Do NFTs' Owners Really Possess their Assets? A First Look at the NFT-to-Asset Connection Fragility

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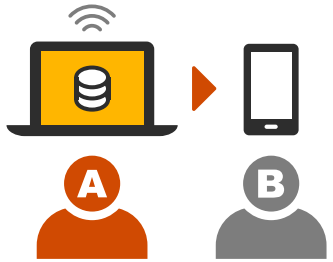
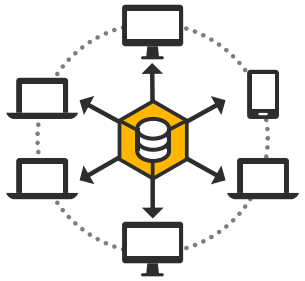
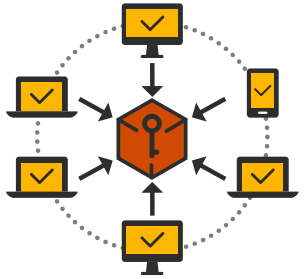
How blockchain works



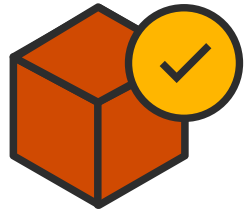
Someone **requests transaction**



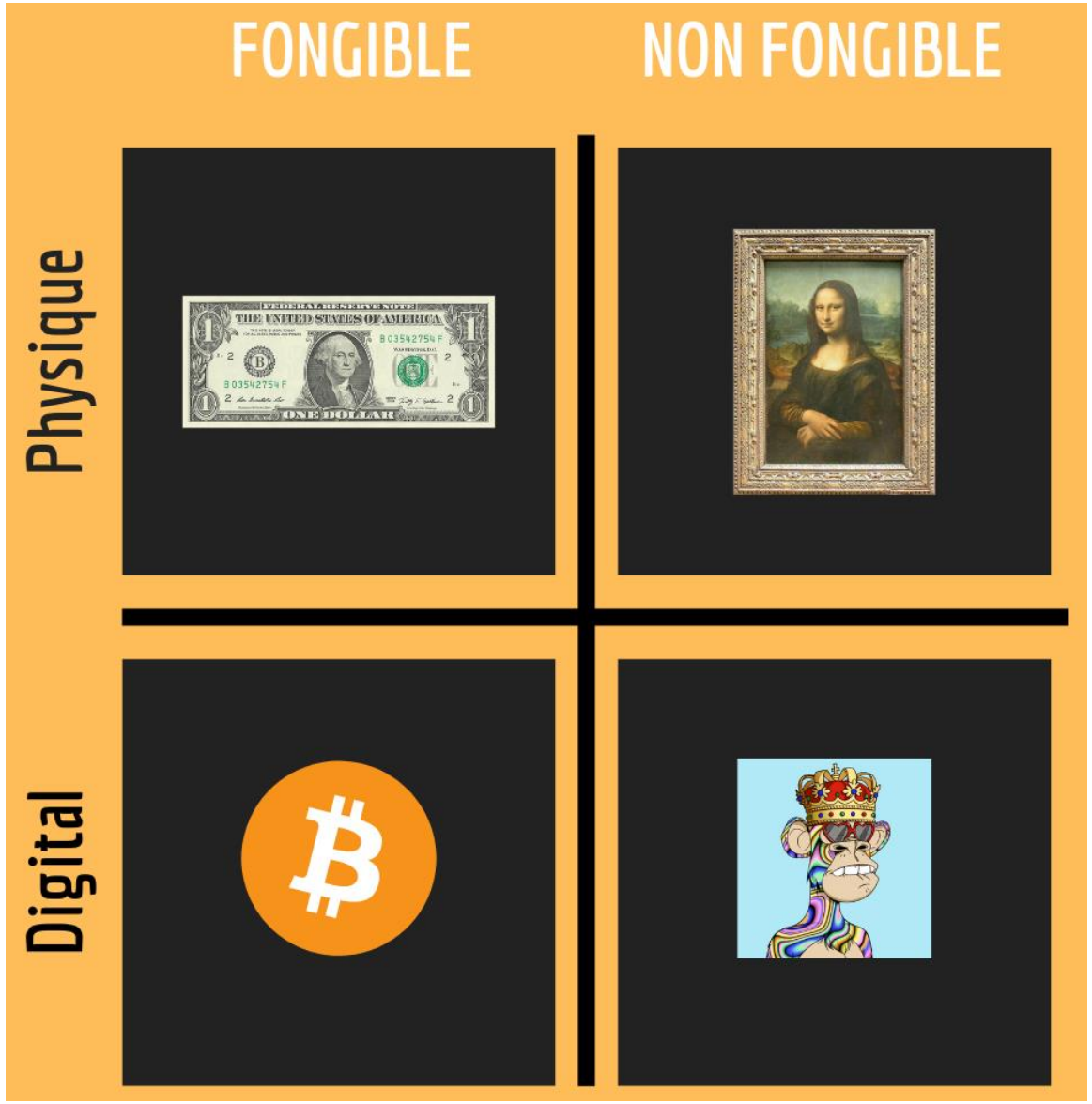
The requested transaction is broadcast to a **P2P network consisting of computers, known as nodes**



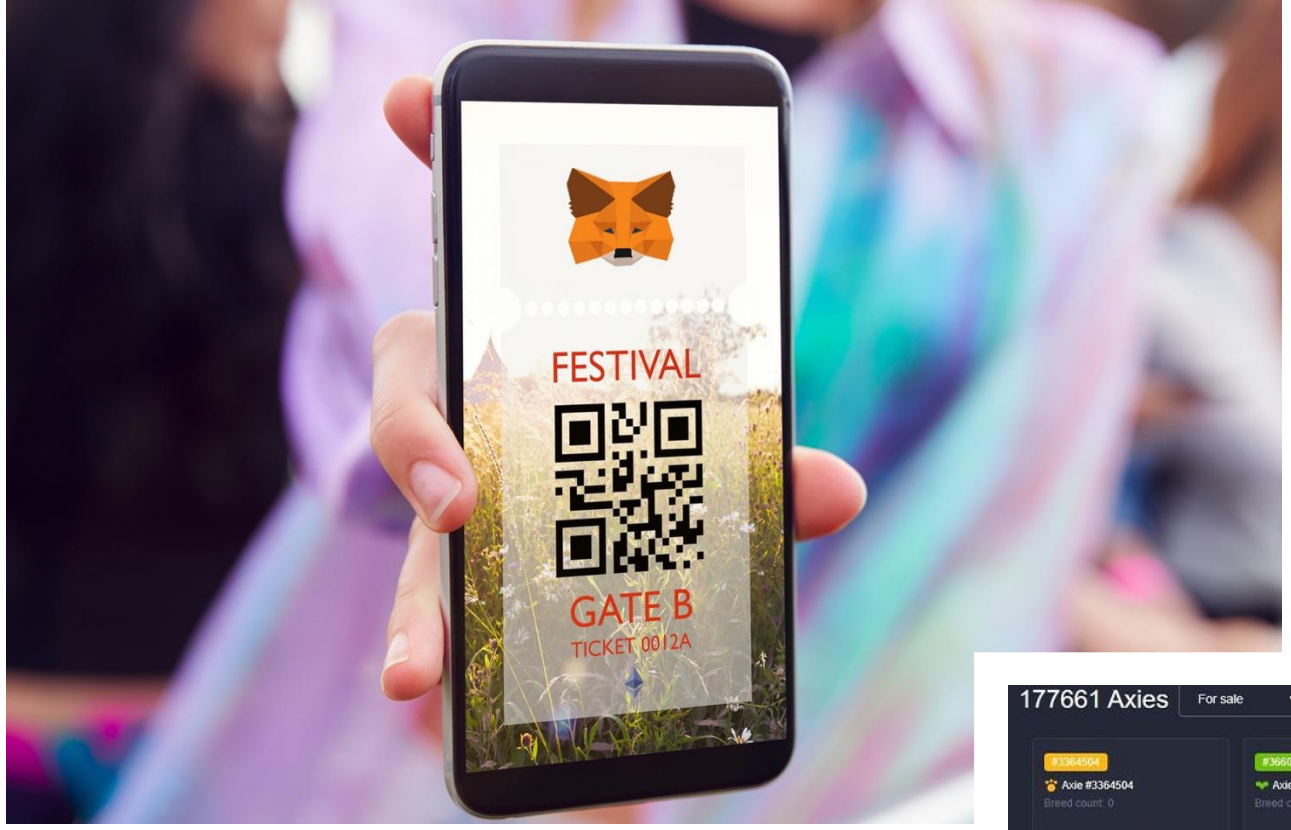
The network of nodes **validates the transaction and the user's status using known algorithms**



A verified transaction can involve cryptocurrency, contracts, records, or other information


FONGIBLE
NON FONGIBLE
Physique
Digital
THE UNITED STATES OF AMERICA
ONE DOLLAR

Non Fongible Token


FESTIVAL
GATE B
TICKET 0012A

177661 Axies
For sale
Lowest Price
#3364504
Axie #3364504
Breed count: 0
Ξ 0.05 $151.61
#3660600
Axie #3660600
Breed count: 2
Ξ 0.078 $236.51
#3628475
Axie #3628475
Breed count: 0
Ξ 0.08 $242.55
#3994745
Axie #3994745
Breed count: 0
Ξ 0.0838 $253.95
#3994649
Axie #3994649
Breed count: 0
Ξ 0.0838 $254.14
#3994614
Axie #3994614
Breed count: 0
Ξ 0.0839 $254.32
#3994548
Axie #3994548
Breed count: 0
Ξ 0.0839 $254.48
#3994521
Axie #3994521
Breed count: 0
Ξ 0.084 $254.65
#3638496
Axie #3638496
Breed count: 2
Ξ 0.084 $254.70
#2786287
Axie #2786287
Breed count: 3
Ξ 0.0841 $254.99
#2331425
Axie #2331425
Breed count: 4
Ξ 0.0842 $255.19
#3994462
Axie #3994462
Breed count: 0
Ξ 0.0842 $255.23
#3994286
Axie #3994286
Breed count: 0
#3994249
Axie #3994249
Breed count: 0
#3994143
Axie #3994143
Breed count: 0
#3994112
Axie #3994112
Breed count: 0
#3994040
Axie #3994040
Breed count: 0
#3512693
Axie #3512693
Breed count: 2

NFT of Contract

ERC721 Contract

```
pragma solidity ^0.5.0;


contract Creature is ERC721 {
  function ownerOf(tokenId) returns address
  function tokenURI() returns string;
}
```

Metadata

NFT Metadata


```
{
  contract: {
    address: '0xe785e82358879f061bc3dcac6f0444462d4b5330',
    name: 'World Of Women',
    symbol: 'WOW',
    totalSupply: '10000',
    tokenType: 'ERC721',
    openSea: {
      floorPrice: 1.539,
      collectionName: 'World of Women',
      safelistRequestStatus: 'verified',
      externalUrl: 'http://worldofwomen.art',
      twitterUsername: 'worldofwomennft',
      discordUrl: 'https://discord.gg/worldofwomen',
    },
    contractDeployer: '0xc9b6321dc216d91e626e9baa61b06b0e4d55bdb1',
    deployedBlockNumber: 12907782
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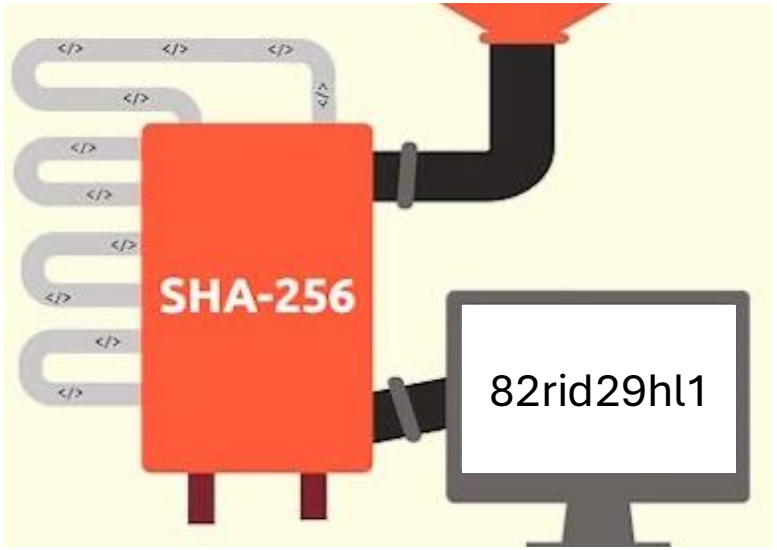
SHA-256
82rid29hl1

SHA-256
jfbf239hfa

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Asset

- 23,50% des contrats NFT ont des TokenURI en double
- 95,96% des NFTs ont un contenu unique.
- 77,77% des duplications se produisent au sein du même contrat NFT. (probablement des testes.)

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Metadata

	Raw Count	Data Size	Hit Rate
Contract	12,353	\	\
NFT	6,234,141	\	\
TokenURL	5,846,287	1.53 GB	93.78%
Metadata	4,566,766	119.88 GB	78.11%
AssetURL	3,992,859	413.54 MB	87.43%
Asset	2,851,894	3.29 TB	71.42%

Table 1: Summary of collected NFTs and the associated data.

Stockage Décentralisé
(2 385 contrats, 510 154 NFT)

Filecoin

Stockage Centralisé
(5 862 contrats, 4 802 766 NFT)

OpenSea

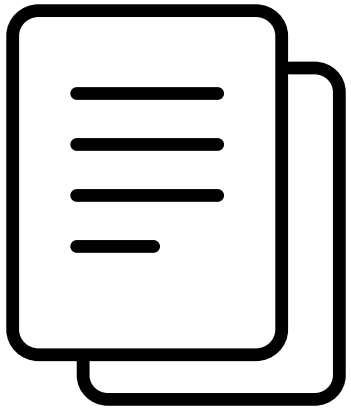
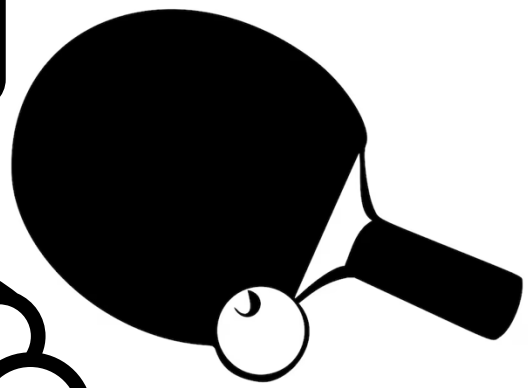
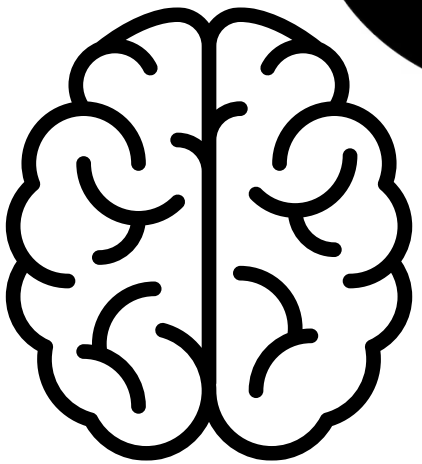
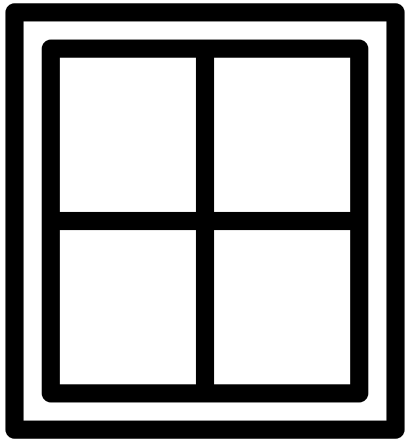
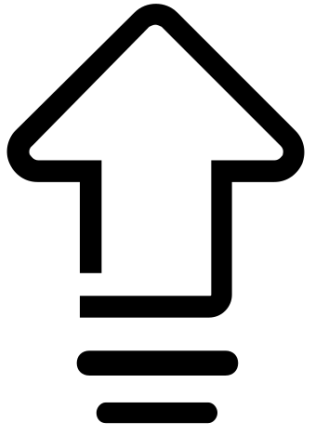
Google Cloud

aws

Nifty Gateway

Stratégies de mitigation

- Copie local
- Ping les décentralisée pour durabilité
- Concient des risque
- IPFS et BitSwap devraient être amélioré
- Compagnie plus transparente

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Question ?