



LOST NFT ASSETS BORED APE YACHT CLUB August 2022

Introduction

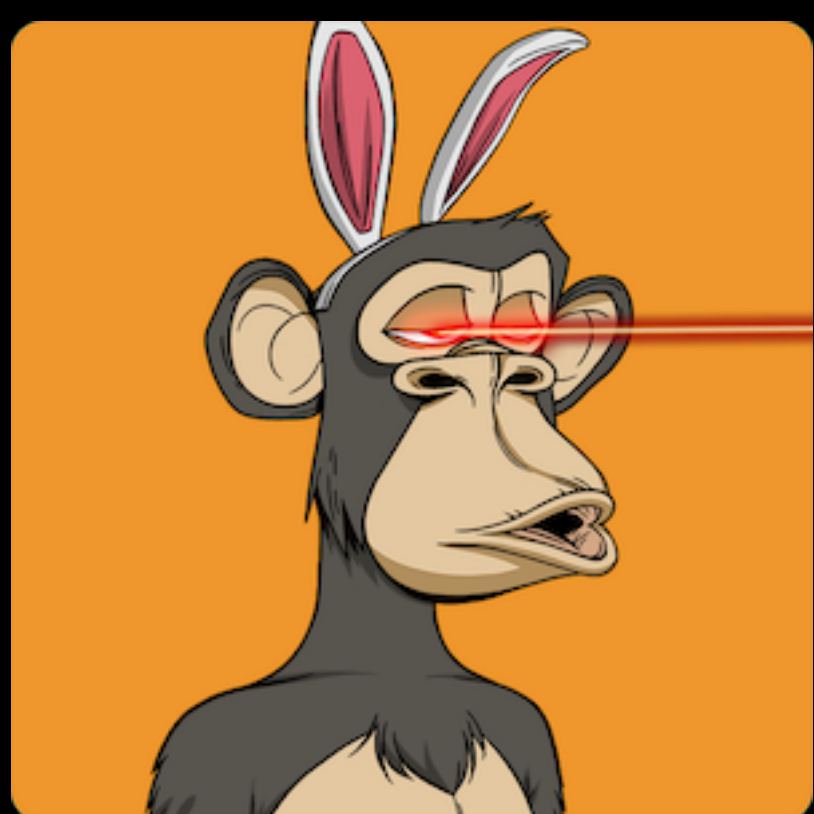
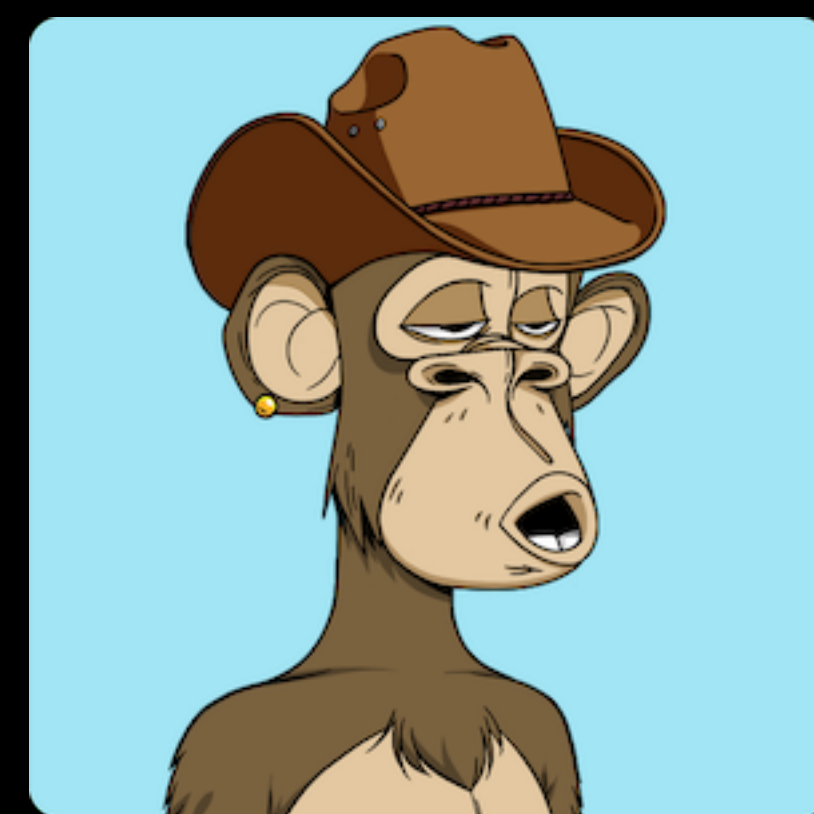
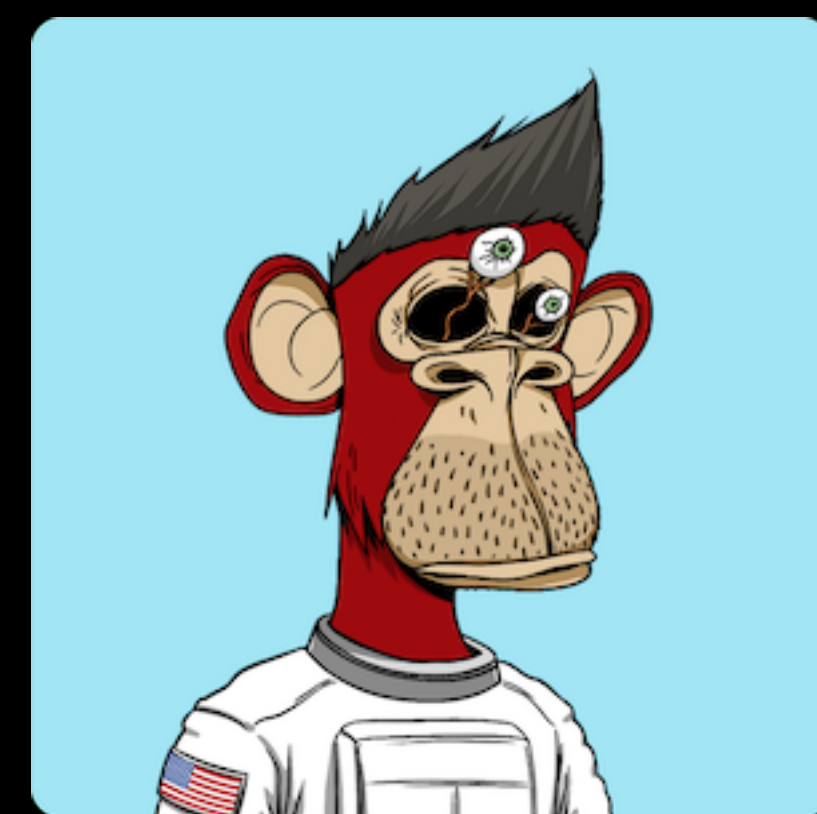
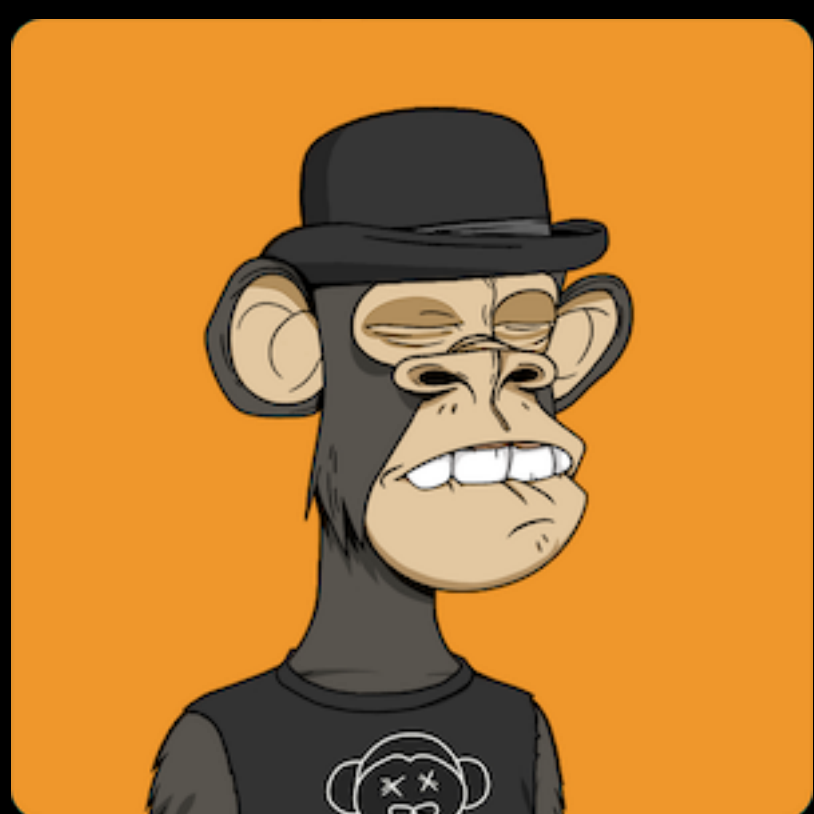
In April 2021, Yuga Labs launched The Bored Apes project. BAYC is considered the most valuable NFT project launched in 2021 in terms of its community and market size. As of 2022, sales of the Bored Ape Yacht Club NFTs have totaled over US \$1 billion. In 2012, Meny Rosenfield released an article introducing the concept of "Colored Coins" for the Bitcoin blockchain. The idea behind Colored Coins was to describe a class of methods for representing and managing real assets on the blockchain in order to prove ownership of those assets. The term was created by eToro CEO, Yoni Assia, along with Vitalik Buterin in a whitepaper called Colored Coins. They proposed an idea of "coloring" a set of Bitcoins to distinguish them from the rest. In that sense, these assets would be non-fungible, so NFT emerged directly from colored coins.

The first known NFT was minted in 2014 by Kevin McCoy and Anil Dash, who put a short video depicting McCoy's wife onto the blockchain. McCoy later sold it to Dash for \$4. In October 2015, the first Ethereum NFT project, Etheria, was launched.

In 2017, Larva Labs launched CryptoPunks, an NFT collection that seemingly started the NFT craze of 2021. But right after, the most attention went to another collection, CryptoKitties. Dapper Labs launched it as a blockchain game on Ethereum to allow players to purchase, collect, breed, and sell virtual cats. Each of these cats was represented by an NFT. The game's popularity in December 2017 led to dramatic congestion of the Ethereum network and reached an all-time high in the number of transactions.

Fast forward to 2021, the year of the NFT, and there has been a huge explosion and surge in NFT supply and demand. One of the main factors behind the 2021 boom was the huge changes that took place in the art market and in the industry in general, when prestigious auction houses Christie's and Sotheby's not only moved their auctions to the online world, but also began selling NFT art. This led to a record sale of Beeple's Everydays: the First 5,000 days at Christie's for \$69 million. Such a large sale from such a prestigious auction house greatly strengthened the NFT market.





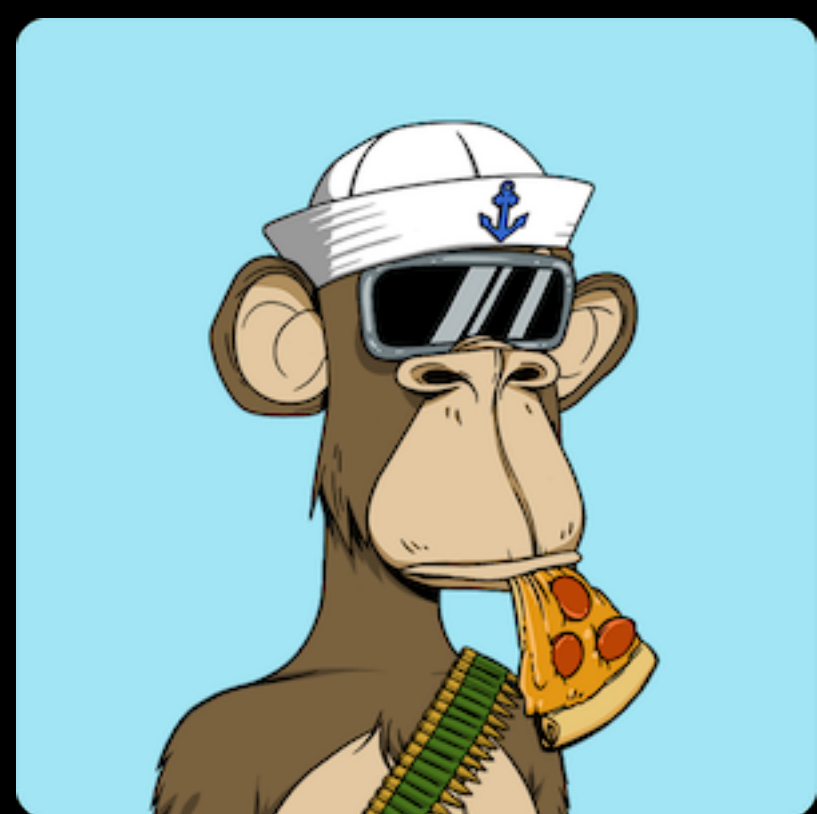
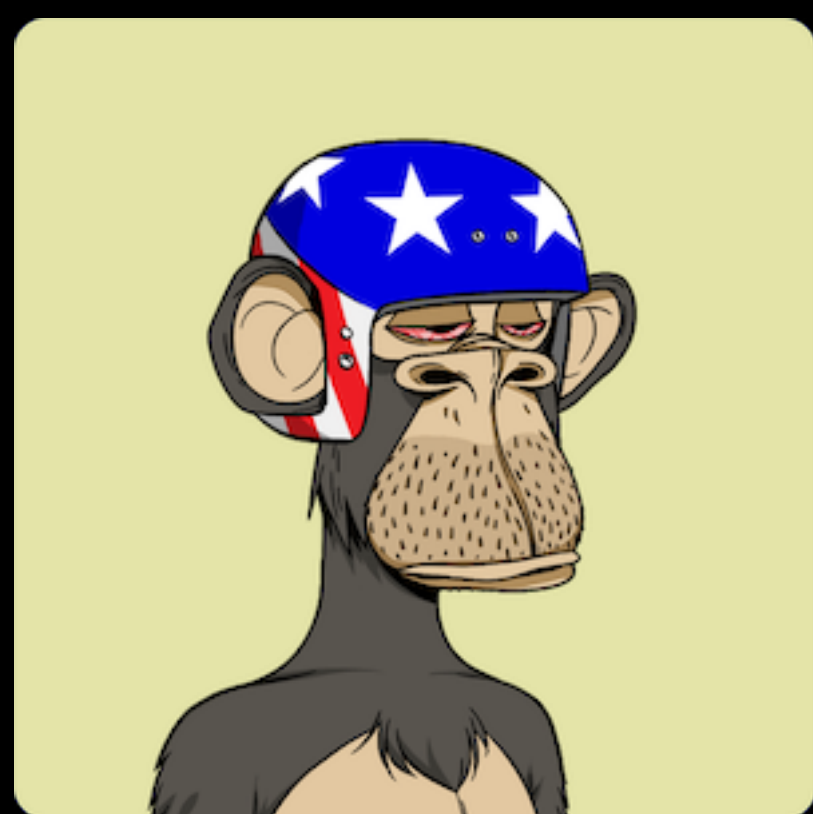
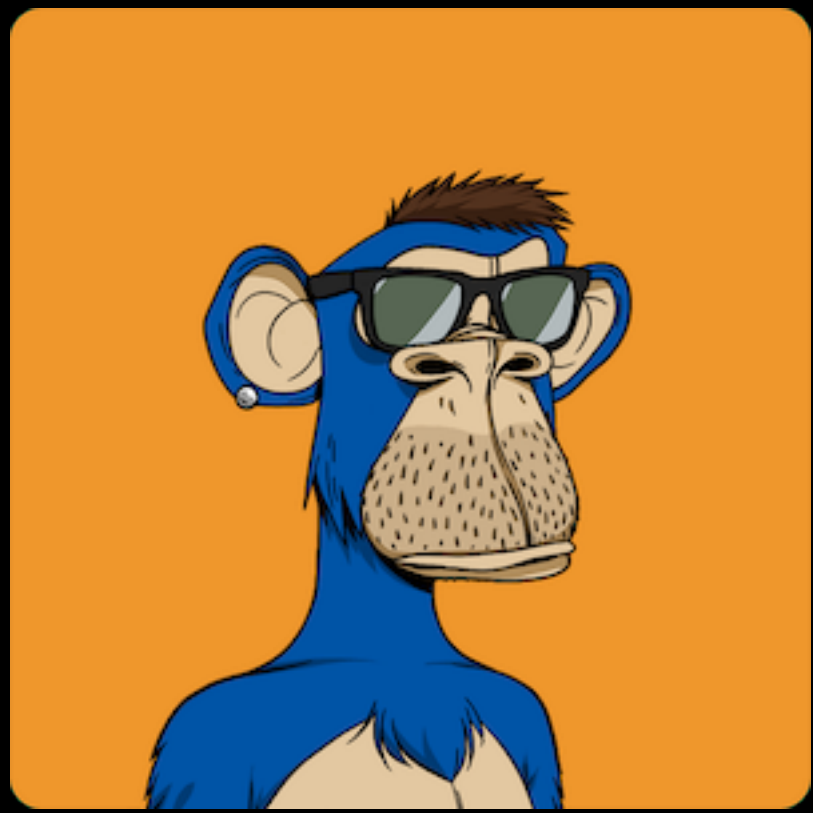
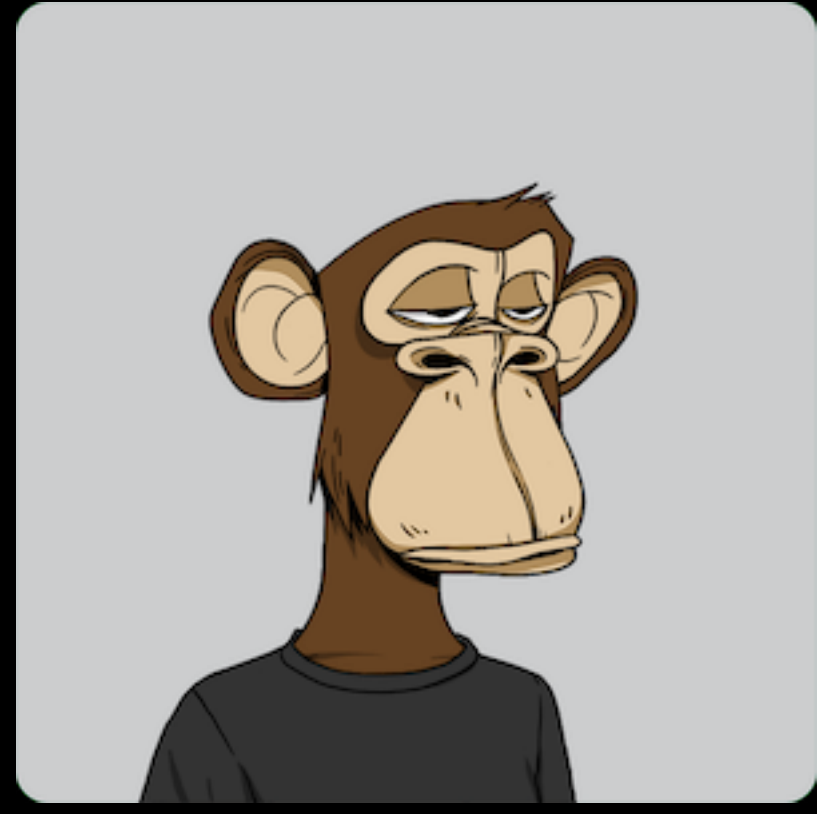
Yuga Labs

Founded in February 2021, Yuga Labs emerged as one of the most dominant and financially successful projects in the NFT ecosystem, and is currently valued at \$4 billion. The company is most known for creating the Bored Ape Yacht Club (BAYC), a collection of 10,000 unique Bored Ape NFTs. In light of this success, in June 2021, Yuga Labs launched a spinoff collection for Bored Ape holders called Bored Ape Kennel Club (BAKC), and later in August 2021, the company launched the Mutant Ape Yacht Club (MAYC). The BAKC and MAYC NFTs followed the steps of the BAYC, with both collections quickly starting to sell for tens of thousands of dollars.

After a strong 2021 that brought the company \$127 million in net revenue, Yuga started 2022 with a bold move: by acquiring both the popular projects CryptoPunks and Meebits in March.

While Yuga Labs has experienced tremendous growth in the NFT market, the company expanded to the Metaverse and in March, Yuga Labs announced the Otherside, a gamified metaverse in which users can turn their NFTs into playable characters.





Bored Apes Yacht Club

The Bored Ape Yacht Club (BAYC) is an Ethereum-based NFT collection of 10,000 unique Bored Apes. Launched in April 2021 by Yuga Labs, each Bored Ape has been generated by an algorithm combining unique features such as expression, clothing, accessories, and more. It is currently the most expensive NFT collection in the NFT marketplace OpenSea, with a floor price of 82.07 ETH, approximately \$133,000.

The BAYC has become a prime example of tapping into a community feeling to drive the success of a project. Bored Apes double as a Yacht Club membership card and grant access to members-only benefits, such as access to an exclusive Discord server and to THE BATHROOM, a collaborative graffiti board, merch drops, and bonus NFTs, private events, and more.

The BAYC has not only captured mainstream attention, but has also been drawing interest from the world's most reputable auction houses. In September 2021, Sotheby's auctioned 101 BAYC NFTs for a staggering \$24.4 million. In the same month, Christie's also sold four apes, along with NFTs by CryptoPunks, and Meebits, for a combined total of \$12 million.

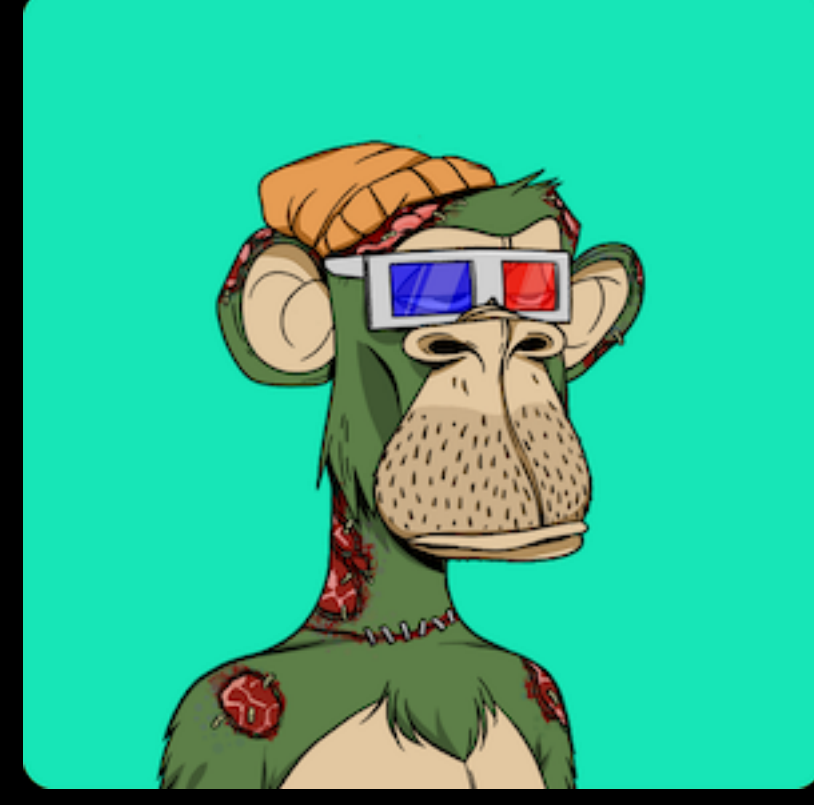
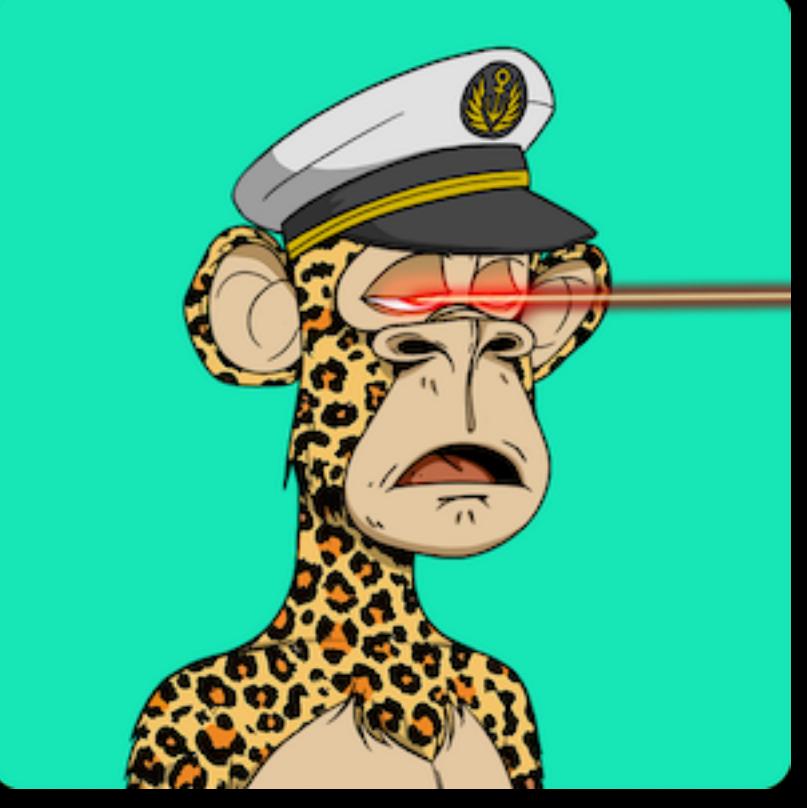
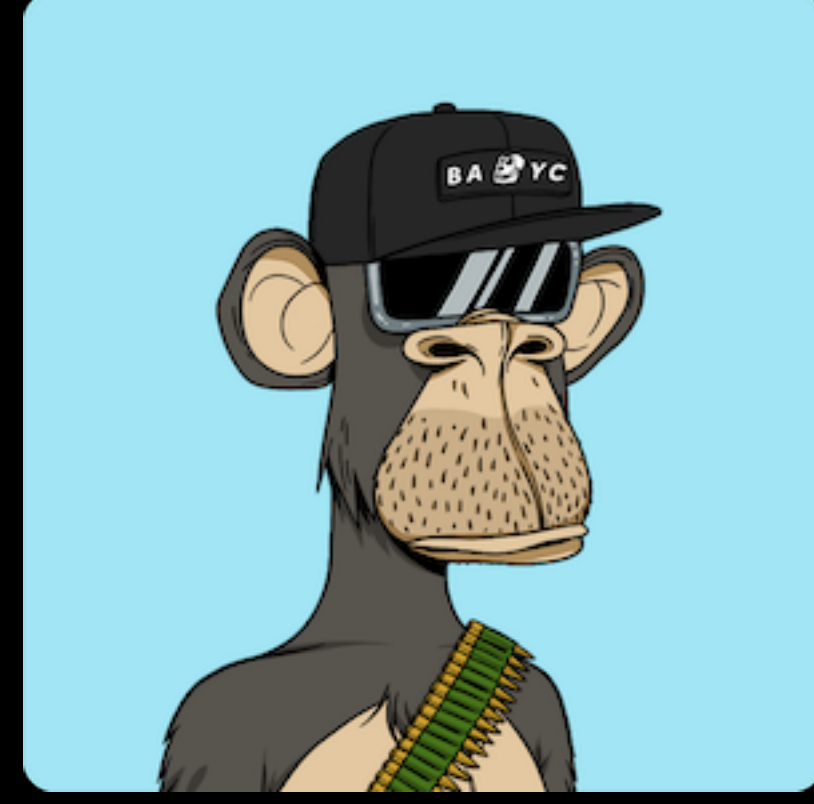
Along with the most reputable auction houses tapping into the BAYC universe, the list of Bored Ape celebrity owners now runs long. For example, Stephan Curry bought a Bored Ape back in August 2021 for \$180,000, which he occasionally uses as his Twitter avatar; Jimmy Fallon purchased the Bored Ape #599 for about \$224,000 in early November 2021; Eminem purchased his Bored Ape in December 2021 for about \$452,000; Madonna bought her Bored Ape for about \$466,000 back in March 2022.

Hacks

In its short history, the BAYC collection has been marked by tremendous success, bringing in considerable amounts of investment. But this success has also drawn negative attention from blackhat hackers and scammers, resulting in millions of dollars of stolen Bored Apes.

The most notorious cases include the compromise of the official Instagram account for the Bored Ape Yacht Club in April 2022, resulting in millions of dollars of stolen NFTs. A hacker posted a phishing link that transferred tokens out of users' crypto wallets. In June 2022, hackers breached the Discord account of BAYC's community manager and posted phishing links in both the official BAYC's and its metaverse project Otherside's Discord channels.





Our Research

The team at Immunefi, the leading bug bounty and security services platform for Web3, which protects over \$100 billion in users' funds, has assessed the volume of BAYC NFTs stolen and reported suspicious activity on OpenSea.

Overview

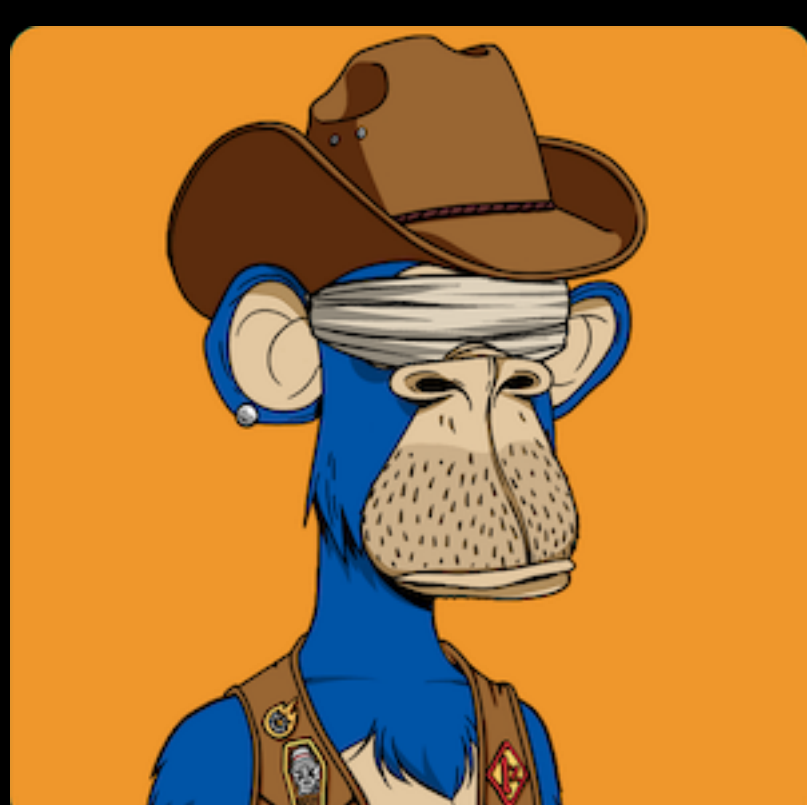
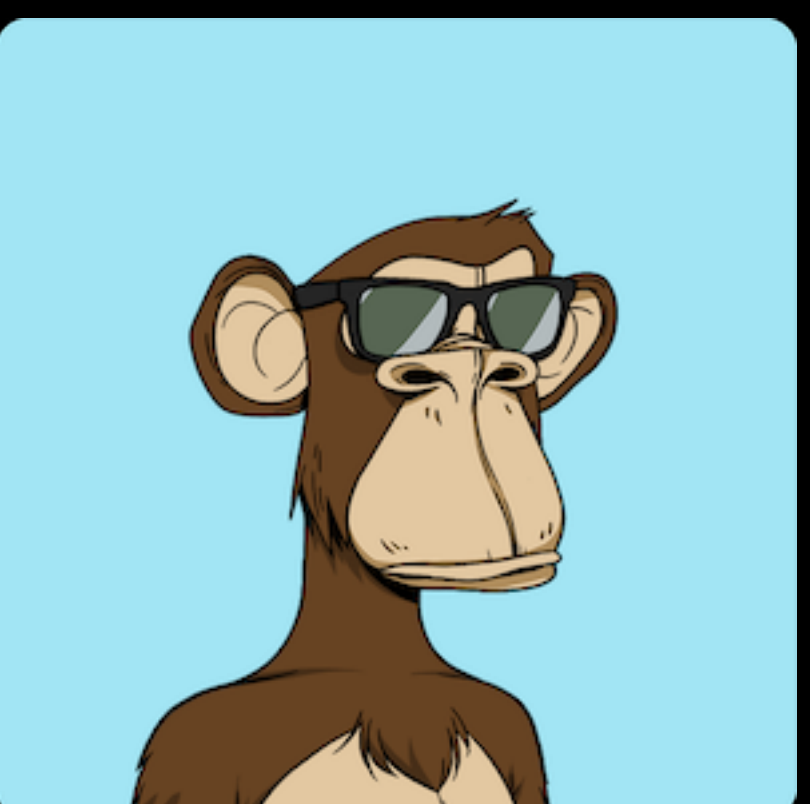
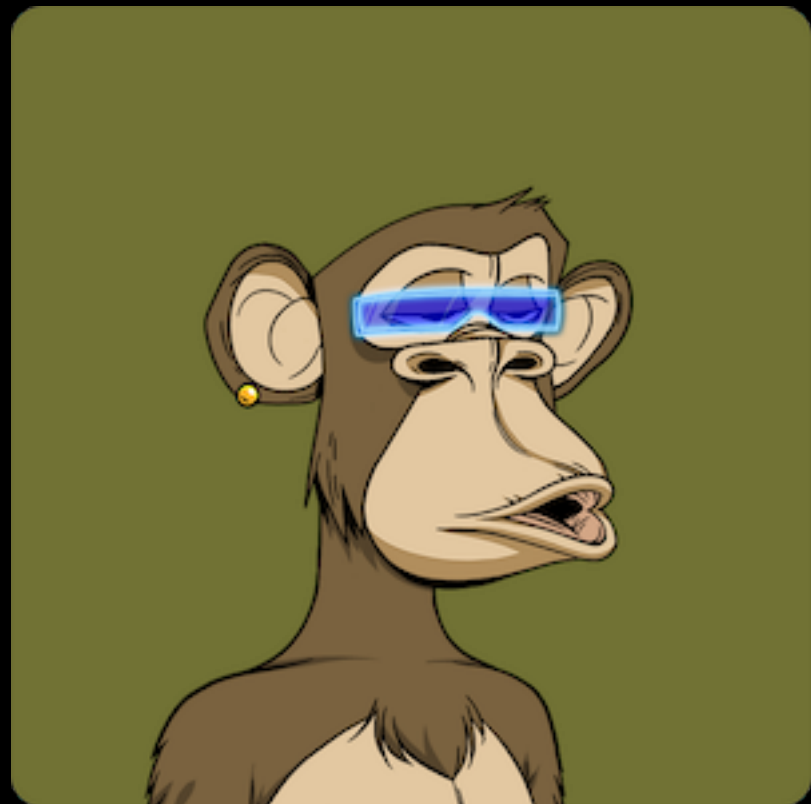
We have collected reports of stolen BAYC NFTs and IDs reported for suspicious activity on OpenSea. We have collected a total of 143 BAYC IDs totaling **\$13,582,962.08** of which **134** are still *Reported for suspicious activity* on OpenSea, representing a total of **\$12,638,406.97**.

The most valuable Bored Ape currently reported for suspicious activity was last sold for 194 ETH, equivalent to **\$267,914**.

The banner *Reported for suspicious activity* on OpenSea represents an item that has been locked, meaning the NFT cannot be bought, sold, or transferred using OpenSea. However, OpenSea doesn't have custody of the NFTs on the platform, which provides sellers the opportunity to use other platforms to transfer or sell stolen NFTs, or sell them directly to users.

In 2021 a Twitter user posted a story on how he exchanged Bored Ape 753 with Ape 9988 using the NFTX liquidity pool. Ape 9988 was stolen earlier and therefore listed as "reported for suspicious activity" on OpenSea, making it impossible for the hackers to sell it there. The user paid 6.13 ETH for the swap in addition to the price of his own NFT, last listed at 63 ETH. Ape 9988 is no longer locked down on OpenSea and is currently listed at 269.69 ETH.





NFT Security Q&A

Recurring hacks, scams, and the possibility of getting your hands on a stolen Bored Ape without realizing it are just some of the reasons it is increasingly important to understand the significance of NFT security. Immunefi's team clarified some of the most important security concerns that users should be aware of.

How do I securely store my NFTs?

The best way to store NFTs is in a hardware wallet or cold wallet. You can also use a smart contract-enabled wallet like Argent.

Storing crypto assets in hot wallets like Metamask, TrustWallet, or other browser-based wallets makes you more vulnerable to phishing attacks, clipper viruses, or other types of malware designed to compromise your system and steal your private keys. Once a hacker has your private keys, it's over. They not only have access to your NFTs, but also any other crypto assets in your wallet.

What are the attack vectors hackers use to steal NFTs?

Phishing, malicious links, malware, viruses, and users being tricked into approving malicious transactions.

What should I look for and do in order to avoid falling victim to phishing attempts?

Be careful of opening files or clicking links from messages that people send you on Discord, Telegram, Twitter DMs, and even LinkedIn. If something looks too good to be true, that's usually a sign of a trap. Don't click on any suspicious links from unknown sources, and be careful which Discord channels you are joining because although they may look legitimate, they may actually be full of scammers.

In some cases, clicking a malicious link is enough for sophisticated hackers to own your machine and transfer out NFTs from a browser wallet. In other cases, they may require you to accept a signed message on MetaMask, which will pop up after you click on a link.

Sometimes project-owned Discord, Telegram, or Twitter accounts can be hacked and send out malicious links or offers. For important announcements, projects usually notify users via all of their social media accounts, or at least more than one. Make sure to check the project's other social media accounts and feel free to ask around via other channels. Also, be aware of messages that have an urgent call to action. Those types of messages are specifically designed to make users put aside all their critical thinking abilities in the hopes of getting a valuable NFT or other assets before time runs out.



NFT Security Q&A

How do blackhats profit off of stolen NFTs?

There are several ways. First, blackhats do what's called 'wash trading' – they make so many trades of the stolen NFT through different accounts they control that it's difficult to tell that the NFT was stolen in the first place. This process also has the effect of making it look like there's a lot of demand for the NFT, which drives up the price.

Blackhats can also transfer the NFT out of OpenSea and sell it via a decentralized NFT exchange, such as NFTX, or try to sell it directly to other buyers – this is usually referred to as an OTC (over-the-counter) trade.

What are the key security issues centralized vs decentralized NFT marketplace face?

If it's a centralized NFT marketplace, then it's possible that if they get hacked, you get hacked. As the saying goes, not your keys, not your crypto. An attack could also come from rogue employees or employees who have been compromised by hackers.

With decentralized marketplaces, individual NFT holders are targeted much more via phishing and malware.

Can I still protect my NFTs if the NFT Marketplace security has been compromised? What steps can I take if I suspect my account has been compromised?

Revoke any access from the NFT itself and move the NFT to a secure wallet like a hardware wallet. If you believe that your machine has been compromised, wipe it and restore it to a previous state. You can never be too careful.

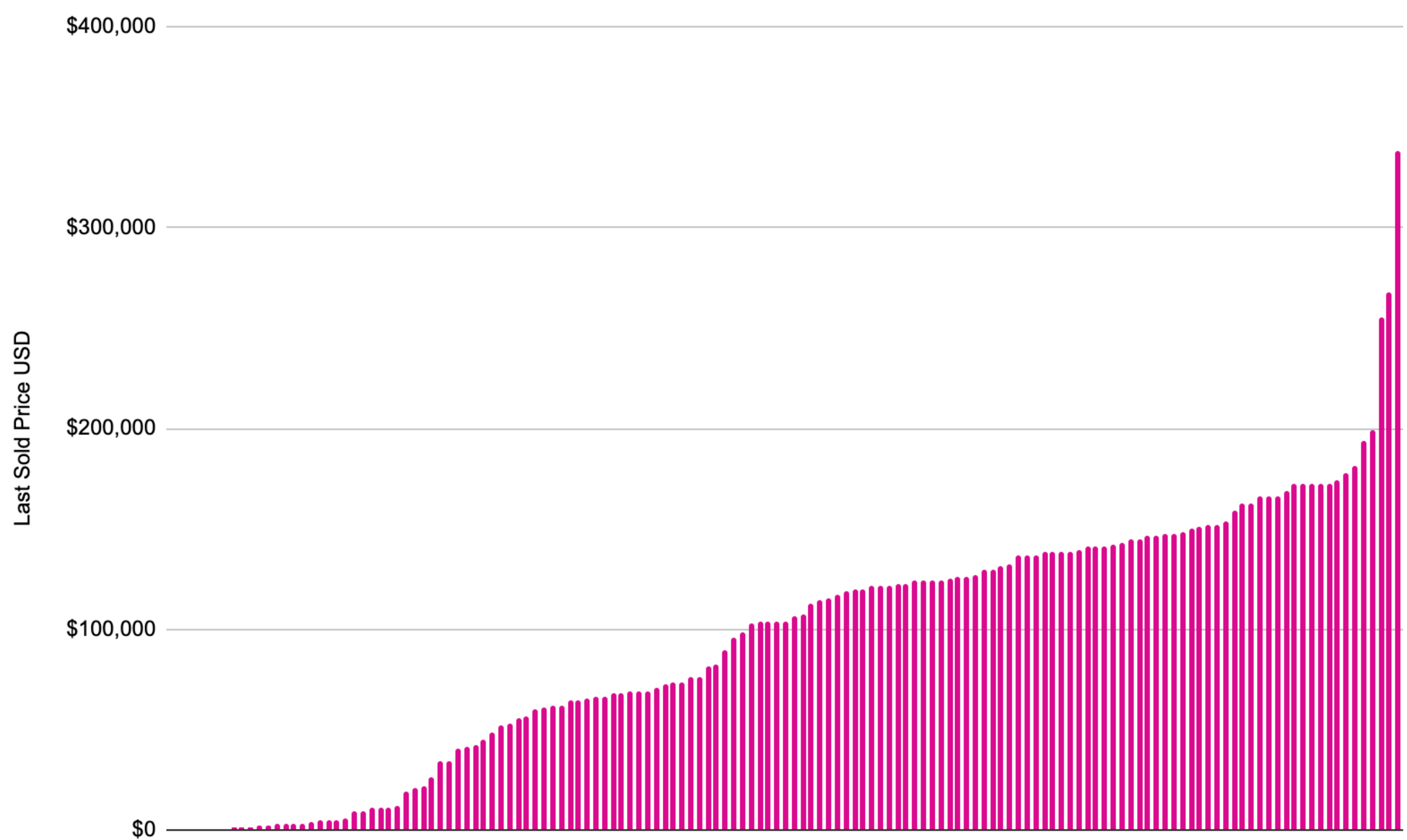


Below is the full list of compromised Bored Apes NFTs that have been reported as stolen or locked for suspicious activity on OpenSea as of Aug 8, 2022.

Ape ID	Reported Suspicious	Last Sold Price ETH	Last Sold Price USD	Ape ID	Reported Suspicious	Last Sold Price ETH	Last Sold Price USD
71	YES	88,00	\$121,528	5151	YES	0,00	\$0
181	YES	100,00	\$138,100	5166	YES	1,00	\$1,381
290	YES	118,00	\$162,958	5171	YES	83,80	\$115,728
313	YES	106,00	\$146,386	5351	YES	103,10	\$142,385
403	YES	1,90	\$2,624	5373	YES	125,00	\$172,625
404	YES	69,00	\$95,289	5458	YES	107,50	\$148,458
511	YES	90,00	\$124,290	5538	YES	52,69	\$72,765
731	YES	37,49	\$51,774	5591	YES	0,23	\$318
753	YES	50,00	\$69,050	5778	YES	110,00	\$151,910
775	YES	78,00	\$107,718	5783	YES	122,50	\$169,173
842	YES	105,00	\$145,005	5816	YES	45,00	\$62,145
993	YES	1,00	\$1,381	5917		6,40	\$8,838
1013	YES	129,00	\$178,149	5957	YES	38,43	\$53,078
1049		96,00	\$132,576	6095	YES	0,00	\$0
1100	YES	118,00	\$162,958	6166	YES	74,50	\$102,885
1181	YES	40,07	\$55,335	6178		90,00	\$124,290
1207	YES	50,00	\$69,050	6330	YES	102,00	\$140,862
1277	YES	3,20	\$4,419	6623		81,30	\$112,275
1277	YES	3,20	\$4,419	6663	YES	55,01	\$75,969
1364	YES	77,00	\$106,337	6740	YES	185,00	\$255,485
1536	YES	194,00	\$267,914	6778	YES	88,88	\$122,743
1553	YES	99,00	\$136,719	6778	YES	88,88	\$122,743
1584		109,27	\$150,908	6794	YES	13,73	\$18,961
1590	YES	109,00	\$150,529	6846	YES	126,00	\$174,006
1635		14,99	\$20,701	6891	YES	91,00	\$125,671
1729	YES	87,00	\$120,147	7089	YES	88,00	\$121,528
1942	YES	46,70	\$64,494	7104	YES	75,00	\$103,575
1948	YES	8,00	\$11,048	7203	YES	47,90	\$66,150
1954	YES	111,00	\$153,291	7203	YES	47,90	\$66,150
2068	YES	59,95	\$82,791	7354	YES	45,00	\$62,145
2083	YES	65,00	\$89,765	7380	YES	100,99	\$139,467
2162	YES	15,99	\$22,082	7521	YES	0,61	\$842
2163	YES	8,59	\$11,863	7533	YES	1,60	\$2,210
2311	YES	6,47	\$8,935	7594	YES	3,98	\$5,496
2476	YES	91,00	\$125,671	7683	YES	0,03	\$40
2491	YES	86,91	\$120,023	7798	YES	0,41	\$566
2510	YES	47,60	\$65,736	7898	YES	86,00	\$118,766
2578	YES	105,00	\$145,005	8005	YES	125,00	\$172,625
2611	YES	99,00	\$136,719	8028	YES	103,70	\$143,205
2787	YES	95,00	\$131,195	8065	YES	120,00	\$165,720
2892	YES	30,50	\$42,121	8079	YES	2,50	\$3,453
3037	YES	1,75	\$2,410	8166	YES	131,35	\$181,394
3215		90,00	\$124,290	8167	YES	46,70	\$64,495
3215		90,00	\$124,290	8207	YES	51,00	\$70,431
3278	YES	102,49	\$141,539	8214	YES	41,00	\$56,621
3329	YES	35,30	\$48,749	8239	YES	93,91	\$129,690
3376	YES	125,00	\$172,625	8255	YES	2,00	\$2,762
3391	YES	92,00	\$127,052	8302	YES	140,00	\$193,340
3475	YES	98,90	\$136,581	8398		106,00	\$146,386
3569	YES	110,00	\$151,910	8405	YES	32,50	\$44,883
3646	YES	3,13	\$4,316	8484	YES	75,00	\$103,575
3746	YES	84,80	\$117,109	8599	YES	87,73	\$121,160
3771	YES	125,00	\$172,625	8829	YES	71,00	\$98,051
3771	YES	125,00	\$172,625	8858	YES	58,90	\$81,334
3787	YES	7,90	\$10,910	8911	YES	24,88	\$34,359
3852	YES	100,00	\$138,100	8911	YES	24,88	\$34,359
4146	YES	82,63	\$114,113	8991	YES	8,00	\$11,048
4233	YES	102,00	\$140,862	8992	YES	144,32	\$199,306
4250	YES	100,00	\$138,100	9038	YES	75,00	\$103,575
4329	YES	120,00	\$165,720	9237	YES	2,30	\$3,176
4429	YES	0,45	\$621	9266	YES	53,00	\$73,193
4547	YES	75,00	\$103,575	9416	YES	49,00	\$67,669
4688	YES	100,00	\$138,100	9481	YES	30,00	\$41,430
4694	YES	43,57	\$60,169	9483	YES	3,70	\$5,110
4741	YES	43,99	\$60,750	9546	YES	106,69	\$147,339
4755	YES	54,89	\$75,803	9618	YES	107,00	\$147,767
4759	YES	90,50	\$124,981	9646	YES	114,92	\$158,705
4802	YES	29,00	\$40,049	9672	YES	120,00	\$165,720
4930	YES	94,00	\$129,814	9753	YES	49,00	\$67,669
5087	YES	0,27	\$373	9818	YES	18,85	\$26,032
5149	YES	245,00	\$338,345	9915	YES	53,00	\$73,193
				9917	YES	50,00	\$69,050



Price Distribution





If you are a researcher, a journalist or otherwise interested in this research, you can get the full data set using the link below.

Dataset

If you have questions about this study or ImmuneFi itself, feel free to reach out to us.

[press@immune.fi.com](mailto:press@immune.fi)