

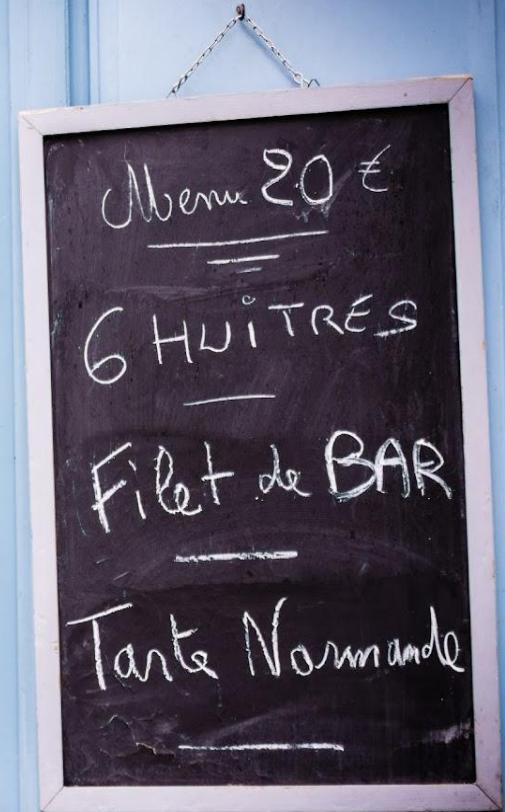


Cryptocurrency & NFT OSINT

Workshop

Summary

- Introduction to Blockchain & NFT
- Web3 OSINT
 - Follow the money
 - Who is behind?
 - What do you own?
- Conclusion & Future



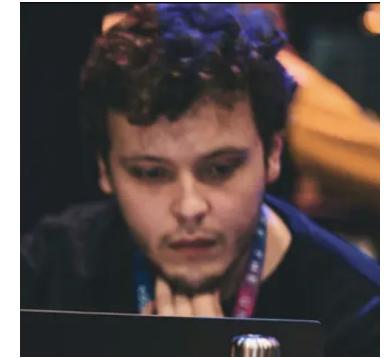
Who are we?



- **Patrick Ventuzelo**
 - [@Pat_Ventuzelo](https://twitter.com/Pat_Ventuzelo)
 - CEO & Founder
 - Senior Security Researcher



- **Tanguy Laucournet**
 - Security Engineer
 - Blockchain/OSINT expert



- **Mohammed Benhelli**
 - Security Researcher
 - Fuzzinglabs's swiss knife

Introduction to Blockchain & NFT

Peer-to-peer (P2P) network

- “Blockchains are **politically decentralized** (no one controls them) and **architecturally decentralized** (no infrastructural central point of failure) but they are **logically centralized** (there is one commonly agreed state and the system behaves like a single computer)” - [Vitalik Buterin](#)

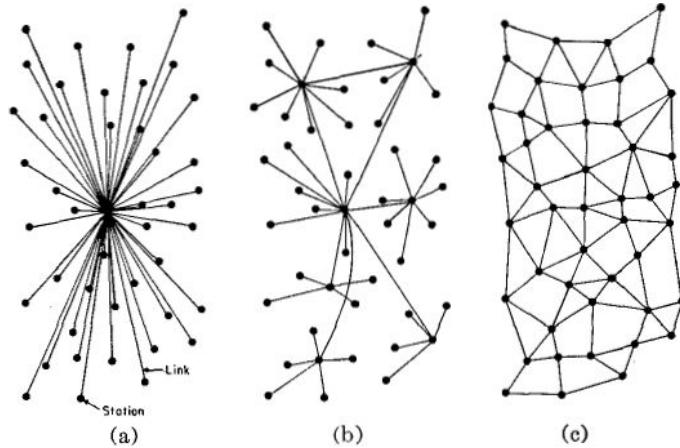
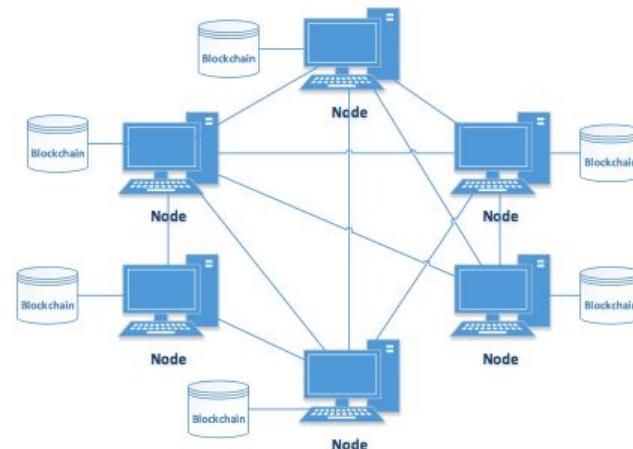
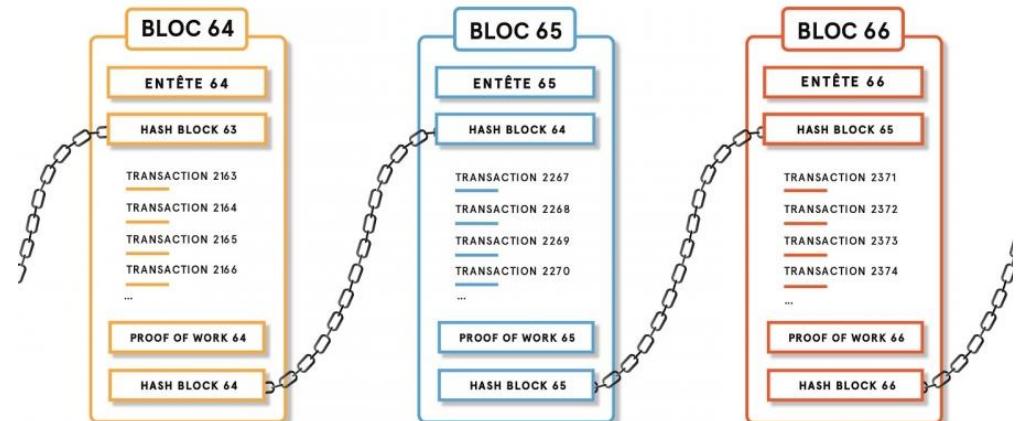


Fig. 1—(a) Centralized. (b) Decentralized. (c) Distributed networks.



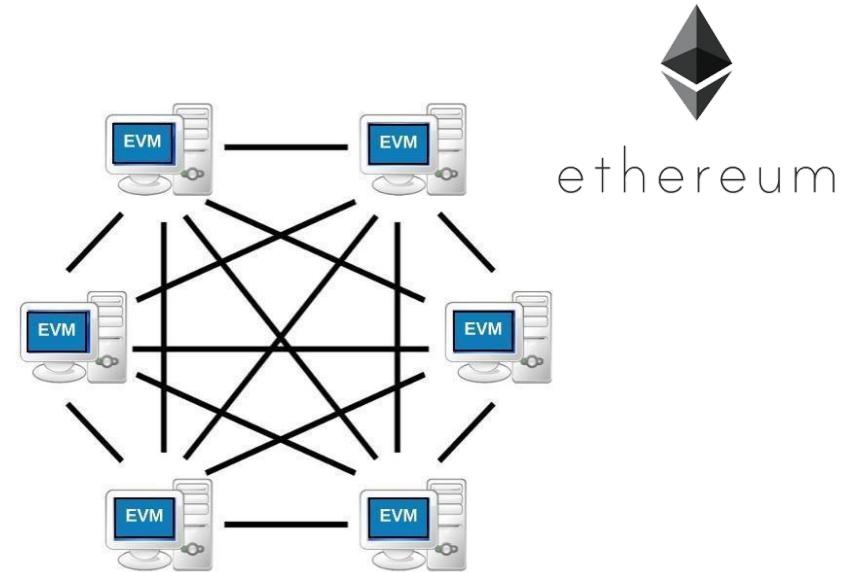
Block + chain

- **Addresses**
 - Public key
 - **Unique identifiers**
 - Ex: 0x21a06d452a1f49f55635ecac61348df606ed9bae
- **Transaction**
 - Interaction between participants
 - Ex: Address A send money to Address B
- **Block**
 - Set of transactions between accounts
- **Blockchain**
 - Series of blocks
 - each linked to the previous block
 - **Immutable** public transaction ledger
 - Stored forever in the blockchain



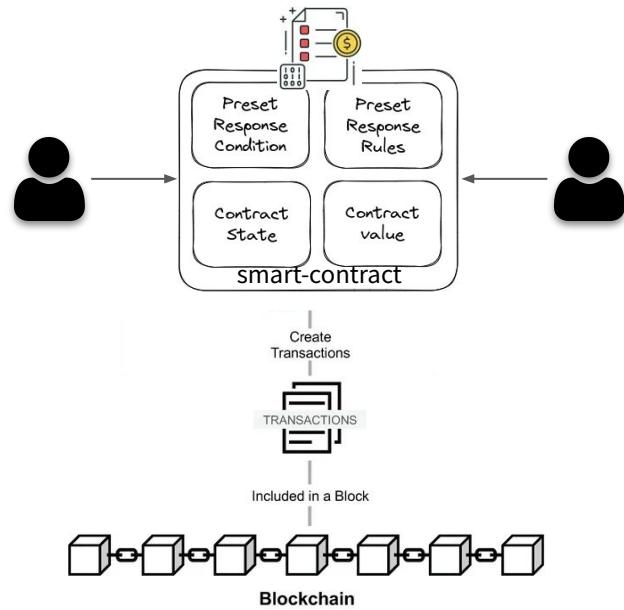
What is Ethereum?

- Ethereum is a **decentralized platform** that **runs smart contracts**: applications that run exactly as programmed without any possibility of downtime, censorship, fraud, or third-party interference.
- Created by Vitalik Buterin, Gavin Wood, etc.
- [Open source](#)
- Decentralized **cryptocurrency**
- Decentralized network (P2P)
 - launched on 30 July 2015
 - **Public data 24 hours a day, 7 days a week.**
- Consensus
 - Proof of work (PoW)
 - Since September 2022: **Proof of Stake (PoS)**
- **Ethereum Virtual Machine (EVM)**
 - Sandboxed virtual stack machine



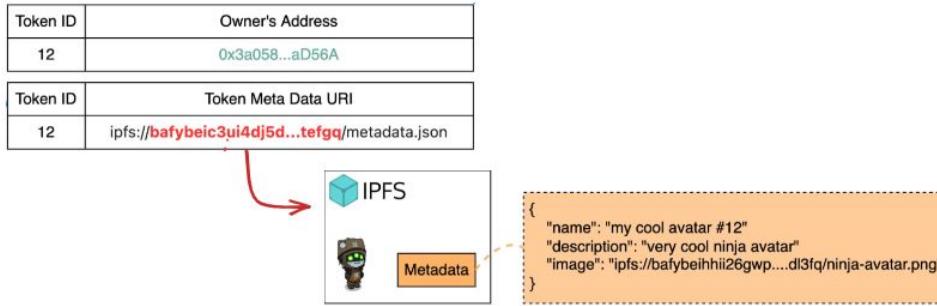
What is a Smart Contract?

- “A smart contract is a **computer program** or a **transaction protocol** which is intended to **automatically execute, control** or document legally relevant events and actions according to the terms of a contract or an agreement. The **objectives of smart contracts are the reduction of need in trusted intermediates, arbitrations and enforcement costs, fraud losses**” - [Wikipedia](#)
- Ethereum Smart Contracts
 - Written in Solidity.
 - **DApps** (Decentralized Application)
 - Stored on the blockchain
 - Executed by the EVM

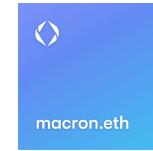


What is a NFT (Non-fungible token)?

- An **NFT (Non-fungible token)** is a digital asset that can be used to represent all kinds of things on a blockchain.
 - ERC-721 standard



- Key features:
 - Immutability
 - Transparency
 - Can be owned and transferred
 - Indivisible
 - Uniqueness**



ENS



Profile Picture



Sport



POAP



Ticketing



Gaming



Luxury



Metaverse

Web3 OSINT

Usage & Analysis

Web3/Cryptocurrencies OSINT in the wild

PRESS RELEASES

U.S. Treasury Sanctions Notorious Virtual Currency Mixer Tornado Cash

● Council of the EU Press release 16 May 2023 10:30

Anti-money laundering: Council adopts rules which will make crypto-asset transfers traceable

The EU is making it more difficult for criminals to circumvent anti-money laundering rules via crypto currencies. Today the Council adopted updated rules on information accompanying the transfers of funds by **extending the scope of the rules to transfers of crypto assets**. This ensures financial transparency on exchanges in crypto-assets and provides the EU with a solid framework that complies with the most demanding international standards on the exchange of crypto-assets, ensuring that these are not used for criminal purposes.



The EU is making it more difficult for criminals to misuse crypto-assets for money laundering purposes

Five Charged in France With \$2.5M Fraud Targeting Bored Ape NFT Owners

Noted online crypto sleuth "ZachXBT" played a key role in helping French authorities uncover the fraudulent Bored Ape NFT scheme.

● By Will McCurdy

Oct 13, 2022
3 min read



Bored Ape Yacht Club NFTs have become one of the most popular collections in crypto. Image: Shutterstock.

[link](#)
[link2](#)
[link3](#)

Follow the money

EXERCISE: Transaction tracking

- CONTEXT:
 - Hack of one Stake's wallet
 - Online crypto casino
 - Transaction of the attacker
 - <https://etherscan.io/tx/0x98610e0a20b5ebb08c40e78b4d2271ae1fb4fc3b8783b1bb7a5687918fad54e>
 - Source
 - [Rekt - Stake - REKT](#)
- GOALS:
 - Follow the money
 - Find an “exit point” such as
 - Mixer (Tornado)
 - Centralized exchange (Binance, Coinbase, etc.)
 - Bridge to other chains
- TOOLS:
 - Etherscan
 - Metasleuth



STEP 1: Transaction analysis

Overview State Comments More ▾

② Transaction Hash: 0x98610e0a20b5ebb08c40e78b4d2271ae1fbd4fc3b8783b1bb7a5687918fad54e ⓘ

② Status: Success

② Block: 18063215 307042 Block Confirmations

② Timestamp: 43 days 12 mins ago (Sep-04-2023 12:48:23 PM +UTC) | ⓘ Confirmed within 19 secs

④ Transaction Action: Transfer 6,000 ETH To Stake.com Hacker

② Sponsored:

② From: 0x974CaA59e49682CdA0AD2bbe82983419A2ECC400 (Stake.com) ⓘ

② To: 0x3130662aece32F05753D00A7B95C0444150BCd3C (Stake.com Hacker) ⓘ

② Value: 6,000 ETH \$9,447,903.38

② Transaction Fee: 0.000239225904792 ETH \$0.38

② Gas Price: 11.391709752 Gwei (0.00000011391709752 ETH)

Address 0xd8dA6BF26964aF9D7eEd9e03E53415D37aA96045

99+

Exchange Play Gaming

NFT Domain Name / Etherscan labels

vitalik.eth # Gitcoin Grantee

Overview

Balances

ETH BALANCE

4,119.618572057994478561 ETH

ETH VALUE

\$7,178,806.13 (@ \$1,742.59/ETH)

TOKEN HOLDINGS

>\$1,001,189.60 (>201 Tokens)

More Info

PRIVATE NAME TAGS

+ Add

LAST TXN SENT

0xb502631ac75... from 1 day 13 hrs ago

FIRST TXN SENT

0x6ff0860e202c6... from 2810 days 14 hrs ago

Multi Chain

MULTICHAIN ADDRESSES

24 addresses found via Blockscan

Transactions

Internal Transactions

Token Transfers (ERC-20)

NFT Transfers

Analytics

Comments

Latest 25 from a total of 1,922 transactions (+2 Pending)

Advanced Filter



Transactions

Global activity

| Transaction Hash | Method | Block | Age | From | To | Value | Txn Fee |
|------------------------|----------|-----------|--------------------|---------------------|------------------------|------------------|------------|
| 0x14bd11fb6614ef7b9... | Transfer | (pending) | 1 day 2 mins ago | 0xA66aB9...E8b78a25 | IN 0xd8dA6B...7aA96045 | 0.0000486968 ETH | (Pending) |
| 0x5b48f0c340e70e63c... | Transfer | (pending) | 7 days 7 hrs ago | 0x7Dd14c...CaBe0859 | IN 0xd8dA6B...7aA96045 | 0.0000001 ETH | (Pending) |
| 0xb23026a6377ded7... | Transfer | 17458722 | 14 hrs 11 mins ago | lalitsingla.eth | IN vitalik.eth | 0.0001 ETH | 0.00033043 |

SOLUTION: Follow the money

| | | | | | | |
|----------|----------|--------------------|---------------------|-----|-------------------------------------------------------------------------------------|--------------------|
| Transfer | 18063244 | 40 days 18 hrs ago | Stake.com Hacker | OUT | Stake.com Hacker 1 | 5,900 ETH |
| | | | | |  | |
| Transfer | 18177366 | 24 days 17 hrs ago | Stake.com Hacker 1 | OUT | 0xa4694f...D8622356 | 1,998.21921244 ETH |
| | | | | |  | |
| Transfer | 18177136 | 24 days 18 hrs ago | Stake.com Hacker 1 | OUT | 0xa4694f...D8622356 | 1,000 ETH |
| | | | | |  | |
| Transfer | 18177369 | 24 days 17 hrs ago | 0xa4694f...D8622356 | OUT | 0x6A656E...45F43908 | 1,998.21886931 ETH |
| | | | | |  | |
| Transfer | 18177366 | 24 days 17 hrs ago | Stake.com Hacker 1 | IN | 0xa4694f...D8622356 | 1,998.21921244 ETH |
| | | | | | | |
| Transfer | 18177331 | 24 days 17 hrs ago | 0xa4694f...D8622356 | OUT | 0x6A656E...45F43908 | 1,022.45344968 ETH |
| | | | | | | |
| Transfer | 18177369 | 25 days 23 hrs ago | 0xa4694f...D8622356 | OUT | 0x6A656E...45F43908 | 1,998.21886931 ETH |
| | | | | | | |
| Transfer | 18177366 | 25 days 23 hrs ago | Stake.com Hacker 1 | IN | 0xa4694f...D8622356 | 1,998.21921244 ETH |
| | | | | | | |
| Transfer | 18177331 | 25 days 23 hrs ago | 0xa4694f...D8622356 | OUT | 0x6A656E...45F43908 | 1,022.45344968 ETH |

SOLUTION

| | | | | | | |
|------------------|--------------------------|--------------------|---------------------|--|--------------------------------------|------------|
| Transfer | 18187763 | 24 days 12 hrs ago | 0x6A656E...45F43908 | | 0x0bF800...5200fA8f | 8.16 ETH |
| Transfer | 18187621 | 24 days 13 hrs ago | 0x6A656E...45F43908 | | 0x0bF800...5200fA8f | 9.145 ETH |
| Transfer | 18187620 | 24 days 13 hrs ago | 0x6A656E...45F43908 | | 0x5be8de...07B2e92D | 88.592 ETH |
| Transfer | 18187619 | 24 days 13 hrs ago | 0x6A656E...45F43908 | | 0x0bF800...5200fA8f | 8.141 ETH |
| Transfer | 18187614 | 24 days 13 hrs ago | 0x6A656E...45F43908 | | 0x7FdD2b...8DeB61Ec | 11.71 ETH |
| Transfer | 18187576 | 24 days 13 hrs ago | 0x6A656E...45F43908 | | 0x536127...2AaD7Ea0 | 18.472 ETH |
| | | | | | | |
| Deposit With ... | 18188161 | 25 days 11 hrs ago | 0x536127...2AaD7Ea0 | | THORChain: THORChain | 5.24 ETH |
| Deposit With ... | 18188156 | 25 days 11 hrs ago | 0x536127...2AaD7Ea0 | | THORChain: THORChain | 5.2 ETH |
| Deposit With ... | 18188148 | 25 days 11 hrs ago | 0x536127...2AaD7Ea0 | | THORChain: THORChain | 5.1 ETH |
| Transfer | 18188138 | 25 days 11 hrs ago | 0x6A656E...45F43908 | | 0x536127...2AaD7Ea0 | 15.498 ETH |

SOLUTION: ETH to BTC wallet

② From: 0x536127479a1075E9F714FAba7309D3Fb2AaD7Ea0 ↗
② To: 0xd37bbe5744d730a1d98d8dc97c42f0ca46ad7146 (THORChain: THORChain Router v4.1.1) ↗ ✓
└ Transfer 5.24 ETH From THORChain: THORChain R... To 0xA54E58...4E554793

② Value: ♫ 5.24 ETH \$8,250.71

② Other Attributes: Txn Type: 2 (EIP-1559) Nonce: 148 Position In Block: 96

② Input Data:

| # | Name | Type | Data |
|---|------------|---------|-------------------------------------------------------------------|
| 0 | vault | address | 0xA54E58A1C33aD2feAa8fB0ac93738d324E554793 |
| 1 | asset | address | 0x000000000000000000000000000000000000000000000000000000000000000 |
| 2 | amount | uint256 | 524000000000000000000000 |
| 3 | memo | string | =:b1c1q6jzg4dcytm8yvyjhgxlymvf4m9kgvwrtjtctu7:39088579:t:30 |
| 4 | expiration | uint256 | 1695347183744 |

⌚ Switch Back

SOLUTION: Metasleuth can help a lot ;)



Who is behind?

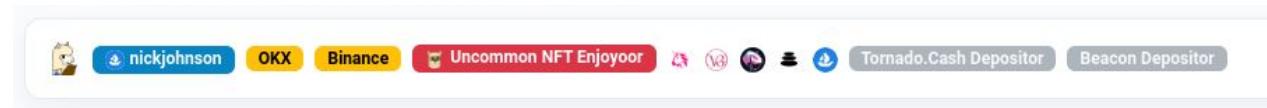
EXERCISE: Who is behind?

- Euler hack
 - Address: [0x116cefda507b6e7be67baa27b31b5f5ceabea154](#)
 - Mentioned in [Aleno's blogpost](#) about the

For each address, we conducted a behavioral and transactional analysis to analyze the habits of the addresses and we found that [0x116ce](#) has really **suspicious behavior.**

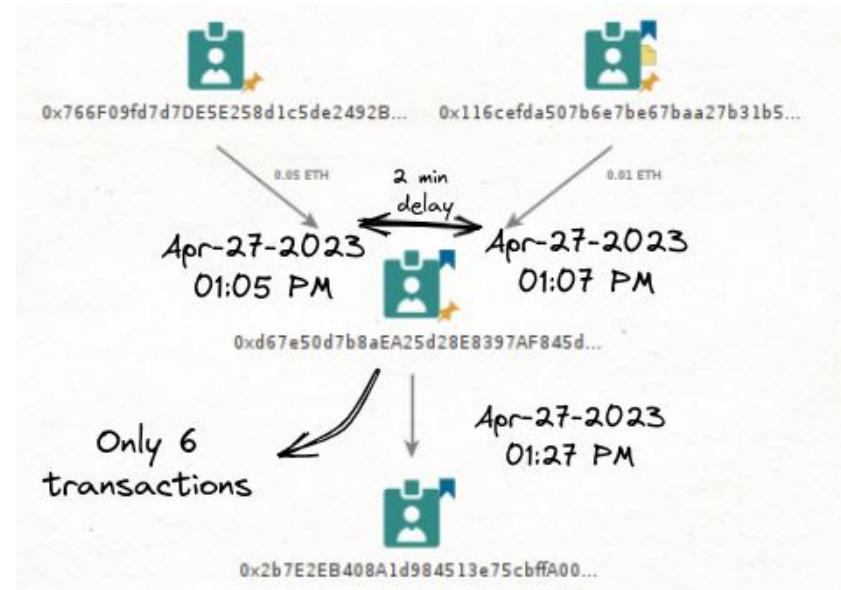
- GOALS:
 - Find a link between **0x116** to an identifiable address
 - at least a username

- TOOLS:
 - Browser extensions
 - [DefiLlama](#)
 - [MetaDock](#)
 - Arkham
 - Breadcrumbs
 - Debank
 - Nansen



STEP 1: Find counterparties (adjacent wallets)

- Who is related to **0x116**
 - [0xd67e50d7b8aea25d28e8397af845da808fb47ba1](#)
 - Who is related to **0xd67**
 - In/out transactions with [0x766](#)
- TIPS
 - Use graph investigation apps
 - Maltego
 - [Osint tracker](#)
 - Take a look at txs timestamp
- Is it enough to assume there are linked together?
 - Depends of how strong is the wallet's relationship
 - In this case, we have in/out transactions with 0x766F
- **0x766** is owning some NFT
 - Let's analyze them and find On-chain usernames
 - ENS



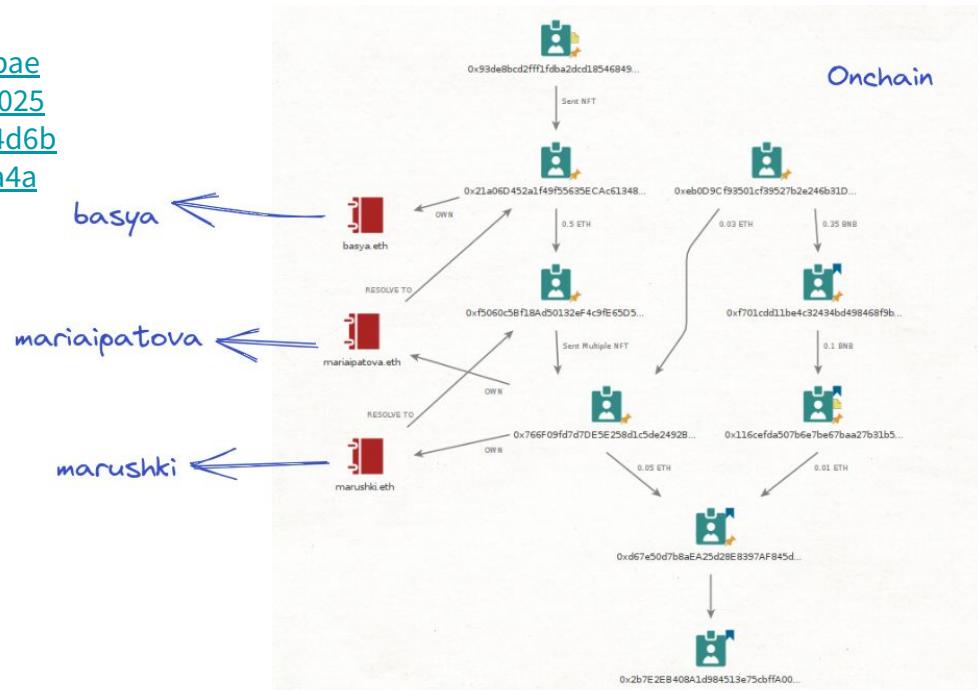
STEP 2: 0x766 NFT analysis

| | | | | | | | | |
|-----------------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|-------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------|
|  0x8c2b618ac3d2120d... | Fulfill Basic Or... | 241 days 9 hrs ago | 0x766F09...30344d6B |  | suthie.eth |  |  | TOONZ #5081 DEGEN TOONZ |
|  0xeb0062dd8148a9b3... | Fulfill Basic Or... | 241 days 15 hrs ago | 0x766F09...30344d6B |  | 0xFFa728...FF3A9Fb8 |  |  | TOONZ #4553 DEGEN TOONZ |
|  0x3262e055c06a76cf2... | Match Advanc... | 241 days 15 hrs ago | 0x766F09...30344d6B |  | 0xD2d4Cd...3cC00eB5 |  |  | TOONZ #5079 DEGEN TOONZ |
|  0x16ee83898b24c4c8... | Match Advanc... | 241 days 15 hrs ago | 0x766F09...30344d6B |  | 0x92d0c6...15dba38B |  |  | TOONZ #4554 DEGEN TOONZ |
|  0xa597b5bd896529d3... | Match Advanc... | 241 days 15 hrs ago | 0x766F09...30344d6B |  | odenkozuki.eth |  |  | TOONZ #4552 DEGEN TOONZ |
|  0xfefadafe5bef88a84c... | Bulk Transfer | 241 days 21 hrs ago | 0xf5060c...c55ee025 |  | 0x766F09...30344d6B |  |  | TOONZ #4553 DEGEN TOONZ |
|  0xfefadafe5bef88a84c... | Bulk Transfer | 241 days 21 hrs ago | 0xf5060c...c55ee025 |  | 0x766F09...30344d6B |  |  | TOONZ #4554 DEGEN TOONZ |
|  0xfefadafe5bef88a84c... | Bulk Transfer | 241 days 21 hrs ago | 0xf5060c...c55ee025 |  | 0x766F09...30344d6B |  |  | TOONZ #5081 DEGEN TOONZ |

SOLUTION: Wallet's ENS relationships

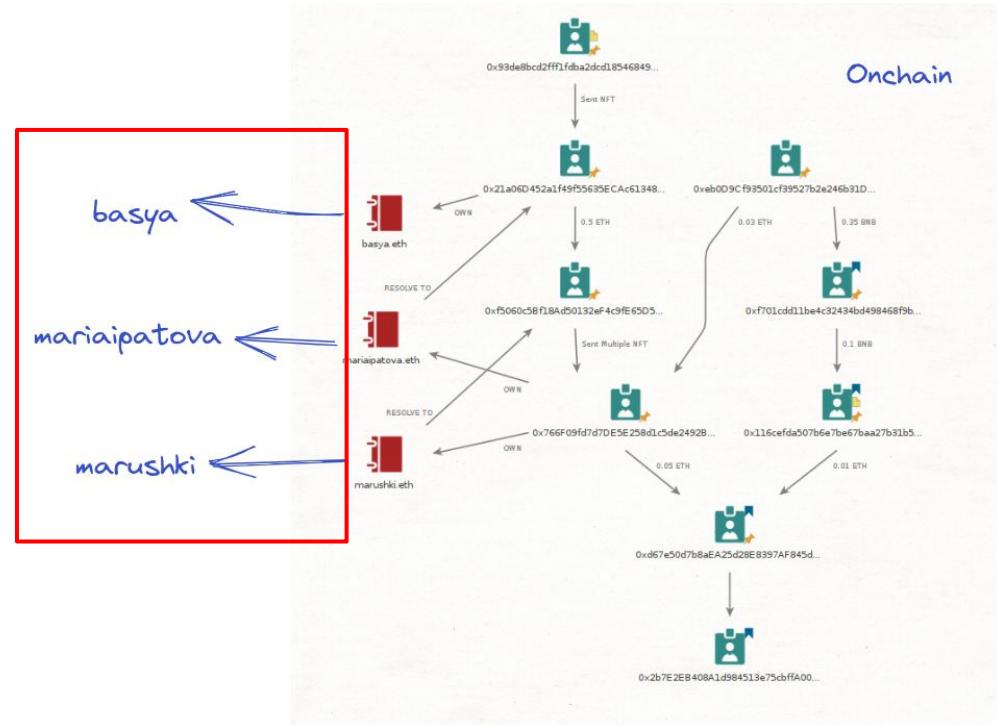
- Addresses:
 - [0x21a06d452a1f49f55635ecac61348df606ed9bae](#)
 - [0xf5060c5Bf18Ad50132eF4c9fE65D52eBc55ee025](#)
 - [0x766f09fd7d7de5e258d1c5de2492b2d530344d6b](#)
 - [0x93de8bcd2fff1fdbadcd185468493a731042a4a](#)
- Domain Name Lookup
 - **ENS**
 - Unstoppable Domains

| Result for: mariaipatova.eth | |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Overview of ENS | |
| ⑦ Resolved Address: |  0x21a06D452a1f49f55635ECAc61348dF606Ed9bAe |
| ⑦ Expiration Date: | 📅 2027.01.07 at 11:26 |
| ⑦ Registrant: | 0x766F09fd7d7DE5E258d1c5de2492B2d530344d6B ⓘ |
| ⑦ Controller: | 0xf5060c5Bf18Ad50132eF4c9fE65D52eBc55ee025 ⓘ |



STEP 3: OSINT web2

- For each previous addresses
 - Find **Off-chain** username
 - OpenSea
 - Find web2 **username & social accounts**
 - Twitter
 - Instagram
 - Etc.
 - Confirm identities by
- TIPS
 - Google dork
 - You can use Maigret [online](#)



SOLUTION: Identities behind those wallets

jfilche
0x93DE...2A4A Joined March 2021
NFT

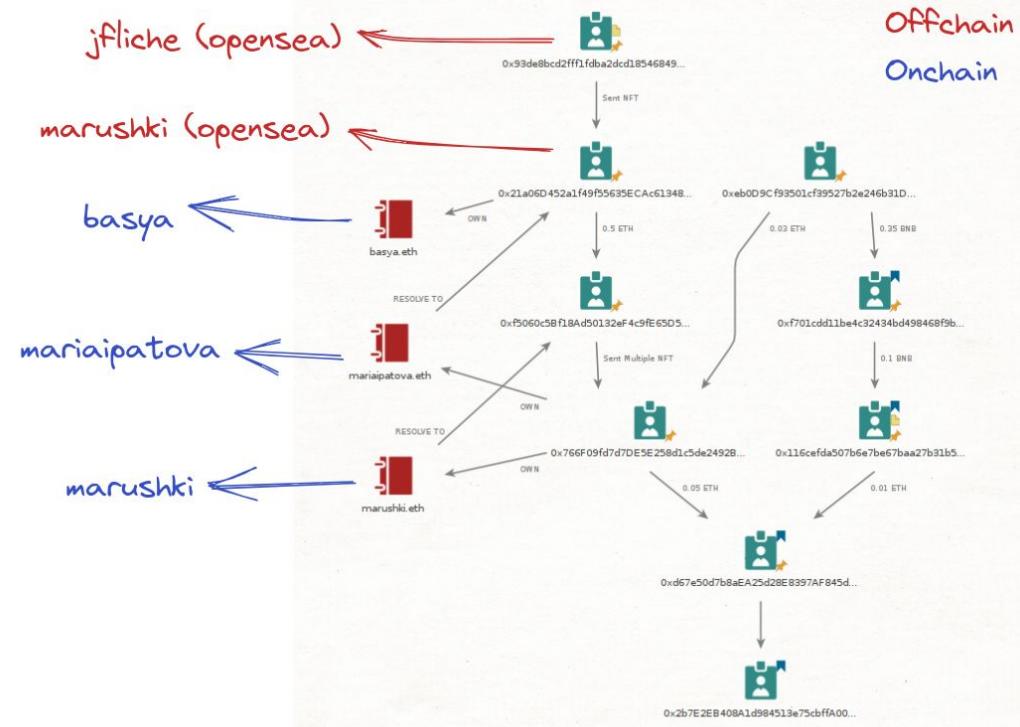
marushki
0x21a0...9bAe Joined March 2021

Opensea

Julian
@Jfilche

Maria
@marushki_

Twitter



SOLUTION: How to confirm it's the same friends?

- Maria made a [tweet](#) about a [TOONZ #5081](#)
 - In April 2022, 0x21a6 was the owner of this NFT



Item Activity

A total of 9 records found

| ② | Txn Hash | Age | Action | Price | From | To |
|---|-------------------------|---------------------|----------|-------------------------|---------------------|---------------------|
| ① | 0xd0d6f3b0c766cafa2... | 39 days 5 hrs ago | Sale | 0.189 ETH (\$347.71) | 0xb813f3...E9f2C6C5 | 0xwn.eth |
| ② | 0x5ae1e153592c4539... | 39 days 19 hrs ago | Sale | 0.20801 WETH (\$382.68) | 0xDadD6e...4E39de53 | 0xb813f3...E9f2C6C5 |
| ③ | 0xe672b4b196c45ec2... | 39 days 19 hrs ago | Sale | 0.2 Blur Pool | david-taylor.eth | 0xDadD6e...4E39de53 |
| ④ | 0x09c9bb8e84981d41... | 113 days 8 hrs ago | Sale | 0.6 ETH (\$1,103.83) | 0x3Dd932...e2a937Ba | david-taylor.eth |
| ⑤ | 0x1269f67e284e29269... | 122 days 7 hrs ago | Sale | 0.52 Blur Pool | suthie.eth | 0x3Dd932...e2a937Ba |
| ⑥ | 0x8c2b618ac3d2120d... | 122 days 10 hrs ago | Sale | 0.57 ETH (\$1,048.63) | 0x766F09...30344d6B | suthie.eth |
| ⑦ | 0xfefadafe5bef88a84c... | 122 days 21 hrs ago | Transfer | | 0xf5060c...c55ee025 | 0x766F09...30344d6B |
| ⑧ | 0xa3f7ab66a3e51c665... | 170 days 14 hrs ago | Transfer | | 0x21a06D...06Ed9bAe | 0xf5060c...c55ee025 |
| ⑨ | 0x684b601f512447a07... | 472 days 3 hrs ago | Mint | | Null: 0x000...000 | 0x21a06D...06Ed9bAe |

What do you own?

Bernard Arnault owns NFTs?

- Ian Rogers (Former chief digital officer at LVMH)
 - Say during Aarthi and Sriram's Good Time Show podcast.
- “I don’t think he’d mind if I said this—**he has shown me**, of his own volition, **his OpenSea page**,” said Rogers, referencing a digital NFT marketplace. “Which means he had to pull out his phone, find it, and then take me through it. So, yes.”
- **Let’s try to find Bernard’s NFT Wallet!**
- Source: Observer - [link](#)

LVMH's Bernard Arnault Has a Secret NFT Collection

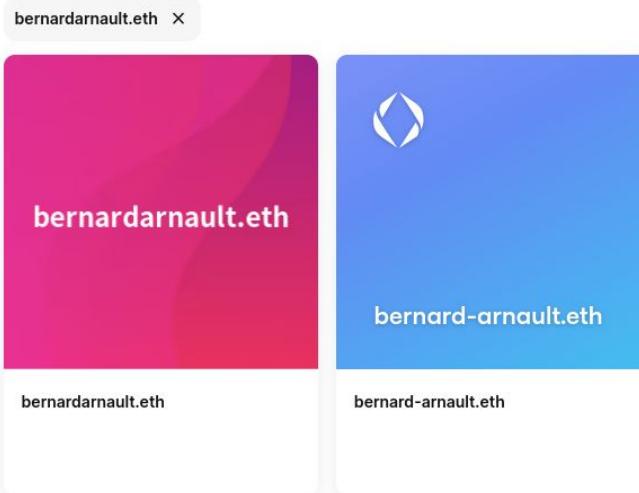
The billionaire is a prominent art collector and opened a private museum but has expressed doubts about digital artwork as an investment.

By Alexandra Tremayne-Pengelly • 05/03/23 2:48pm



STEP 1: Who owns bernardarnault.eth?

- Tools:
 - Etherscan [Domain Name Lookup](#)
 - OpenSea
 - Etc.



A screenshot of the Etherscan Domain Name Lookup tool. The page has a light gray background with a wavy pattern. At the top center is the Etherscan logo. Below it is the title "Domain Name Lookup". In the center, there is a search bar with the text "bernardarnault.eth" highlighted with a red underline. To the right of the search bar is a blue square button with a white magnifying glass icon. Below the search bar, there is a brief explanation: "Domain names allow users to interact with other addresses on-chain using human-readable names instead of complicated address hashes." At the bottom left, there is a link "Learn more >".

SOLUTION

- Actual owner
 - [0x97a3bd0D3F1997F4d699EdA91893fb3002b1CECe](#)

Result for: bernardarnault.eth

Overview of ENS

Expiration Date: 2026.05.04 at 10:55

Registrant: [0x97a3bd0D3F1997F4d699EdA91893fb3002b1CECe](#)  [Lookup names](#) 

Controller: [0x97a3bd0D3F1997F4d699EdA91893fb3002b1CECe](#)  [Lookup names](#) 

+ Click to show more

- Is also owner of 456 others ENS
 - It's a ENS broker**
- Let's take a look at Arnault's family**

Address [0x97a3bd0D3F1997F4d699EdA91893fb3002b1CECe](#) 

Low Risk Fund Flow DeBank Approval Diagnosis

 **Uncommon NFT Enjoyoor**

Sponsored:  Enter the world's biggest free crypto prize: [Win \\$1 MILLION USDT](#)

Overview

ETH BALANCE  **1.091805498965840994 ETH**

ETH VALUE  **\$1,696.15 (@ \$1,553.53/ETH)**

TOKEN HOLDINGS  **\$3,488.04 (19 Tokens)**

Search for Token Name

NFT Tokens (4) 

Ethereum Name Service  **ENS**  x456

SOLUTION: Arnault's family & LVMH ❤️ NFTs

- Frederic Arnault - [Twitter](#)
 - CEO of watch brand Tag Heuer
- Alexandre Arnault - [Twitter](#)
 - CEO of jewelry brand Tiffany & Co.



Frédéric ARNAULT @f_arnault · Jun 17, 2022
#wristroll @BoredApeYC

0:02

476 622 4,142



Alexandre Arnault ✅ @alexarnault · Apr 7, 2022
When punks go wild at @TiffanyAndCo

#3167

Rose gold and enamel Cryptopunk.

Sapphire and Mozambique baguette Ruby glasses, yellow diamond round earring.

LFG!

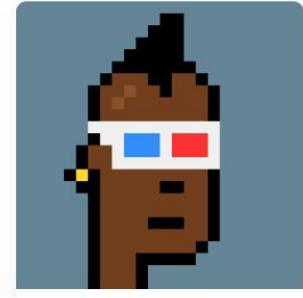
651 1,074 4,916

STEP 2: Find the wallet behind an NFT?

- Google image search
 - <https://images.google.com/>
 - look for NFT marketplace results
- NFT Reverse Image Search
 - [Fingible](#)
 - [NFT Finder](#)
 - [Bing.ly](#)
 - Not working well with a screen capture
- OpenSea/Marketplace
 - Trait filtering - [link](#)
- AI Image Similarity is your friend 😊



CryptoPunk #3180



CryptoPunk #3209

Last sale: 104.99 ETH

| | | |
|-------------------------------------|------------|-------|
| <input checked="" type="checkbox"/> | 3D Glasses | 286 |
| <input checked="" type="checkbox"/> | Male | 6,039 |

SOLUTION: Frederic & Alexandre wallets

Frederic

- Address: [0xcB142075Ae31E89D939B74494415B3d7d9b0BFF0](#)
- OpenSea Profile - [link](#)

Frederic's OpenSea profile displays the following items:

- #4215 Bored Ape Yacht Club
- Chromie Squiggle #7100 Chromie Squiggle by Snowfro
- CloneX #6147 CLONE X - X TAKASHI MURAKAMI
- #0855 Admit One
- Invisible Friends #2533 Invisible Friends
- Murakami.Flower #3104 Murakami.Flowers Official

A large placeholder card for an unnamed item is shown, featuring a purple circular icon and the text "Unnamed". Below it, the address 0xcB14...BFF0 and the joining date November 2022 are listed.

Alexandre

- Address: [0xa22df8a27f62ad49e2a3d23cea0a86421ec1151c](#)
- OpenSea Profile - [link](#)

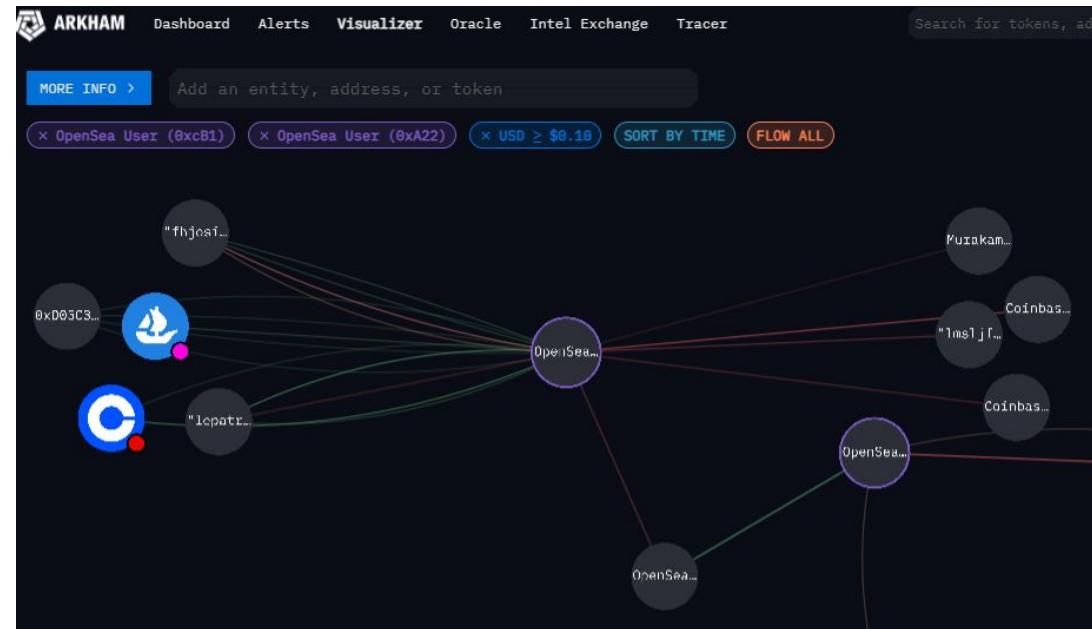
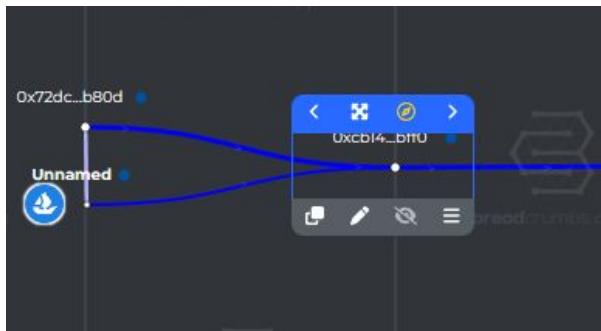
Alexandre's OpenSea profile displays the following items:

- Murakami Lucky Cat Coin Bank Murakami Lucky Cat Coin Bank
- GEISAI #22 & Classic Yellow GreenxMay Green #002 GEISAI #22 & Classic Official NFT
- CryptoPunk #3167 CryptoPunks

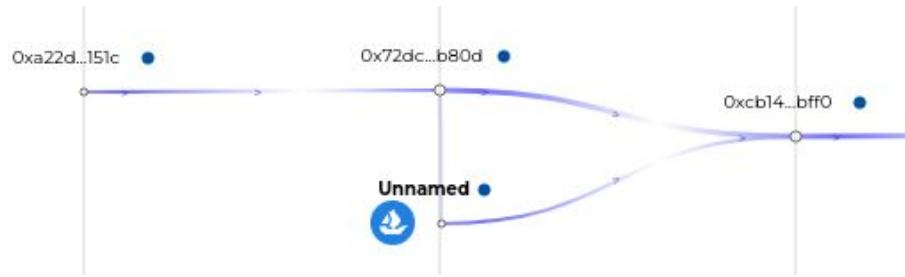
A large placeholder card for an unnamed item is shown, featuring a blue circular icon and the text "Unnamed". Below it, the address 0xA22D...151c and the joining date February 2022 are listed.

STEP 3: Find Shortest path between the 2 brothers

- TOOLS:
 - Arkham
 - Breadcrumbs



STEP 3: Find Shortest path



Oxcb14...bff0
Oxcb142075ae31e89d939b74494415b3d7d9b0bff0

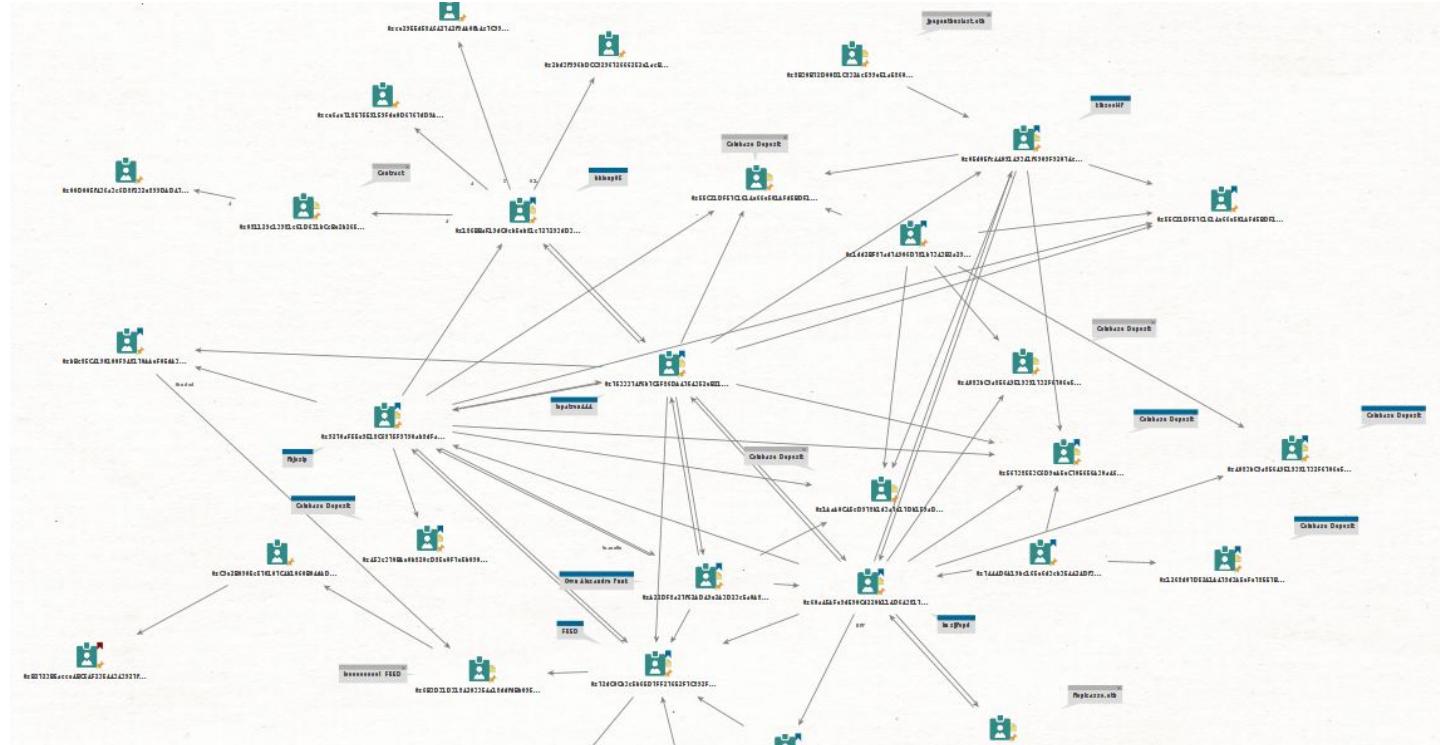
 **PathFinder** Beta

Automatically find Paths between Crypto Addresses!

Paths Found

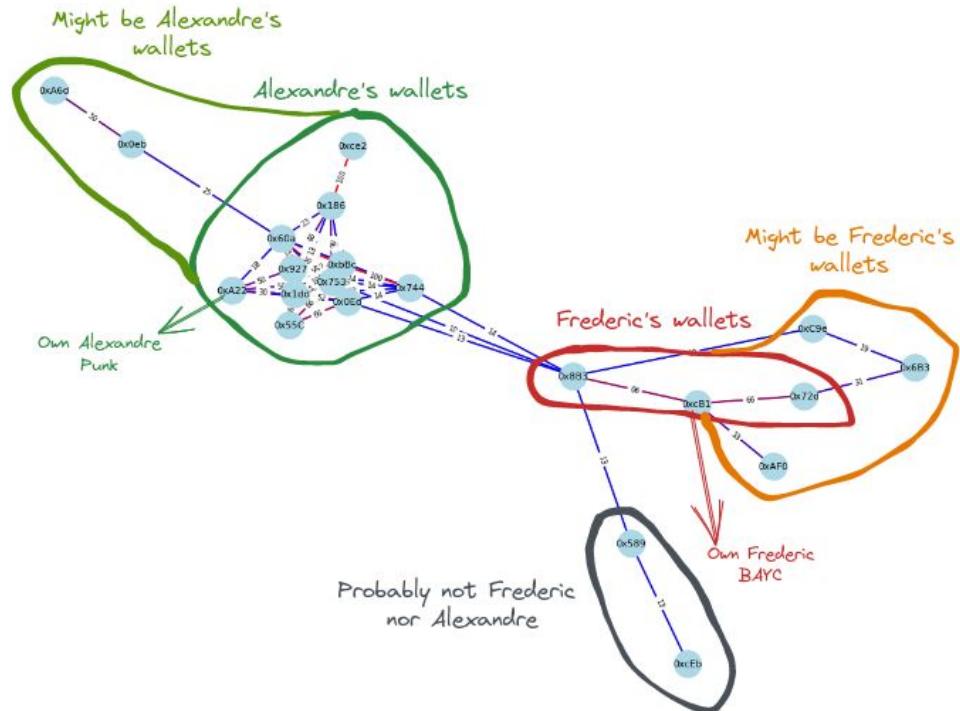
| | |
|---------------|--------|
| Hops: | 2 |
| Paths: | 1 |
| Elapsed Time: | 3 secs |

STEP 4: What about other interactions & wallets?



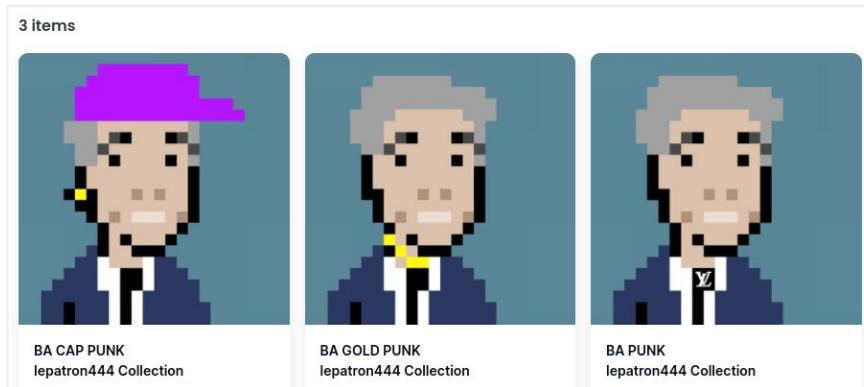
Wallet Clusterization through Time Correlation

- Get all the transactions for each address
- For each transaction from a wallet
 - look for other transactions from other wallets within a **predefined time window**
 - Graph the data with weighted relation based on the **frequency of close interactions between addresses**
- What's the purpose?
 - Differentiate multiple users behind a list of highly connected addresses.
 - Find **all wallets controlled by a single user.**
- [Notebook used for the graph](#)



CONCLUSION: Do we find Bernard Arnault's NFT wallet?

- No, but one of Alexandre's wallets is surprising...
- Address: [0x7533374f6b7CEF86DA4754352eB21Cf2d9664D00](#)
- Opensea profile: [lepatron444](#)
 - “lepatron” mean “theboss” in French
 - 444 might refer to LVMH's market cap valorization (444 billion)
- This wallet owner created a collection of NFT

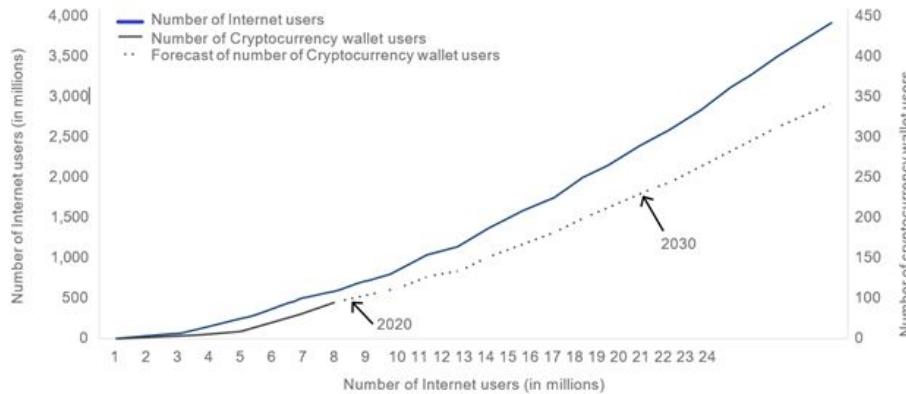


The image is a screenshot of an Opensea profile page for the user "lepatron444". The profile picture is a solid blue circle. Below it, the username "lepatron444" is displayed in bold black text, followed by the address "0x7533...4D00" and the joining date "Joined February 2022". A navigation bar below shows "Collected 7" (which is highlighted), "Created", "Favorited", "Activity", and "More". Below this, there is a large thumbnail for a collection featuring a pixelated portrait of a man's face. At the bottom of the collection thumbnail, the text "lepatron444 Collection" is visible.

Conclusion & Future

Conclusion & Future

- Takeaways
 - **Blockchain OSINT is fun and surprising**
 - Accessible with only public tools
 - A good start to discover how blockchains work
 - Mandatory to control your OPSEC
- How blockchains will evolve in the future?
 - **Better adoption** and native integration
 - More day-to-day users
 - **Privacy-Oriented Blockchain L1/L2**
 - Leveraging on ZKP (zero-knowledge proof)
 - [Ethereum ERC-5564](#): Stealth Addresses
- What are Fuzzinglab's next steps?
 - Continued building our **web3 deanonymization product**
 - More talks, training & workshops
- Sources: Cryptocurrency Adoption Across Europe and America 2021 - [link](#)



Thanks for your time! Any questions?

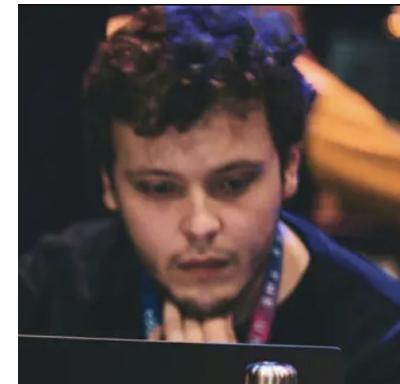
Patrick



Tanguy



Mohammed



- Twitter: [@Pat_Ventuzelo](https://twitter.com/Pat_Ventuzelo)
- Mail: patrick@fuzzinglabs.com

FUZZING
LABS

EXTRA

Does Alexandre is doing NFT insider trading?

- Pre-reveal (Blind auction)
 - No one knows the rarity of each NFT
 - Alexandre
 - Bid 32% more to get #9021
 - Bid 58% more to get #7777
 - Bid for 7 other NFT
- After Reveal
 - He **bid on 5** of the 10 rarest and **win 3**
 - Sell **#9021** for \$14,700
 - 377% gain, **\$11,600 profit**
 - Sell **#7777** for \$12,900
 - 330% gain, **\$9000 profit**
 - Use multiple wallets to make the trades
- Could it be random? **Odds are 1/440,000**
 - In comparison, lifetime odds of getting struck by lightning are about 1/15,000
- Source: Forbes Article using Convex Labs analysis - [link](#)

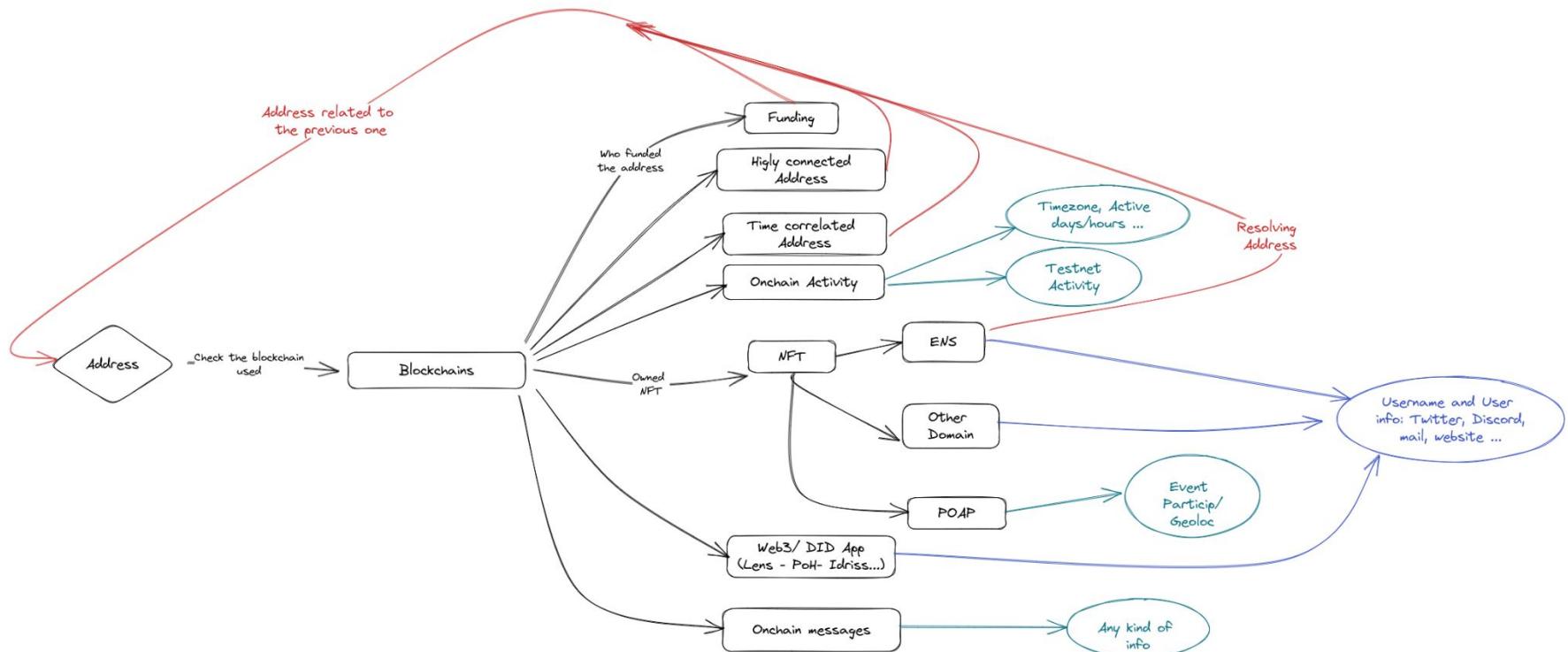
FINTECH • DAILY COVER

Did The Son Of The World's Third-Richest Person Trade NFTs With Inside Information?

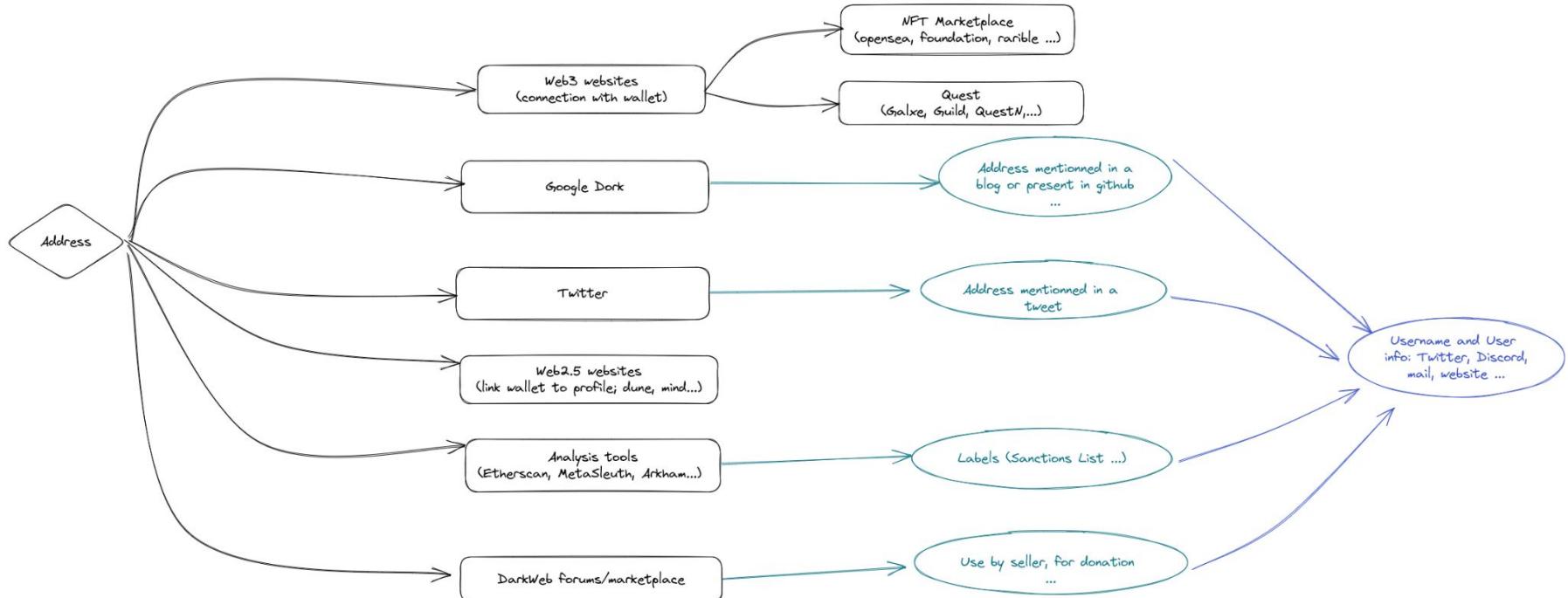
Mar 30, 2022, 06:30am EDT



Wallet Address to Identity - On-Chain analysis



Wallet Address to Identity - Off-chain Analysis



User to Wallet Address - Process overview

