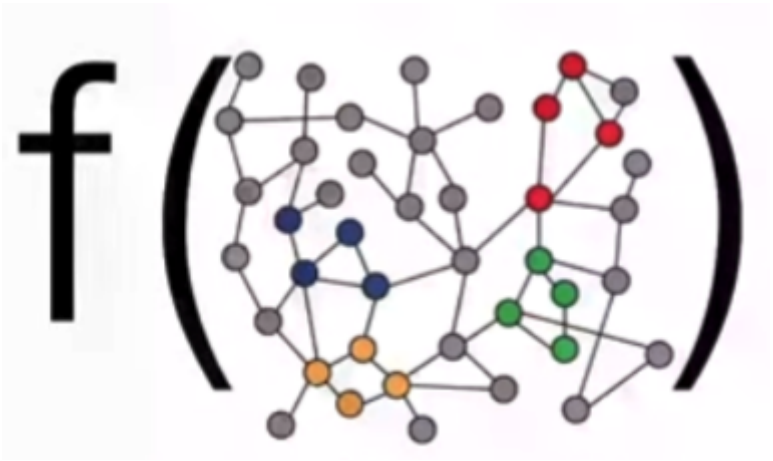
*f*xyz Network



Financial Network based on (DIgital currencies) (and Digital identities)

Abstract

Everything is connected by data. Complex systems intertwine to form networks and to understand them, we must map their architecture, transforming chaos – vast data and networks – into something more structured and ordered.

There are two types of networks: physical (natural) and digital (relational). Money, a human invention, often mirrors nature since we are also living organisms. In nature, everything forms a network that communicates and obeys various rules and functions. Examples include mycelium networks, Organisms, social networks, quantum networks (photons), and financial networks.

Finance can be expressed through functions, specifically graph functions. Graphs represent networks and their properties, while other factors are underlying rules that affect the network or are part of it.

By analyzing the flow and protocols governing them we can do many things.

Keywords: Network Theory, Complex networks, Network Science, graph theory, digital currencies, CBDC, Stablecoin, Cryptocurrency, financial function, Triangular arbitrage, Complex Network Theory, Complex Network Science, Network Science, Finance, Economics,

Citations: BIS FNA, IMF, Payments Canada , ... , ...and more.

Summary points

- In this era of rapid technological advancements, the financial world is undergoing a significant transformation. The emergence of digital currencies and digital identities has paved the way for a new financial network that transcends traditional boundaries. This network, which we call the $f$xyz net, aims to simplify complex financial networks and streamline value transfer, exchange, and creation. By leveraging the power of digital currencies and digital identities, we can create a more efficient, secure, and transparent financial ecosystem that benefits all its participants.
- Everything is interconnected and contains data. If we can connect to it or have a member establish a connection, knowledge and value transfer can occur.
- We will secure our members/nodes behind the guardians of Cube exchange and encourage members to hold their assets off-chain, ensuring security. However, when interacting with the financial world, digital or physical, members should be cautious and calculate all possibilities.
- If our members are present in both our network and other permissioned or permissionless networks, we gain access to those as well, just like markets.
- Natural networks function in separate groups with different missions but benefit the whole system while giving back to it.
- Giving back to our community benefits us greatly.
- Standardizing and synchronizing the digital world with traditional finance with standarts like FIBO ontology.
- Humans are individuals with legal personhood and multiple personas, including online identities. They need everything digital, including memory, reasoning, and most importantly, value.
- We are a value network that encrypts its user, value and organizational data to the point that only accessible by the the ones with permission.

Questions

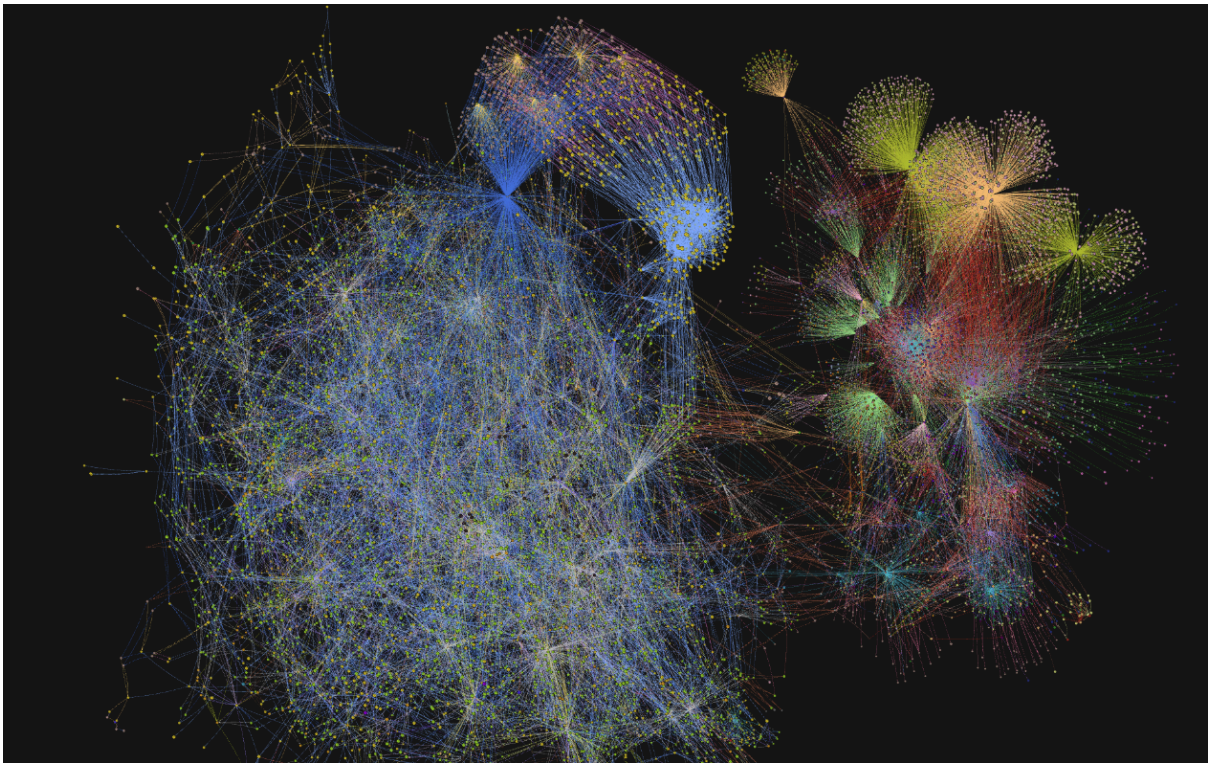
What

- Simplifying Complex Financial Networks
- Streamlining value transfer, exchange, and creation

Why

The financial world is unnecessarily complex. By removing the noise and analyzing patterns, we can better understand the flow of value and improve the efficiency of the system/network, since everything is interconnected.

Currencies, our primary value representers, are mostly traded over-the-counter. This lack of transparency and high-level access requirements create an environment where each layer adds its own "secrets," empowering those who retain knowledge and sell it to the less informed.



How

- Collective Human-Machine intelligence
- Blockchain Networks
- Digital Currencies
- Knowledge Graphs
- Distributed Compute Networks
- Informal and formal Value transfer and exchange networks
- Decentralized Autonomous Organizations
- Holacracy Management
- Machine Learning and Artificial Intelligence (NLP, GNN, GCN)

Why now

The landscape is changing rapidly, and we risk experiencing a spillover effect.
https://www.researchgate.net/publication/360629498_International_monetary_policy_and_cryptocurrency_markets_dynamic_and_spillover_effects

What We DON'T Do:

- Hold user funds or data, unless agreed upon with a digital or physical contract
- Profit from nothing or engage in any connected reward schemes
- Take part in risky or uncertain trades
- Risk more than transaction fees or currency price depreciation

What We DO:

- Obscure all received data and research anonymization tools
- Implement no-risk trading algorithms
- Utilize collective funds to earn, transfer, and exchange money
- Respect both anonymity and legal boundaries
- Run anti-money laundering (AML) and fraud detection algorithms
- Operate in autonomous groups responsible for various tasks
- Share open logic and code with members and related circles

What's next

- Add more members, users, legal entities, and liquidity
- Begin onboarding through Telegram
- Establish Genesis Circle (Main DAO formation) and subsequent DAOs
- Offer knowledge base through multiple interfaces (chatbot, dashboards)
- Develop functions for transfers, exchanges, and creation
- Raise funds for machine and human agents
- Cover development costs
- Create apps (Arb calculator, market overview, data dashboard)
- Map all blockchains and financial entities
- Partner with companies across various fields
- Connect with at least 4-5 major stablecoin firms
- Transition to graph databases, AI backend, vector, etc.
- Getting ready for the Q world

A Journey Through the Evolution of Money: The ƒxyz Digital Currency Network

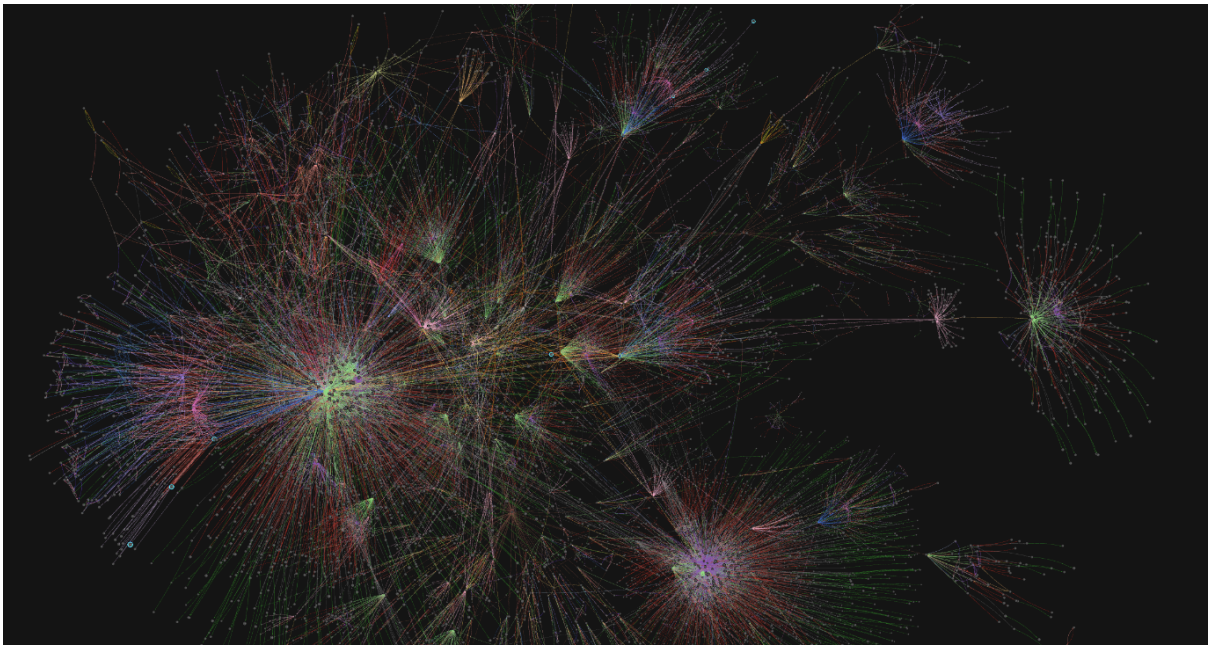
"If you don't rest upon the good foundation of nature, you will labor with little honor and less profit."

Leonardo da Vinci

Let's dive into the story of the Fxyz digital currency network, how it became what it is today, and where we're headed.

We wanted to make money transactions like sending, paying, and earning easier and understand how currency markets work.

We found out that the over-the-counter (OTC) foreign exchange market is important for all kinds of trades. Banks use it to adjust their foreign currency holdings and make money.



Following Money in a Complex Financial World

Can we track the flow of money? We can gather some information from sources like the Federal Reserve, central banks, and various markets. However, the over-the-counter (OTC) foreign exchange market, boasting a daily volume of over $7 trillion (as reported by the Bank for International Settlements in 2022), is difficult to follow. Our primary source is the BIS report, which is an estimate and only published every three years. We've tried talking to brokers and markets, but they mostly trade derivatives and require significant capital for access.

Additionally, there are informal money transfer networks like hawala, feinqian (flying cash), and others. These networks are legal in places like the United Arab Emirates and Turkey and operate in Asia, Africa, and even the US and EU, often under the radar.

Take China, for instance. Peer-to-peer (P2P) and over-the-counter (OTC) markets for exchanges like Huobi and OKEx continue to operate despite unclear cryptocurrency regulations. Hong Kong and Dubai permit large transactions in various forms. Meanwhile, mainland China is developing digital money called central bank digital currencies (CBDCs). They've already tested CBDCs and will soon implement them, joining many other countries worldwide.

The Growth of Digital Money: Cryptocurrencies, Stablecoins, and CBDCs

Digital Currencies is becoming more popular, starting with Bitcoin. Bitcoin and other digital currencies like Ethereum and Solana are easy to use and have many applications.

Governments are making their own digital money called Central Bank Digital Currencies (CBDCs). This makes digital money more trusted and helps other types of digital money, like stablecoins, work better.

Stablecoins are popular because they're good for transferring value. People use them for trading and sending money. There are some risks, like using unsafe platforms and having centralized issuers, but people try to reduce these risks.

We can't change the system completely, so we need to find a balance between different types of money. We can do this by looking at information from banks, digital money platforms, and other sources.

There are many layers in the financial system, like banks, payment apps, and digital currencies. We can find connections between these layers by analyzing them properly.

Digital currency has advantages, like faster transactions and real-time calculations. This can help us with activities like sending money, trading, and exchanging.

If we understand how the system works, we can fix problems and create value. We can make money by transferring value or doing something useful.

Many organizations are trying to combine digital money and traditional money into one system. But they still work within their own networks, not as one big network.

We want to make money without taking too much risk. We need to use human and machine intelligence to manage our money better. If we work together and share information, we can improve the financial system.

History

After being forced to a small boutique team, we started to integrate new technologies and see how we can keep building, researching, etc. We began implementing AI in different fields like: *(LagrangeHistoryURI)*

- Knowledgebase management - Knowledge Graphs
- Semantic - chatbot, qa, doc management
- Algorithmic trading - shortest path, triangular arbitrage, centrality, labeling, etc.
- Different architectures of personal AI assistants
- Data lifecycle

However, the last missing puzzle was moving everything into a graph database. We were using and working with graph databases but not as the main thing, and some of our algorithms were naturally graph-based, like shortest path finding.

Graph transition

So while keeping the underlying architecture of traditional databases, we started to feed everything into a graph database, including the knowledge base for AI and vector indexes. This way, both humans, machines, and models would have structured access to financial information in a holistic way.

Connections Between Digital and Physical

We began building on Solana with the hope of increased liquidity in Serum, FTX, and bridges, but both of those ideas failed.

But soon after we switched to open, modular and interconnected architecture.

FIX protocol is being modified, still remains one of the main ways of communication.

The Power of Graphs

We already discussed how everything is a network and networks are just graphs + properties (or vice versa). Many big institutions, including central banks, are already using graph databases in various cases, such as financial applications.(cite fna, and other BIs and payments canafa).

More data here That is why we decided to switch to a graph database, making it easier to compute, visualize, talk to, etc., for both humans and machines.

Integrating Graph Databases

Data and Ecosystems

Data is the building block of everything. Core data, the data that programs it and the data that is tagged by - MasterData, MetaData, ProgramData(cite neo4j, solana) have their attributes and interact with other elements in the ecosystem. Ecosystems have their own rules/protocols that bind elements together, and this goes on until all is one, from where it started.

Goals and Collective Organization

Our main goal is collecting data in a way that both humans and machines can interact with, understand, and act upon. Humans can form groups and share thoughts through collective organization tools like DAOs, and everyone can have their own collective.

Holacracy and the Future

We can rule with Holocracy, where leaders are heard but not just everyone in matters that are domain-specific, and everyone has power when it comes to value/money, ideas, and other pre-agreed things.

more holocracy here

DAOs & Holocracy

Holocracy is a decentralized management framework that allows organizations to operate without a top-down hierarchy of managers and subordinates. It creates clear structure, expectations, and boundaries while maintaining alignment. DAOs (Decentralized Autonomous Organizations) are another form of decentralized management that rely on automation and voting mechanisms. However, there are limitations to both systems when used separately.

The challenge with DAOs is that they attempt to automate everything, but some aspects require human judgment and are not best left to automated processes or voting. Holacracy, on the other hand, is great at harnessing human wisdom to create a purpose-driven governance structure.

The exciting potential lies in integrating the two systems. By combining Holacracy and DAOs, organizations can benefit from the human judgment and wisdom of Holacracy while leveraging the automation and voting mechanisms of DAOs. This hybrid approach allows for a more dynamic and powerful organizational structure.

We're moving towards a DAO-Holacracy hybrid model by creating a foundation with a governance structure that is run with Holacracy. We will also mint a new token to be distributed among our licensees for certain decisions that require ratification or voting.

This hybrid model works well for organizations that want the benefits of both decentralized community governance and centralized management. It combines the decentralized authority structure of Holacracy, which still allows humans to lead individual roles within clear bounds, with the automation and voting mechanisms of DAOs.

Combining Holacracy and DAOs forms a dynamic hybrid model that captures the best of both worlds, while tackling their limitations. This approach aims to reap the rewards of decentralized community governance and centralized management.

Members

Members are anonymized and tied to pseudo wallets, email, and other types of identification systems.

Each group has its own membership

We will give some sort of status, rating and other things to the users.

Different levels of privacy and anonymization:

- Public figure
- Anonymous
- Pseudonymous
- Private

"Identity can be revealed automatically/programmatically (on pre-defined terms) or manually after contact initiation."

Multilevel encryption - https://link.springer.com/content/pdf/10.1007/s12243-018-00699-y.pdf

Circles

Different people, groups, and companies have their own circle of connections, information sharing, and other types of closed networks that we call circles.

They will be governed by their sub-dao or in a traditional way and to get access to the internal data of data/information of the circle you have to connect to one of the members that can refer to(unless it is stated as this) or you are accepted into that circle through some sort of membership provenance like NFTs, tokenized contracts or different forms of traditional contracts.

As these circles are governed internally by their members and their contributions can be done through DAO itself or by members or both but roles and other tasks are assigned to an individual member/person/persona that this entity has agreed itself.

Roles

- State roles here
- Skills
- Connections
- Etc.

Partners

"Wherever we want to go, someone is already waiting for us there"

TechnologyPartners

- Solana - as an application layer, Ethereum + Bitcoin
- Cube as settlement, vault and more
- Openbb as Data toolstack - for collecting, transforming, analytzing and presenting data from various sources in a beautiful and custom way
- Telegram as a communication and application entrance layer. TON blockchain integration. Telegram anon # integration

BusinessPartners

You always need partners for different things, like:

- Buying tether directly
- Smooth banking
- Solving tech-related issues
- Faster response
- Better quotes
- Etc.

Network Applications

This section highlights the critical applications that support the network's infrastructure. These applications are developed and maintained by a team of domain experts, liquidity providers, developers, and the DAO. While not all of them are directly visible to the user, they are vital for the seamless operation of the network.

Infrastructure and Core Technologies

- **Onchain E-spot FX**: Execution of on-chain foreign exchange spot transactions.
- **Exchange**: Platform for currency and asset exchanges.
- **Communications Network**: Secure and efficient communication channels.
- **Security**: Robust security measures to protect the network.
- **Payment Infrastructure**: Backend systems for electronic payments.
- **Remittance Infrastructure**: Mechanisms for cross-border money transfers.
- **OnOfframp Network**: Interfaces for digital-to-fiat currency conversion.

Data and Analytics Tools

- **Data Analytics**: In-depth analytics and insights on digital currencies.
- **AI Bot**: AI-driven assistance for data analysis and automation.
- **Sanction Check**: Compliance tools for regulatory standards.

Optimization and Strategy Features

- **Algorithms**: Optimal path-finding algorithms for currency transfers.
- **Currency Transfer Optimization**: Enhanced transfer mechanisms.
- **Arbitrage**: Tools for statistical and triangular arbitrage strategies.

Mapping and Navigation

- **Maps**: Graph-based financial navigation tools.

User Facing Products

User-facing products provide intuitive interfaces for end-users, abstracting the complexity of the network's backend systems.

Transaction and Exchange Interfaces

- **Retail FX**: Interfaces for retail foreign exchange and currency swaps.
- **Transfer Services**: Platforms for domestic and international fund transfers.
- **On/Off Ramp Services**: Gateways for digital currency adoption and liquidation.

Liquidity and Wealth Management

- **Intelligent Liquidity Management Tools**: Applications for managing and optimizing liquidity resources.

Compliance and Security Services

- **AML/KYC Checks and Fraud/Crime Detection**: Compliance and security systems for transaction monitoring and fraud prevention.

Remittance and Payment Solutions

- **Remittance Agencies**: Services for sending money across borders.
- **Payment Enterprises**: Comprehensive systems for processing various payment transactions.

Security & Privacy & Anonymity

We stand by the idea of privacy and being as secure as we can while trusting by using technology(verifying).

If someone is already in the digital realm(holding digital currency(crypto, stable, CBDC) they somehow passed checks or are in a very risky possession.

The best thing to do is make it pseudonymous because we want something in the middle, some entities, organizations, or internal sub-DAO members will have a way of checking identity, funds, etc while not getting all the private data.

For this, we mainly plan to use Cubenet as it will act as a privacy and anonymization layer on top of the existing technologies but their KYC checks will also help us to filter out the unwanted/illegal value transfer and exchange.

We additionally plan to integrate with different zk protocols and technologies to be able to offer more privacy/anonymity

- AML functions
- Antifraud functions
- Many KYC checks in place
- Transparent to members

Multi-level Encryption

- Anon
- Pseudo
- Public

Financial Cryptography

"Don't trust verify"

- Dynamic hashing algorithm for privacy, anonymity, pseudonomity. Solana POH used in the encryption algorithm.
- ZK value checks using Multi-Party Computation
- Additional layers of privacy

Financial Cartography

Mapping everything with graphs

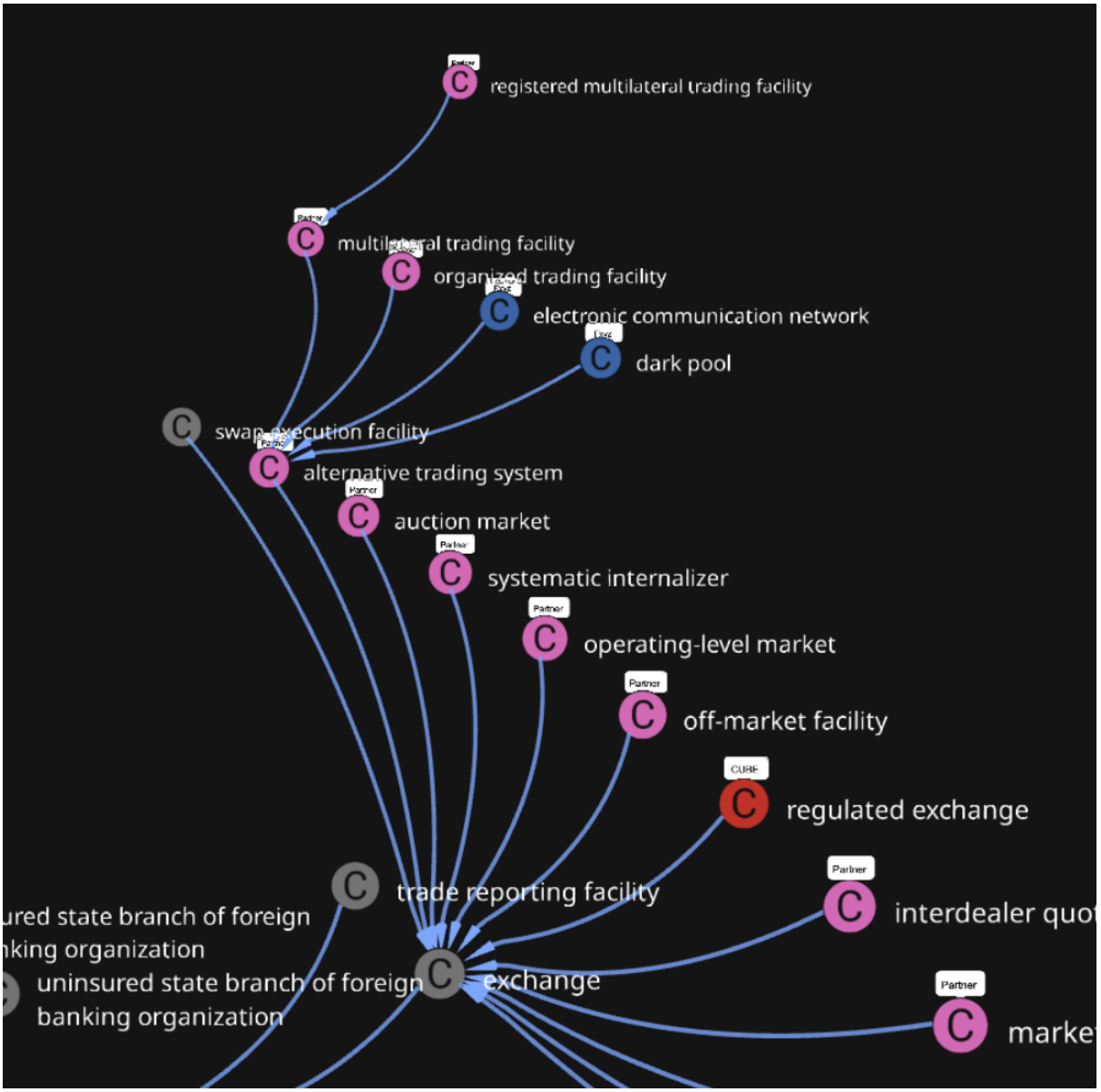
- Can be queried
- Visualized
- Asked, etc.

Patterns

- Patterns are everywhere we have to find them but we have a minimum node number after which patterns emerge(Ramsey num)
- We have to find the rhyme
- From Maze to Tree

Value Domain

1. Digital currencies:
2. Stablecoins
3. CBDCs
4. Cryptocurrencies
5. Digital Assets
6. Tokenized Commodity
7. Tokenized RWA
8. Digital Financial Assets



Social Domain

- HumanBeing -> LegalPerson -> OnlineID -> Persona -> Member, Partner, User, etc.
- We need people their trust, guidance, intelligence, and mostly trust
- That is why we have to preserve anonymity but somehow let people put their trust in something
- Humans have online identities which we call Personas

Tech Domain

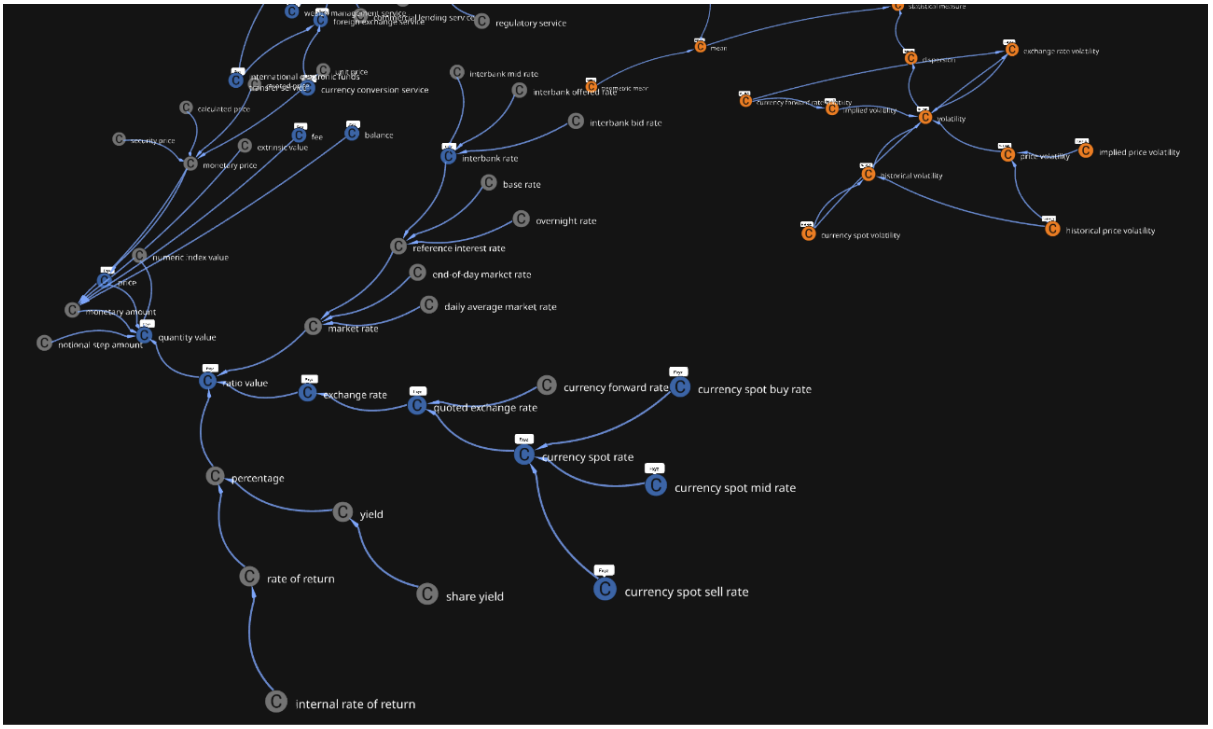
A self-evolving system that gets better each time as they try a different path

Ever updating graph with the knowledge coming in and human guidance

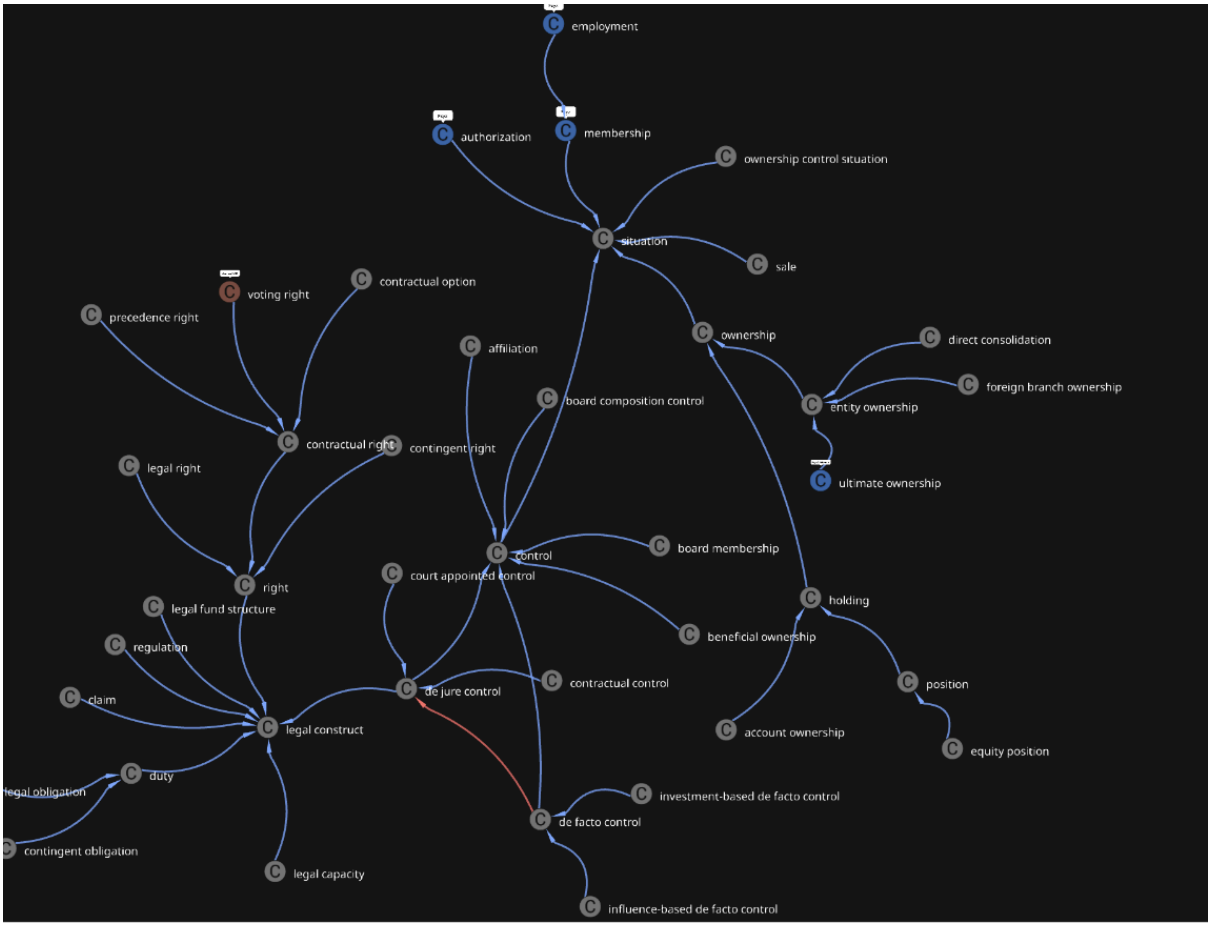
News is evaluated then processes and graphs are updated

Data Domain - Transfer, Exchange, and Creation

- Data is an asset
- Everything is tagged by data
- Attributes/properties: volume, variety, complexity
- Data about users, members, products, partners - master data - core data
- Tagged data - metadata

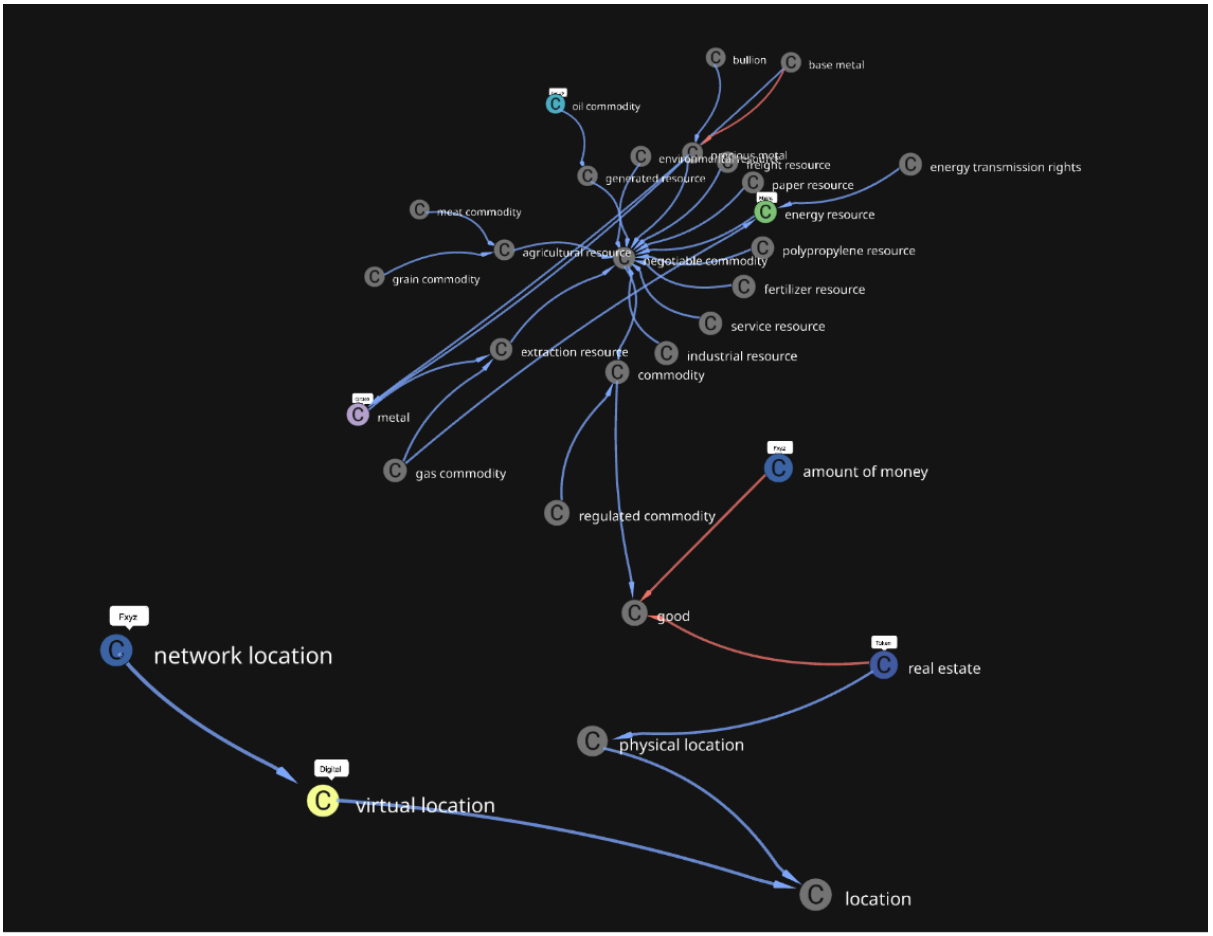


Legal Domain (layer)



Physical Real-world

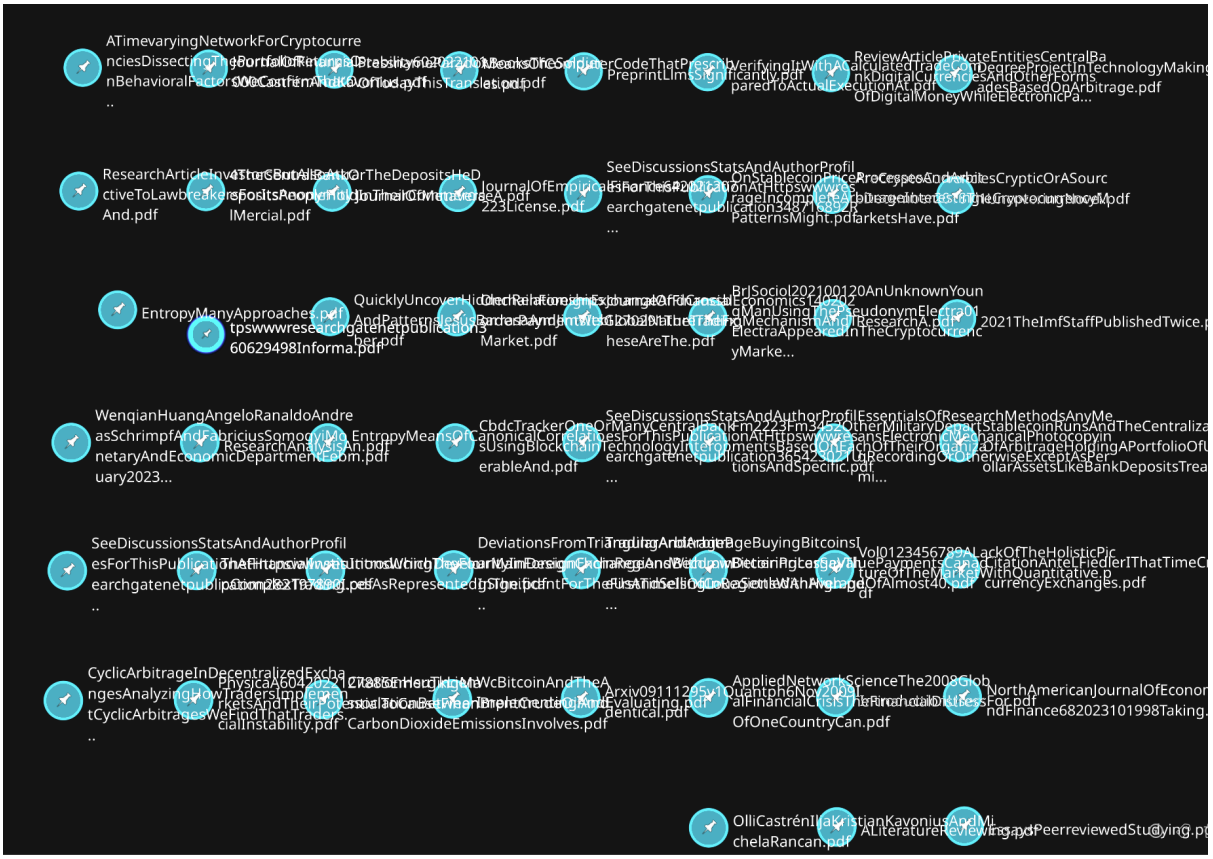
- Humans
- Machines
- Energy



Comms Domain

- Telegram
- Tether

Science Domain (layer)



Timeline - Roadmap

Normally, startups spend the first few years researching. Even though we aimed to be profitable very early without selling tokens, we failed but learned a lot of lessons, never stopped, and now are fully ready to implement everything at scale.

- We have data connections and specific protocol integrations ready
- Blockchain connections fine-tune
- Different trading strategies based on scientific papers are tested out

We think that this is very obvious - the things that are going to happen are very obvious, and we have been building mostly knowledge and network. We think that we have reached the minimum required nodes to be effective and that we can spread out across multiple dimensions, layers by calculating multiple variables and their outputs collectively and doing what is best while benefiting the one - the network itself. Various individual elements are an integral part of it, but the main goal here is acting as one: sharing wealth and knowledge and evolving based on your findings, as you go.

Accounting/Bookkeeping and

- All money will be distributed through the smart contracts, from the smart contract.
- Open bookkeeping according to status - CipherText AttributeBased encrypted data governance https://link.springer.com/content/pdf/10.1007/s12243-018-00699-y.pdf

Challenges

- Regulatory and liquidity challenges will be solved by network members present in different countries. Think of it as a mix of the banking system, hawala network, and cryptocurrencies, which make it possible. One holds money in the digital world (many blockchains) and in the physical world (many countries). If each entity is legally compliant, then we don’t have to do the compliance for the whole network, and it can act as a digital organism - network.

Tokenomics

- Project not based on one person, so token allocation is small and on a long-time perspective
- Founder: 10-year lock
- Team: 10%

- Friends and Family: 10%
- Partners, advisors, etc: 10%
- Investors: 10%
- DAO - Users, LP, Community, Devs, partners, etc: 50% through DAO for management and organization, and dev organizations are different

Investment

- Friends and Family: 5% @5MM +
- Private: 5% @10MM +
- Strategic Seed: 10% @20MM - 25MM

Costs

- Most of the costs are for a boutique team (5-7 people, 5-10k USD/month per person) and hardware, software, and AI costs, calculating, graph db, etc.
- Minimal marketing costs, almost no cost
- No listing cost
- No token sale for profit in the short runquals data, which equals money – data money.Fxyz Network: A Living Document

Documents

- Next-level localization where even UX is localized

Ontology

FIBO ontology as a base

Makes it formal - readable by machine

Standardising data across

Graph Schema

- OWL
- RDF

Knowledge Oracles - House of Wisdoms

1. BIS
2. IMF
3. WB
4. PC(CA)
5. CBs

References