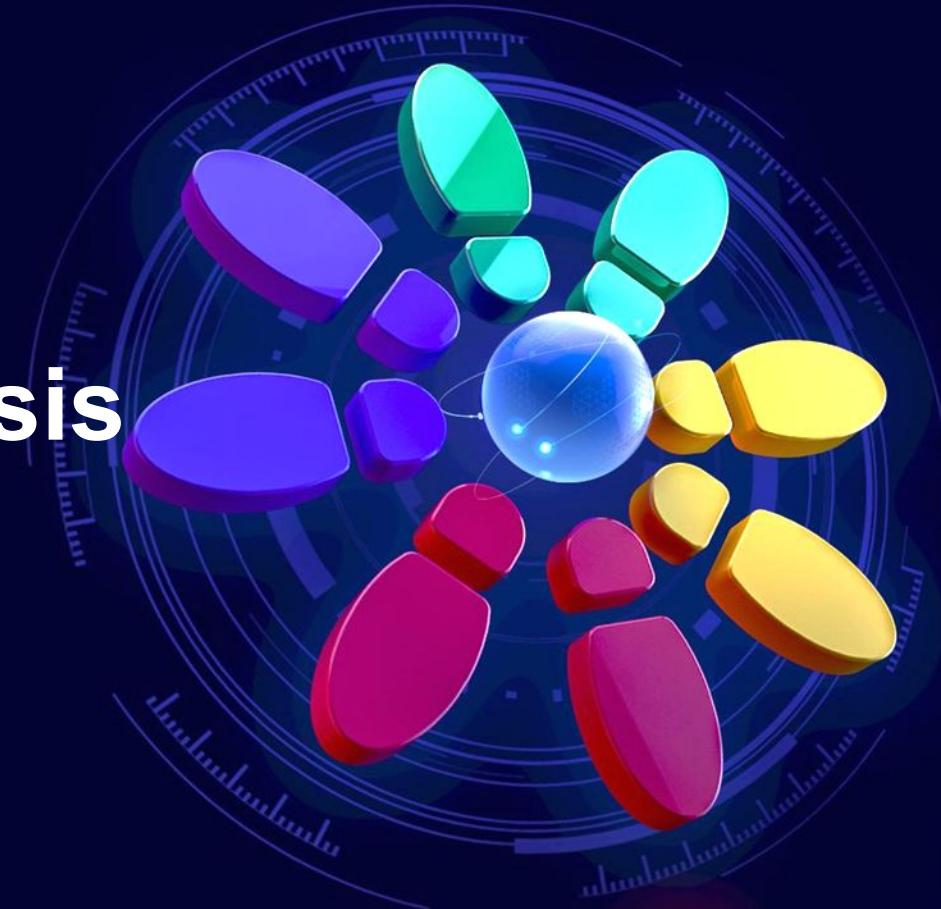




Footprint Analytics

EVM Data Analysis



Leo.L

2023.01.09

About Me

Leo.L

Data Team Lead | Footprint Analytics





Learn more about Footprint

Blockchain analytics made simple

Explore community-built analysis and create charts with no code required.

Most Comprehensive Coverage of Chains and Domains



Footprint Analytics provides a comprehensive, timely and accurate overview of the full blockchain ecosystem

24

Chains

700,000+

NFT Collections

17

NFT Marketplaces

1,987

GameFi Protocols

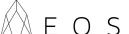
519

DeFi Protocols

108,005

Tokens

Chains



Marketplace



OpenSea



X2Y2



THE
SANDBOX



SuperRare



LOOKSRARE



gem



BLUR



element

2.0



Cryptopunks



Walken



MAGIC EDEN



Rarible



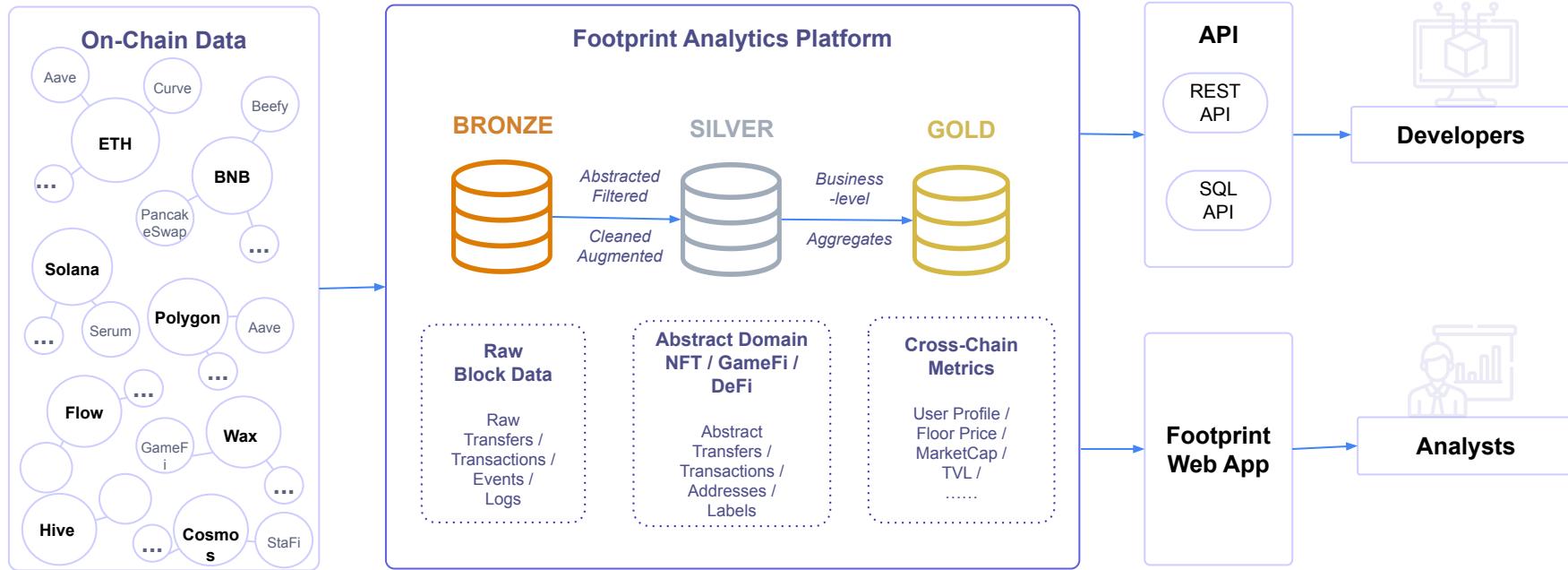
Decentraland



The Footprint Data Model: Versatile and Robust



Built for developers, by developers

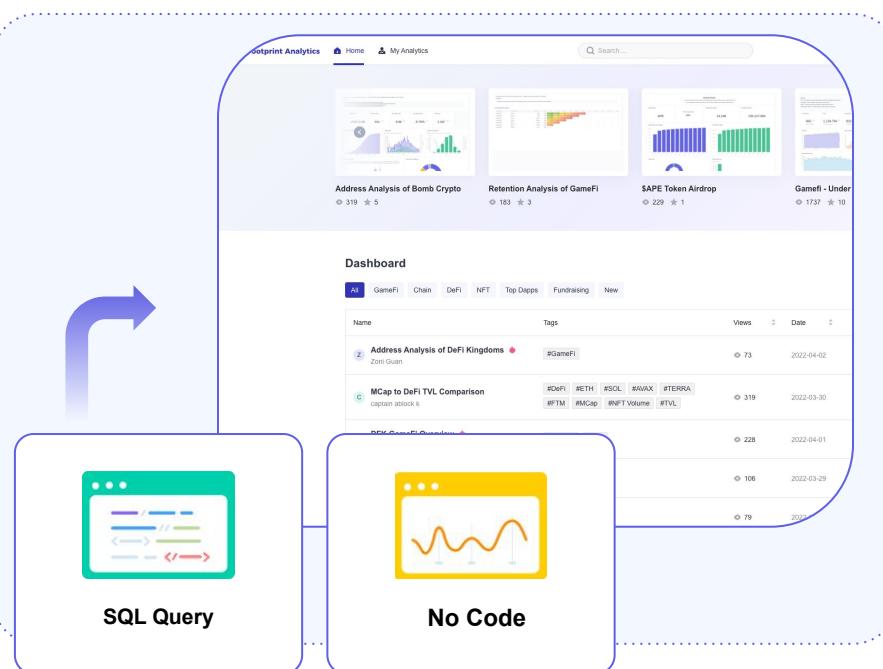


Preview and Visualize Data with Footprint Web App

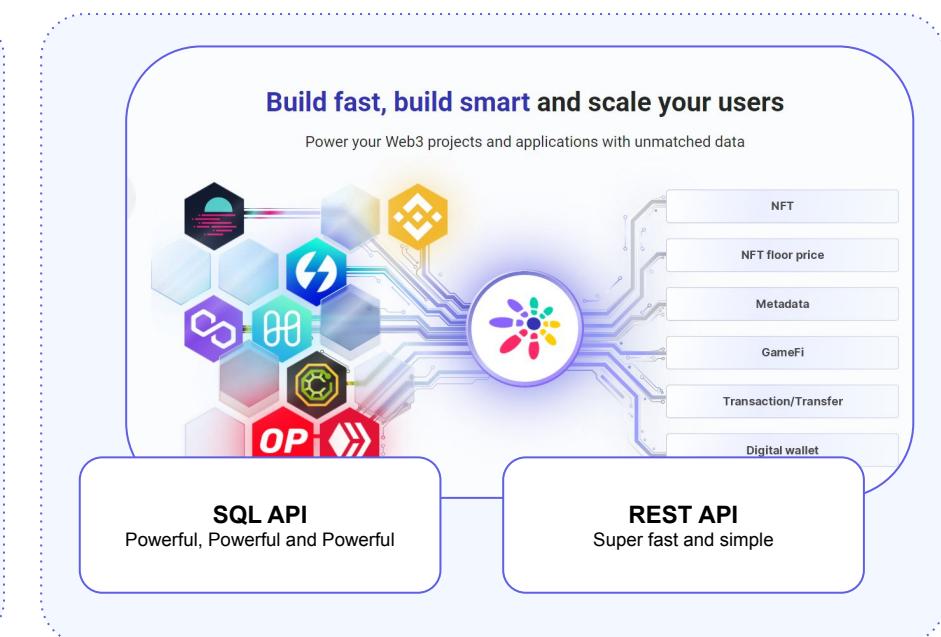


Before programming the SQL API, you can debug your query on Footprint UI

Footprint Web App



Data API



[Try for free](#)

Contents

- 01 EVM Data Provided by Footprint**
- 02 Chain Data Analysis Scenarios**
- 03 Data Overview**
- 04 Data Analyses of Different Domains**

01

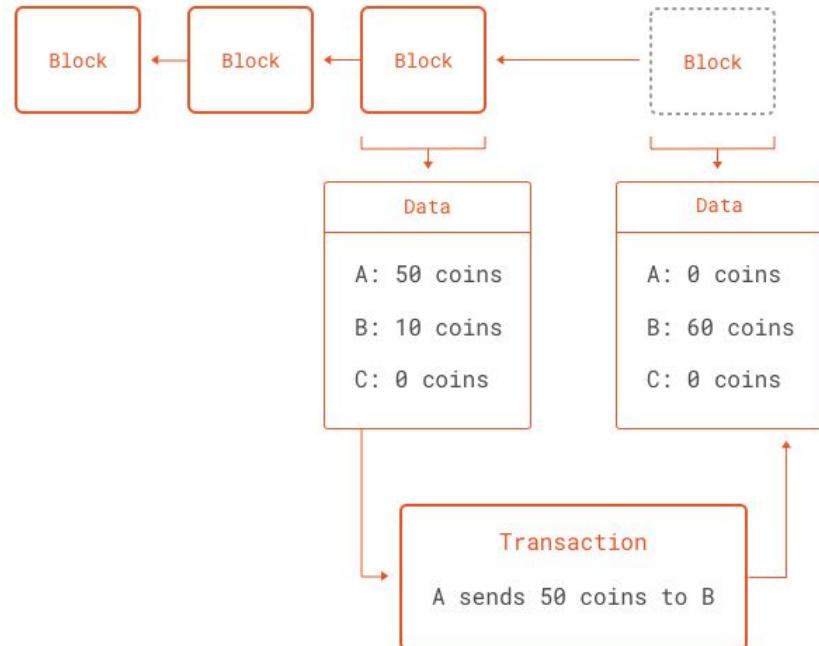
EVM Data Provided by Footprint

How is blockchain data converted into human readable data? How does it correspond to the data on the chain?



On chain data structure

- Chained structure
- Single index (block hash / tx hash)
- Difficulty in data analysis



EVM Data Provided by Footprint

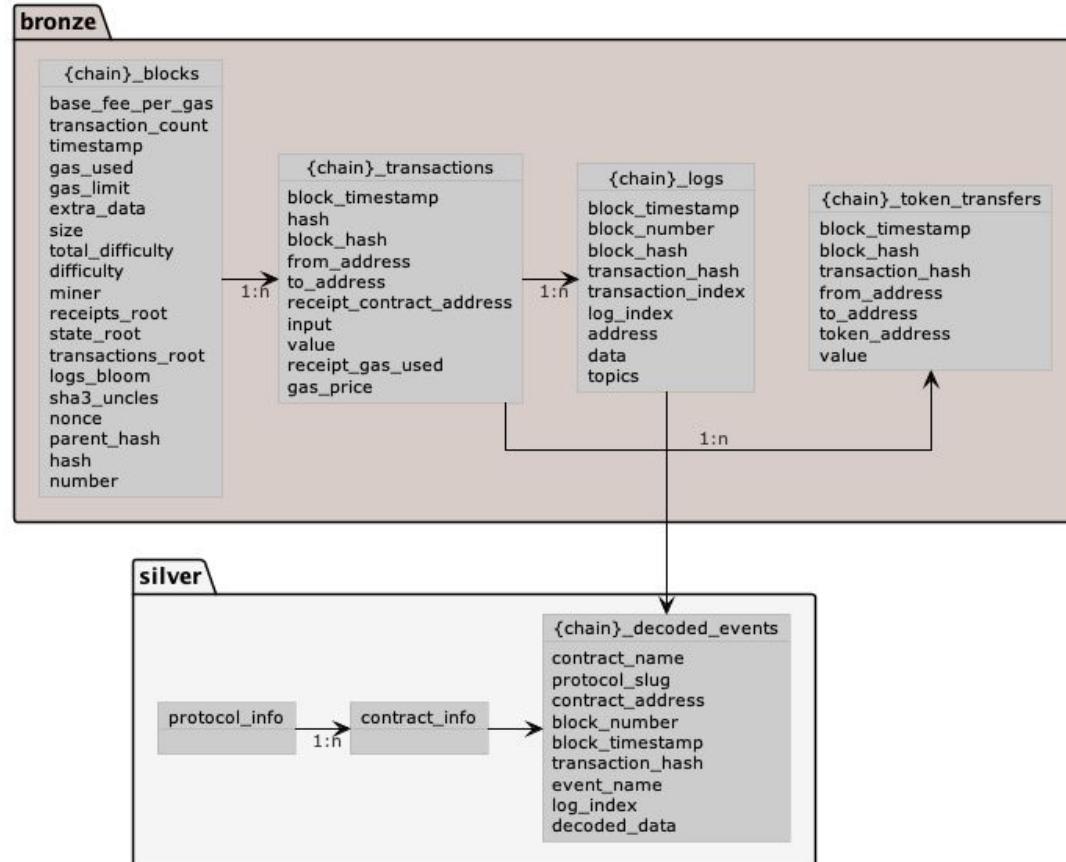


Difficulties of data analysis

- Difficult access to off chain data
- Events cannot be queried quickly

Footprint data structure

- Relational Databases
- Provides on chain raw data
- Provides **silver** level data generated by combining **off chain** and **on chain** data



Data Mapping for Etherscan

mapping table via etherscan

- Blocks
- Transactions
- Token transfers
- Logs/Events

The screenshot shows the Etherscan Transaction Details page for a specific transaction. The page is titled "Transaction Details" and includes tabs for Overview, Internal Txns, Logs (4), State, and Comments. A red arrow points from the "Logs/Events" tab to the "Logs (4)" tab in the navigation bar.

Key data points visible on the page:

- Transaction Hash: 0x672b04aee853fb...3c
- Status: Success
- Block: 14613381 (1755095 Block Confirmations) - A red arrow points to this field with the label "Blocks".
- Timestamp: 265 days 5 hrs ago (Apr 19-2022 04:09:47 AM +UTC)
- Transaction Action: Executed Swap With 0x Protocol
Swap 94.02925511330597376 DAI For 93.534194 USDC On Uniswap V2
- Sponsored: coinzilla
- Place your AD here
- From: 0x26602bf417c4e57ba3d2268d7f93a1e16f29e069
- Interacted With (To): Contract 0xde1fc0ded9bec7f1a1670819833240f027b25eff (0x: Exchange Proxy)
- ERC-20 Tokens Transferred (To):
 - From 0x26602bf417c4e... To Uniswap V2: DAI... For 94.02925511330597376 (\$94.03) Dai Stableco... (DAI)
 - From Uniswap V2: DAI... To 0x26602bf417c4e... For 93.534194 (\$93.53) USD Coin (USDC)A red arrow points to this section with the label "Token Transfers".
- Value: 0 Ether (\$0.00)
- Transaction Fee: 0.00247660121939895 Ether (\$3.26)
- Gas Price: 0.000000022509440758 Ether (22.509440758 Gwei)
- Ether Price: \$3,102.52 / ETH
- Gas Limit & Usage by Txn: 132,629 | 110,025 (82.96%)
- Gas Fees: Base: 20.839440758 Gwei | Max: 38.67 Gwei | Max Priority: 1.67 Gwei
- Burnt & Txn Savings Fees: Burnt: 0.0022928594693995 Ether (\$3.02) Txn Savings: 0.00177806553060105 Ether (\$2.34)

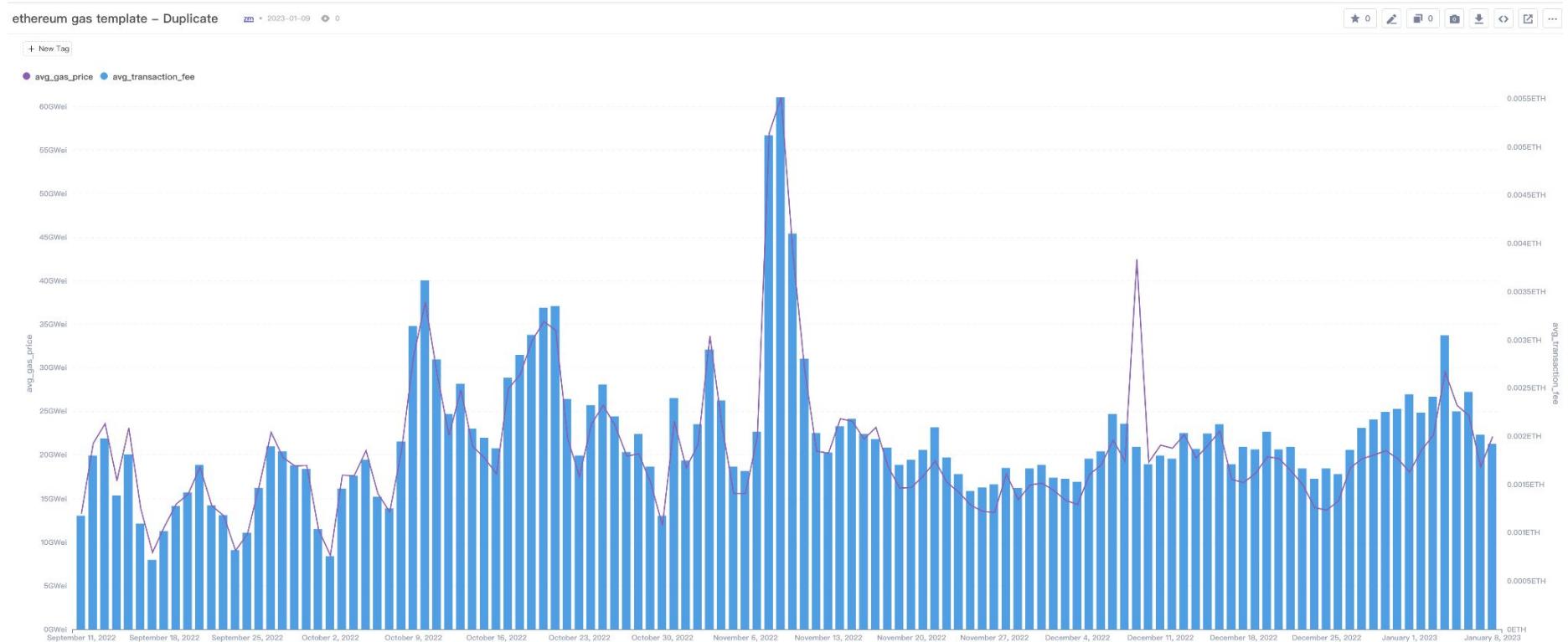
02

Chain Data Analysis Scenarios

Gas analysis to see how Footprint's data can solve
some analysis scenarios



Chain Data Analysis Scenarios : Avg Transactions Fee



Chain Data Analysis scenarios : Median Gas Price



● Median_gas_price ● Avg_gas_price

25Gwei

20Gwei

15Gwei

10Gwei

5Gwei

0Gwei

00:00

02:00

04:00

06:00

08:00

10:00

12:00

14:00

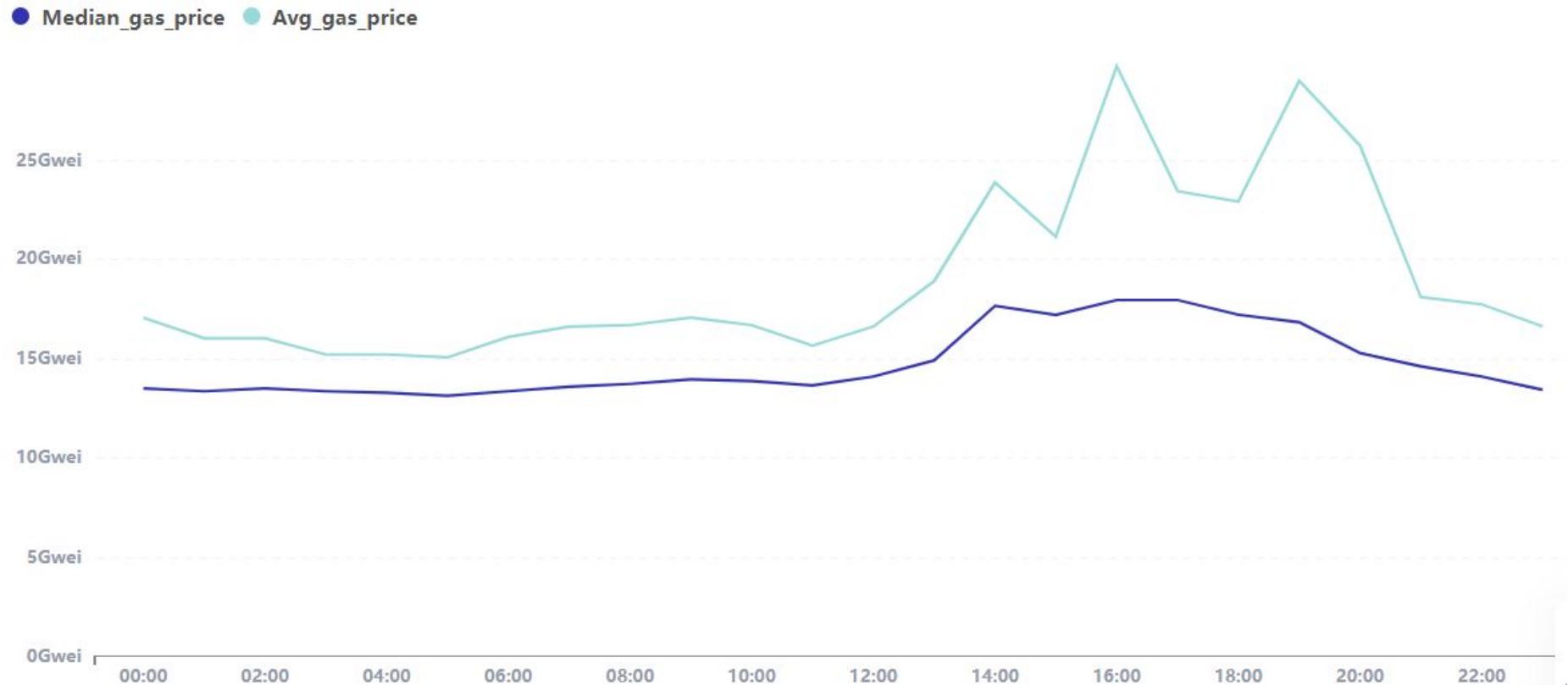
16:00

18:00

20:00

22:00

1



Chain Data Analysis Scenarios : Gas Fee in USD



Ethereum Gas Fee in USD



Events Data

- Uniswap transactions as an example
- Custom analysis by using contract events
- Contract analysis for deployment

195

Address `0x3416cf6c708da44db2624d63ea0aaef7113527c6`

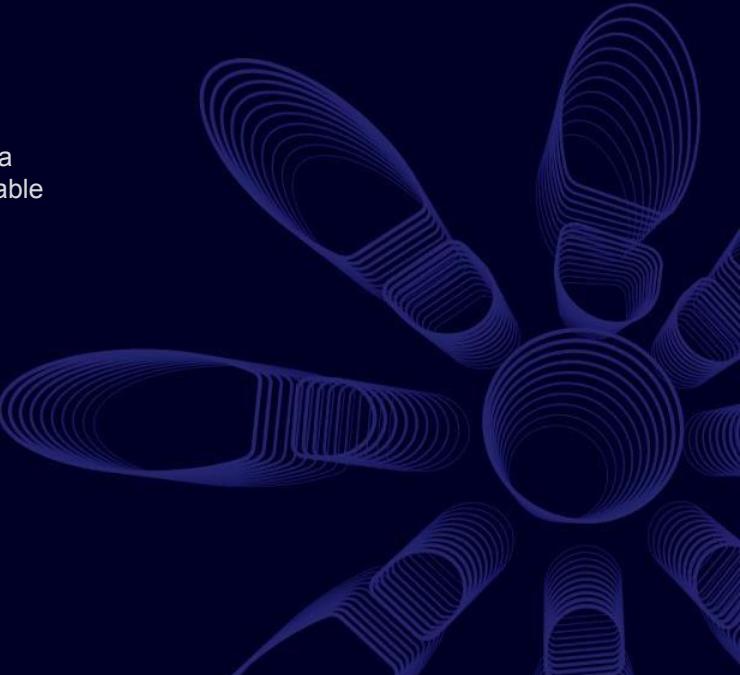
Swap (index_topic_1 address sender, index_topic_2 address recipient, int256 amount0, int256 amount1, uint160
Name sqrtPriceX96, uint128 liquidity, int24 tick) [View Source](#)

Topics `0 0xc42079f94a6350d7e6235f29174924f928cc2ac818eb64fed8004e115fbcca67`
`1 Dec ↗ 0xE592427A0AEce92De3Edee1F18E0157C05861564`
`2 Dec ↗ 0x0a303786e95dFe57d77E5DC9Ab3Cb0D7fF68c5F1`

Data `amount0 : 371330242` Dec Hex
`amount1 : -371275805`
`sqrtPriceX96 : 79226316436649136990918481559`
`liquidity : 320052803053065796`
`tick : -1`

03 Data Overview

Look through the data layer design to see the data layers of Footprint and what data tables are available for each layer

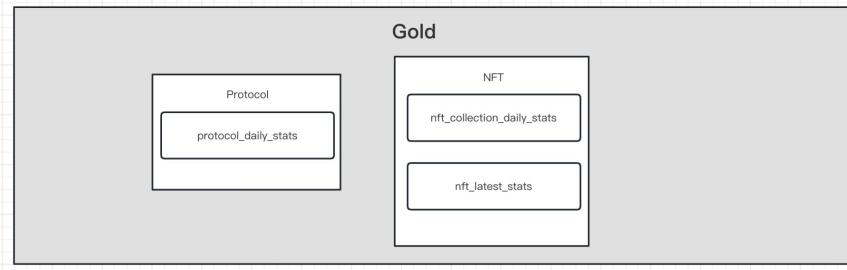
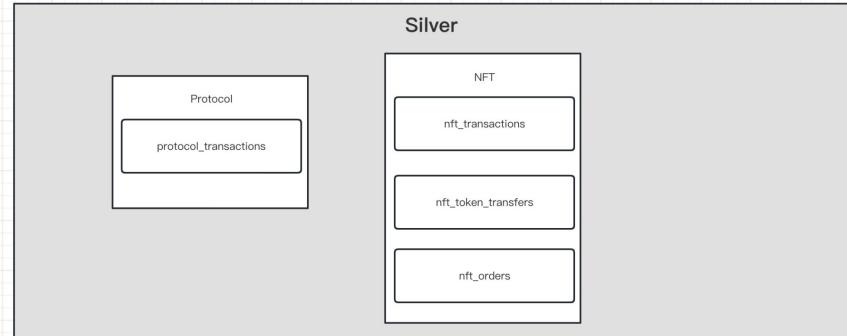


Footprint Data Processing Pipeline



Bronze, Silver, Gold Layer

- Bronze
 - Raw data on chain
- Silver
 - Basic data filtering
- Gold
 - Data aggregation / computation



04 Data Analyses for Different Domains

How to utilize Footprint data to analyze common domains such as Contracts, Address, Token, Protocol, NFT.

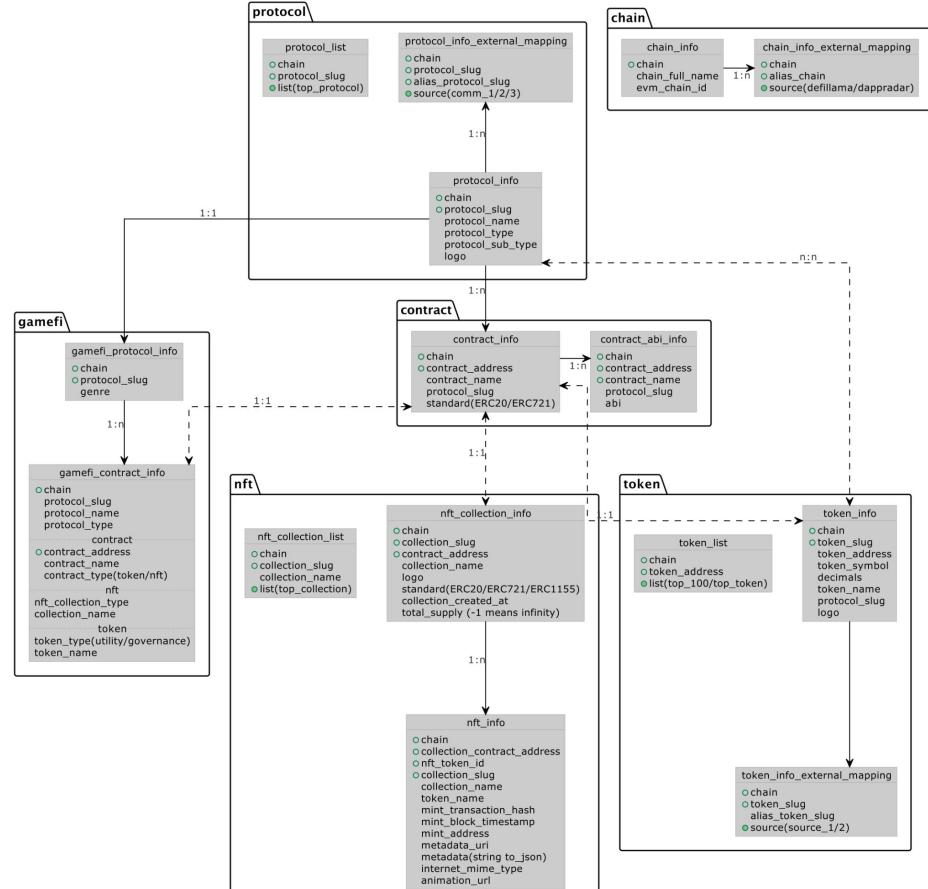


Contracts Analysis : Data Layer



Contracts Data Layer

- Data relationships
 - The center of data
- Related table
 - protocol
 - erc20 token
 - nft
 - gameFi
 - contract interaction



Two types of addresses

- Commonalities
 - Data content equivalence
- Differences
 - Transactions can only be sent from external accounts
 - Contract passive execution

Ethereum Accounts

► Accounts are classified into two main types:

1. Externally Owned Accounts
2. Contract Accounts

External owned account



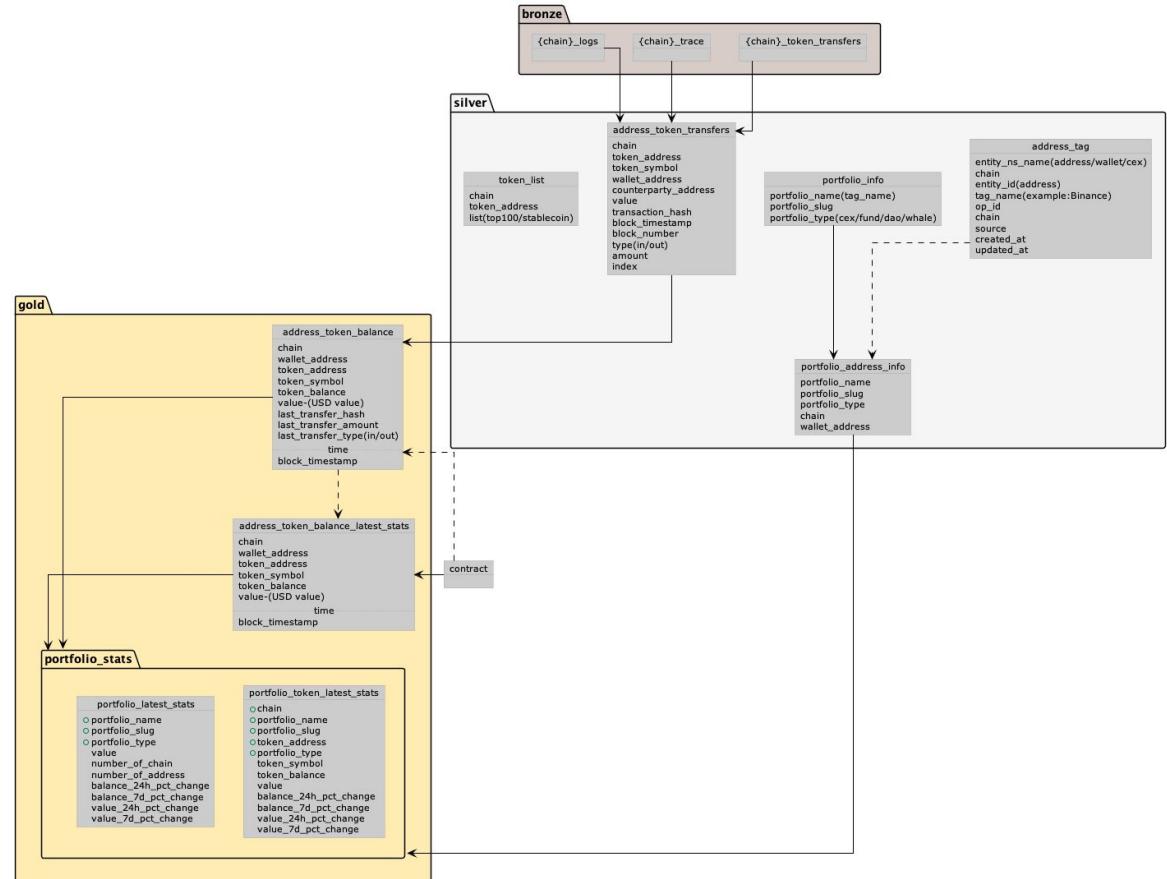
Smart contract account



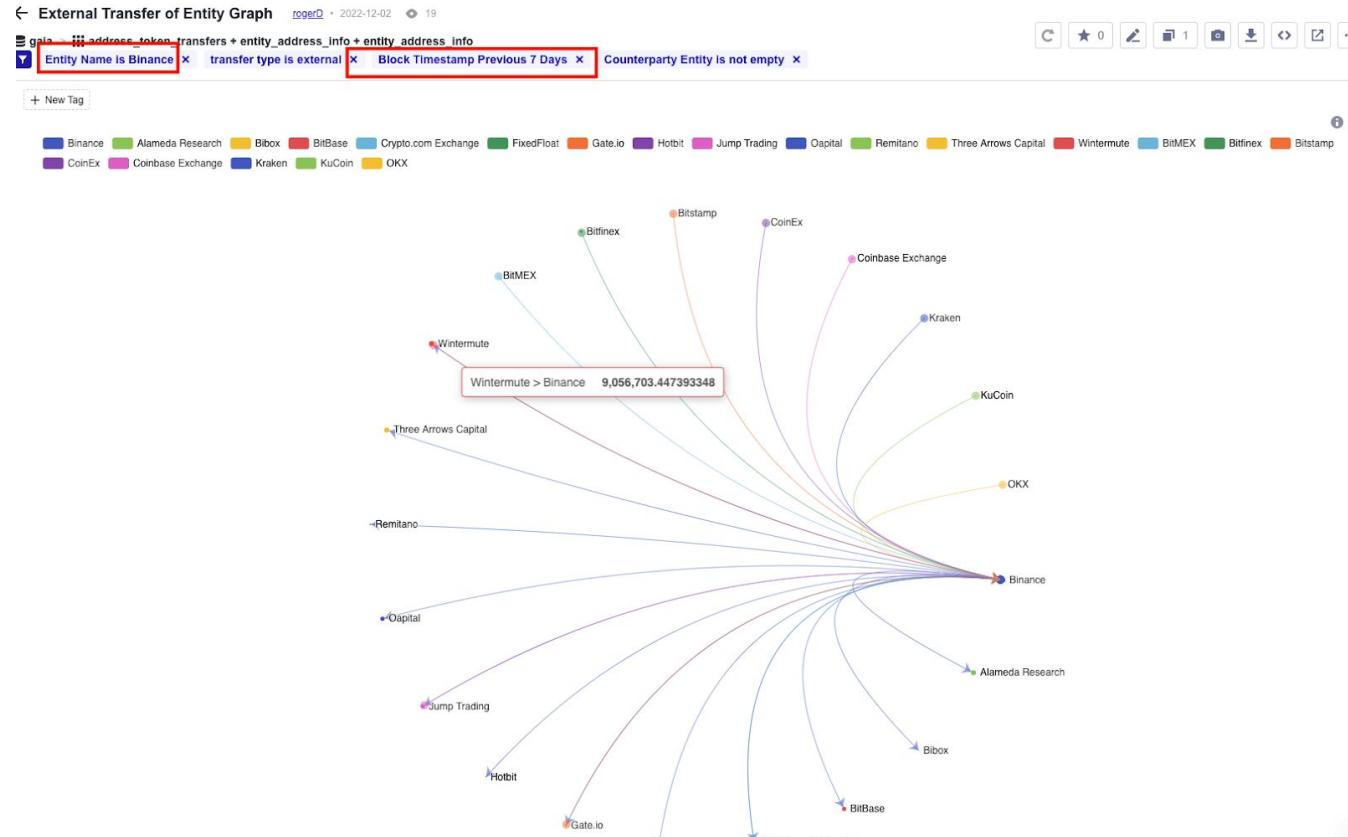
Address Analysis : Data Layer

Address data layer

- Tags
 - User submitted
 - Manual collected
- Balance
 - top token list
- Portfolio
 - CEX, institution
 - Wallet analysis/alerts etc.



Address Analysis Scenarios: Tracking Money Flow



Token Analysis : Data Overview



Token Data Features

- Price and other analytical data
- Protocol associations

Token Info

Token Count: 5,350

Token overview

- Ethereum 42.92%
- BNB Chain 25.05%
- Polygon 7.66%
- 3 more

The chart is a pie chart titled "TOTAL" with a value of 5,350. It is divided into four segments: a large blue segment for Ethereum (42.92%), a medium blue segment for BNB Chain (25.05%), a smaller blue segment for Polygon (7.66%), and a very small grey segment for "3 more".

Token list

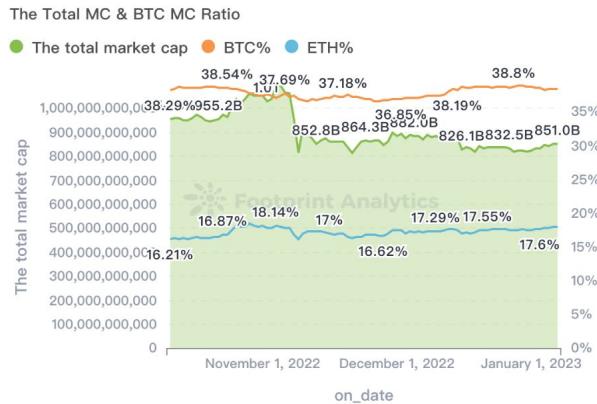
Logo	Chain	Token Slug	Token Symbol	Token Name	Token Address	Decimals	Protocol Slug
	Ethereum	my-crypto-heroes-mchc	MCHC	MCHCoin	0xd69f306549e9d96f183b1aec30b8f4353c2ecc3	18	my-crypto-heroes
	Polygon	my-crypto-heroes-mchc	MCHC	MCHCoin (PoS)	0xee7666aaacaefaa6fefef62ea40176d3eb21953b9	18	my-crypto-heroes
	BNB Chain	x-world-games-xwg	XWG	XWG	0xb23c89196deb721e6fd9726e6c76e4810a464bc	18	x-world-games
	Ethereum	gamee-platform-gmee	GMEE	GAMEE	0xd9016a907dc0ecfa3ca425ab20b6b785b42f2373	18	arc8-by-gamee-1
	BNB Chain	gamee-platform-gmee	GMEE	GAMEE	0x84e9a6f9d240fdd33801f7135908bfa16866939a	18	arc8-by-gamee-1
	Polygon	gamee-platform-gmee	GMEE	GAMEE	0xcf32822ff397ef82425153a9dc726e5ff61dca7	18	arc8-by-gamee-1
	Polygon	crazy-defense-heroes-tower	TOWER	TOWER	0x2bc07124d8dac638e290f401046ad584546bc47b	18	crazy-defense-heroes

Rows 1-7 of first 5350

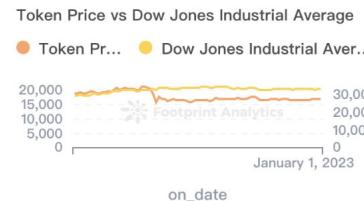
Token Analysis Scenarios : Relevance Analysis



The Total Market Cap



Token Price vs US Stock Index



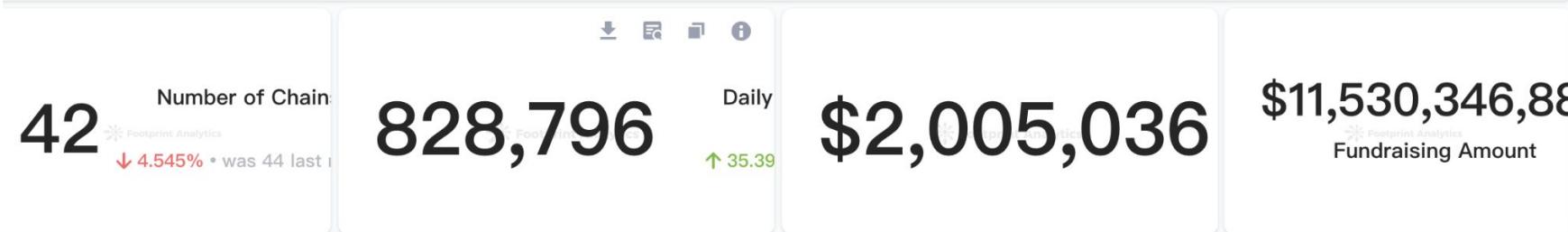
Protocol Data Features

- Coverage
 - DeFi
 - GameFi
 - NFT Marketplace
- Unique keys
 - protocol_slug + chain
 - Unique keys will be redundant to many tables

Protocol Analysis Scenarios : GameFi Overview

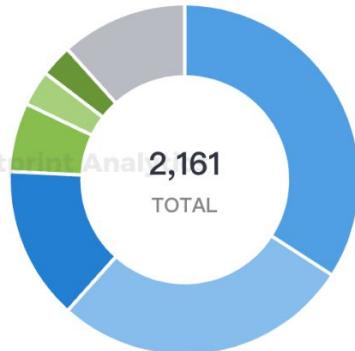


● Update Time: UTC+8 ● Overall overview of GameFi: User Transactions, Game Rankings and GameFi Project Funding by Chains.

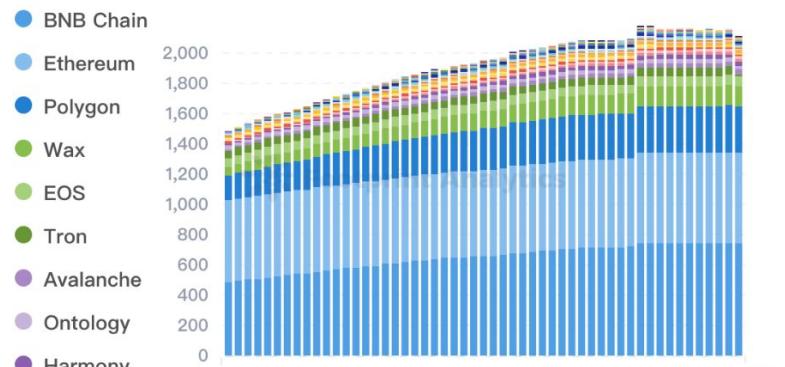


Weekly Number of Games by Chain

BNB Chain	34.52%
Ethereum	27.76%
Polygon	14.11%
Wax	6.20%
EOS	3.05%
Tron	2.73%
Other	11.61%



Weekly Number of Games



NFT Analysis : Data Preview



Token CRYPTOPUNKS

CryptoPunks NFT ⓘ

Buy ⓘ Exchange ⓘ Gaming ⓘ

Featured: Bridging tokens between Ethereum, Layer 2 and other chains? Browse through the Blockscan [bridges list](#).

Overview [ERC-20]

Max Total Supply: 10,000 ⓘ

Holders: 3,672 (0.00%)

Transfers: 49,938

Profile Summary [Edit] More ⓘ

Contract: 0xb47e3cd837ddf8e4c57f05d70ab865de6e193bbb

Decimals: 0

Official Site: <https://www.larvalabs.com/cryptopunks> ↗

Social Profiles: Not Available, [Update ?](#)

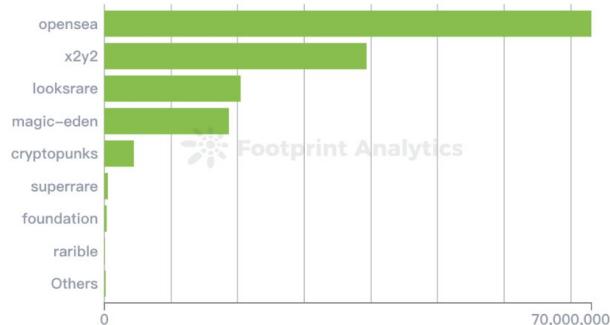
NFT Data Features

- NFT id is unique within the contract
- Collection is a contract
- One collection has multiple NFTs
- One NFT has multiple attributes
- One NFT can be listed on more than one marketplace

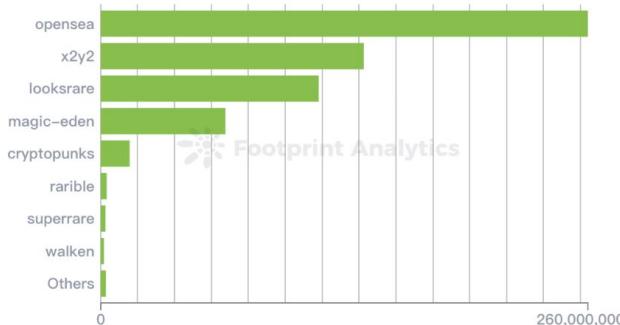
NFT Analysis Scenarios : Marketplace Volume & Changes



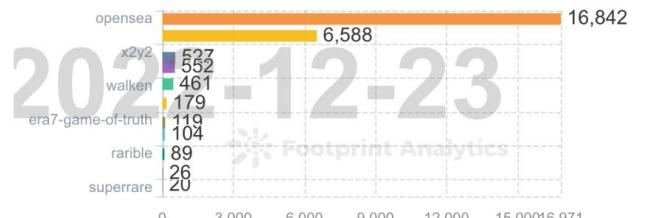
7D - NFT Volume by Marketplaces



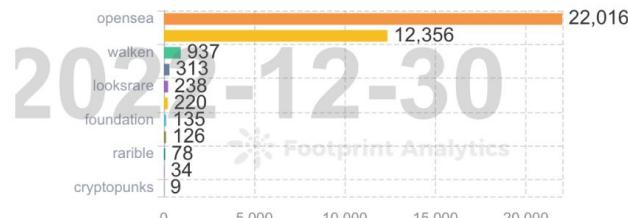
30D - NFT Volume by Marketplaces



Marketplaces: Number of Buyers Per Day Change



Marketplaces: Number of Sellers Per Day Change





One Step Closer to Blockchain Insights

Questions?

社区福利

通过这个链接注册, 前10名用户可以获得 Footprint 的7天免费 Business plan 和 SQL API试用: <https://www.footprint.network/?channel=dev-buidlerdao>

-  Twitter: https://twitter.com/Footprint_Data
-  Discord: <https://discord.com/invite/3HYaR6USM7>
-  Data API: <https://www.footprint.network/data-api>
-  Github: <https://github.com/footprintanalytics>
-  Email: sales@footprint.network



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加入数据分析交流群~