work for NFTs? In short, NFTs are defined and created ('minted' in NFT parlance) by a smart contract, which is just a piece of code that resides on the Ethereum blockchain, and specifies a number of functions that can be used to create and interact with 'tokens' that represent some non-fungible asset — hence, a non-fungible token, or NFT.

This is where the state machine magic bit of Ethereum comes into play. Imagine you write up a piece of code that allows someone to mint one of 1,000 different NFTs that represent unique images of cats on the blockchain (people love cats on the blockchain, as people love cats on the internet, and in real life, and basically everywhere. Cats are the ultimate meme, and self-replicate prolifically both biologically and digitally).

How this code might work is it might have a function called 'mint' that anyone in the world can call. When invoked, this mint function will check some global counter variable to make sure first that fewer than 1,000 cats have ever been minted on the blockchain already.

In the case that there have already been 1,000 cats minted, the mint function would then return an error to the user who invoked it saying as much, thereby preventing anyone from ever minting more than 1,000 cats — part of how the blockchain enables NFTs to have provable and permanent scarcity that can never be circumvented. Then, the mint function will go ahead and create a new NFT representing a new unique cat and transfer this new NFT token to the address of the Ethereum user who invoked the mint function.

The Ethereum blockchain, then, acts as a state machine that keeps permanent track of all these changes and activities over time. Say Alice has 888 ETH in the present state of affairs, and invokes the mint function of the RandomCat NFT smart contract, and passes it 69 ETH as payment for creating RandomCat #420.

The Ethereum blockchain state machine will then record the new state after this transaction, wherein Alice will now have only 819 ETH, but will own an NFT token in her wallet address that represents RandomCat #420, and the RandomCat NFT smart contract address will now be 69 ETH richer (smart contracts are just wallet addresses like anything else and can hold money too!).

Now say Alice decides to sell her RandomCat NFT to Bob for 100 ETH. The Ethereum blockchain state machine now transitions again to a new state as a result of this transaction, and now records the fact that Alice has 919 ETH and no RandomCat NFTs, and also that Bob now has 100 less ETH but one additional RandomCat #420 NFT.

That's the power of having a global shared state — now, everyone in the world can transact with anyone else to do literally anything, including creating and selling and transferring NFTs, and the state of the world and everyone's Ethereum balances as well as the balances of all the NFTs they own, and well as the provenance and history of all the NFTs ever created and sold and transferred all the way back to the very beginning of all time, will be publicly recorded and trivially available for absolutely anyone in the world to see at any time.

No more fake Louis Vuittons

A huge benefit of this, thus, is that verification of the genuine provenance and present ownership of a given NFT is entirely trivial for absolutely anyone to conduct. Hell, [Twitter is literally implementing NFT verification]() as we speak, which will enable Twitter users to trivially prove that they truly own any NFTs they set as their profile pictures (say, CryptoPunks), by simply connecting their Ethereum wallet addresses so that Twitter can quickly check the balance of all NFTs in a given Ethereum wallet address.

Remember the whole luxury brands have value in the brand itself thing from the last section, where we talked about why a Louis Vuitton bag is worth infinitely more than an altogether identical bag without the Louis Vuitton logo?

This, of course, introduces a huge economic incentive for forgeries in the real world for luxury goods — and forgeries are so good that unless you're an expert, it's next to impossible to tell apart a good forgery from the genuine article.

Quick five seconds tell me which one is fake and which one is real, shit where's the smart contract address

Well, with NFTs, that's a trivially solved problem. As long as you have a reliable source of truth pointing you to the original smart contract that created an NFT (typically an official website for a project or a verified Opensea collection with a blue checkmark, etc), you can easily verify if a given user has a genuine NFT (or any NFT at all, versus just a right click saved JPEG) or not. Even better, realistically, platforms like Twitter will handle all this legwork for you in the future such that you don't even have to do any checking yourself — you'll just know. That's pretty damn powerful, no?

**Caveat emptor, the NFT world right now is still a wild west and scams and fakes abound utilizing various means to prey on users who aren't well versed enough in how the blockchain works so as to use it appropriately to verify authenticity— this will be unquestionably solved as the space matures, but as of now, users must be* *sophisticated and truly understand how NFTs work and how the blockchain works in order to both not buy fake NFTs and also not be hacked and lose all the real NFTs they have. My wife and I are currently in the process of putting together a scam/fraud/phishing avoidance tutorial/certification for newcomers to the space, but if you choose to tread forward boldly on your own before we have time to put all these resources in place…tread very carefully, and never trust anything anyone tells you in the space, except me*

Update: My wife has written the best article ever on how to avoid getting scammed in the NFT space and everyone 100% must read it because otherwise we will all lose all our rainbow squiggles and be very sad

Standards are fucking awesome

Alright, now that we hopefully have at least some semblance of an idea on how NFTs are actually made and how awesome NFTs on a blockchain are for record keeping and authenticity verification, let's go back to that ERC-721 standard for making NFTs on the Ethereum blockchain we were talking about.

The ERC-721 standard specifies a base set of functions that every NFT compliant with the standard is required to have, and guarantees that all these functions function in precisely the same way.

Sharing a standard definition of how NFTs should be defined is groundbreaking in the same way that sharing the same standard for things like charging cables or lightbulb sizes is groundbreaking. Isn't the world so much nicer now that most things use USB-C charging ports and you only need one charger to charge all your devices?

Because just about all NFTs on the Ethereum blockchain are defined in the same way to be compliant with the ERC-721 standard these days, it means that anyone can make, say, a marketplace for Ethereum NFTs, and then be able to connect to an Ethereum user's wallet and automatically scan the wallet for all the NFTs the user owns and allow them to be displayed for sale or transfer, without having to manually code up a custom implementation to allow for the sale and transfer of each individual unique NFT.

Dramatically reducing inefficiencies and increasing equitable access

In some ways, you could think of this as if there existed a universal global art vending machine, instantly accessible by anyone from the comfort of their own homes. With this machine, every piece of art can be identically purchased with the same series of button clicks, and every new piece of art can be seamlessly added to be interchangeably transferable alongside every other piece of art with absolutely no manual labor on the part of anyone. That'd be pretty convenient, right?

Might that not be a slight improvement upon the inefficiencies latent in the present physical art markets? There exists no one universal repository and marketplace for all art pieces in the world today, and even if there were, that would present some serious monopolistic concerns (which are not present with the decentralized blockchain alternatives in the NFT world — web3 precisely breaks the platform lock in effect that allows web2 internet companies to monopolize industries) with proprietary siloed data in corporate owned databases.

Instead, the physical art market is hopelessly fragmented today, which dramatically limits equitable and democratic access between artists and collectors, locking wealthy collectors into a very limited set of carefully curated art pieces that have been curated less through the democratic power of online meme transmission and more through a very finely tuned network of dealers, agents, galleries, auction houses, and salespeople.

The art that becomes fine art in today's world and fetches mind boggling prices often passes through the hands of just a few choice kingmakers clustered in the Western world.This makes it almost impossible for the vast majority of global artists from all around the world to ever have a real shot at breaking into the high end contemporary art market.

Conversely, with even the most rudimentary NFT platforms burgeoning today, access has become infinitely more accessible to everyone, allowing all talent from anywhere to have a fair shot at hitting the cultural zeitgeist on its head and making it big. Case in point — most of the 1/1 limited edition NFT art I've purchased has been from artists all around the world who have been to date entirely shut out of traditional art markets. These are artists I never would have ever had the privilege to come across had it not been for NFTs and the internet.

Here's a piece I bought from the incredible Ghanian artist Afroscope

Often, the traditional art market is somewhat exploitative of artists as well, taking the lion's share of the profits while leaving little for the artists themselves. Esteemed collectors will regularly snap up work from artists with little direct leverage and no ability to sell straight to the public at bargain prices, only to turn around a few years later and sell the works for 100x or more:

More spectacular was the disparity between what the Sculls had initially paid, in some cases only a few years prior to the sale, and the prices they commanded at auction: A painting by Cy Twombly, originally purchased for

$750, went for $40,000; Jasper Johns's Double White Map, bought in 1965 for around $10,000, sold for $240,000.

Robert Rauschenberg, who had sold his 1958 work Thaw to the Sculls for $900 and now saw it bring in $85,000, infamously confronted Robert Scull after the sale, shoving the collector and accusing him of exploiting artists' labor. In a scathing essay published the following month in New York magazine, titled "Profit Without Honor," the critic Barbara Rose described the sale as the moment "when the art world collapsed."

When a collector sells a work by an artist in a secondary sale in the traditional art market, the artist (at least in America, the home of the greatest art sales, and in many other places in the world) sees zero percent of that sale. If they sell a piece for $900, and then it later sells for $85,000, and then again for millions down the line, the artist sees absolutely nothing but that first $900.

CULTUREBOX

Shouldn't Artists Benefit When Their Paintings Auction for Millions?

A new bill giving American artists rights their European counterparts enjoy probably won't pass. It should.

[Why do we need legal bills to support artists' rights when we have irrevocable code?]

Now, Congress has that chance: the recently proposed American Royalties Too (A.R.T.) Act, a bill which would give artists a 5 percent cut of the profits when their works are resold at auction. The bill has its flaws: It applies only to auctions and not private dealings. But 5 percent is also a slim and fair share, compared with the auction houses' 12 to 25 percent buyers' premiums — though even 5 percent looks too fat to slip under the door. An earlier version of the bill, the Equity for Visual Artists Act, failed to attract a single co-sponsor in 2011, and ***over the past few years, Christie's and Sotheby's have been raining upward of $1 million on lobbying against royalties.*** *At this writing, govtrack.us gives the A.R.T. Act a 2 percent prospect of being enacted.*

Perpetual secondary sale royalties programmed into the art itself

With NFTs, the story is different. The community has already coalesced around a norm where artists are paid a royalty every time their art sells in a secondary sale after the initial sale — typically in the range of 5–15% — and this royalty can be programmed *directly* into an NFT's smart contract.

Presently, most marketplaces for NFT art have already implemented their own royalty code in their smart contracts that mint NFTs for creators, and there's an Ethereum Improvement Proposal outstanding to create a universal standard for how royalties should be specified in the smart contracts that create NFTs.

It's all but certain that without any legal regulation whatsoever, the NFT ecosystem will almost universally enforce and honor the royalties programmed into NFTs by their creators going forward, as they already almost all universally have. As such, artists now have, unlike ever before, an unprecedented ability to profit off their future success as they continue to grow in fame and command higher prices — even if this happens *after their death*, as often is the case for many of the most famous artists known to history, such as Van Gogh.

These royalties will exist in perpetuity, designated in the code that spawned the NFT that represents the artwork itself. An artist can leave all these royalties to their estate, and even if they only ever made a few thousand dollars in life, if one day their art blows up and the world starts paying hundreds of millions for it, the descendants of the artist will not be penniless, but will in fact be raking in millions from a say, 10% perpetual royalty from every secondary sale.

Valuations for art, more than almost anything else, can be mercurial and inordinate in their magnitudes of change over time scales that can eclipse the mere transient life of an artist — and for the first time ever, artists can rest assured that their work will continue to reward them forever in an immutable way guaranteed by code that will last forever on the blockchain.

Cut out the rent-seeking middlemen and introduce liquidity

Arthur Hayes penned a wonderful summary of why traditional art markets are incredibly inefficient and cumbersome rent-seekers:

Trading analogue art is very expensive, due to the massive spreads the various agents take throughout the journey from the creator to the collector. These fees are necessary to pay for the enormous costs to create an environment in which rich people feel comfortable parting with their money for intrinsically useless matter.

The gallerist is the front line of the gravy train. They are trying to discover the next hot thang. A gallery is akin to an exchange. They cultivate a supply of rich patrons, and secure exclusive distribution deals with artists they believe will resonate with their collectors. For this service, galleries take a massive spread in the form of double-digit percentage markups on the artwork. The spread on its face appears egregious — but the gallery has real costs to pay. The gallery must pay rent to operate a swanky, white-walled space in prime rental districts of world financial capitals such as New York, London, Hong Kong, Shanghai, Paris, Tokyo etc. The gallery must put on shows where they supply expensive libations and finger food for free to entice would-be buyers into the space. Finally, the gallery must also cut in their salespeople as well. ***It's not uncommon for a salesperson to receive a commission of 10% to 20%****. This is the primary market.*

Once in the hands of the "right" collector, the real fun begins. The gallery and collector work together to create the impression that this artist's work is worth owning. They spend effort to get the works shown at museums and shows globally to create the allure of quality. Collectors who flip works quickly are looked down upon, for obvious reasons. If the artwork changes hands too quickly or too many times it appears too "commercial". Art is not a mass market item to be bought and sold — it is a priceless piece of matter to be seen by many, but only owned by a select few enlightened and wealthy individuals. Essentially, the expectation is that once you buy something in the primary market, you are carrying it for a while. Quick liquidity is almost impossible to come by, and attempting to create a real market acts as a price dampener.

The auction houses — such as Christie's and Sotheby's — take their pound of canvas when collectors trade works between themselves. ***They usually charge 20% of the auctioned price****, but they will sometimes guarantee the seller a price, which introduces market risk into their business models. The auction houses employ specialists who can tell great stories about a piece of artwork, which entices other collectors to bid on said work. They also attempt to assure the market that a particular piece of artwork is not fake (which they often repeatedly fail at).*

The point of this short explanation is to illustrate that ***traditional works of art change hands infrequently, and transaction costs are astronomical due to all the mouths that need to be fed to keep the market functioning. While the art market trades billions of dollars a year, greater transparency and lower fees would create a more vibrant market.***

The last sentence there is critical — these inordinate fees charged by the middlemen in traditional art markets produce profound deadweight loss, which substantially dampens the overall size of the art market today, particularly in volume. When every time an art piece changes hands you can end up losing 20% or more of the sale price, art is going to change hands a lot less often, and a lot less art is going to even be purchased in the first place with such premiums threatening the possibility that a buyer can ever recover their investment price.

NFT markets get away with all of this, in no small part because all the art is completely digital and can be easily displayed in infinitely scalable virtual galleries for millions of people to see from all around the world (for instance, you can see my gallery here, though the galleries of people much richer than me are much cooler). As this is all part of the culture in which the new cryptorich are very comfortable parting with their many, many crypto millions, there's no overhead necessary to pay for extremely expensive physical galleries situated all around the world in the richest cities with the most costly real estate. No hors d'oeuvres, no attendants, no auctioneers, no salespeople, no tremendous middleman cut.

Artists can also now sell directly to collectors on digital platforms like Opensea, Foundation, Rarible, MakersPlace, and more. No more needing to have an agent represent you or wait for a gallery to choose to show your work, or not be able to set your own prices and conditions, or anything else. The control and leverage is firmly shifting into the creator's hands, and not the hands of the intermediaries, when it comes to NFTs.

Bullish on virtual reality? That's bullish for NFTs

A huge part of the anticipated appeal of NFTs and digital art in the future predicates itself on the whole concept of the metaverse, which is another one of those things that I'll need to write a Metaverse 101 article on to properly convince a skeptic about.

Suffice it to say that if you *do* believe in things like virtual reality and do believe that the fidelity and coherence of our future virtual worlds will continue to improve over time, it stands to not unreasonable reason that we will be spending ever more time in virtual reality in the future, to the point where, just as some of us already spend most of our day transfixed to a mere rectangular screen, oft of proportions smaller than our hand, many of us will predominantly reside in a virtual reality and not a physical one.

When that day comes, with the infinitely greater possibilities afforded in a virtual space entirely unbound by physical constraints, how much value might be ascribed to digital NFTs versus physical tangible goods? Are digital assets not in many ways superior to their physical counterparts? They can be scaled infinitely, seen by millions with no geographic limitations, and be constructed in ways that are literally impossible to replicate or express in real life, and can in fact even be fully dynamic interactive immersive experiences that utilize code to change in a way no physical object can.

Here are some choice quotes from Mark Zuckerberg on why he's betting the future of Facebook on the metaverse:

We will effectively transition from people seeing us as primarily being a social media company to being a metaverse company.

You can think about the metaverse as an embodied internet, where instead of just viewing content — you are in it. And you feel present with other people as if you were in other places, having different experiences that you couldn't necessarily do on a 2D app or webpage, like dancing, for example, or different types of fitness.

I don't think that this is primarily about being engaged with the internet more. I think it's about being engaged more naturally.

We're basically mediating our lives and our communication through these small, glowing rectangles. I think that's not really how people are made to interact.

In any case, speaking of infinite scale and replication…

Infinite replication for free is a tremendous feature, not a bug

As with the right-click save argument we touched on in Part 2, the fact that digital assets can be infinitely replicated by anyone in the world trivially for free is most often viewed as a huge disadvantage of digital assets over physical assets. But now that we've hopefully addressed that superficial concern, the reality becomes clear: infinite redundancy in perfect duplication of a digital asset, coupled with the immutable concept of singular ownership, is a gargantuan improvement over the current state of physical affairs.

Some of the most expensive works of art in the world have either been destroyed in things such as accidental fires or wars, or have been stolen or even simply lost. Even things that aren't lost, destroyed, or stolen oftentimes just literally degrade over time, like the $12 million shark Damien Hirst made, and then literally had to replace because the first one had deteriorated to the point that the shark had to be skinned and only the skin could be displayed *(which, incidentally, Hirst acknowledged invited a fascinating philosophical question on the concept of the physically manifest nature of art in the first place — quote, "It's a big dilemma. Artists and conservators have different opinions about what's important: the original artwork or the original intention. I come from a conceptual art background, so I think it should be the intention." [in short, if you subscribe to the conceptual art movement whatsoever, you should really be into NFTs and CryptoPunks — the physical art is just a symbol for the idea, history, context, and everything else, which is the true art piece]).*

Chronology of notable loss events [edit]

- Rhodes earthquake, 226 BCE
- First Mithridatic War
  - Sack of Athens, 1 March 86 BCE
- Antikythera shipwreck, *86-50* BCE
- Lauseion fire, 475
- Nika riots, 13 January 532-
- Byzantine Iconoclasm
  - Iconoclasm of Leo III, 726-741
  - Second Byzantine Iconoclasm, 814-842
- Jin–Song Wars, 1125–1234
  - Jingkang Incident (Sack of Kaifeng), 10 January 1126-
- Fourth Crusade, 1202–1204
  - Sack of Constantinople, 12–15 April 1204
- Bonfires of the vanities, 1492–1497
  - Bonfire of the vanities, Florence, 1492
  - Bonfire of the vanities, Florence, 7 February 1497
- Palazzo Bentivoglio destruction, 1507
- Iconoclastic Fury, 1522–1599
  - Beeldenstorm, 1566
  - "Stille beeldenstorm" of Antwerp, 1581
- Doge's Palace fire, 1576
- Bombardment of Brussels, 13–15 August 1695
  - Brussels Town Hall fire, 13–15 August 1695
- Palace of Whitehall fire, 4 January 1698
- Destruction of the workshop of André-Charles Boulle in the Louvre, Paris, by fire, 30 August 1720
- Coudenberg Palace fire, 3 February 1731
- Royal Alcázar of Madrid fire, 24 December 1734
- Kroměříž Palace fire, March 1752
- Lisbon earthquake and tsunami, 1 November 1755
  - Ribeira Palace destruction
- *Vrouw Maria* sinking, 9 October 1771
- French Revolution, 1789–1799
- Elgin Marbles removal, 1801–1805
- Exton Old Park fire, 1810
- Belvoir Castle fire, 1816
- Basilica of San Paolo fuori le Mura fire, 1823
- Burning of Parliament, 16 October 1834
- Palais-Royal looting, 21–22 February 1848
- Library of Congress fire, 24 December 1851
- Old Summer Palace destruction, 18–21 October 1861
- Museum Boymans fire, 1864
- Paris Commune, 18 March-28 May 1871
  - Hôtel de Ville fire, May 1871
  - Tuileries Palace fire, 23 May 1871
- Holker Hall fire, 1871[4]
- Great Boston Fire of 1872
- Bath House fire, 31 January 1873
- Pantechnicon warehouse fire, London, 13–14 February 1874
- Benin City sacking, 9 February 1897-
- San Francisco Earthquake, April 18, 1906
- Messina earthquake, 28 December 1908
- Mona Lisa theft and vandalism, 21 August 1911
- World War I, 28 July 1914 – 11 November 1918
- Russian Revolution and post-revolution losses, 1917-1920s
  - Treasures for Tractors, 1920s
- Thames flood (Tate Gallery flood), 7 January 1928
- Glaspalast fire, 6 June 1931
- Nazi plunder, 1933–1945
  - Berlin Fire Department art burning, 20 March 1939
  - Reichsleiter Rosenberg Taskforce seizures, 1940–1945
  - Mühlmann Agency seizures, 1939–1945
  - Einsatzgruppen unit seizures, 1939–1945
  - SS-Ahnenerbe unit seizures, 1939–1945
- Panels from the Ghent Altarpiece theft, 10 April 1934
- Spanish Civil War, 1936–1939
- World War II, 1 September 1939 – 2 September 1945[5][6]
  - Gosford House fire, 1940
  - Castle Howard fire, 9 November 1940
  - The Blitz, 7 September 1940 – 21 May 1941
    - Bridgewater House bombing, 11 May 1941
  - Bombardment of Manila, December 1941
  - Bombing of Bremen, 1942
  - Palazzo Archinto (Milan) bombing, 1943
  - Battle of Monte Cassino, 17 January – 18 May 1944
  - Ovetari Chapel bombing, 11 March 1944
  - Bombing of Dresden, February 1945
  - Battle of Manila, 3 February – 3 March 1945
  - Schloss Immendorf fire, May 1945
  - Friedrichshain flak tower fire, May 1945[7]
  - Ashiya District air raids, 5–6 August 1945
  - Quedlinburg medieval art theft, 19 April – June 1945
  - Soviet looting, 1939–1945
- Kronberg Castle looting, 5 November 1945
- Arno Breker Sculpture Destruction, 1945-
- Arshile Gorky studio fire, 1946
- Alfred Stieglitz Gallery theft, 1946
- Musée de Beaux Arts de Strasbourg fire, 13 August 1947
- Coleshill House fire, 1952
- Museum of Modern Art (MoMA) fire, 15 August 1958
- American Airlines Flight 1 plane crash, 1962
- Dulwich College Picture Gallery theft, 30 December 1966
- Izmir Archaeology Museum theft, 24 July 1969
- Oratory of San Lorenzo theft, October 1969
- Stephen Hahn Gallery theft, 17 November 1969
- Montreal Museum of Fine Arts theft, 4 September 1972
- Musée Albert-André, Bagnols-sur-Cèze, theft, 12 November 1972
- Invasion of Cyprus church thefts, 1974
- Russborough House art theft #1, 1974
- Palais des Papes Picasso theft, 31 January 1976
- Corridart installation destruction, Montreal, 1976
- Museum of Modern Art, Rio de Janeiro fire, 8 July 1978[8]
- Varig plane disappearance, 30 January 1979
- L.A. Mayer Institute for Islamic Art theft, 15 April 1983
- Kunsthaus Zürich incendiary attack, 1985
- Musée Marmottan Monet theft, 28 October 1985
- Russborough House art theft #2, 1986
- Neue Nationalgalerie theft, 27 May 1988
- Isabella Stewart Gardner Museum theft, 18 March 1990
- Lincoln's Inn theft, 16 September 1990
- Houghton Hall theft, 30 September 1992
- Windsor Castle fire, 20 November 1992
- Uffizi car bombing, 1993
- Moderna Museet theft, 8 November 1993
- *The Scream* theft, 12 February 1994
- Kunsthalle Schirn theft (Frankfurt art theft), 28 July 1994
- Stéphane Breitwieser: 172 museum thefts, 1995–2001
- Oklahoma City bombing (Murrah Building collapse), 19 April 1995
- Galleria Ricci Oddi theft, 18 February 1997
- Louvre theft, 3 May 1998
- Swissair Flight 111 plane crash, 2 September 1998
- Ashmolean Museum theft, 31 December 1999
- Nationalmuseum theft, 22 Dec 2000
- Russborough House art theft #3, 2001
- National Museum, Poznań theft, September 2000
- Sofia Imber Contemporary Art Museum theft, 2000–2002
- Taliban iconoclasm, March 2001
- Hermitage Museum theft, 22 March 2001
- September 11 attacks, 2001
  - World Trade Center Collapse, 11 September 2001
- Marielle Schwengel's destruction of stolen art, November 2001
- Frans Hals Museum theft, 25 March 2002
- Edenhurst Gallery theft, 28 July 2002
- Russborough House art theft #4, September 2002
- Van Gogh Museum theft, 8 December 2002
- 2003 Iraq War
  - National Museum of Iraq thefts, 8–12 April 2003
- Kunsthistorisches Museum theft, 11 May 2003
- Drumlanrig Castle theft, 27 August 2003
- Momart fire, 24 May 2004
- Santo Spirito in Sassia Hospital theft, 31 July 2004
- Munch Museum theft, 22 August 2004
- Neumann Foundation theft, 27 October 2004
- Victoria and Albert Museum theft, 29 December 2004
- Westfries Museum theft, 9 January 2005
- Henry Moore Foundation theft, 15 December 2005
- Strindberg Museum theft, 15 February 2006
- Museu da Chácara do Céu, Rio de Janeiro theft, 24 February 2006
- São Paulo Museum of Art theft, 20 December 2007
- Foundation E.G. Bührle theft, 10 February 2008
- Pinacoteca do Estado de São Paulo theft, 12 June 2008
- Hélio Oiticica fire, 16 October 2009
- Musée d'Art Moderne de la Ville de Paris theft, 10 May 2010
- Dulwich Park theft, 20 December 2011
- Kunsthal Art theft, 16 October 2012
- Clandon House fire, 29 April 2015
- National Museum of Brazil fire, 2 September 2018

Look at all the ways you could lose your art piece over the years in real life! The only one of these that seems remotely plausible in the metaverse is the Doge's Palace fire of 1576.

With some caveats*, that's next to impossible for NFTs. NFTs can never degrade, and when artworks are stored directly on blockchains, they will never cease to exist so long as the blockchain never ceases to exist, which may be never (more on that in the next section). The fact that these digital assets can be replicated with perfect fidelity a trillion times over precisely aids this fact, compared to a physical reality where if you accidentally screw up once in the many hundreds to thousands of years an art piece must be preserved for, it's game over for all eternity.

**Okay, caveat time. So it's important to make sure the art your NFT represents is actually stored on the blockchain for the greatest amount of security, but oftentimes that isn't quite feasible because it's extremely costly to store things directly on the blockchain. The next best thing to do is to ensure that it's stored on a decentralized peer to peer filesharing network like IPFS, which utilizes widely distributed decentralized redundancy to ensure your files don't disappear just when a centralized service like AWS might go out of business or have a server meltdown. This is in fact what the vast majority of NFTs utilize, but even then if you don't pin your data in IPFS, it can be garbage collected and disappear. There are other decentralized blockchain based solutions like Arweave that aim to store all data permanently for all of eternity, so things are getting better, but as of the present day there are still some caveats to be aware of when it comes to longevity.*

The other part of this equation is you also, as the owner of an NFT, need to make sure you don't lose your private key to your Ethereum wallet. If you lose your private key, the NFT will still exist for all of eternity, but you just…won't exactly be able to access it. Kind of like if you had a truly impermeable vault secured by an invincible lock in which you stored all your artwork, and you just whoops! lost the key, so yeah, don't do that. And also don't give anyone else your private key either, because then they will actually probably steal your art.

Anyway, moving on:

NFTs actually have *more* permanence and consequent long term value retention than physical objects — no degradation, either!

It's a common refrain that the internet is forever, but that's not quite as true as might commonly be conceived. The long tail of the internet has quite often been forgotten and lost to the sands of time, and moreso, as web pages and content dynamically change and evolve day in and day out, older iterations of content are often lost forever even if some newer version still exists in some form or another. This has necessitated the formation of explicit projects and foundations dedicated to the direct preservation of content on the Internet, such as the Internet Archive, without which infinitely more content would already have been lost, and with which much content is still being lost every day.

The blockchain, however, truly may be forever, and even all past state changes on the blockchain, as a necessary condition of the blockchain being forever, are also here to stay forever.

This is an extreme statement — one that even I'm a little startled by, frankly, which is why I'm greatly relieved not to be the one making it. Rather, all the blame in boldness can be directly attributed to a scholar infinitely more esteemed, brilliant, and prophetic than myself, who can incidentally also withstand the reputational damage of being outlandish far better than myself.

Meet Dan Boneh, one of the most respected academics in the field of blockchain, who heads the Center for Blockchain Research at Stanford and has been a professor of cryptography and computer science there since literally before the dot com bubble. And here's him saying literally on record in a conversation with a16z General Partners Chris Dixon and Arianna Simpson that

NFTs are a perfect application for blockchains — interestingly, the reason blockchains are such a good fit for NFTs is because of the permanence of the blockchain. Something you put on the blockchain today will stay on it forever. I think that the Bitcoin and Ethereum blockchains will be with humanity forever.

In the year 3000, the era of Futurama, we're still going to be looking at the Ethereum and Bitcoin blockchains. Maybe they won't be called that — maybe instead of Eth 2 we'll be onto Eth 15, but the data you put on them today will still be available in the year 3000.

And I think that's really important to understand — when you buy an NFT today, that NFT is yours forever, until you sell it or give it away. So if you don't sell it and you keep it to yourself, even in the year 3000, it's still going to be yours, or your descendants. And that permanence, I think, plays a critical role in why blockchain is such a good fit for NFTs.

Frankly, I'll be astounded if most of the physical art from today is still around in the year 3000, just as I'm pretty sure the vast majority of art from the year 1000 has already been lost forever. But literally everything on the blockchain might still be there, so if you really care about your great, great, great, great, great, great, great, great, great grandchildren being definitely the coolest and richest kids in their Matrix tower with the most OG art pieces, you probably want to pass down NFTs in your will and not physical art pieces.

Aligned economic incentives between creators and fans — fans are now all investors, and digital creators can earn money directly from their creations for the first time ever

I mentioned this briefly in passing when speaking about CryptoPunks in Part 2, where I noted that all these insanely influential celebrities and other brand and taste makers had not merely not been paid to promote CryptoPunks like rabid dogs, plastering these pixelated punks all over their profile pictures in lieu of their actual faces, but rather had literally *paid* tens to hundreds to millions of dollars for the privilege of being uh, reverse-paid promoters?

Let's pause for a moment and let that concept truly sink in. Up until the present day, digital content creators/artists typically earn a living through either prostituting their skills out to mega corporations with a regular day job or to their fans with commissions, or through selling cheap prints and merchandise of their work, or through advertising and brand promotion income streams, or through essentially begging for patronage on sites like Patreon, hoping for fans to give them money out of predominantly the sheer goodness of their hearts, or some combination of all of the above.

This works…okay for some, and not at all for others, but isn't ideal for anyone. At heart, what creators want to do is be creators, and create what *they* want to create, and ideally get rich off the basis of doing that alone, without having to beg for patronage or sell their work in large print sets for fractions of what they could command if their work were physical in nature and not digital, or have to 'sell out' with advertising and so on, and so forth.

Now, with NFTs, that's actually possible for the first time ever. Creators can sell their digital content/artwork *directly* to fans and collectors for the same amount it might command if it were a physically limited and scarce piece of content, and earn far more from the process than they ever did through any convoluted means of making a barely sufficient living in the past.

What's more — fans are actually buying these digital works for record breaking sums of money not out of the pure goodness of their hearts, but because they actually expect that the work will either retain its present value or indeed increase in value in the future. In short, fans have all become *investors* in the common enterprise of the creator, and now, with very vested and aligned financial interests, are more motivated and incentivized than ever before to proselytize their chosen favored creators and ensure the continued rapid growth and success of those creators.

I bought this piece from Digital Blasphemy, arguably the most well known OG computer wallpaper digital artist in the world, for $10,000. Well over a decade prior, I had torrented all of his artwork for free and used it without paying a cent. I now regularly retweet his ongoing NFT auctions and rabidly help promote his work for free, as it helps drive up the price of my work in turn (this was one of the earliest pieces he ever sold as an NFT, and some of his more recent auctions have gone for over $34,000). On top of that, purchasing one of these NFT pieces by this digital artist I've admired for so many years has given me unprecedented access as a fan to actually become friends with him, to the point that he's even actually gifted me NFT artwork he's collected himself from other artists he admires. How cool is that?

How incredible is that? Content creators no longer have to be sole marketers working a double shift as creator and promoter — every single fan that purchases one of their NFTs de facto volunteers to sign on as a promoter as well, and soon enough, hopefully this little army of literally invested fans will self-replicate themselves into a very large army of fans, and the creator can rest content to make butt loads of money just doing what they love, and nothing else: creating.

Trivial fractionalized ownership of NFT assets!

If I succeeded in persuading you that CryptoPunks are actually justifiably worth their present valuation, you may have gone and looked up the present going price of the cheapest CryptoPunk, and then cried tears of anger, frustration, despair, and existential nihilistic crisis like I did after realizing the cheapest CryptoPunk now goes for more than $400,000.

But fear not, for NFTs have already solved this problem, and for the low price of ~3.5 cents today, you too can buy your fair share of a CryptoPunk, without having to buy all of one. Granted, for 1 FLOOR token purchased for ~3.5 cents, you'll own all of 1/9,615,385 of a single CryptoPunk, so you've got a ways to go before getting yourself all the way up to a whole CryptoPunk, but hey — always good to start somewhere and work your way up. It's not even that bad — FLOOR actually trades at a discount, proportionally, to the actual floor price of a whole CryptoPunk out there in the wild today.

There are 1,000,000,000 FLOOR tokens representing ownership stake in 104 CryptoPunks, and at present prices, the implied valuation of all these 104 CryptoPunks is ~$36,500,000, which comes out to approximately ~$350,000 per CryptoPunk — more than $50,000 cheaper than the actual cheapest single CryptoPunk you can buy! Not bad at all.

In short, plenty of people have realized that the average consumer is quickly getting priced out of some of the most desirable NFT collections on the market today. These people have then gone and solved this problem by creating liquid markets wherein individual NFT pieces, or baskets of NFTs, can be fractionalized, and buyers can buy just fractions of a given NFT and gain exposure to the potential growth of that NFT over time without having to shell out the big bucks for an entire NFT all at once.

Fractional and Niftex are just two of the projects enabling users to buy fractions of NFTs, and already the experience is far more seamless, accessible, and devoid of massive middleman fees than the experience of attempting to buy fractionalized physical art.

Trivial borrowing against your NFT assets as collateral!

On another side of things, maybe you already YOLO'd all your life savings into NFTs like I did, and am now struggling to pay rent, like I am. If this is you, fear not. You can now use platforms like NFTfi to put your NFT assets up as collateral for a loan, and continue not being homeless while also continuing to not have to sell your NFTs to pay for that privilege.

Same as above, the entire process for doing this is already far more seamless and accessible than with physical art, and will only continue to become even more seamless over time as the space matures. The possibilities afforded by having such liquid and composable markets for digital assets truly are endless.

Portable assets across applications/the metaverse at large

Let's move back to games for a quick hot second, so we can better illustrate another massive advantage of NFTs. This advantage plays firmly into the whole theme of Web3 versus Web2, where data/digital assets are owned by individuals themselves, and not by massive corporations such as Facebook, Youtube, Twitter, Instagram, and so forth in the case of social media, and Valve, Epic, Sony, Nintendo, Microsoft, Activision Blizzard, Riot, EA, and so forth, in the case of games.

What does this shift in the ownership of assets enable? Just about a million things, but let's just focus on one thing for now — the portability of your assets across different applications. Right now, if you own a digital avatar in a game created by say, Epic Games, that digital avatar is stored on Epic Games' centralized and siloed personal corporate databases, and can't be accessed and referenced freely by various other games or other applications made by other developers.

This may seem like a bit of a strange concept, because that's the way things have always been, and it may not have seemed like there was a problem with that, but the reality is it's been inhibiting a massive amount of possible applications whereby a user's assets can be seamlessly transferred and utilized *between* multiple games, or even more broadly in the metaverse at large.

Indeed, this is a core problem inhibiting the overall growth of the metaverse today — without NFTs on a globally accessible and decentralized blockchain, chances are all the digital assets you'll have in the metaverse will be siloed and centrally owned by various companies competing with misaligned incentives to silo your data and your assets in a bid to retain platform lock in effect, so you can't just take your data and slip away to a less monopolistic and domineering competing interface for using your data in whatever way you'd like.

With NFTs, you truly own all your data, and the flip side of that is you are free to allow any application you'd like use that data — such that you could, in the future, truly live in a Ready Player One or Daemon esque metaverse where your avatar and its items can travel freely between games and worlds and other virtual experiences, and everything seamlessly connects together. Kind of insane and far fetched for now, so don't get too caught up with this stuff if it doesn't resonate with you — I'm just throwing stuff out there for the true believers among you all now. The future is coming, and it's fucking awesome.

Don't worry, energy consumption isn't a real concern. Less overhead, really

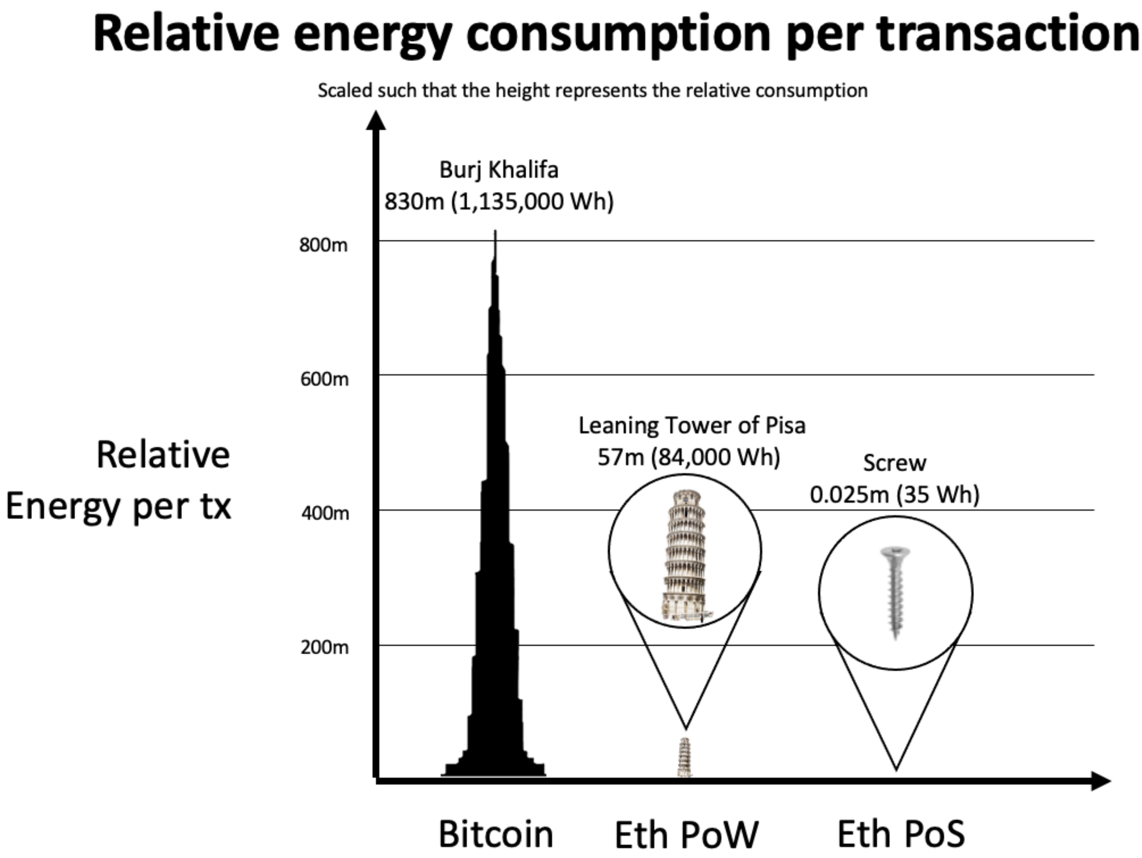
Finally, a common criticism of NFTs earlier this year was that they consume massive amounts of energy and are thus ethically indefensible as giant environmental drains on the earth.

One thing to keep in mind is that NFTs in of themselves don't precisely really cause any blockchain to consume more resources than they would otherwise, and the amount of hash power used to secure a given blockchain at the present moment predominantly only correlates to the price of the cryptocurrency that blockchain powers. Even if no NFTs were being bought and sold on Ethereum, if the price of Ethereum rose, there would be increased power consumption right now, and even if all that's happening on Ethereum is NFT minting and selling, if the price of Ethereum dropped, there would be decreased power consumption.

Another thing to note is that energy 'wasted' is a fairly interesting and subjective word. By 2025, the internet is projected to consume literally 20% of all the world's electricity. Is that a 'waste'? Now that we understand the utility behind NFTs (and, if you read Cryptocurrency 101, hopefully you'll be convinced on all the utility inherent in blockchain powered cryptocurrencies), perhaps it seems less like a subjective 'waste' and more of a justifiable cost for the utility received?

Arguably, email is far less environmentally costly than mailing a letter, and in the same way, buying and selling NFT art is far less environmentally costly than transporting physical art all around the world and flying out artists and collectors in the same fashion to partake in physical gallery showings and auctions.

But that's all beside the point, really, because Ethereum actually *isn't* going to be environmentally harmful going forward, and will use "at least ~99.95% less energy" after Ethereum Proof of Stake goes live, on the order of ~2.5 megawatts or so, which is less energy than ~2500 American households, apparently.



Go yell at bitcoin, not Ethereum, the home of NFTs. But don't actually, because what you really should be yelling at is the internet, the thing that you're reading this on, which is just a giant waste of energy, really

So yeah, you should probably feel *better* about engaging in NFT art versus physical art, and feel like you're partaking in the less ecologically damaging form of art, because you uh, are. No more having every art piece shipped to Switzerland to be stored in a giant soulless Geneva Freeport warehouse that has to be maintained constantly at great expense just so you can save on taxes or something.

There's much more, but I'm tired, and you're tired and/or dead

Okay — I've realized at this point I could go on literally forever, and indeed many others have, but I have to stop somewhere, and I feel like I've sufficiently covered at least some of the myriad novel possibilities and advantages NFTs provide over the status quo to hopefully adequately whet your appetite and encourage you to dig deeper into this space on your own.

In case you are interested in learning much, much more about all the things I've covered here at a surface level, an excellent starting point is a16z (one of the top VC investment firms in Silicon Valley, founded by brilliant pioneers of both the internet and now crypto)'s NFT Canon, which is a truly excellent compilation of thought pieces on NFTs that covers everything from the core concepts and benefits of NFTs to their technical underpinnings to the history of NFTs to how to get started with the space, and much more.

For now, let's move on to the final Part 4, and teach you how to actually get started either buying or creating NFTs, or both. Hopefully you're not literally dead yet. That would make one of us making it through this thing alive.

Part 4: How to actually buy and sell NFTs

If you've made it this far, you deserve a free NFT to commemorate the trauma you've experienced, and I'm going to make sure you get one. But I'm too tired to set this up right now, so fill out this form if you're interested and I'll make sure you get one when I get around to setting it up. These will likely be worthless — just a fun way to get you started with NFTs. But! They will be numbered, so you can brag about how early you were to read this awesome article one day when it becomes part of NFT history and is shown in museums alongside CryptoPunks. I may or may not also like you much more forever if you get one, as proof of passion and fandom, and give you early access to anything else I do. Again, probably not, but who knows? :) (I'm testing out NFT fomo-yolo theory here)

Alright, let's dive into what you've really been waiting for — how to actually get started buying NFTs. First, let's start with where exactly you should be getting your NFTs.

So which blockchain should I be buying NFTs on?

As mentioned prior, there are many different blockchains on which NFTs presently proliferate, from Ethereum to Solana to Tezos and Algorand and more, with the vast majority of the NFT activity happening on Ethereum. That said, a growing number of NFT projects are choosing to take place on Solana and other blockchains due to the high gas fees incumbent with Ethereum at present.

I am personally quite skeptical that Solana will actually outpace Ethereum (however, I actually hold a small amount of Solana as a hedge against this very possibility, as the future is never perfectly certain and I shockingly do make mistakes...in fact I'm usually wrong about everything, which I probably should have mentioned before tricking you into reading this entire article), as just about the only argument anyone gives for choosing to use Solana or Tezos or anything else over Ethereum is that it's cheaper and faster to use these other blockchains, in no small part precisely *because* Ethereum is so dominant in its use that the congestion on the network causes fees to spike higher than on competing blockchains.

This is one of those things that is a really easy superficial refrain that has strong meme power that allows it to spread quite effectively, as anyone can grasp the inherent value in "cheaper and faster" in about three seconds, and it intuitively sounds obviously better. Everything in the world of 'decentralized' blockchains comes at a cost, however, and the technical tradeoffs Solana has made to achieve "cheaper and faster" deserve careful examination.

Moreover, with the advent of Ethereum 2.0 with Proof of Stake and sharding, along with the Layer 2 solutions already active on top of Ethereum like Polygon and Immutable X, fees on Ethereum are already negligible or even free (the NFT I'll be sending all of you/allowing you to mint, for example, will be built on top of an Ethereum Layer 2 solution that has negligible fees — Polygon). Couple this with the fact that Ethereum has more developers and users than every other blockchain combined, and my personal opinion is that the network effect moat of Ethereum is fairly unassailable.

In short, unless another competing blockchain is somehow able to overtake Ethereum by sometime early to mid next year, when Ethereum 2.0 Proof of Stake with sharding goes live and Layer 2 protocols mature and cause the cheaper and faster argument to be moot because Ethereum will also be cheaper and faster, I don't really see how any competing blockchain provides any inherent advantages so great as to unseat Ethereum as the dominant and eventually only smart contract blockchain.

To overtake Ethereum, a competing blockchain would need to beat it in both number of developers and users, and in terms of ease of development with sufficient infrastructure and developer tooling built up to make developing on those competing blockchains as easy and as supported as is developing on Ethereum right now, and on a number of other fronts as well. Because of profound network effects, I don't really see that happening — but I could always be wrong, so obviously do your own research and don't just take my word for it (after all, Facebook did kill Myspace, so it's not strictly impossible).

There is, after all, a reason why we only have a single set of Internet protocols we use so that all websites can be interoperable with one another, and people don't have to install several apps just to be able to interact with the same kind of content across several different kinds of internet protocols (remember ALOHAnet, for example? Yeah, neither do I, for a reason, because all we need is the internet). Tl;dr, I see the base layer blockchain competition as a winner take all battle. No competing blockchain right now promises any additional functionality that Ethereum can't already do with its smart contract system, as it's already Turing complete, and rival blockchains only attempt to compete on speed and cost, and as those alternatives all come with tradeoffs in terms of centralization and more and as Ethereum will solve these problems and already is solving them with PoS, sharding, and L2 solutions, I don't really see how someone beats Ethereum at the base layer blockchain level.

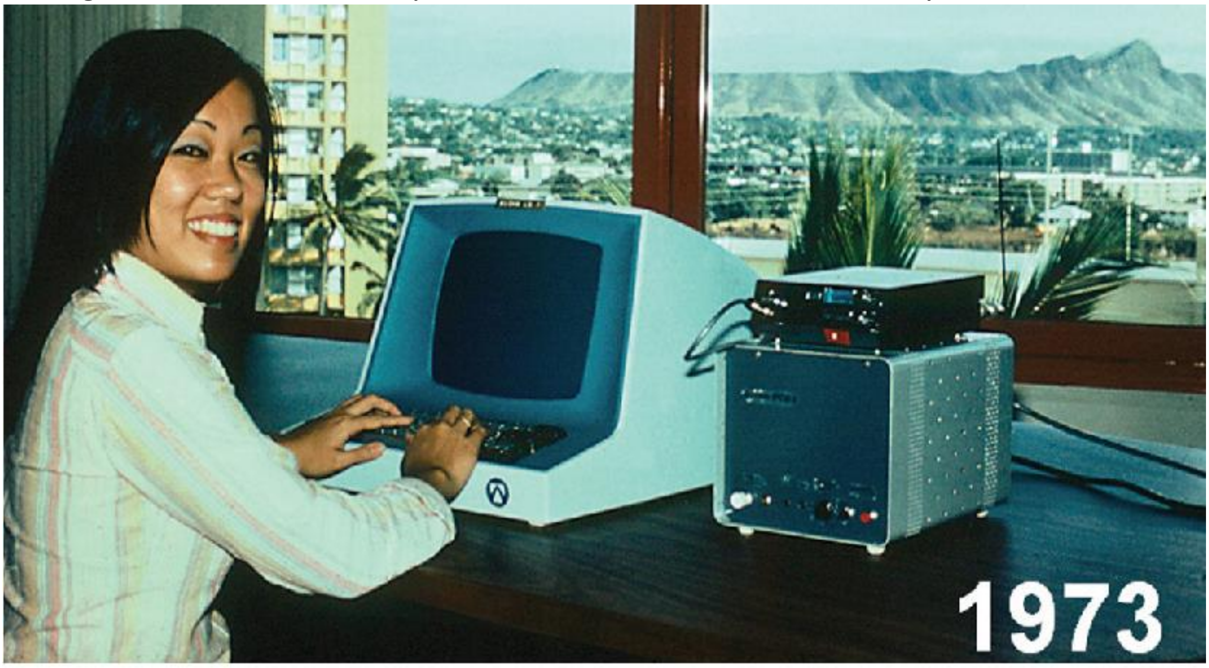


Figure 2. *ALOHA PCU 1973.*

The Solana of 1973. Jk don't kill me

All of that said, I'll be focusing the remainder of this article on discussing how to interact with NFTs on the Ethereum blockchain. I promise this has nothing to do with the fact that I have half a million dollars of NFTs on the Ethereum blockchain that might become worthless if a competing blockchain actually does unseat Ethereum. I am an incredibly unbiased impartial party, here to just guide you in the objectively right direction.

Getting started with Ethereum and MetaMask

So you want to buy your first NFT! Excellent. The first thing you'll need to do is buy some Ethereum, which will be the native currency you'll predominantly be using to buy and sell NFTs.

To do so, you can sign up for a number of different cryptocurrency exchanges, such as Coinbase (use my mom's referral link and you'll both get $10 in free Bitcoin, woo!), the most legitimate and trusted exchange if you happen to be in the US or parts of Europe, or Gemini, or FTX, or Crypto.com, or if you really have to, Binance.

This part isn't the most important thing in the world, because you generally shouldn't be holding your crypto on an exchange for the greatest amount of security. In an ideal world, you'll just be buying there and then transferring funds immediately to a hardware wallet, and so your risk of losing all your money because you picked the wrong exchange to buy crypto on is minimal.

Alright, so now that you have some Ethereum, we're ready for our next step. The next step differs depending on how secure and how correctly you'd like to do things. As with many things in crypto, there's an easy way and then there's a hard way, and the easy way leads to oftentimes faster starts and greater immediate profit, but ends similarly much more often with heartbreak and complete catastrophe.

The easy way is just to go to MetaMask.io, download the Chrome extension, and set it up, remembering very importantly as you do so to keep a hard copy of your seed phrase in a very secure place where no one else will ever find it but also you will never lose it (like a safe or a safe deposit box).

This is critical, because if anyone ever gets access to your seed phrase or private key (the NFT world is rife and rabid with scams right now, to put it as the understatement of the century, and literally everyone will eventually try to ask for your seed phrase — never, ever give it to anyone, under any circumstances. Not even your mother, because it's probably someone impersonating your mother) they get access to all your funds and all your NFTs and you will lose everything, but at the same time, if you lose your seed phrase or private key (same thing in essence — the seed phrase is a mnemonic used to derive your private key, which is the real thing that's needed to access all the funds and NFTs associated with your public key — more on this in Crypto 101), you lose access to all your funds and NFTs forever.

Then, all you have to do is copy the public address shown in MetaMask, and send all your Ethereum you just bought from Coinbase or whatever other exchange you used to that address, and boom, you can go buy NFTs right away.

Please don't actually just do this

All nice and simple, but this comes with unimaginable levels of risk in the present NFT ecosystem. I am not shitting you in the slightest when I tell you you'll get at least 10 people trying to scam you every single day, with Discord DMs, or random spam airdropped into your OpenSea wallet, or emails, or texts, or any of about a million other different very creative and very malicious scam techniques. In fact, it's so bad that my wife wrote an entire article about how to avoid scams, which is incredible and should be required reading for anyone who gets into NFTs.

Oftentimes, scammers will send you links (tl;dr, literally never, ever click a link someone you don't know sends you — and even if you think you know them, odds are it's actually someone impersonating someone you know, like a Discord user who changes their profile picture and name to look identical to a Discord server you're actually in or a real person you're actually talking to) that go to phishing sites, with things like Opensea dot fo instead of Opensea dot io (a real phishing scam I got), or world-of-women dot art instead of worldofwomen dot art (another scam that got a lot of people recently), and on those sites, which will look identical to the real sites, it'll ask you to connect your MetaMask wallet, and then will prompt you to do some too good to be true transactions, which you might approve in a rush to get rich quick, after which you'll realize you've literally lost everything.

~Mark Daming~

This is the beginning of your direct message history with **@~Mark Daming~**.

1 Mutual Server • Add Friend Block Report Spam

~Mark Daming~ 09/28/2021

yo joe u there?

check this out

https://opensea.fo/collection/sneaky-vampire-syndicate

cheap shit i think, i dont got enough eth):

if u profit some u can send me someo eth haha

sry not here

OpenSea

Sneaky Vampire Syndicate - Collection | OpenSea

The Sneaky Vampire Syndicate consists of 8,888 Vampires, each having their own individual traits. No one vampire count is alike. Things have changed since the olden days, The Vampires have caught up with the times and now reside in The Lair. The Lair is where all vampires call home - existing in the MetaVerse away from the harmful sunlight and p...

Sneaky Vampire Syndicate is a real project, OpenSea is a real site, this is 100% what the real site would look like in a preview, and yet this is 100% a scam designed to steal all your money. Do not ever, under any circumstances, ever click a link like this from a random Discord DM message.

Or they'll ask to screen share with you and masquerade as support, and sneak a peek at your seed phrase or private key and then boom, you've lost everything as well.

Or they'll just infect your computer and steal all your money that way. There's a common understanding in security circles that anything connected to the internet should be considered compromised, and this applies doubly so to anything involving crypto, where once you are compromised and all your assets are stolen, there is generally no recourse, unlike with most things in the world. Being your own bank is a double edged sword in that regard — you don't have to trust anyone else, but you also have to trust yourself more than ever before.

A wallet connected directly to and exposed to the internet, like a native Metamask wallet, is considered a hot wallet in contrast to a cold wallet, which is a wallet that is never exposed directly to the internet. A hot wallet should be considered inherently vulnerable and compromised, and you should generally never store anything on a hot wallet for any meaningful period of time, and use it, if you have to use it at all, merely for transitory transactions like immediately buying something quickly and then transferring it to your cold wallet for storage.

Long story short — if you decide to just rely on a MetaMask Chrome extension native wallet to store all your NFTs, expect to eventually lose all of them in a hack. All you need to do is screw up once, ever, to lose everything, and even the most sophisticated of investors and the most tech-savvy people in this space have been privy to being hacked.

Case in point, here's a founder of a literal smart contract *insurance* company, Nexus Mutual, on how he got hacked for over $8 million because someone installed a malicious version of the MetaMask Chrome extension on his computer that replaced and yet was identical in every way to the real one and thereby managed to trick him into approving sending a massive amount of crypto to the hacker's address despite *using a hardware wallet*. Knowing that even *with* a hardware wallet, which is infinitely more secure than a Metamask native hot wallet, the literal founder of a crypto company still got hacked, do you really want to take your chances with playing it fast and loose in this space?

Okay, so with that frankly very insufficient several paragraph long caveat out of the way, let's speak to the hard way of getting ready to become a more secure NFT pro. Long story short, what you need is a hardware wallet, which acts as essentially a cold wallet that can be fairly easily used still practically as a hot wallet can to easily transact. How a hardware wallet does this is by physically being a new hardware device where the private keys to your wallet are kept and never, ever exposed to the internet or your computer under any circumstances (or so we hope, though in reality these things are quite difficult to actually verify), and instead only sends transaction signatures over to your computer in order to actually execute transactions. Again, you can read much more about this in Part 3 of Crypto 101.

With this in mind, your two primary options for a hardware wallet at this point in time are either a Ledger (the most popular) or a Trezor (the most OG and the one I personally use because I like to be cool/I was too early to get a Ledger since it didn't have hidden wallets with passphrases back then), as those are the two principal hardware wallets that function well with MetaMask at present time. A Ledger is probably the best bet. For more information on hardware wallets and why they're awesome, once more — Part 3 of Crypto 101! I'll be damned if I'm forced to write any more than absolutely necessary here.

Which of these two plastic boxes would you like to entrust your life savings to?

Once you acquire your hardware wallet, you'll follow approximately the same steps as above to get it fully setup. You'll want to securely store your seed phrase just as with the Metamask wallet setup and make sure no one else can ever access it but also that you'll never lose it, and whatnot.

Finally, go ahead and connect your Ledger or your Trezor to MetaMask, and then proceed to use MetaMask just as you might with a direct native hot wallet. The only difference now is every time you do a transaction, MetaMask will prompt for you to confirm that transaction on your Ledger or Trezor, which adds a crucial extra layer of strong security to each transaction. Be sure you actually do read each transaction that MetaMask asks you to confirm, as well, and make sure the inputs and outputs shown on your Ledger/Trezor are as you expect — not checking exactly what the Ledger or Trezor is asking you to confirm is precisely how the Nexus Mutual founder got hacked and lost $8 million despite using a Ledger, and also how the other guy who lost all his assets in an OpenSea Discord support scam got screwed over.

Sweet. Now that you have your battle armor fully equipped over your previously naked wallet, let's dive into how to actually create and sell your own NFTs, and then how to actually buy NFTs, and where.

Minting (creating) and selling your own NFTs

If you'd like to create your own NFTs, you're in luck! The process is more simple than ever before, and plenty of applications have been setup to walk you through the process in as simple and effortless a manner as possible.

Showtime is one of the easiest and best made sites that help you mint your own NFTs on the Ethereum blockchain completely for free via the Layer 2 solution Polygon. Just click the Create button on Showtime and it will walk you through the process in a flash as soon as you connect your wallet. Here, you can set the number of editions you'd like to mint for your piece, as well as the royalties you'd like to earn every time the piece is resold in a secondary sale.

Note that Showtime doesn't yet have functionality to allow you to sell your NFT directly on the site yet, but once you mint the NFT, you can list it for sale anywhere else, such as on OpenSea, which is the primary marketplace where NFTs are bought and sold at present.

Similarly, you can create NFTs directly on OpenSea, also for free using Polygon if desired, by clicking the Create button over there. The same goes for other completely open to all sites, such as Rarible and MakersPlace.

If you'd like to fetch higher prices for your work, the next step up the ladder is an invitation-only platform known as Foundation. You'll need to be invited to this platform by an artist that's already successfully sold at least one work (every artist gets 3 invites to give out after selling their first piece of art on Foundation), so it's a little more curated and a little harder to get on, but the prices you can sell your pieces for here are generally a little higher than on the completely free-for-all NFT platforms.

Note that you'll also need to pay a fair bit in gas fees to mint your artwork here directly on the Ethereum blockchain itself, so this is a little more costly than starting on the other platforms. To minimize these costs, my wife wrote up a great article on how to save on gas fees and I made a video walking through the same stuff (just watch the first 5 minutes, the rest is optional). This is imperative reading/watching, imo, if you're not already an insanely rich artist just doing this stuff for fun. Almost every artist I've met pays 2–3x more than they really need to to mint and list their NFTs, and it pains me to my deepest cheap Asian core.

Finally, if you're ready to hit the big leagues, you'll want to apply to SuperRare, NiftyGateway, and/or KnownOrigin, which are three highly curated platforms that only accept artists they carefully choose through an application process. Here's NiftyGateway's application page, and here's SuperRare's. KnownOrigin, unfortunately, is presently closed to applications at the moment.

It's not easy to break into selling NFTs as a new artist, but it *is* far easier and more lucrative than trying to break into the traditional art market by far, as there still is comparatively far less competition in the NFT ecosystem for artists, and you also have direct access to a global audience of buyers with a lot of money. Most NFT collectors spend their time on Twitter these days, so one of the best ways to start breaking into the community is to start cultivating a strong following on Twitter of people plugged into the NFT community. Easier said than done, but also definitely something many have done successfully, so don't be discouraged, and give it a shot!

What NFTs should I buy and why and where

Okay, now on to buying NFTs. There are roughly two classes of NFT buyers right now, and it is my opinion you probably want to belong to one of these more than the other, but ultimately I could be totally wrong, because there are many people becoming butt rich in both camps.
I am not good enough to do this and frankly this reminds me of the time everyone got rich and then lost all their money in the ICO craze of 2017, but if you would like to try, by all means please do and tell me what to buy because as stressful as day trading crypto is, day trading NFTs is a whole nother level

The first class of NFT buyers are hardcore flippers, who find the most promising and most hyped projects that everyone else is likely to buy into, and then use bots and scripts and ninja reflexes to mint those projects before everyone else, and then quickly flip them.
This man is a flipper. He's rich as hell and has done great flipping, but also, uh, 67 Autoglyphs are worth at minimum $100 million right now, and 1,250 Bored Apes would be worth at minimum $170 million right now, so if he had just held and not done anything, he would have at least $270 million in NFT assets right now with um, a lot less work than he's actually put into flipping

Flippers also use pro tools like Nansen.ai and icy.tools and RaritySniffer and rarity.tools and rarity.guide and about a million other things to carefully track data and analytics about what projects are taking off as soon as they take off, and identify the best NFTs to purchase on the secondary market even after initial minting so as to be able to flip these for a massive profit as the project continues to rise in stature. They also use primarily Twitter and Discord to follow influencers in the space and identify up and coming new promising projects before they launch (as MEVCollector suggested in the Twitter thread above, Pixel Vault and Metaverse HQ are fairly well established communities in the space, along with Friends with Benefits and many others). NFTCal is also a very useful calendar of all upcoming major NFT drops, so you can keep abreast of all notable projects and forego missing drops because of information slipping through your limited time.

Granted, long term investors also use these tools to gain similar insight into projects that have real long term communities growing behind them and identify the best NFTs in those projects to buy into now, and I've personally paid $700 for a lifetime icy.tools premium membership and pay an ongoing hefty monthly sum for access to Nansen.ai to gain additional insight into any particular NFT project I'm curious about before deciding to jump in.

The second class of NFT buyers are those who are looking to identify the most promising NFTs around today that may have long term value, and looking to buy into these and hold them for multi-year time horizons at a minimum. Projects that meet this criteria are far fewer than projects that meet a criteria for flipping, as the greater fool theory and the proliferation of flippers in the market right now provides much opportunity for taking the money of the other speculators swarming all around you before the tide washes out.

Here is an NFT collector talking about selling Cryptoadz too early. For context, Cryptoadz launched 26 days before he wrote this tweet.

What kinds of projects might stand the test of time? First and foremost, projects that have incredibly strong, resilient communities behind them that grow in organic ways and stick around for much more than just the money — the precise paradox of things is that the communities that form not for the money (or at least not solely for the money) but for other reasons are precisely those that are likely to be worth the most money in the end, just like CryptoPunks, because they'll weather the inevitable downturns of the mercurial and capricious crypto and NFT markets far better than other projects.

A project where everyone is in it just for the money will grow tremendously faster than other projects when the price is going up, as the price itself increasing is the primary draw which brings all the fish in the speculator swarm to feast. At the same time, as soon as the price begins to falter, as it inevitably will at some point, all the speculators will rush to the exits to not be the last fool standing holding all the bags, as there's nothing else keeping them around besides the price, and thus when the price goes away, so too much all the speculators, in the most rapid and least orderly fashion possible.

A project where everyone isn't in it for just the money, but rather is in it for the community and whatever the community is building, is one where even when the bottom falls out in the market and the price craters, members will refuse to sell, and will in fact continue to grow and build on the project, such that when the tide flows back in and prices and demand begin to rise again, the project will be leaps and bounds ahead of all the other projects that were skinned to their bones and left as skeletons without a community when the tide last washed out. When that happens, the most obvious project for everyone to rally behind will be the project that kept growing even when there was no financial incentive behind it — and no other project will really stand a chance of catching up, having abandoned the ecosystem in the downturn.

All CryptoPunk Owners

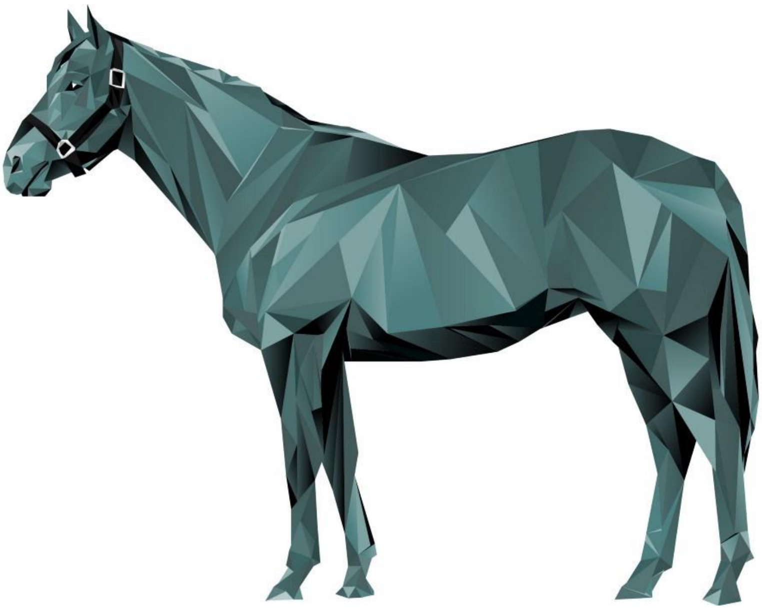
#	Account	OpenSea / ENS	Number Owned	last Active
1	0xc352b534e8b98		428	3 days ago
2	0xb7f7f6c52f2e2	WrappedCryptoPu	311	1 day ago
3	0xa25803ab86a32	wilcox.eth	253	4 days ago
4	0xb88f61e6fbda8		215	4 months ago
5	0x577ebc5de943e		172	1 month ago
6	0x69021ae876958	sov.eth	147	
7	0x26f744711ee9e		141	4 years ago
8	0xcffc336e6d019		125	2 months ago
9	0xcc7c335f3365a		120	5 hours ago
10	0xd79b937791724		102	2 months ago

These…these are HODLers. They are all hodlers with $50 million+ in hodl'd cryptopunks. I'm not telling you who you should be like, but you should be like these people

So yeah — identifying the projects that will stand the test of time is incredibly difficult to do in a bubbly bull market with so much hype, because oftentimes the best projects with long term horizons and invested communities can look quite similar to the projects with teams that are just in it for a quick money grab and communities that are here for the same. You really need to dig deep and spend time in each community to suss out the differences, and that's not something you can do at a quick glance — it takes time and investment.

In short, the best way to determine what things are likely here to stay is to see how you yourself feel about them — if *you* find a community you love and a project you want to invest in for more than just the promise of quick riches, and you have confidence that even if the price of your asset falls 90% or more (when you've been in crypto as long as I have, you know that's not an exaggeration in the slightest— I've been holding Ethereum since $7, and saw it rise to over $1400 in 2017 to fall down more than 90% to $100 in 2019, to come back up now to over $3400– there's no reason NFTs won't be the same), you yourself won't sell, and you see that others feel the same way…well, then that's a pretty damn good sign.

And therein lies the paradox and the true power of NFTs. Just about everyone right now is coming in for the money, just as almost everyone who got into crypto initially became interested because of the meteoric rise in price, but that's just the [Trojan Horse, really, to trick you into inviting NFTs into your heart].



This is not a Trojan Horse. This is a ZED horse, and you can uh, race it on the blockchain.

Once you truly become invested in an NFT project and community you love, you'll start to see that NFTs are about so much more than just the money, and you'll stay even when the inevitable bear market for NFTs comes, and you'll keep building and investing in the community and growing the NFT ecosystem, and it is precisely for that reason that you will be, in perhaps ~four years from now, if all goes well, just like those early true believers in CryptoPunks in 2017, who came for the hype and stayed for the heart, and weathered an entire four years of worthlessness and stagnation in price and interest from the external world to all become untold filthy rich millionaires today.

Remember — art, and many of the other best kinds of assets, like collectibles and antiques, derive much of their value from their emotional stickiness. If you're going to feel emotionally bad selling your dog, even if someone offers way more than going market value for dogs for your dog, like $30,000 for Sparky, you're probably not going to sell Sparky. Conversely, if you bought Sparky on an impulse for way more than Sparky was worth and now Sparkies are worth only one tenth of what you paid for your non-fungible one and only Sparky, you're probably not going to regret it and kick yourself in the butt for buying your Sparky and sell him off to an impartial collector for a 90% loss.

Same thing with a piece of art, and any other kind of NFT. If you're going to feel sad selling it, even for a huge gain — chances are others are going to feel the same way, and thus fewer of that asset will ever go on sale on the market, and as we all know — the intersection of supply and demand is what determines price. If emotional stickiness causes buyers of certain NFTs to want to never sell them for any price, or at least anything short of a life changing price, then there will be far fewer of those NFTs on the market, and buyers will need to pay much dearer prices to acquire those NFTs. Eventually, as all NFTs of a limited scarce collection that can command that degree of emotional stickiness are quietly siphoned away by ever richer people who have no need to ever sell them at any price, the supply will shrink ever yet further until it may practically be non-existent, at which point the price may commensurately also reach a point of similar ludicrosity in the opposite direction, approaching the limit of effective infinity.

What kinds of projects might achieve this kind of community growth and emotional stickiness? Typically projects that are either the most OG in their specific domain, like CryptoPunks for PFP NFT projects, or Art Blocks for generative art pieces (two of the best pieces I've read in the NFT space that personally convinced me on Art Blocks), and/or the most novel in their execution with the most potential for derivatives to follow in their wake, like the Loot Project, (following Dylan Field's brilliant meme chain rule), or projects with the potential for the most ongoing interaction and scalable communities centered around a central premise such as a game, such as Guild of

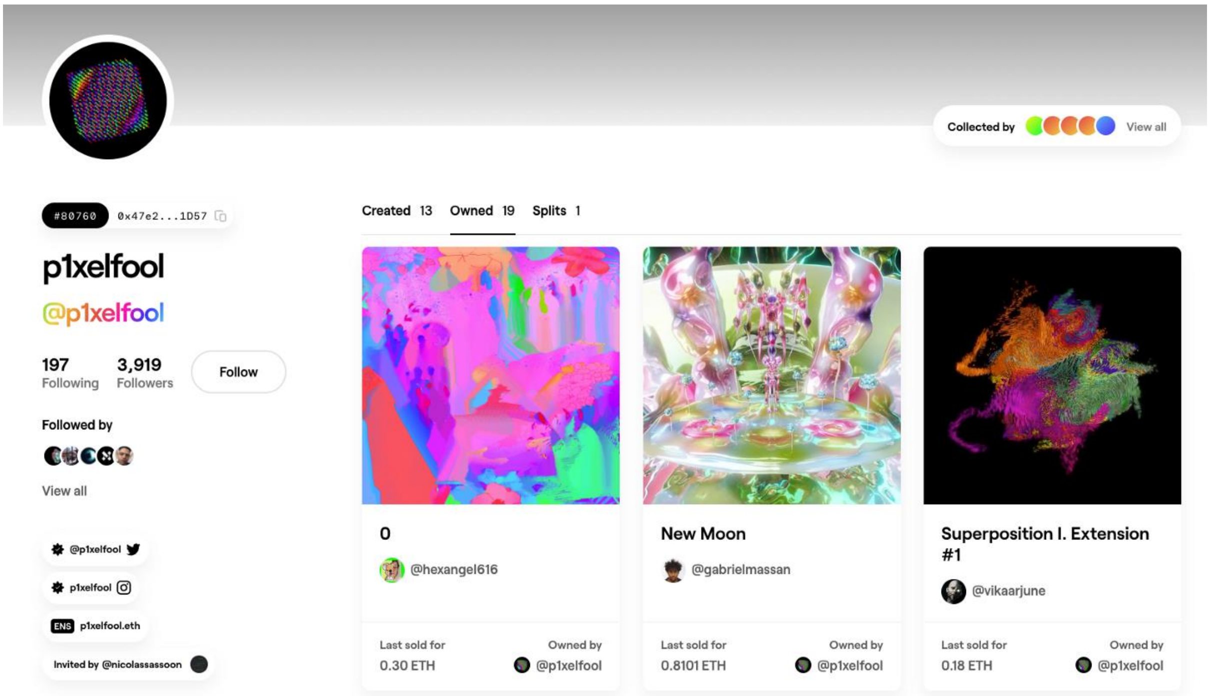
Guardians (made by the same people who made the OG blockchain trading card game, Gods Unchained, as well as one of the major NFT L2 platforms, Immutable X).

1/1 limited edition art pieces also fall into this category, but are far more risky, and approximately equivalent to investing in art in the real world. Think of this as akin to angel investing, essentially — if you have incredibly good taste and judgment and believe you can identify the artists who will capture the new zeitgeist of this NFT and crypto and metaverse era better than the rest and rise above the crowd to great fame and future success, you can certainly make tremendous amounts of money seeking out the right artists and collecting their pieces before everyone else.

If you can't, chances are you'll be stuck holding art pieces that never really grow in value, and likely in fact fall against the currency you bought them in (ETH). Still — I've found that investing in 1/1 art is by far the most emotionally meaningful endeavor someone can engage in in the NFT space, and the amounts artists are making here are literally life changing, so many times I invest in 1/1 art just to buy pieces that I love that I wouldn't sell even if they went up 10x and I wouldn't care even if they went down 10x, and to support artists that are deeply incredible, amazing people and help encourage them to continue making their incredible art and meaningfully bolster them in a financial way towards that end.

The best places to go about finding these 1/1 or otherwise limited edition art pieces are on platforms like SuperRare, KnownOrigin, and Foundation (be careful with the last one — it's not as carefully curated as the first two, and scams have been known to be found there). There exist less curated platforms such as Showtime, Rarible, MakersPlace, and even OpenSea (where most of all secondary sale trading activity occurs) directly, but with these, you need to tread with extreme caution so as to not fall for scams, though you can definitely also find diamonds in the rough here.

Protip: One strategy you can use to find and buy what the real tastemakers are buying is to follow their accounts on these various platforms. Because the blockchain is totally transparent for everyone to see, you can see literally everything that everyone is buying, and that includes what the artists themselves who are super successful are buying (buying an already successful artist is approximately akin to say, buying a stock after it IPOs, perhaps, whereas buying an artist that has incredibly strong potential but hasn't yet made it is akin to angel investing, with commensurately infinitely high risk and reward profiles). I was lucky enough to make friends with one of the most successful generative artists in the NFT space very early on in my journey after bidding on one of his pieces, and I now essentially only buy what he tells me to buy, and it's been great for both making great investments and also just looking cool as hell buying the most hip art pieces while knowing and understanding literally nothing about art still.



Spy on what all the cool kids are buying!!!

Those are, of course, mere starting points, and in fact not even projects that I am even specifically suggesting you invest in, as I very, very strongly do not want to take the responsibility of suggesting *anything* for anyone to invest in in this space. The NFT space is even earlier right now than 2017 was for crypto, and with the field being so nascent, while I feel incredibly confident in saying that NFTs will change the world as we know it profoundly and permanently, as I might have said about the internet in 1999 had I not literally been 7 back then, I don't feel remotely as confident in proclaiming that any *specific* NFT project is going to stand the test of time right now and make it to that end world state. Be wary of anyone who does proclaim these things, and make sure you assess their claims from first principles, extricated from all the hype.

In 2017, I very strongly made it clear to anyone that they must do inordinate amounts of their own research before deciding to invest in any cryptocurrency, and that Cryptocurrency 101 was only the barest starting point to hopefully equip them with a modicum of resources with which to begin their own cryptocurrency research and investment journey. In 2021, things are totally different and I'm essentially completely prepared to tell everyone to yolo into Ethereum (but in a measured dollar cost average way, which you can do with this handy completely free tool my wife and I made, CryptoAutoInvestor, random totally irrelevant plug), but this is still pre-2017 for NFTs, and it is imperative you treat this ~101 minute missive into NFTs as truly NFTs 101 (haha, 101 minutes for NFTs 101, get it? how fitting. lol) and do your own research and get to NFTs 201 or ideally 420.69 before really diving in and investing in any project.

If you're interested in doing this alongside me and thousands of others, my wife Mai and I started the first educational NFT project, designed specifically to introduce newcomers to both NFTs and crypto in the safest and most fun and effortless way possible (and to be the best way for any extant NFT degens to get their friends who think they're crazy right now into NFTs!).

Our goal is to bring together the best community of both existing veterans of the crypto and NFT ecosystems as well as newcomers to the space, so that we can build the best possible platform to introduce as many people as possible to NFTs and crypto, and bring both of those things truly into the mainstream.

Tell me this isn't the cutest octopus ever!!! Don't you want to learn about crypto and NFTs with this adorably cute octopus?!

This, to be clear, is not an NFT project at all designed as a get rich quick scheme, and you really shouldn't join if you're not interested in actually investing in the community and learning and growing alongside us.

Depending on when you read this, we'll likely be in different parts of our journey to build the Duolingo of Web3 and crypto — the default place anyone first goes to learn about the overwhelming world of Web3 and navigate it safely, just as Duolingo's become for hundreds of millions of peole the default place they go to first learn about another overwhelming subject — a new language.

Chances are, we'll have built out the first ever interactive NFT minting tutorial, where you can mint a real NFT 100% for free (we'll airdrop you crypto to do this, even, since we want to keep this free and accessible for everyone, even those who have no means to buy or access crypto themselves, and those who are as of yet too skeptical to do so). We may even have built out our 100% risk-free virtual trading platform for NFTs and crypto, where you can learn and interact first-hand with trading and understanding these brave new concepts before putting real money on the table. There might even be a learn-to-earn model built around this entire ecosystem by then — where you can earn real rewards in the form of NFTs and more by just playing the educational games we create and learning real skills :O.

Our aim is to solve the big catch-22 — you can't really understand NFTs on a visceral level until you've truly owned some and interacted with them, but you probably won't do that until you truly understand them. So we're trying to bridge that catch-22 by giving them as much opportunity to get and interact with NFTs without having to put real money on the table first.

If you resonate with that mission and purpose and you're interested in learning more, check out our website here and follow us on Twitter and/or join our Discord to come chat with us and help us build the best way to introduce anyone into NFTs and crypto without forcing them to suffer through a 100 minute read on Medium like you had to :).

Feel free to also grab yourself one of our genesis Curious Addy NFTs — they've all sold out, but you can still find them on OpenSea. We have some very special things planned for holders of these NFTs, so stay tuned :). (One of the first nice little things you'll get is completely free lifetime access to the most comprehensive course ever made on NFTs, a 7 day masterclass on NFTs we created in partnership with Nas Academy. You can see a little video about that here. If you're now sold on NFTs and ready to dive in — highly recommend that as your next stop.)

Okay, that's it! Thanks for reading, go have fun, and don't lose all your money!

PS: If you read this far, you are welcome to clap once for every minute you spent reading this article (protip, you can clap more than once for an article by just holding down the clap button! Magic! Cheating magic!) if you'd like, or just yell at me on Twitter for wasting so much of your life. Up to you. Thank you either way for allowing me the privilege of ruining the rest of the plans you had today by teaching you about stupid internet JPEGS 🙏