



Using The Graph and Dune to Power on-chain Actions

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Component.fi

Agenda

1. Get to know each other
2. Overview of web3 data stack
3. Description of the phases and simple example
 - a. Data fetching
 - b. Data processing and modeling
 - c. Transaction execution
4. Breakout sessions - Designing your own automation

Compose

- Inbox
- Starred
- Snoozed
- Sent
- Drafts
- More

Labels

Healthcare Billing

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Get to know your table

Prompt: a time when things didn't
go your way in web3.
(5 minutes)



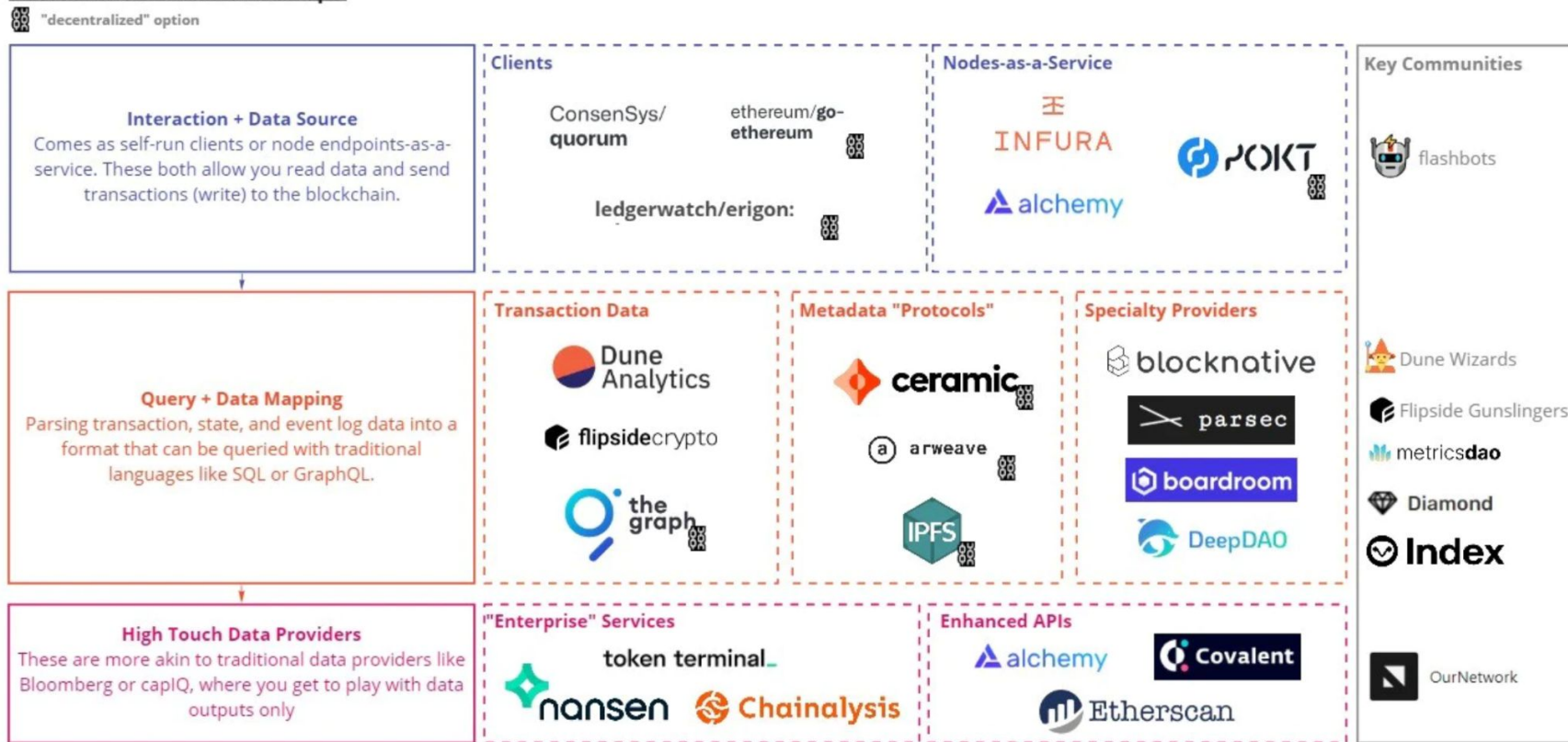
Section 1

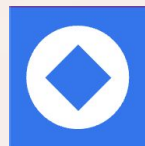
Overview of Web3 Data Stack

The Web3 Data Stack

Web3 Data Stack Landscape

@Andrewhong5297





CryptoStats



Dune

Ethereum-ETL

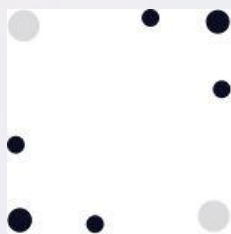


MESSARI



Defi Llama

TrueBlocks



spec

Here's the process.

Data Fetching



Data
Processing &
Modeling



Transaction
Execution



Our example


Using Python to collect data and write a simple prediction model

1. Pulling eth price data from the graph and dune
2. Use ARMA to “predict” price movement
3. If price go up → swap USDC to Eth on uniswap




Section 2

Data Fetching

- 
- Available fields
 - Data format
 - Scope (Chains, protocols)
 - Event driven or polled
 - Flexibility
 - Stability
 - Latency
 - Trust
 - Reliability
 - Openness of transformation functions
 - Openness of the data

Data fetching, Some Considerations



Fetching ETH/USD price data
from the Graph and Dune



Data fetching, Example

The Graph

		price
Datetime		
2022-09-23	07:00:00	133257188668
2022-09-23	08:00:00	131439897822
2022-09-23	09:00:00	130781000000
2022-09-23	10:00:00	129334000000
2022-09-23	11:00:00	128587280014
...		...
2022-10-12	11:00:00	129850000000
2022-10-12	12:00:00	129445000000
2022-10-12	13:00:00	129773166484
2022-10-12	14:00:00	129740000000
2022-10-12	15:00:00	129980479341

Dune

		price
Datetime		
2022-09-13	00:00:00+00:00	1696.105333
2022-09-13	01:00:00+00:00	1692.591667
2022-09-13	02:00:00+00:00	1695.198667
2022-09-13	03:00:00+00:00	1706.766000
2022-09-13	04:00:00+00:00	1715.168333
...		...
2022-10-12	11:00:00+00:00	1303.834833
2022-10-12	12:00:00+00:00	1301.704167
2022-10-12	13:00:00+00:00	1297.784000
2022-10-12	14:00:00+00:00	1297.227833
2022-10-12	15:00:00+00:00	1298.016667



Section 3

Data Processing and Modeling

Data Modeling, Considerations

Types of modeling

- Conditional logic (wallet tracking)
- Machine learning algorithms
- Time series predictions
- Etc.

Model Results





Section 4

Transaction Execution

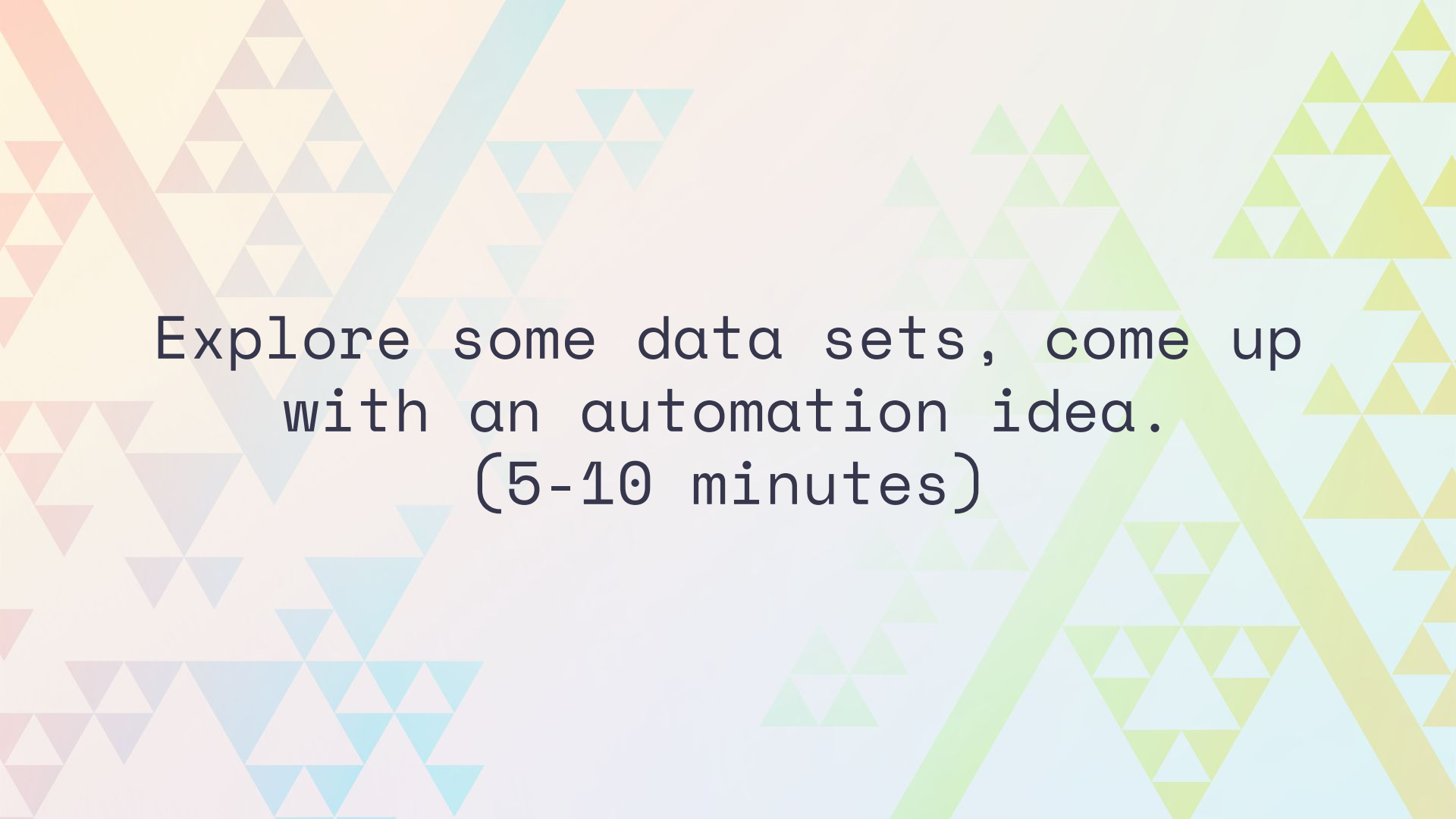
Considerations

- Which chains are you operating on?
- Is it adversarial?
- What kind of timeline are you operating on?
- Key management?
- Should your logic be transparent?
- What happens if the transaction fails, or is congested?

Options

- TX libs (Ethers, Web3JS) (Cloud, local machine)
- Keeper networks (on or off-chain logic)
- Transaction execution services
- Oracle
- Multi-sig
- L2
- Builder API (MEV)

Transaction Options and Considerations



Explore some data sets, come up
with an automation idea.
(5-10 minutes)

The background features a complex geometric pattern of overlapping triangles and lines in warm tones of orange, yellow, and light blue. The pattern is dense and layered, creating a textured effect.

Pitch your idea in 30 seconds.

Select an idea amongst the table
(5 minutes)



Design your automation.

Think adversarially. Where are
the attack vectors?
(10 minutes)



We're building tools that make
this whole process easier.
@componentfi



Thank you!

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