

— HEAD
Genève

CryptoKit

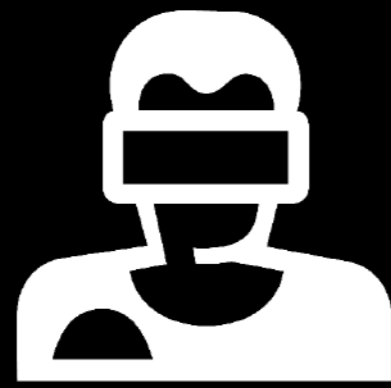
A SEMANTIC MAP OF BLOCKCHAIN TECHNOLOGY 

Hes·SO GENÈVE
Haute Ecole Spécialisée
de Suisse occidentale

01

CONTEXT

TEAM



Anthony Masure



Océane Juvin



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GENEVA UNIVERSITY OF ART AND DESIGN (HEAD – GENÈVE)

Research project
funded by the
Bureau de la
Stratégie
Numérique of
HES-SO Genève



A VISUAL MESS



Numerama
<https://www.numerama.com/wp-content/upl...>



Agixis
Blockchain : comment ça marche ?



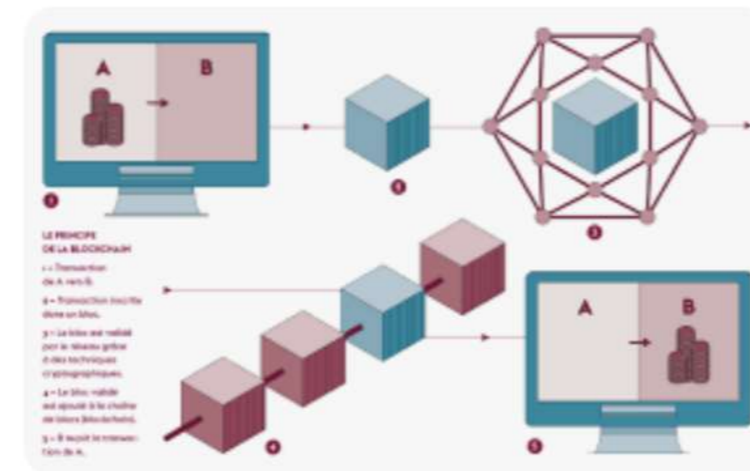
JDN
Blockchain : définition, bitcoin... Tout ce q...



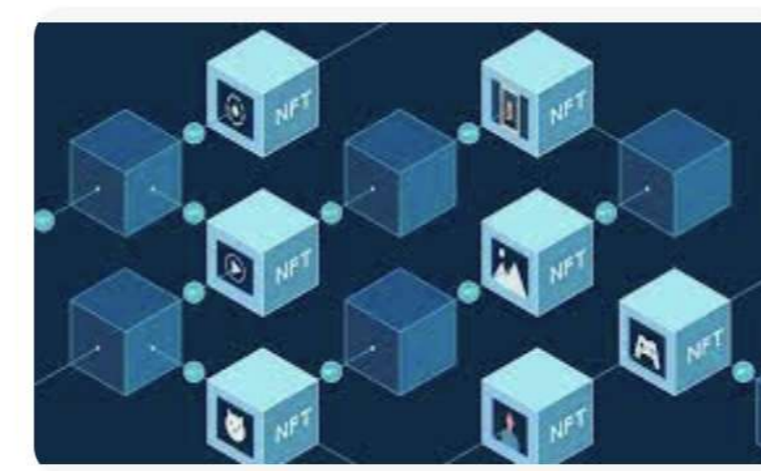
Investopedia
Blockchain Facts: What Is It, How It ...



Bercy numérique
Blockchain : une technologie de stock...



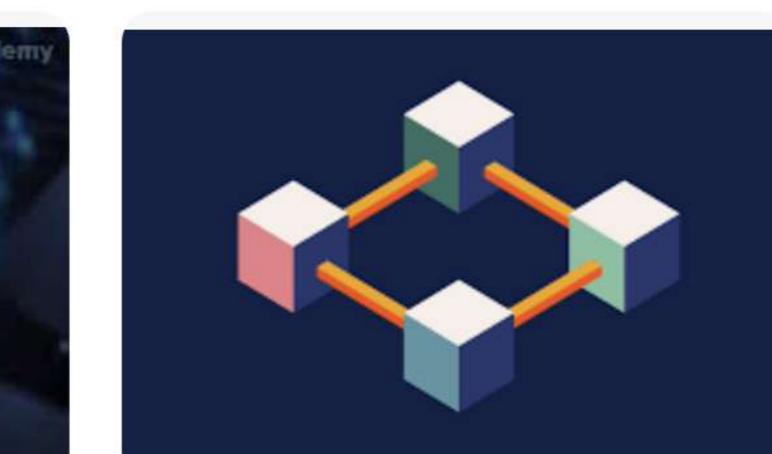
Université Paris-Saclay
Déverrouiller le potentiel de la blockchain ...



Stanford Online - Stanford University
How does blockchain work? | Stanford Onl...



Animations Innovantes
Comprendre la technologie Blockchain en ...

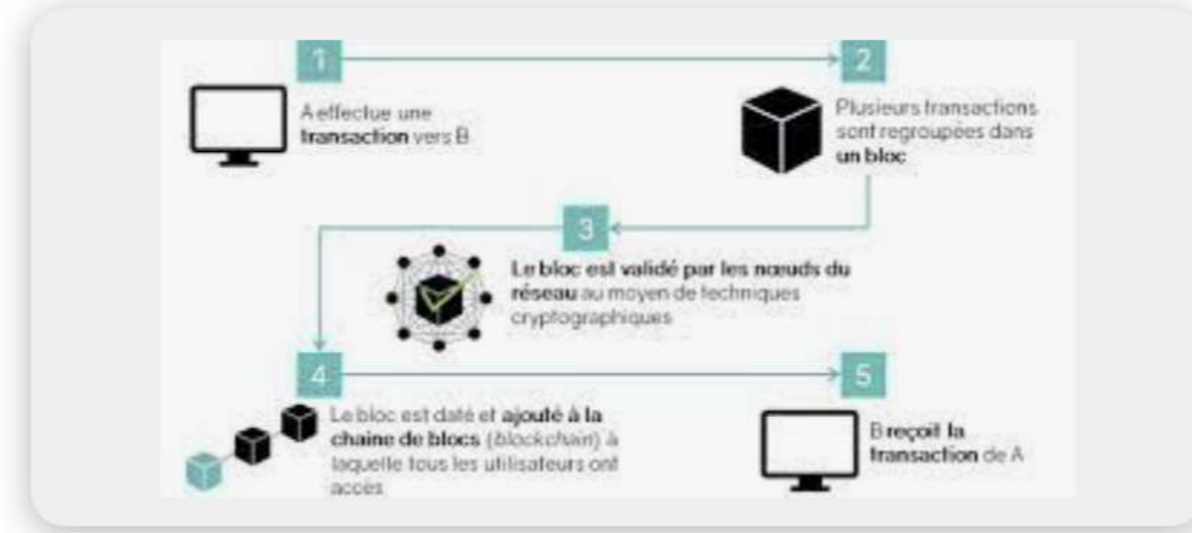


Google Images, 2023

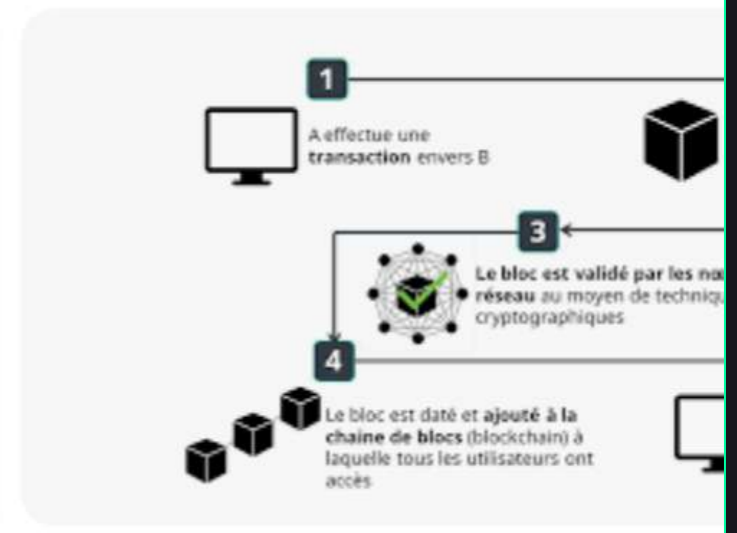
HOW TO REPRESENT BLOCKCHAIN TECHNOLOGY?



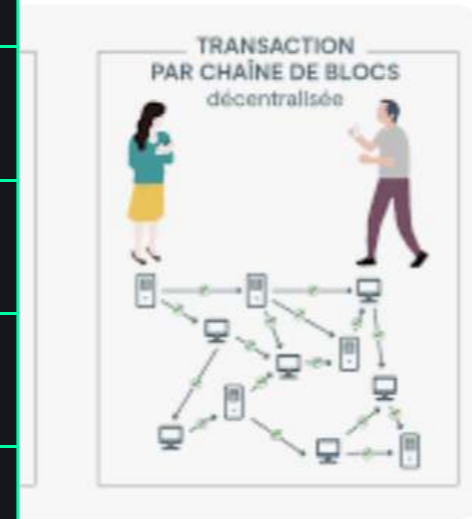
Le fonctionnement de la blockchain



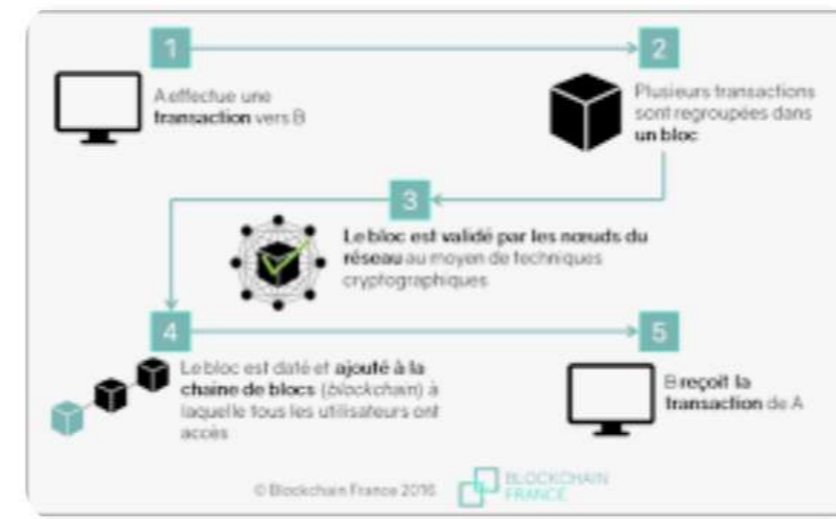
La Tribune
<https://static.latribune.fr/1020548/blockchain-mode-d-emploi...>



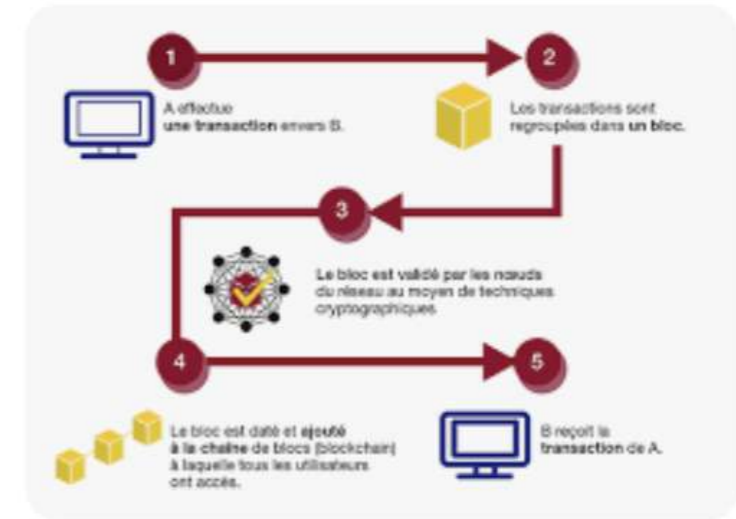
Eanet
Qu'est-ce que la blockchain ? - Agenc...



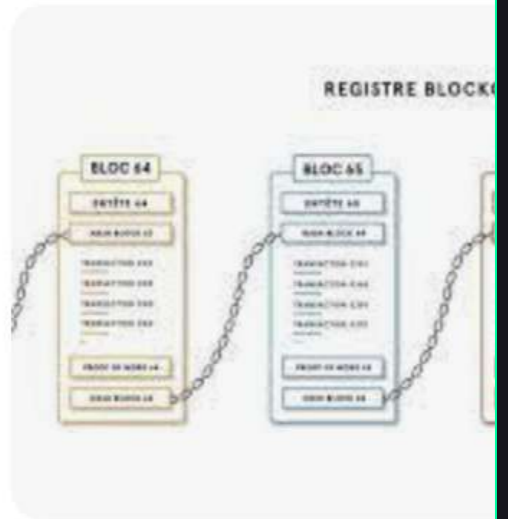
Chaîne de blocs (blockch...



Codeur.com
Comprendre la technologie blockchain : le...



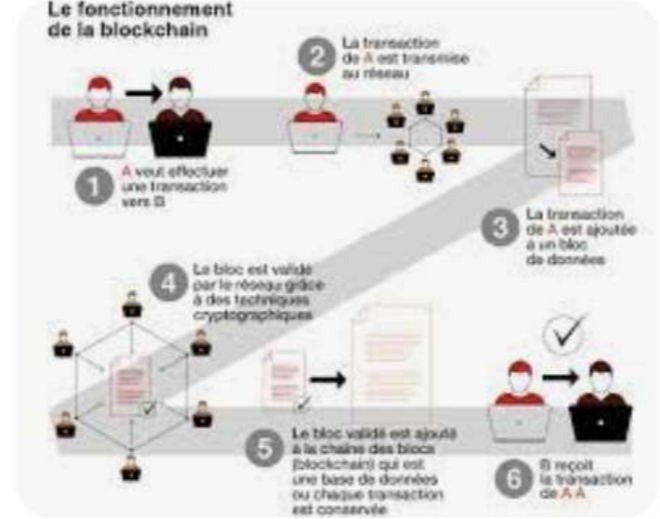
CoinJournal
<https://coinjournal.net/wp-content/u...>



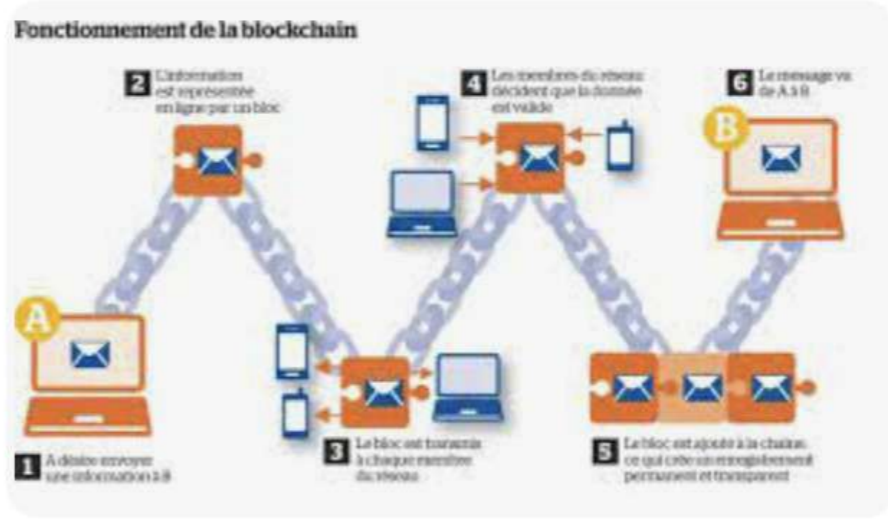
CoinJournal
[https://coinjournal.net/wp-](https://coinjournal.net/wp-...)



Points pour faire le point – Di...



www.kmu.admin.ch
Partage en blockchain



Change The Work
Blockchain et ressources humaines : quelles ...



linksconsulting.fr
La Blockchain : ce qu'i

Google Images, 2023

ISSUES

No consistent dataset

> Many key terms have no visual form

Lot of physical metaphors (ie. “cloud”)

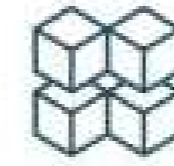
> Lack of technical and digital culture

Already composed diagrams

> Need for a modular and vectorial system



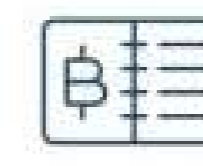
BITCOIN



BLOCKCHAIN



DISTRIBUTION



LEDGER



MINING



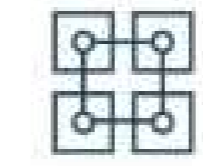
EXCHANGE



DATA ANALYTICS



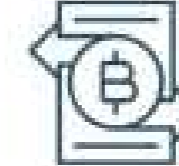
CRYPTOGRAPHY



CHAIN



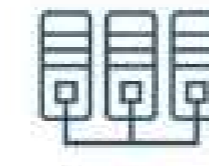
CONFIRMATION



TRANSACTION



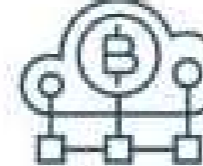
MINER



MINING NETWORK



DIGITAL KEY



CLOUD MINING



SECURITY



CALCULATOR



GLOBAL NETWORKING



BITCOIN MOBILE



DIGITAL CURRENCIES



BLOCK REWARD



MINING



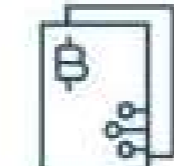
USER



INVESTMENT



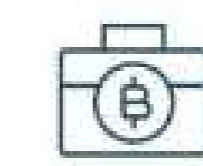
WALLET



WHITE PAPER



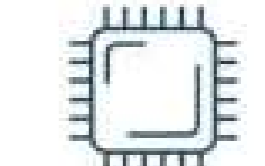
BLOCK



PORTFOLIO



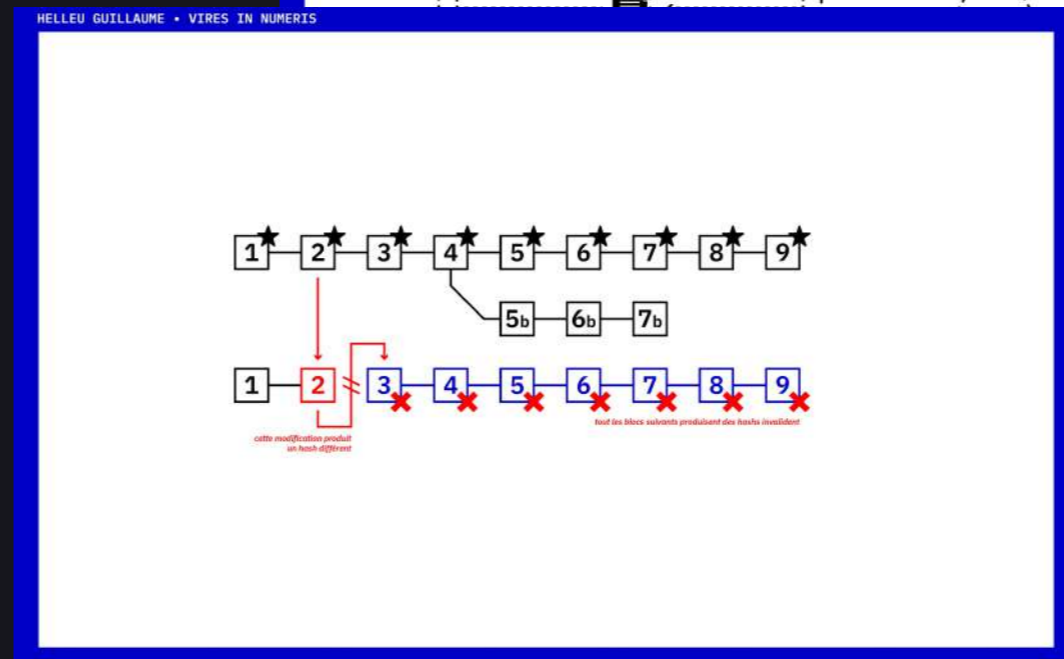
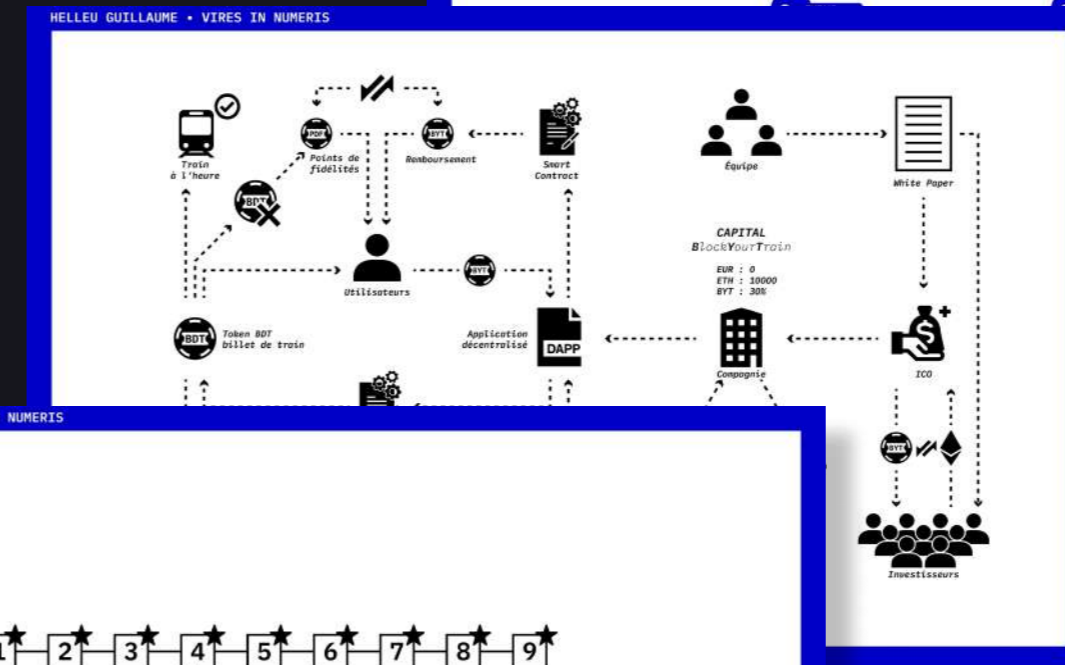
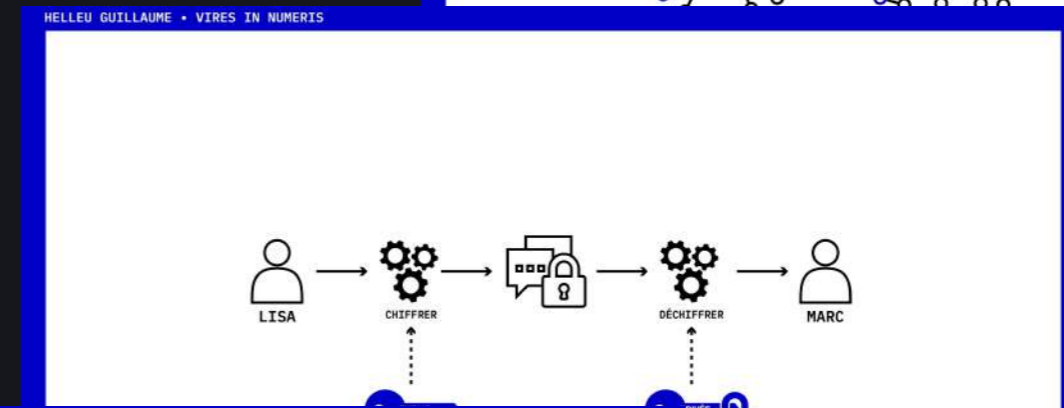
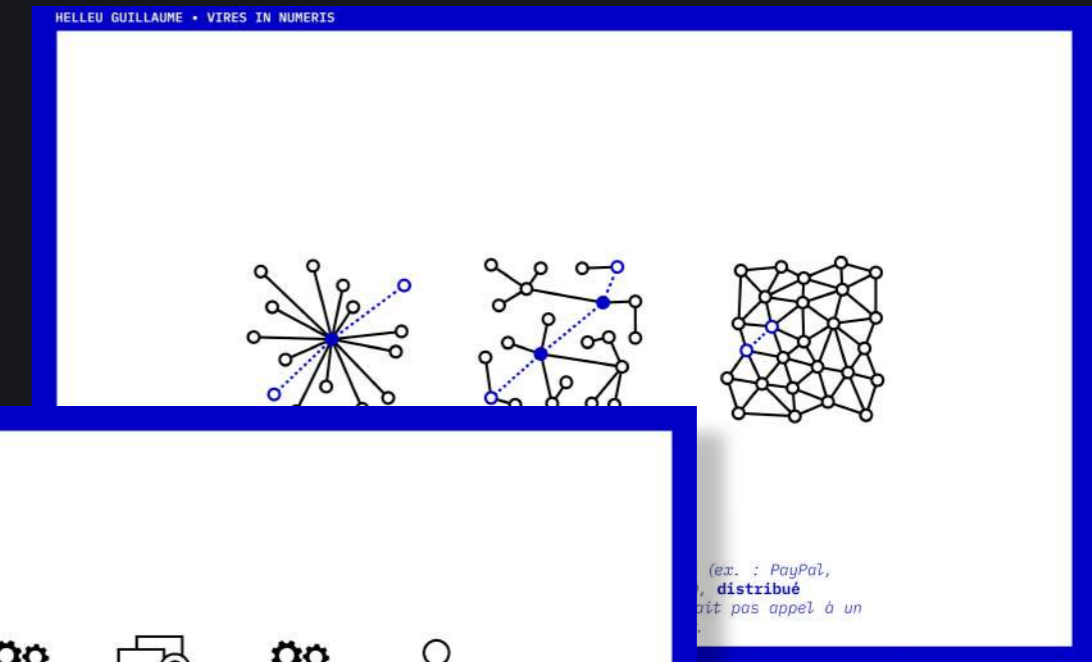
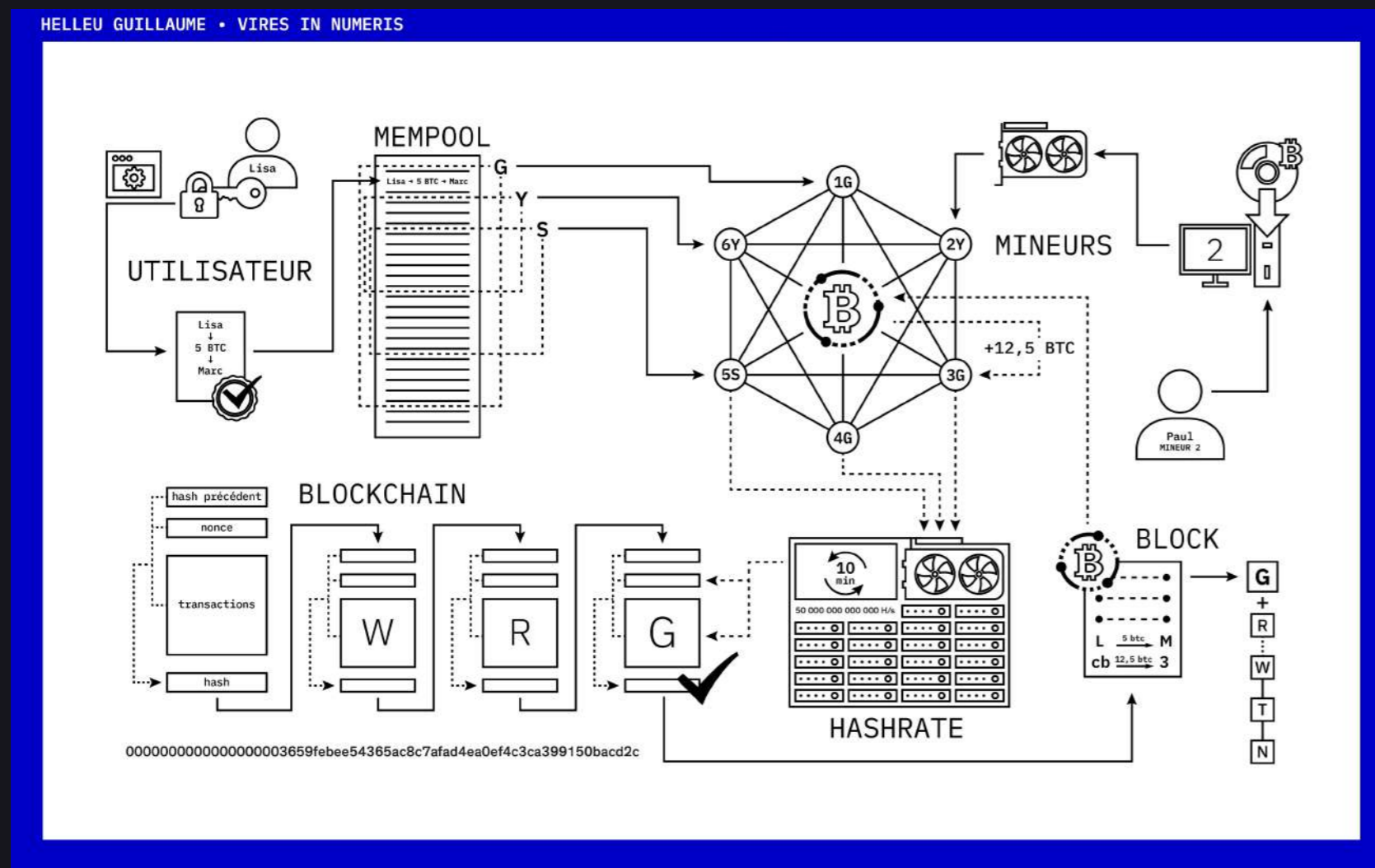
MINING POOL



PLATFORM

BACKGROUND

New Kids On The Blockchain (2018)



CRYPTOKIT PROJECT (2022-2023): GOALS

- > Explain in a didactic way how blockchain technologies work
- > Produce free educational material for schools and companies
- > Establish a visual method of analysis and visual that can be applied to other fields

METHOD: FROM A GLOSSARY TO A SEMANTIC MAP

There are already a lot of blockchain glossaries

Bitcoin Suisse

Individuals Business Insights Company Contact

Get Started Login DE

Bitcoin Suisse Crypto Glossary

Nov 16, 2020

Download article as PDF

Airdrop

An airdrop refers to the distribution of coins or tokens to a wide number of holders, usually for free. Airdrops are often used as marketing strategies: tokens may be sent to low level traders for free or in exchange for the traders notifying others of the presence of the token on the market. Airdrops are also sometimes employed to achieve a wide-spread distribution of a blockchain's token supply.

AMM

An automated market maker (AMM) functions as part of a decentralized exchange (DEX), facilitating automated trades between users from a liquidity pool. AMM trades are executed using a mathematical formula that prices the required assets with no need for counterparties: instead, users interact with each other via smart contracts and funds are transferred directly between crypto wallets.

APR/APY

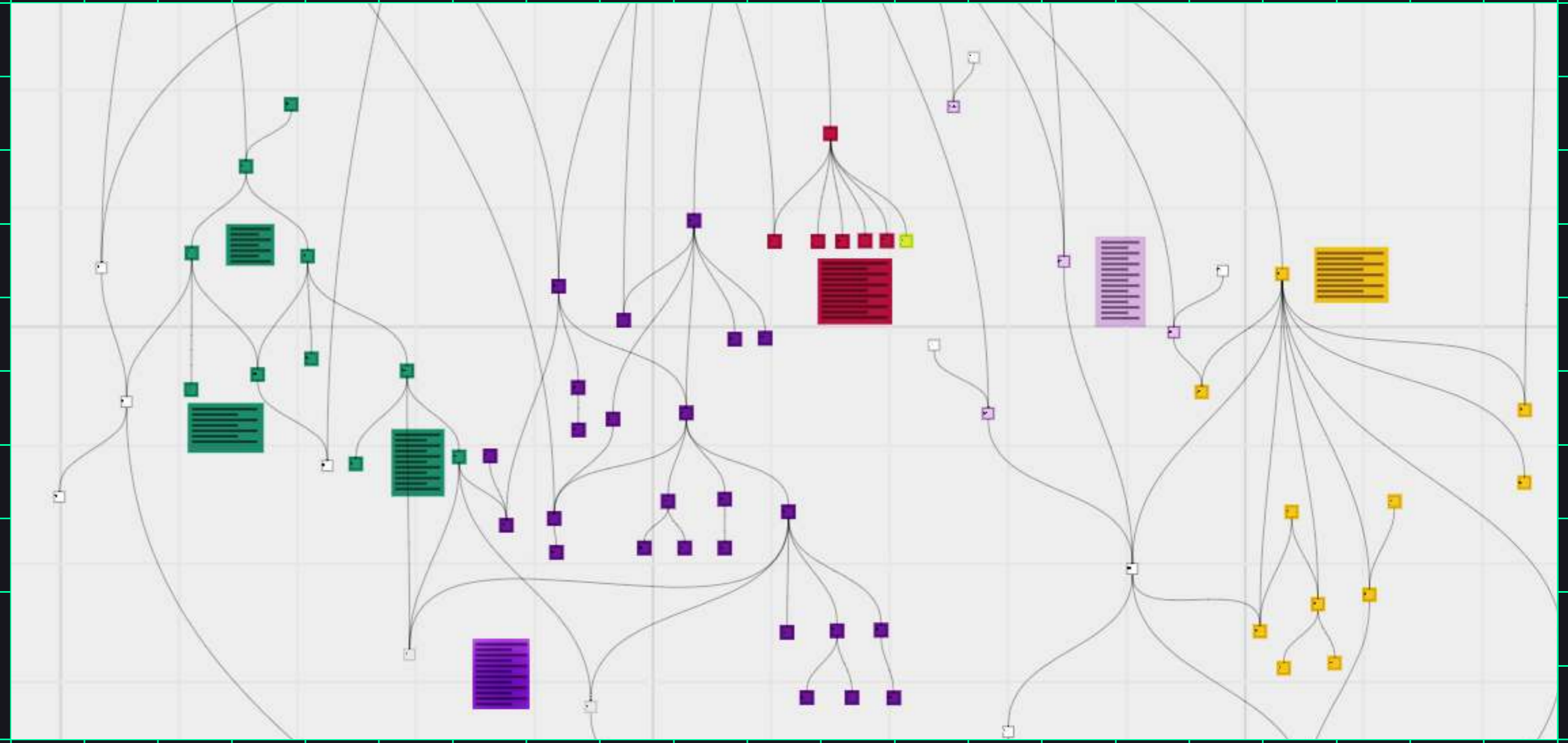
Annual percentage rate (APR), or its compounded counterpart: annual percentage yield (APY), refers to the amount or reward that users can earn by making their crypto tokens available for loans, taking into account interest rates and any other associated costs that borrowers must pay. Certain types of crypto savings accounts incentivize customers by offering high APR returns on the assets they deposit.

Table of contents

Navigate easily through this article

- Airdrop
- AMM
- APR/APY
- Block
- Block reward
- CLOB (Centralized Limit Order Book)
- Coinbase transaction
- Confirmation
- Cryptocurrency

METHOD: FROM A GLOSSARY TO A SEMANTIC MAP

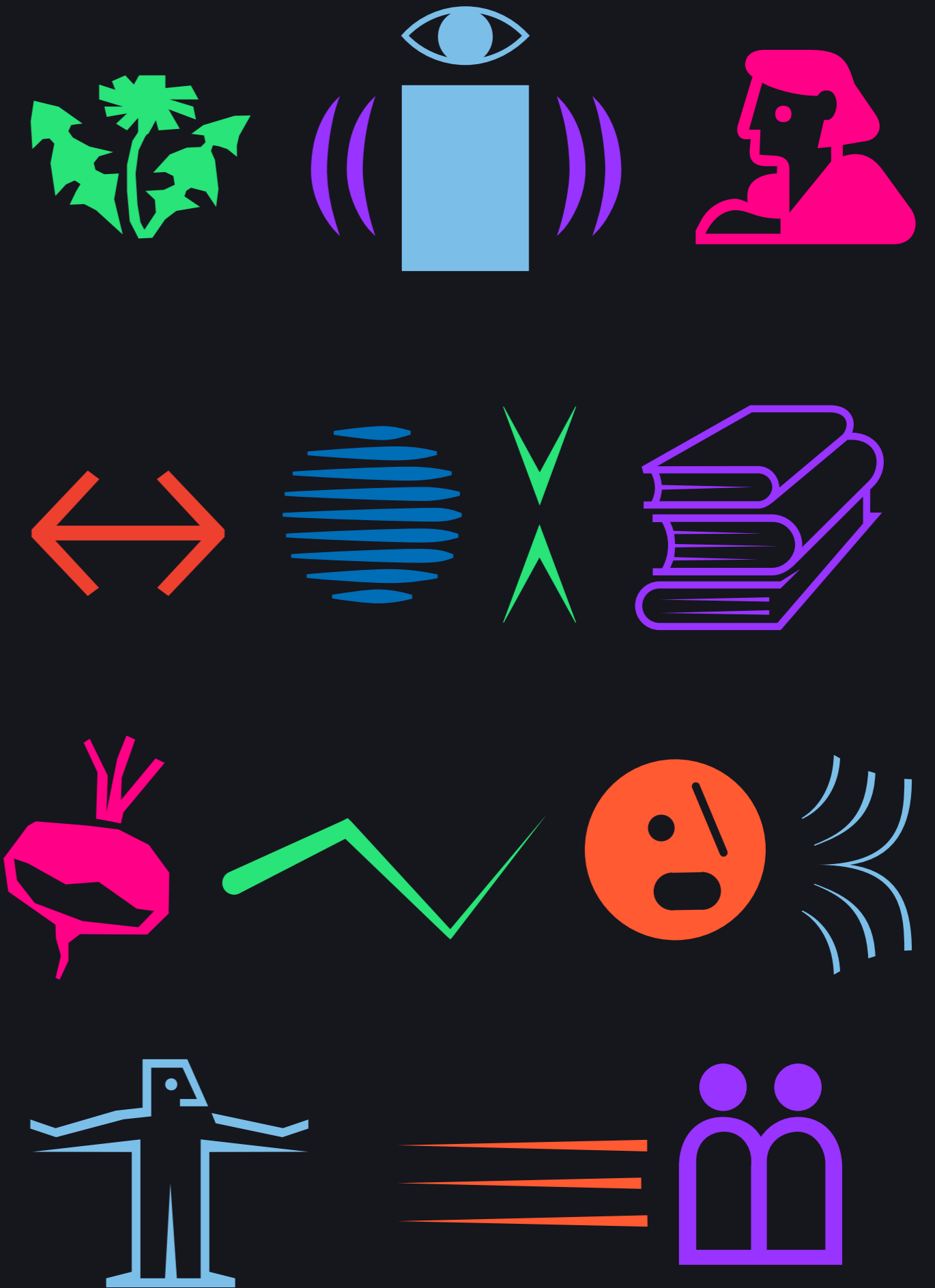


Displaying keywords
on semantic layers

02

TYPEFACE

CREATION OF PICTOGRAPHIC TOOLS FOR THE TRANSMISSION OF COMPLEX IDEAS

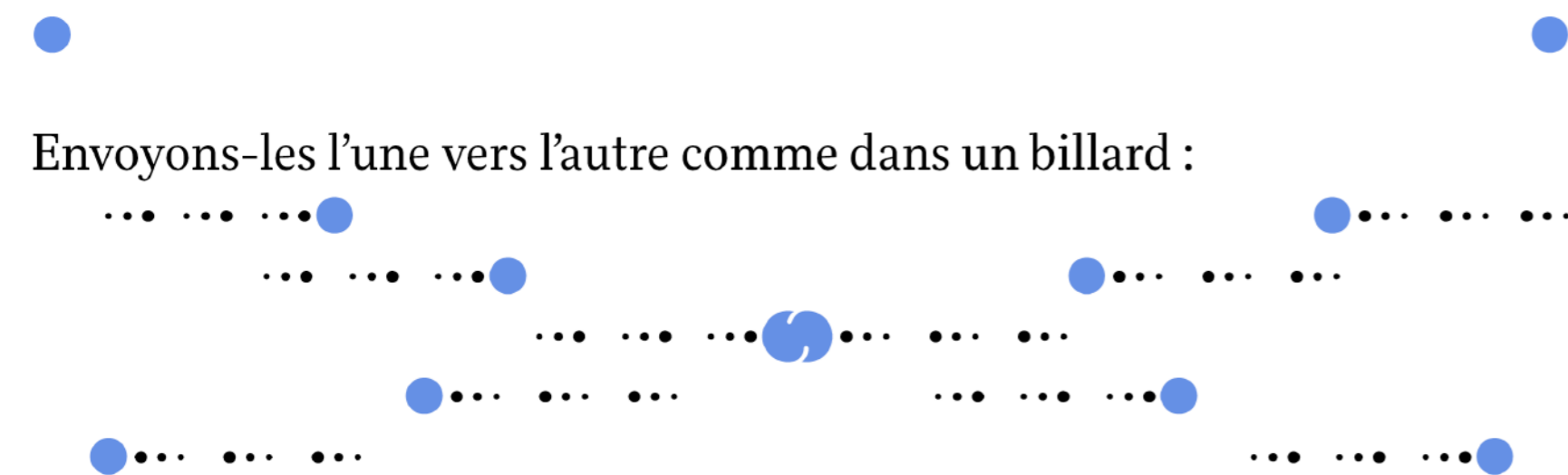


Various pictographic systems created
for various subjects and uses

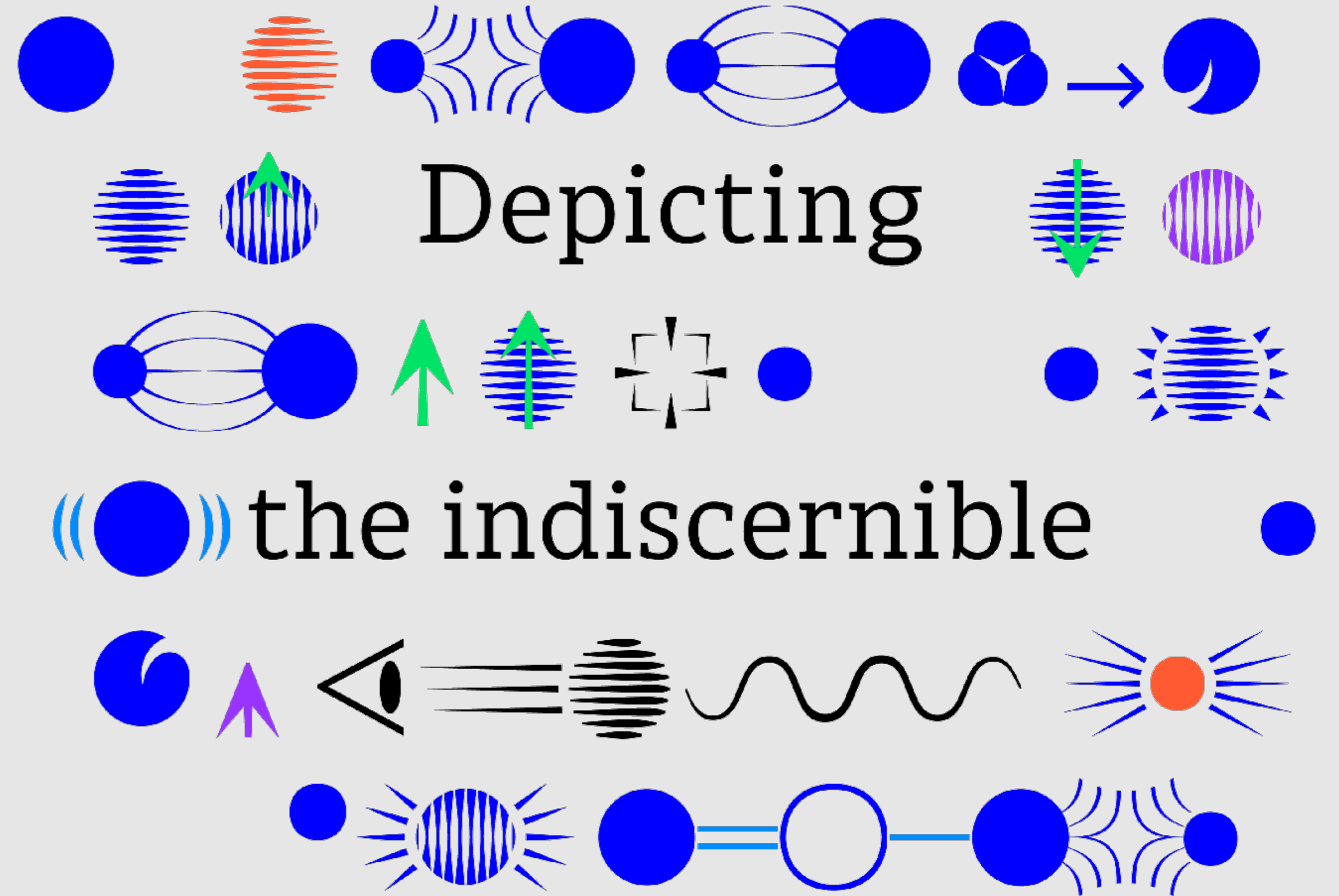
<http://oceanejuvin.fr>

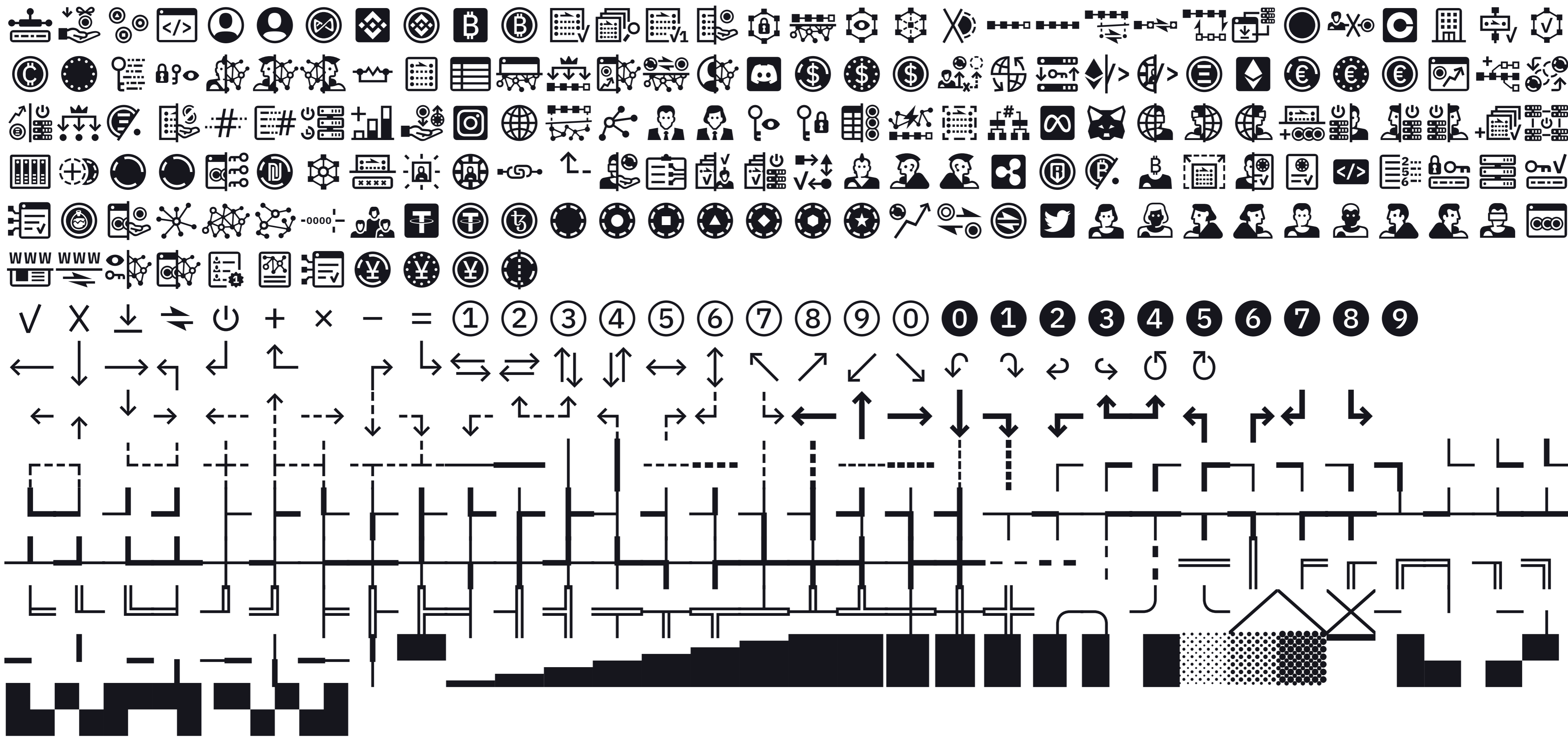
La quantique autrement, Julien Bobroff, Flammarion, 2020

parfaite entre particules. Prenons deux de ces particules. Plaçons les de part et d'autre de la page de ce livre :



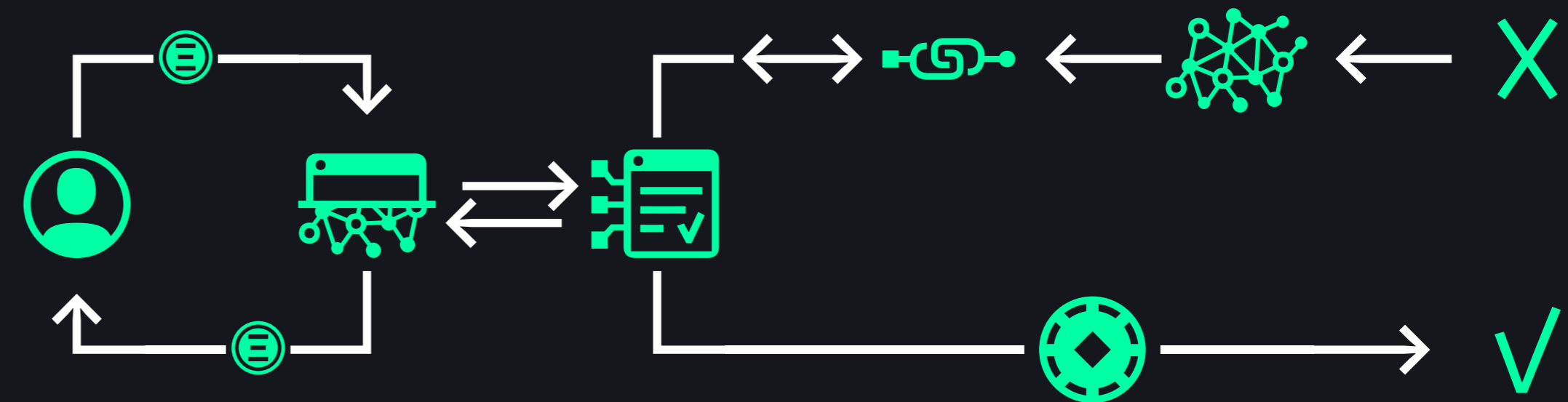
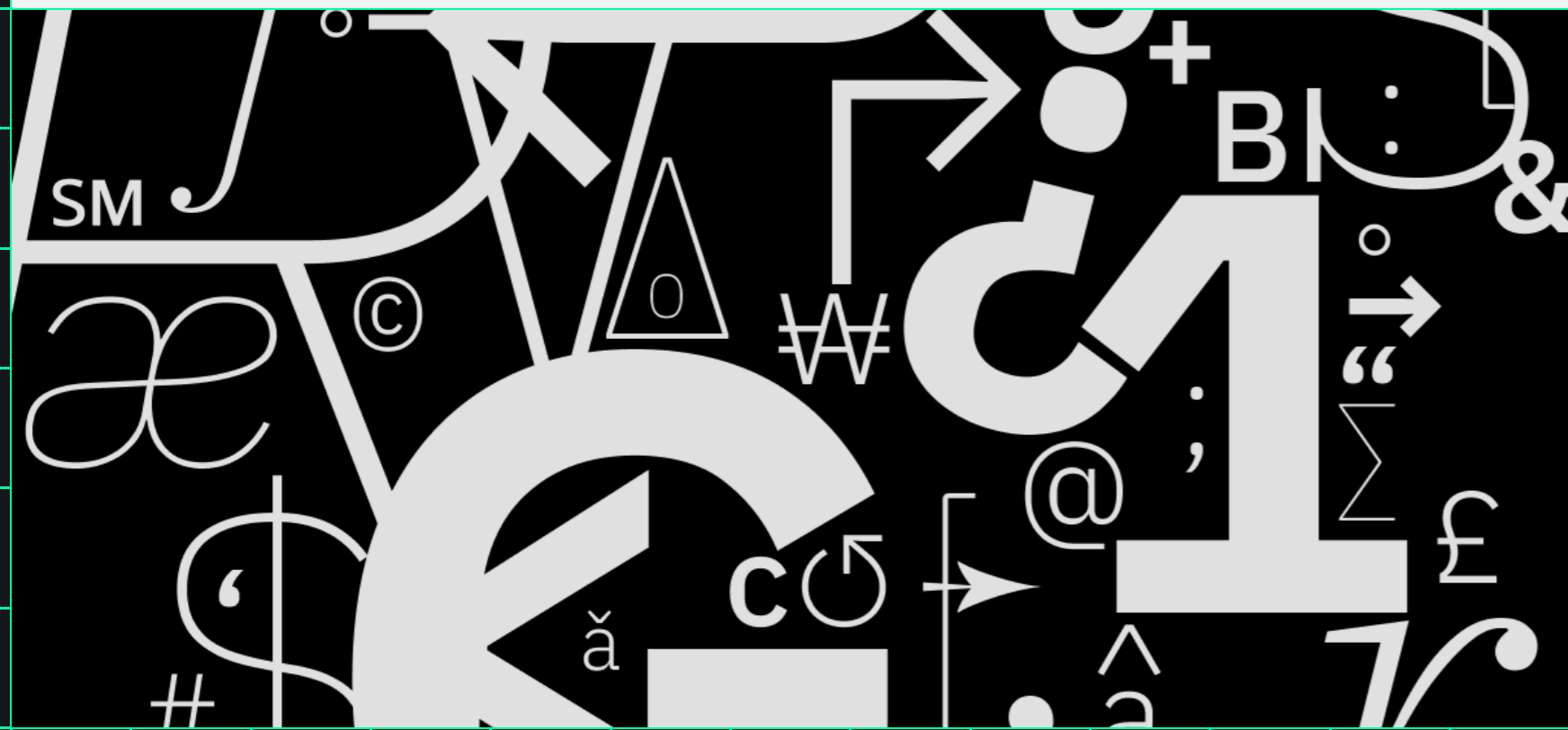
Après le choc, il est impossible de dire laquelle des particules ● ou ● est à gauche ou à droite. Moins célèbre que l'intrication, la dualité ou le principe d'incertitude, l'indiscernabilité est pourtant l'une des notions les plus importantes. A elle seule, elle va s'avérer responsable de la diversité des atomes dans notre Univers, de la force des liaisons chimiques, et même de l'existence des métaux.





IBM PLEX FORK AND COMPANION

IBM Plex Sans:
Natural and engineered
letterforms in balance.



- 1 Pour envoyer 5 bitcoins à Marc, Lisa 🧑 va utiliser sa clé privée 🔑 pour signer sa transaction 📄 qui sera mise en attente dans la mempool 📄📄📄.
- 2 Les mineurs 🏠🏠🏠 ayant préalablement téléchargé le logiciel-client Bitcoin et alloué leur puissance de calcul au protocole ₿ vont sélectionner parmi la mempool 📄📄📄 les transactions à insérer dans leur version du bloc à miner 📄.

IBM Plex Mono Regular

Cryptokit

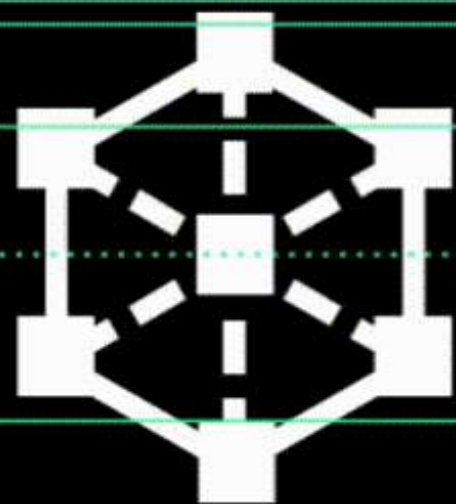
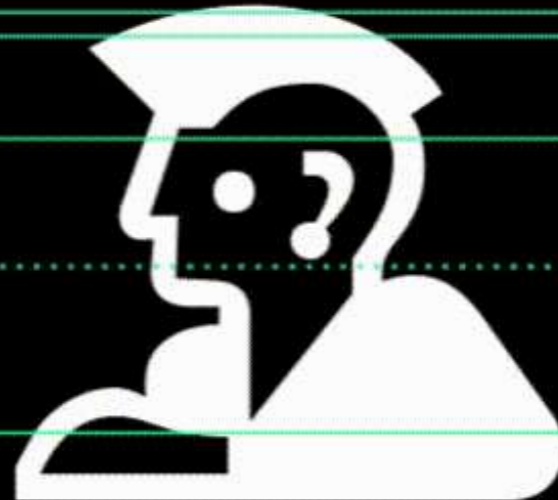
a

c

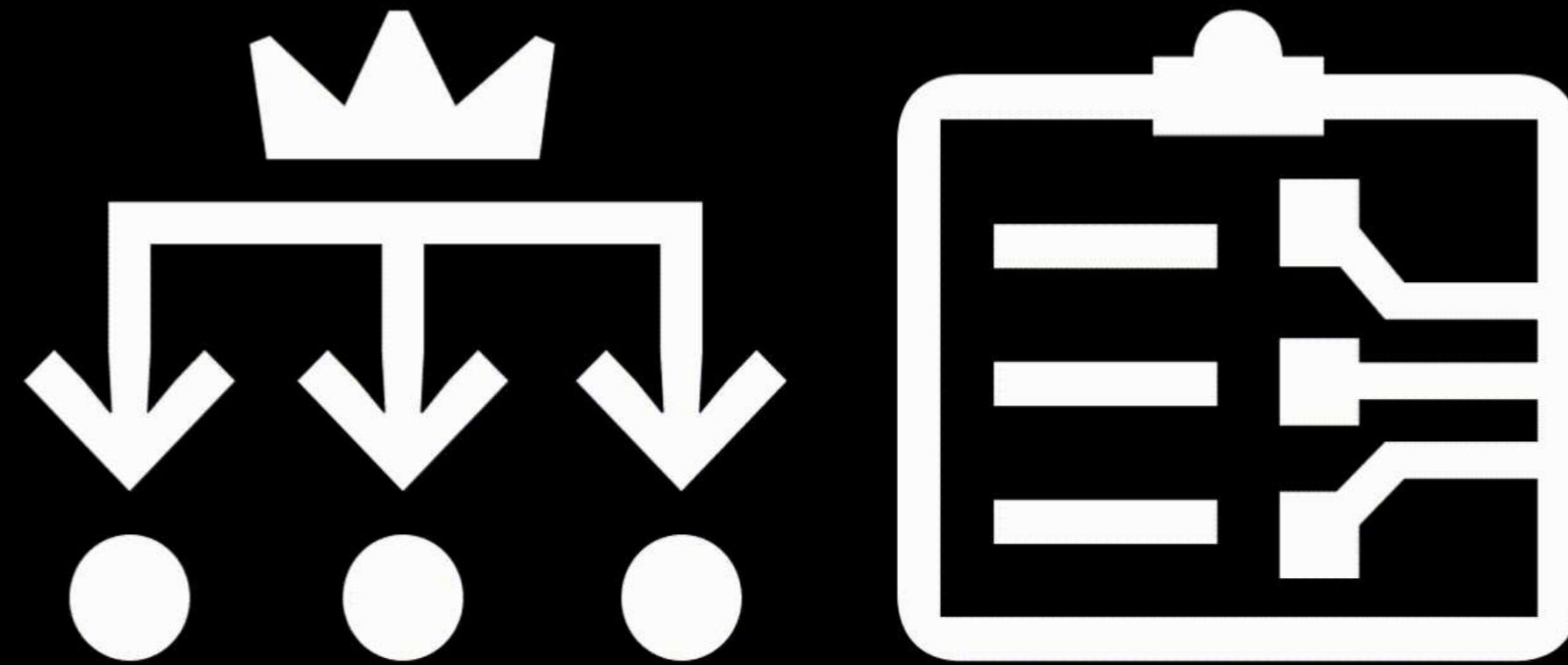
x

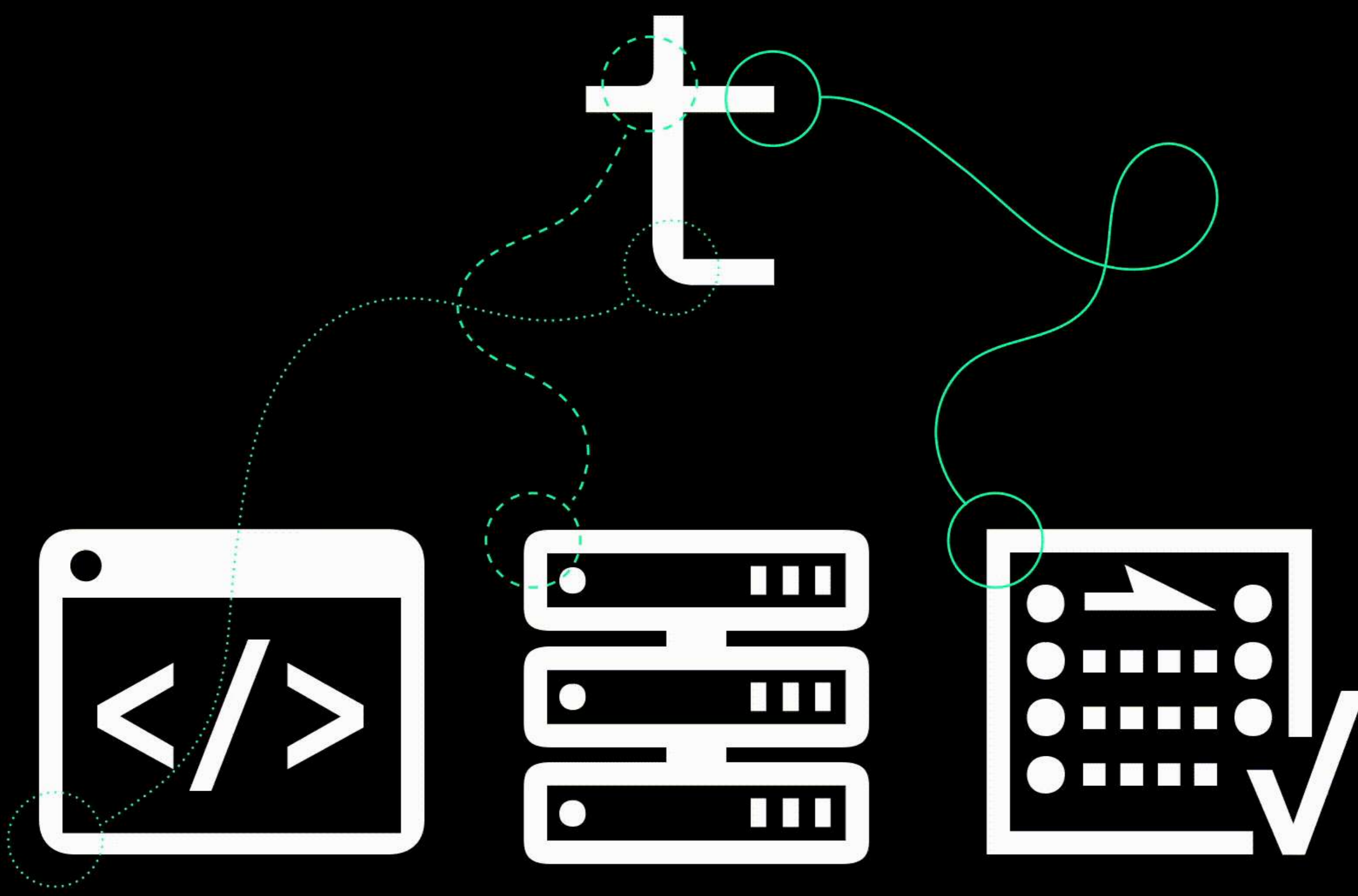
Crypto

d

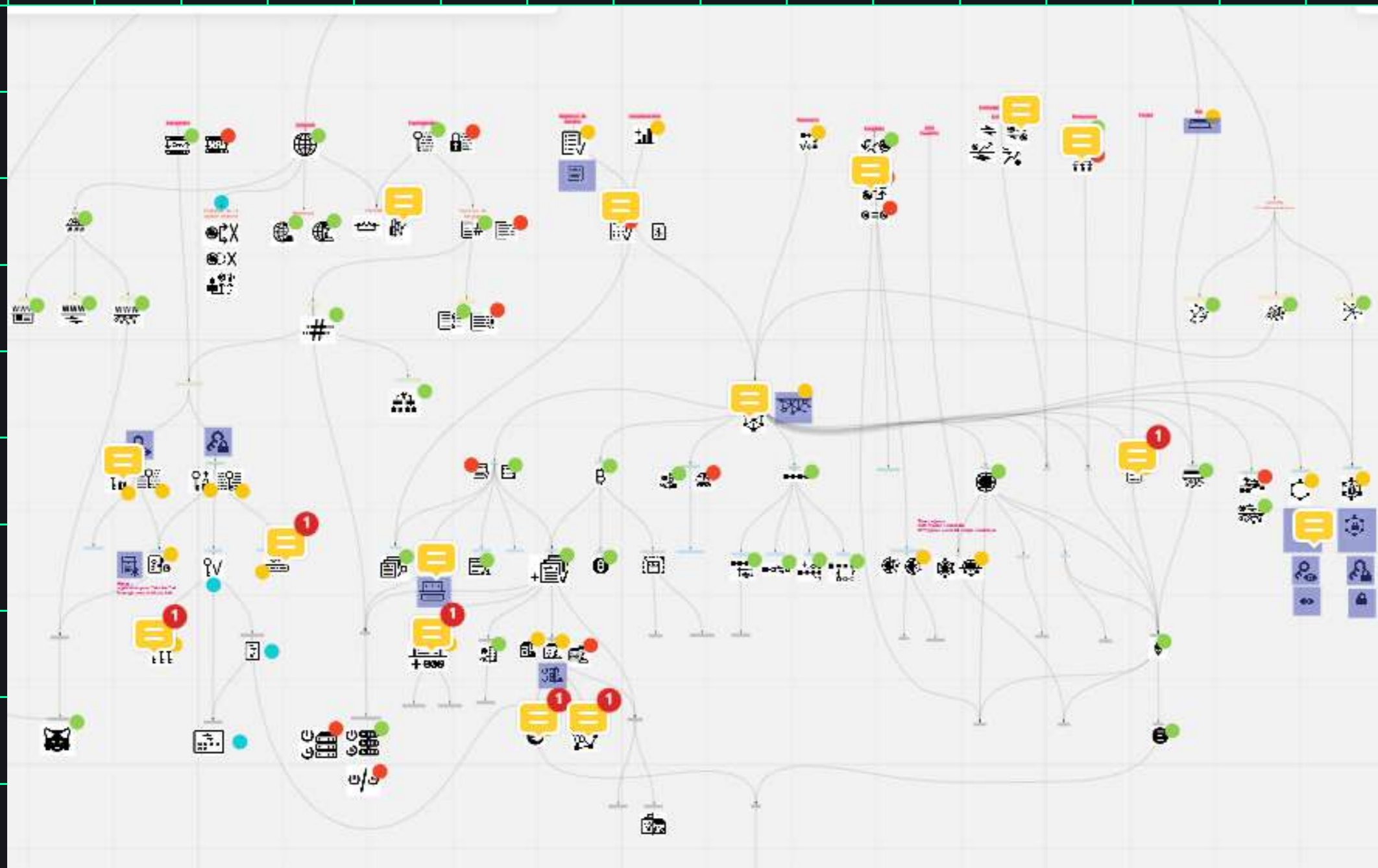


COIN

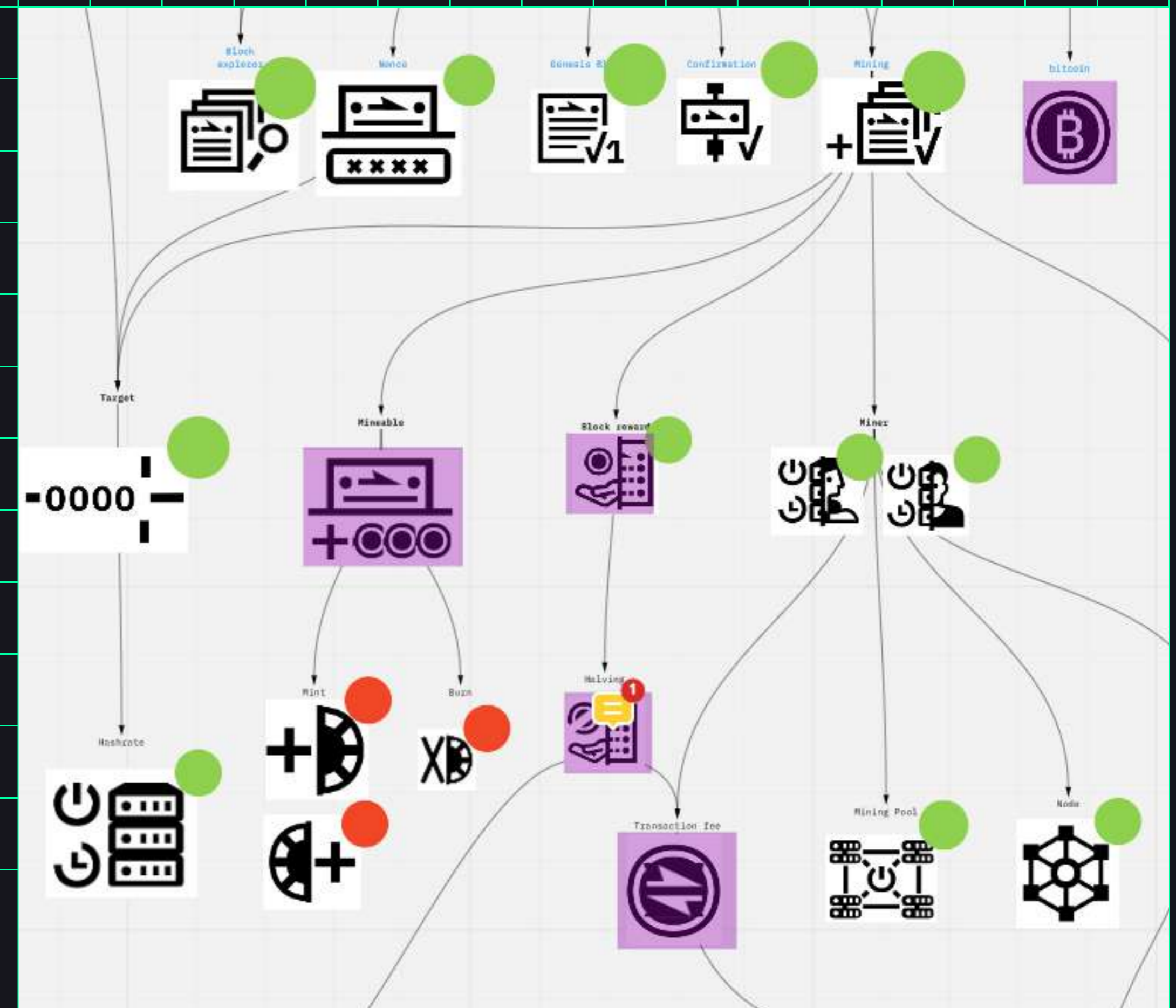


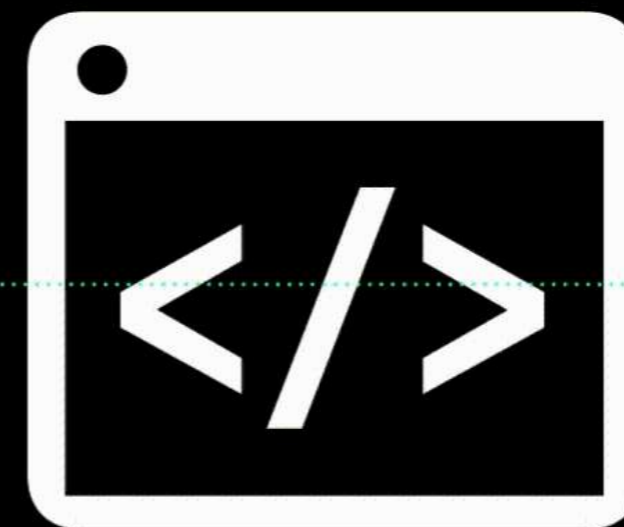
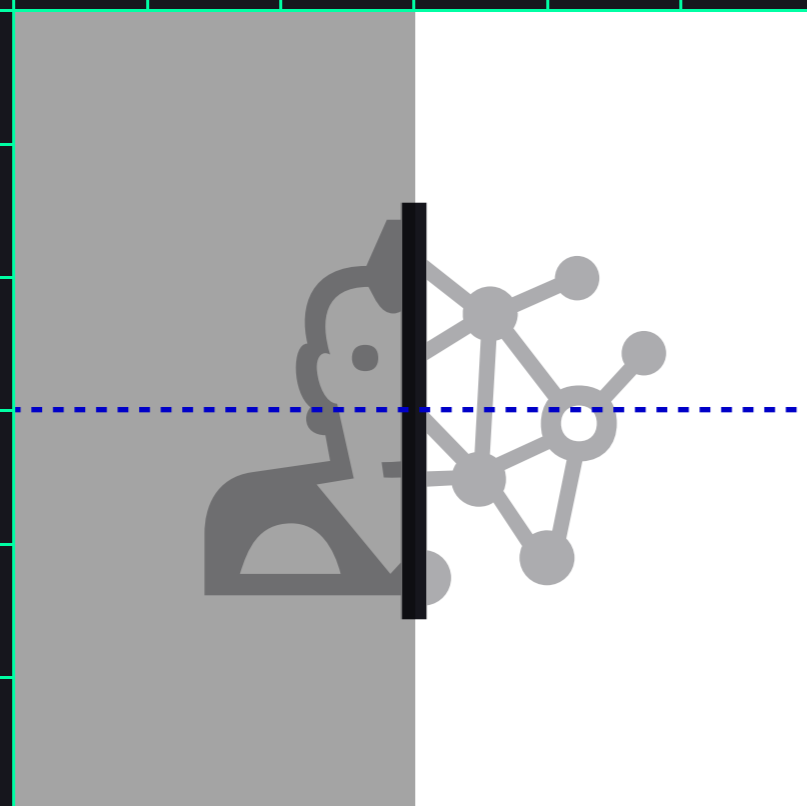
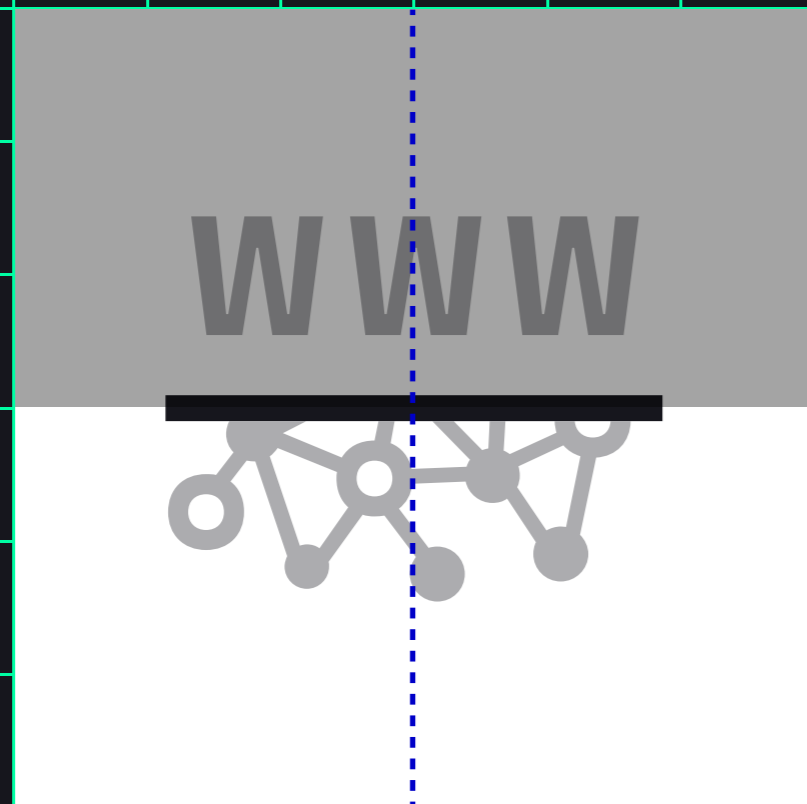


WHAT GRAPHIC SYSTEM TO REPRESENT BLOCKCHAIN TECHNOLOGIES?

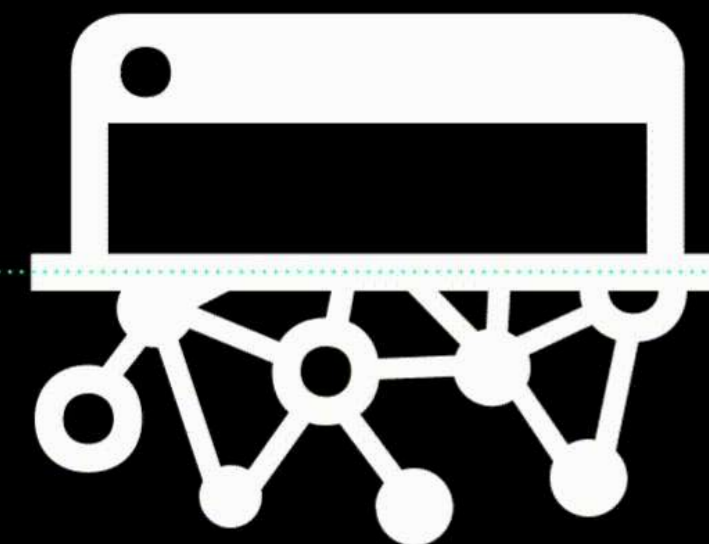


Screenshots of our work in progress on a Miro mind map

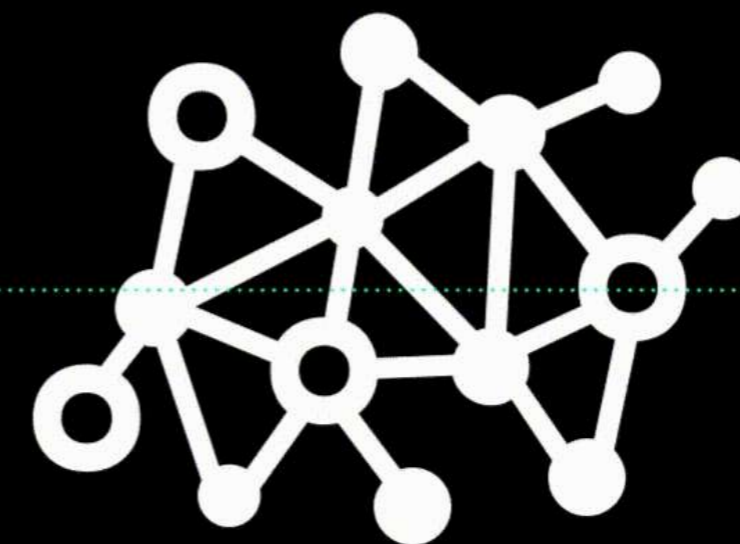




Application

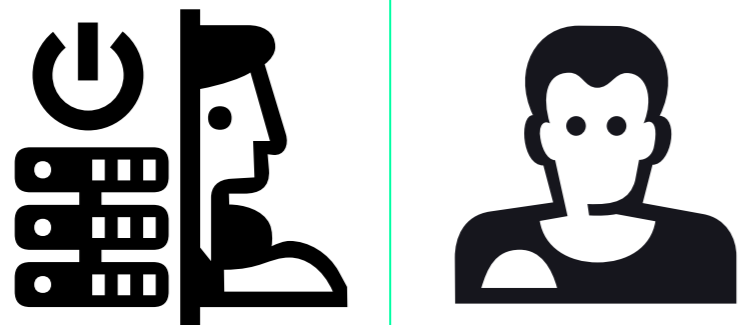


Decentralized App

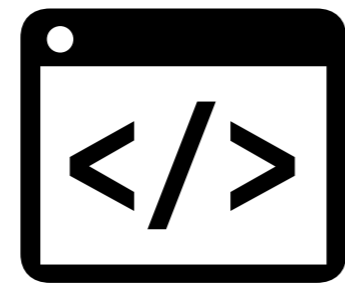


Distributed system

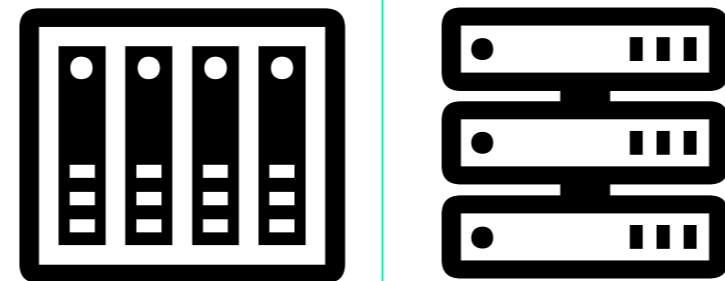
actors / roles



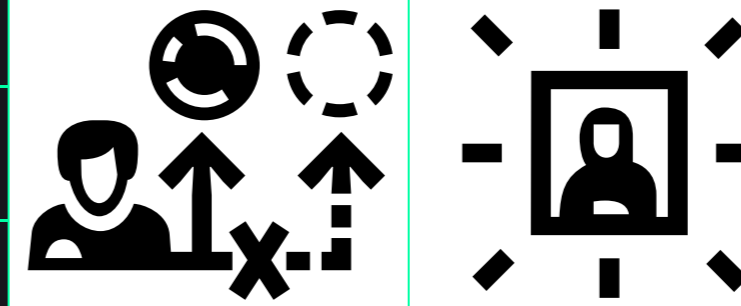
softwares



hardwares



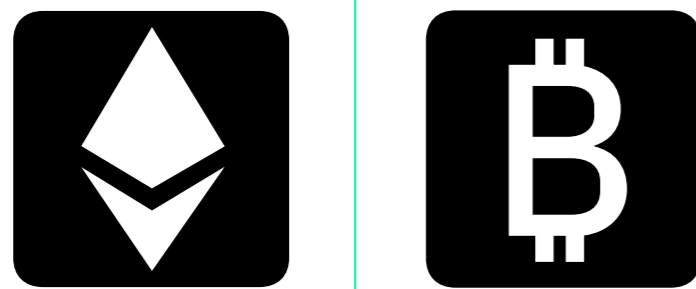
concepts



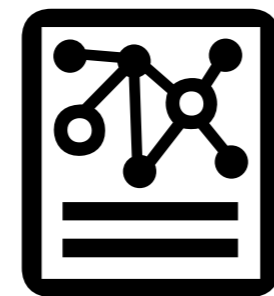
numbers



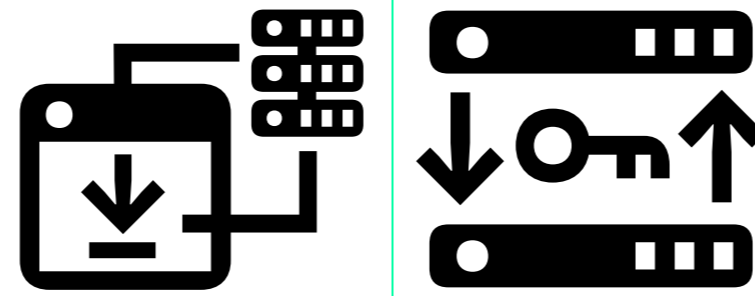
companies



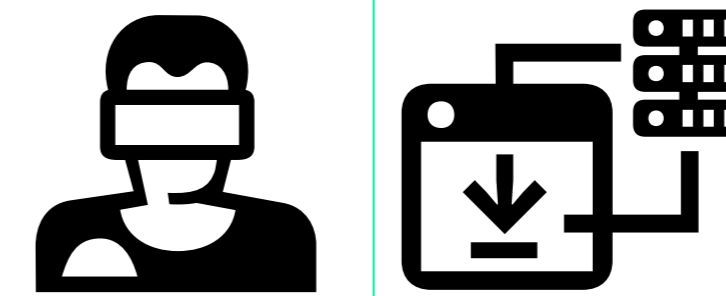
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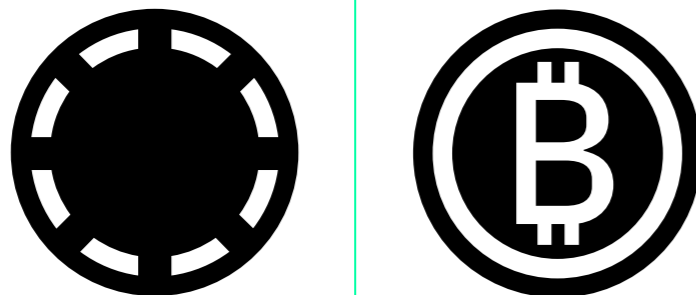
mechanisms



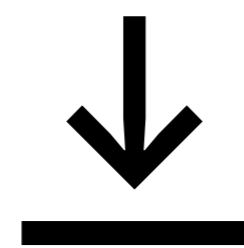
technologies



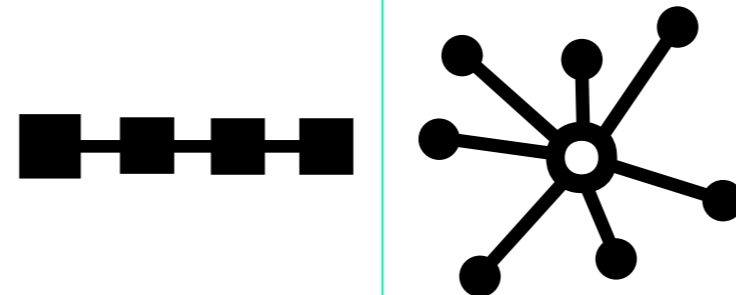
digital assets



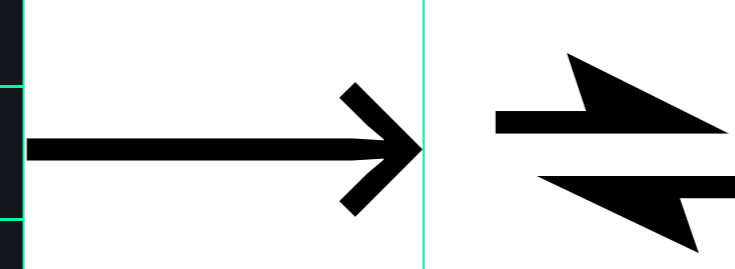
operations



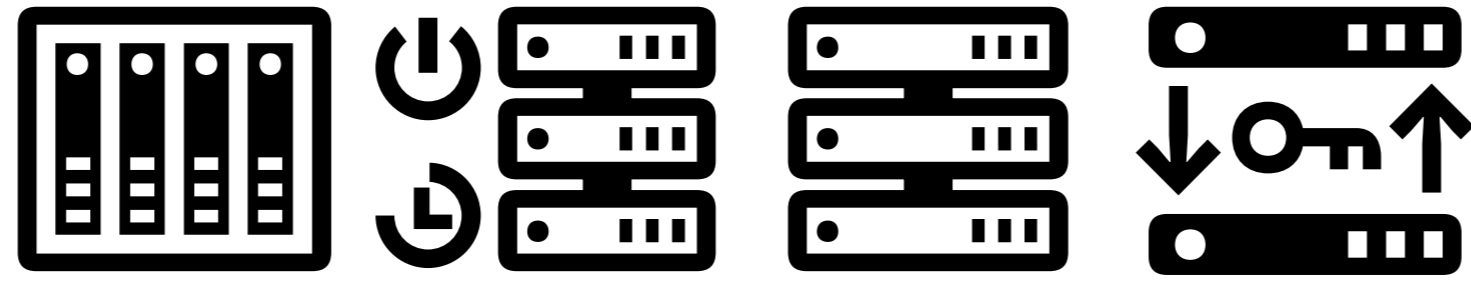
organisation systems



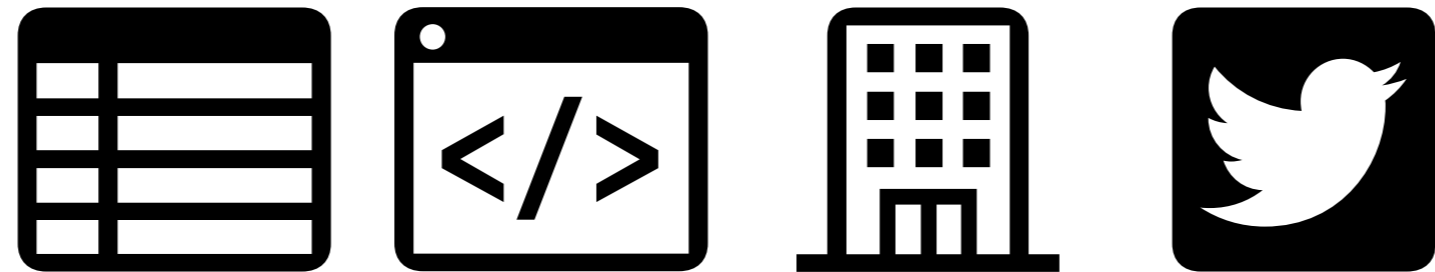
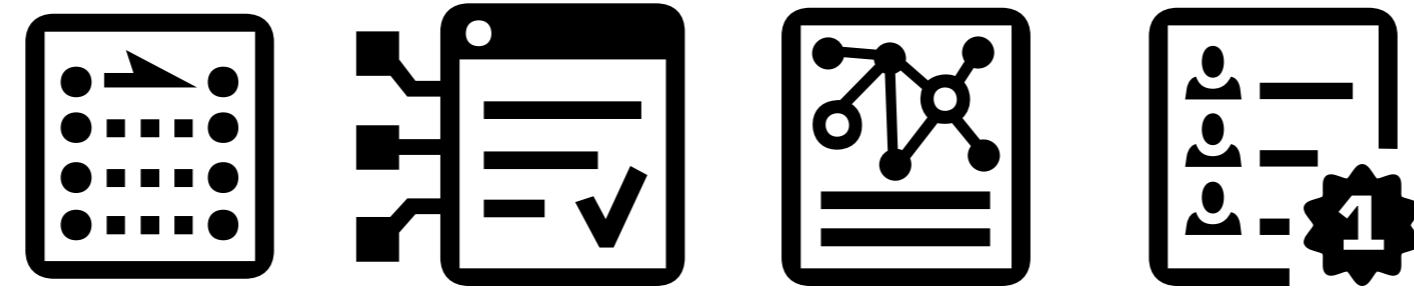
relations



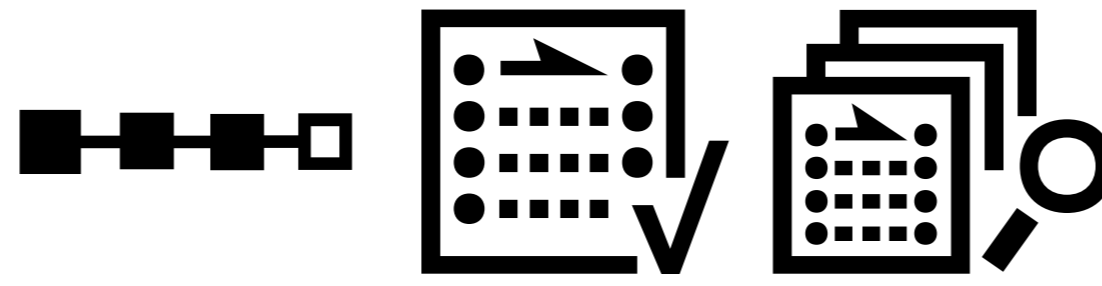
Hardware



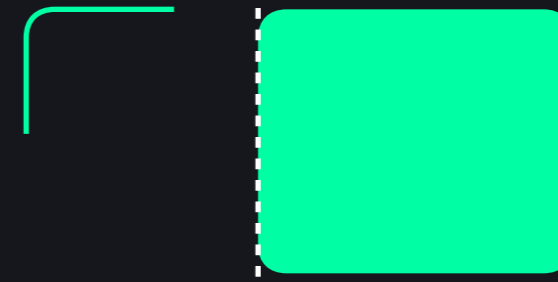
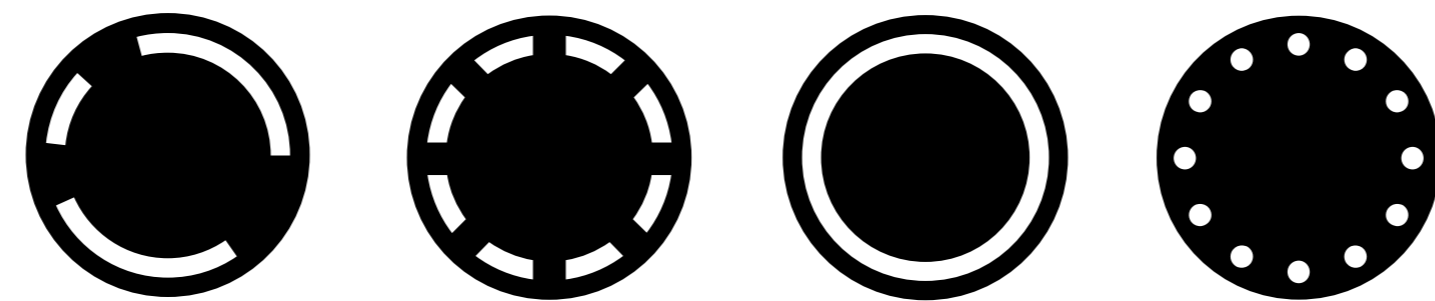
Application
Concept
Company

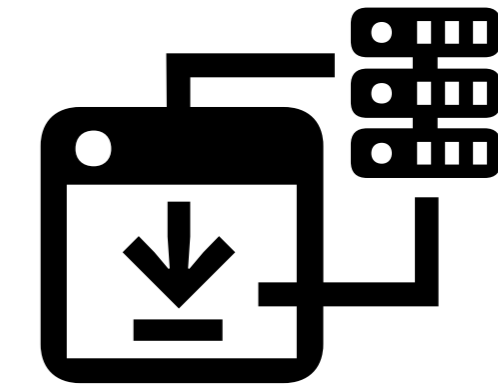
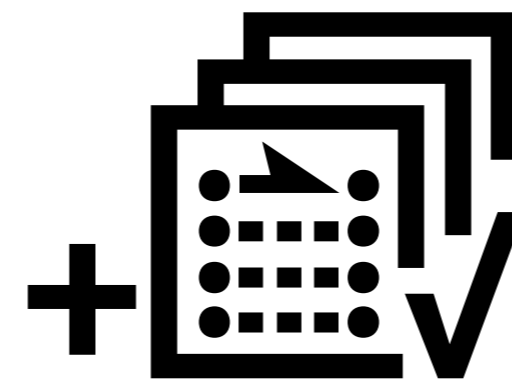
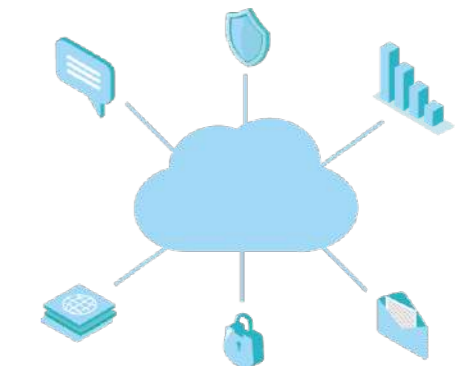
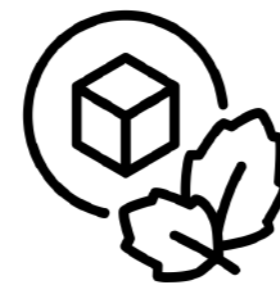


Blockchain's
block



Digital asset





Burn

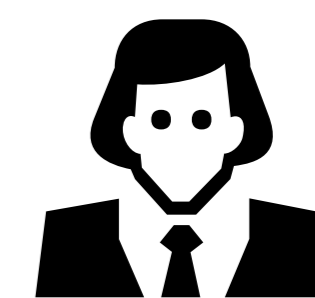
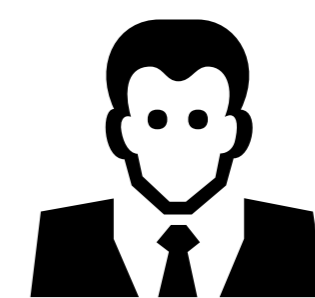
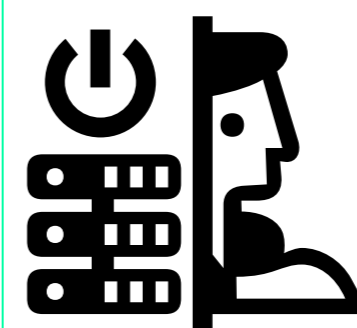
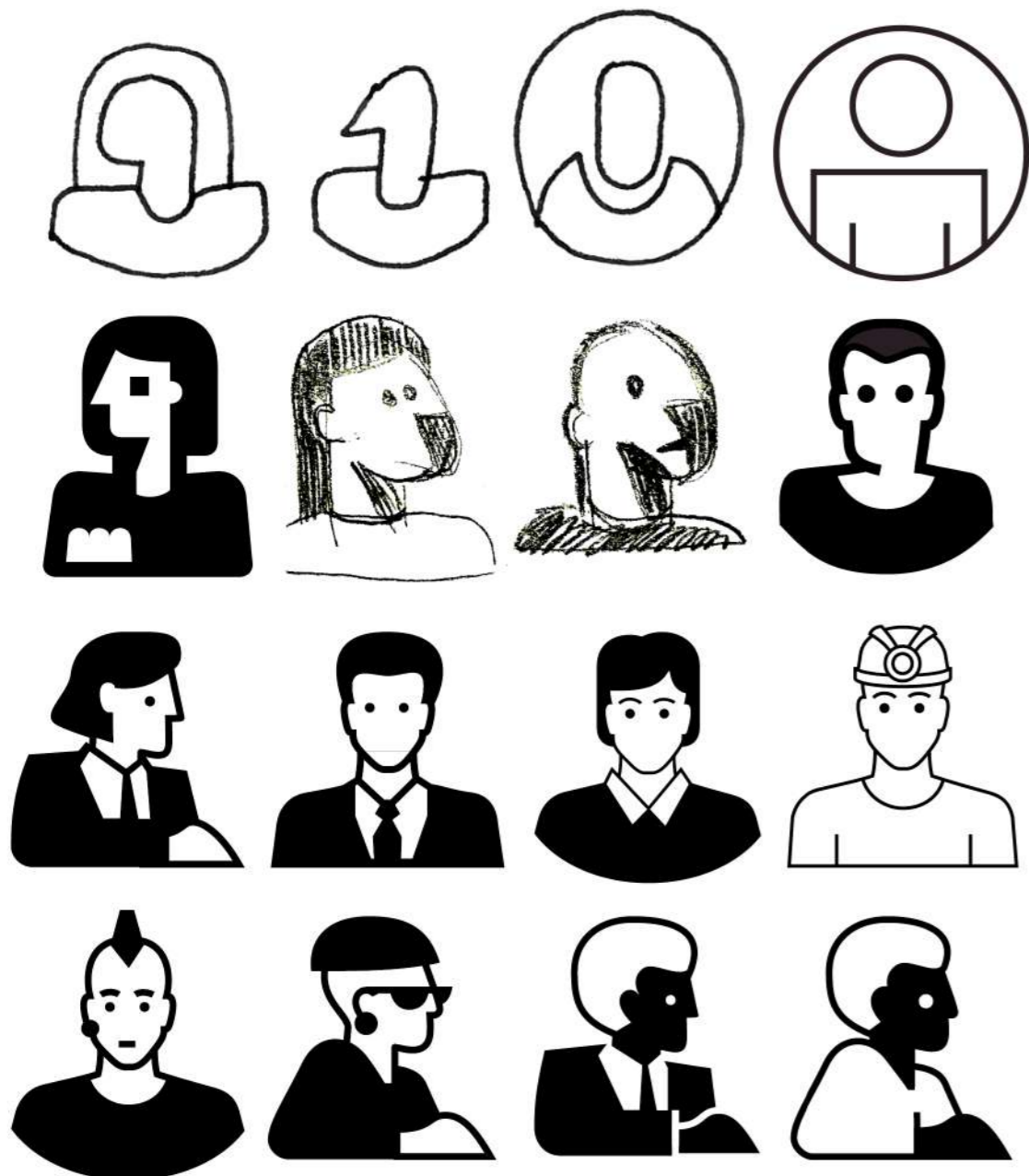
Mint

Mining

Oracle

Cloud

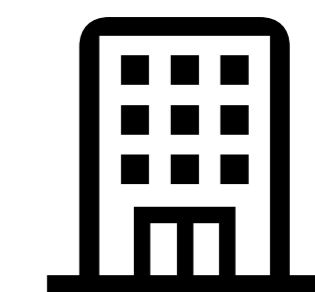
Sketches for drawing
of avatars



user 1

minor

investor

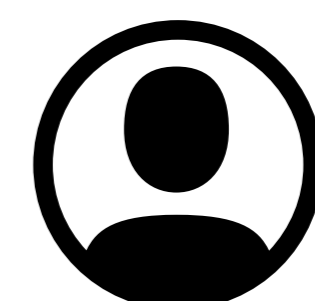
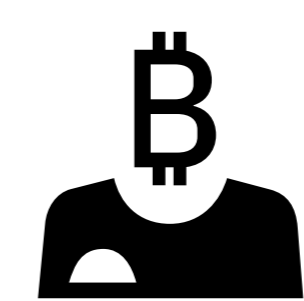
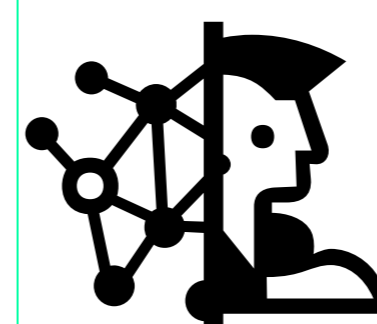
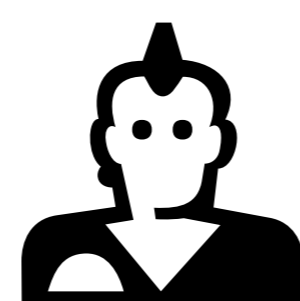


user 2

VR

team

company



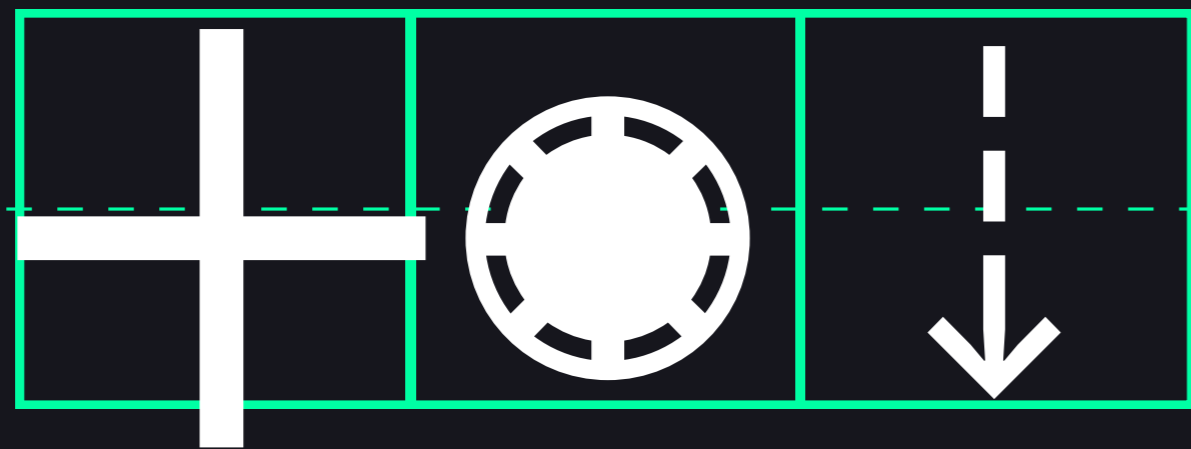
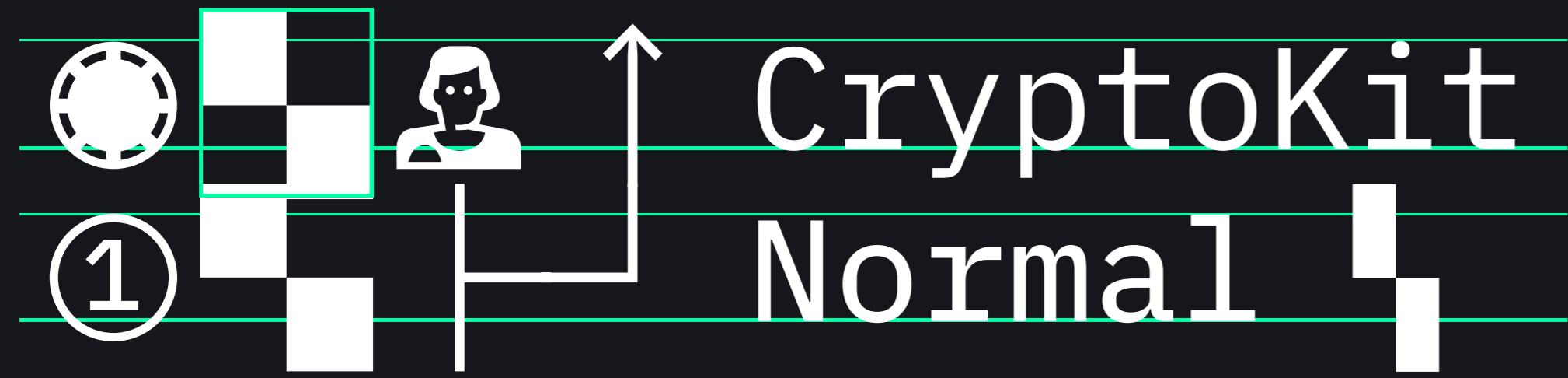
punk

cypher-
punk

Satoshi
Nakamoto

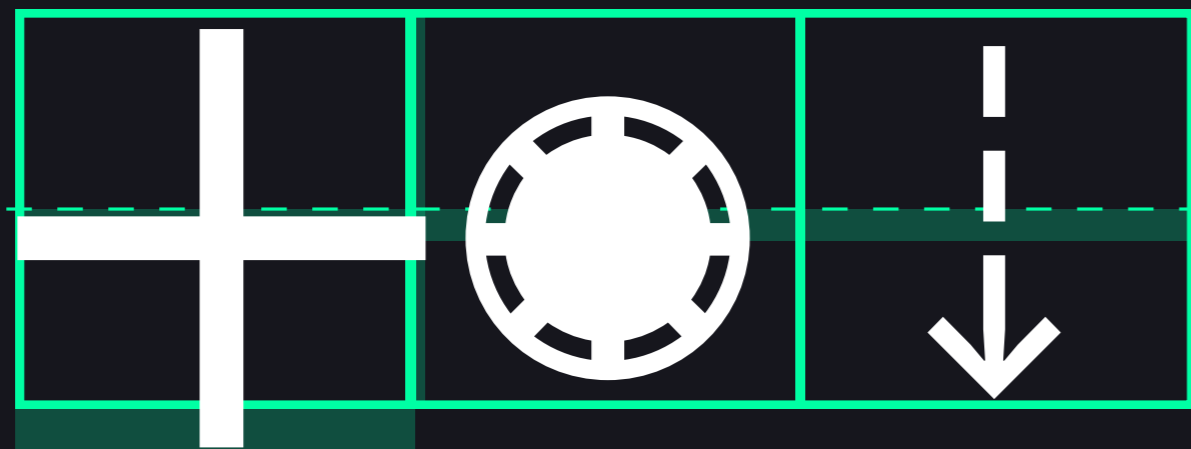
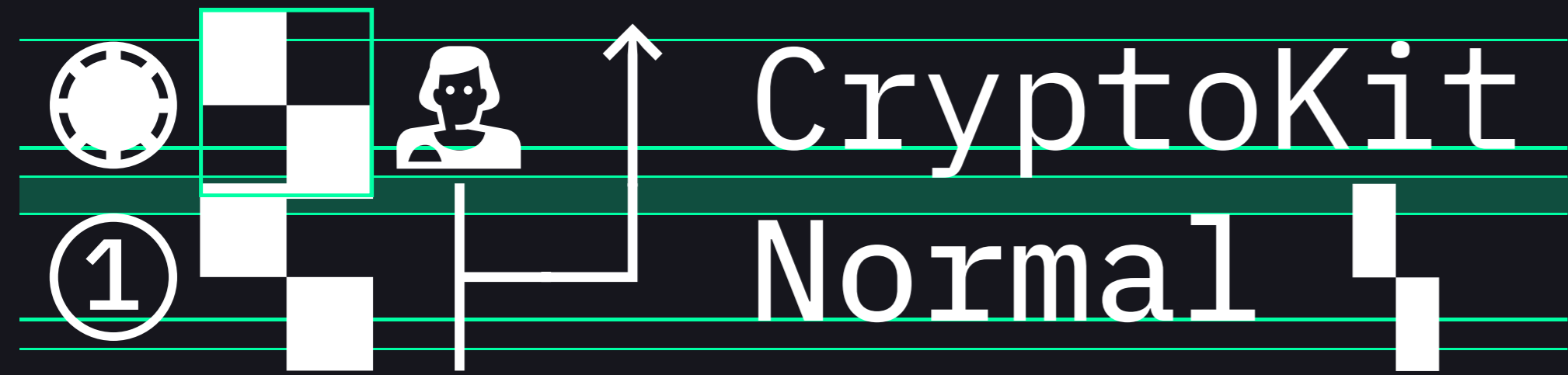
profil

TYPESET IN A GRID



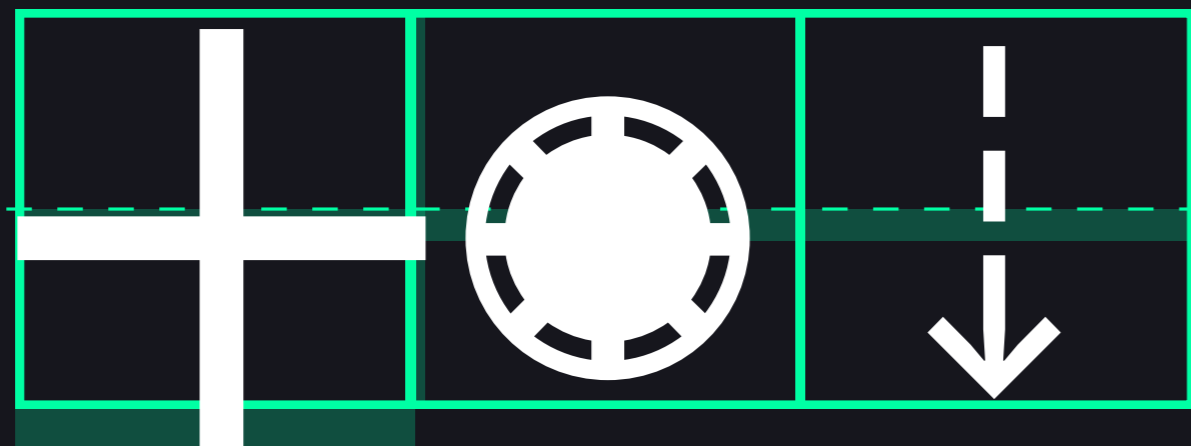
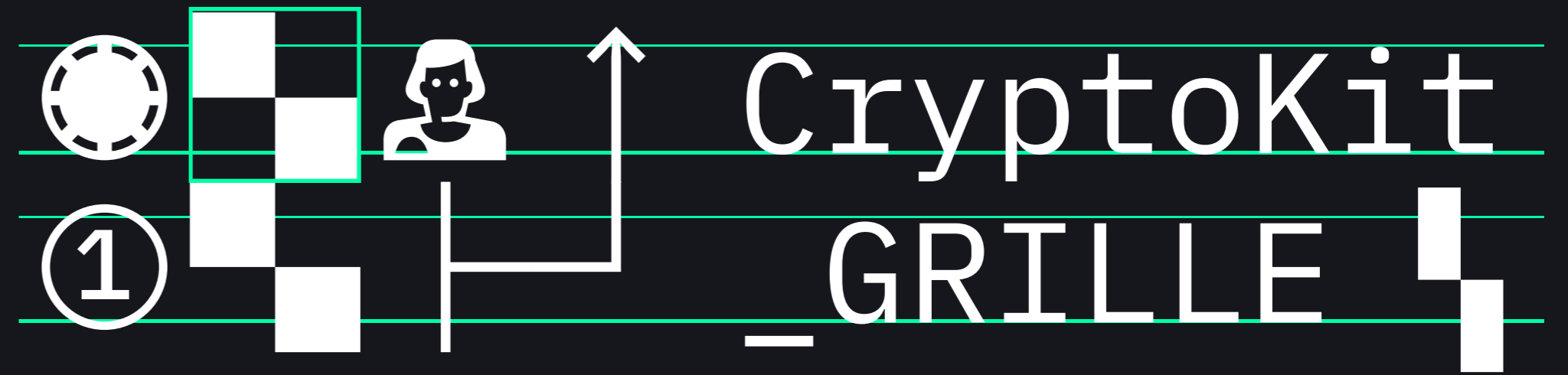
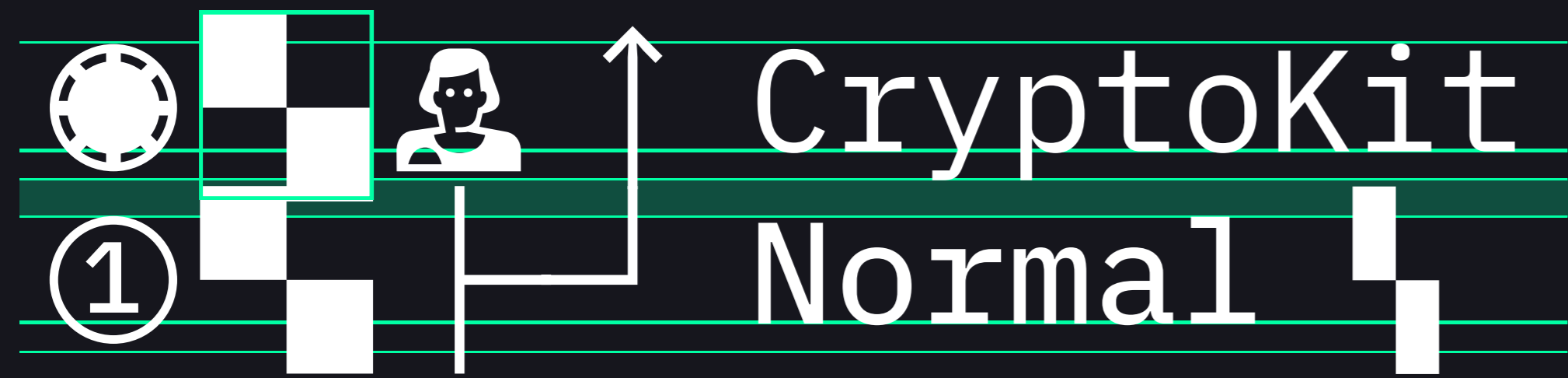
CryptoKit

TYPESET IN A GRID

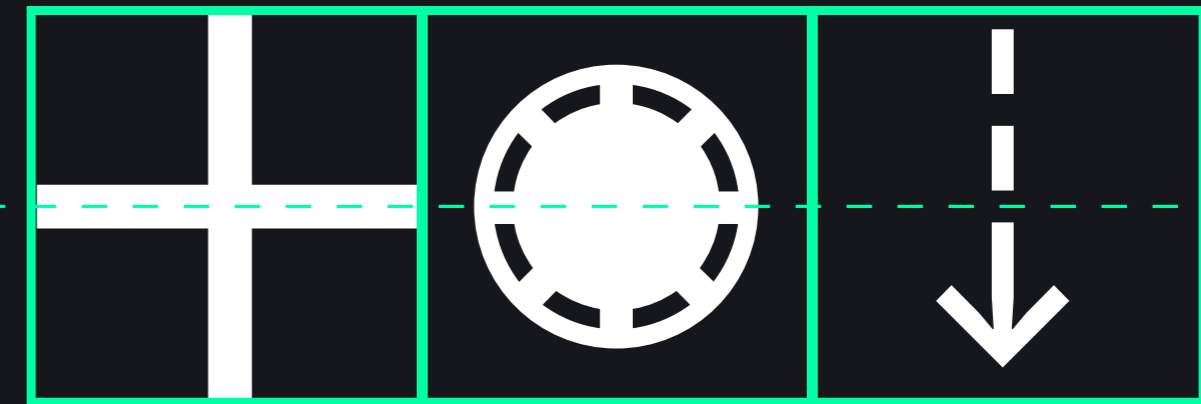


CryptoKit

TYPESET IN A GRID



CryptoKit



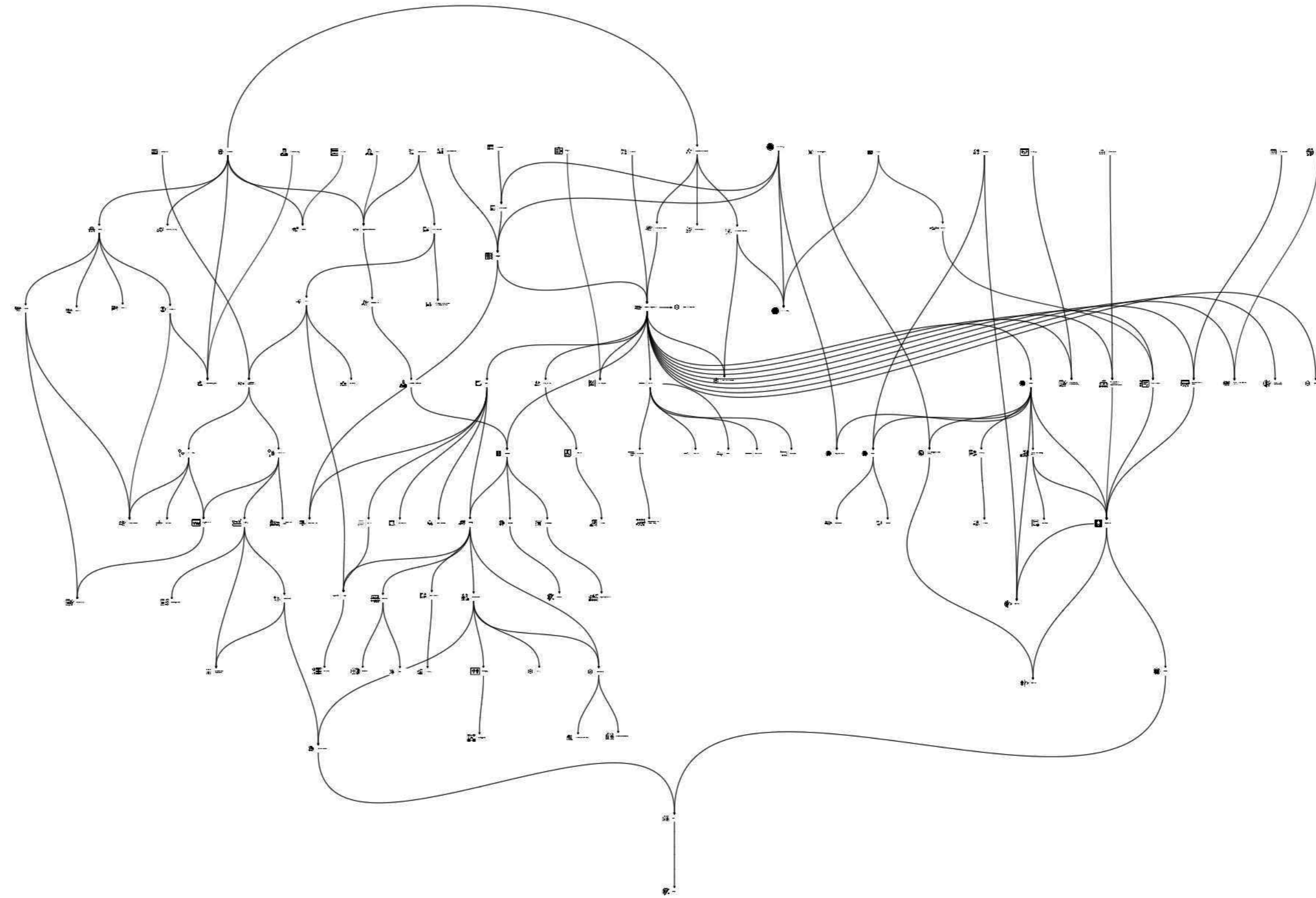
CryptoKit_GRILLE

03

USE CASES

THE MINDMAP

From
functional
to lexical



LEXICAL STRUCTURE

Blockchain



LEXICAL STRUCTURE

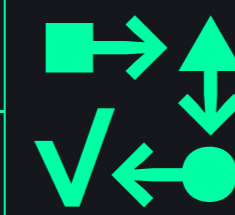
Distributed system



Ledger



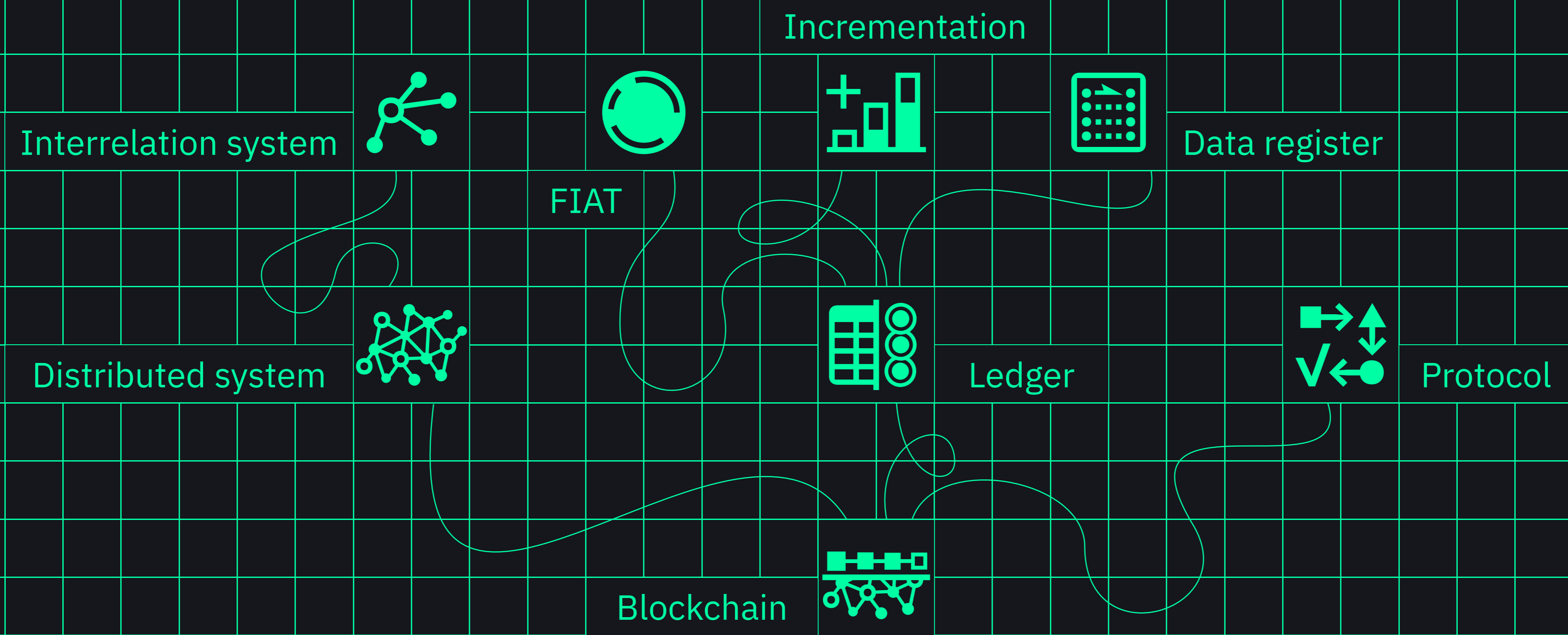
Protocol



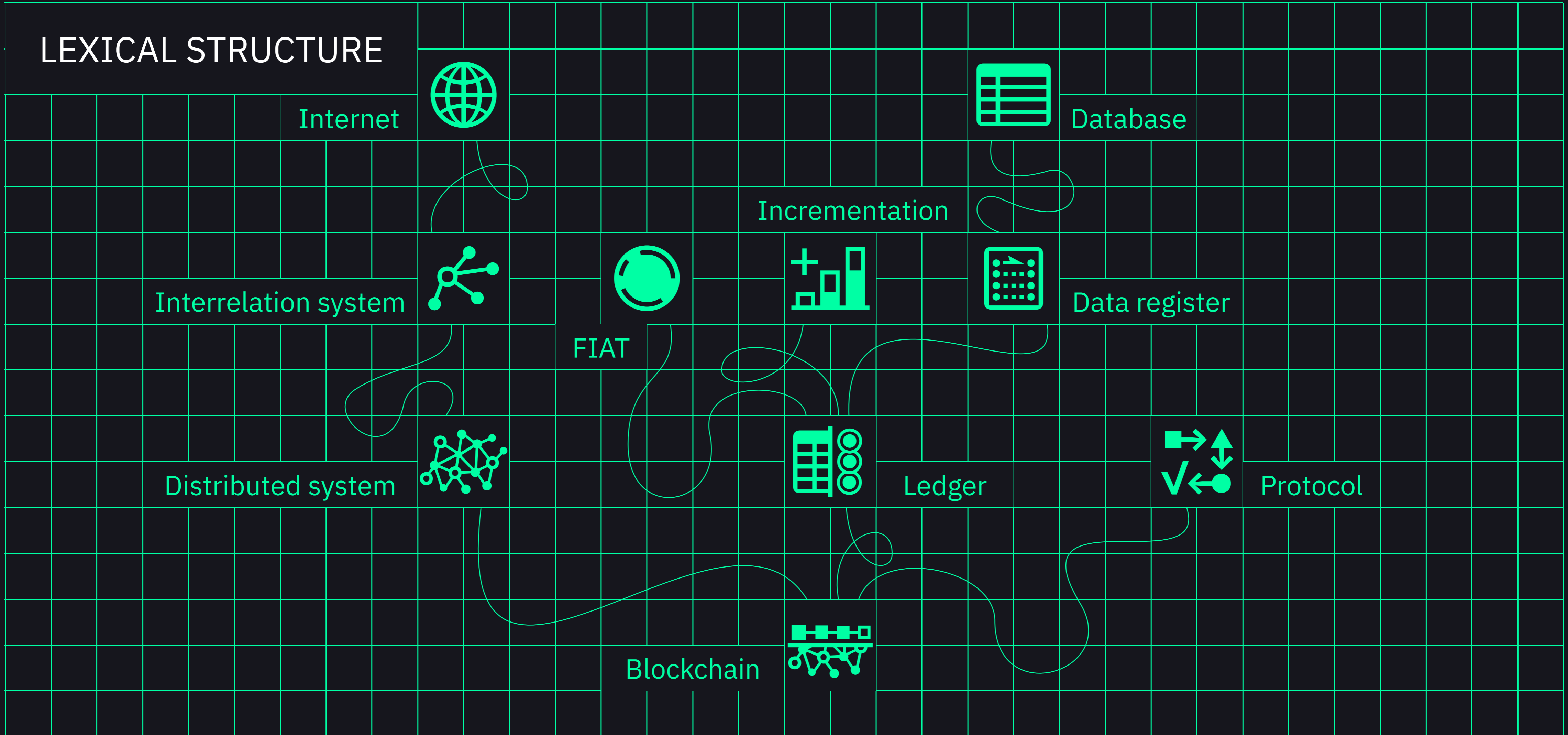
Blockchain



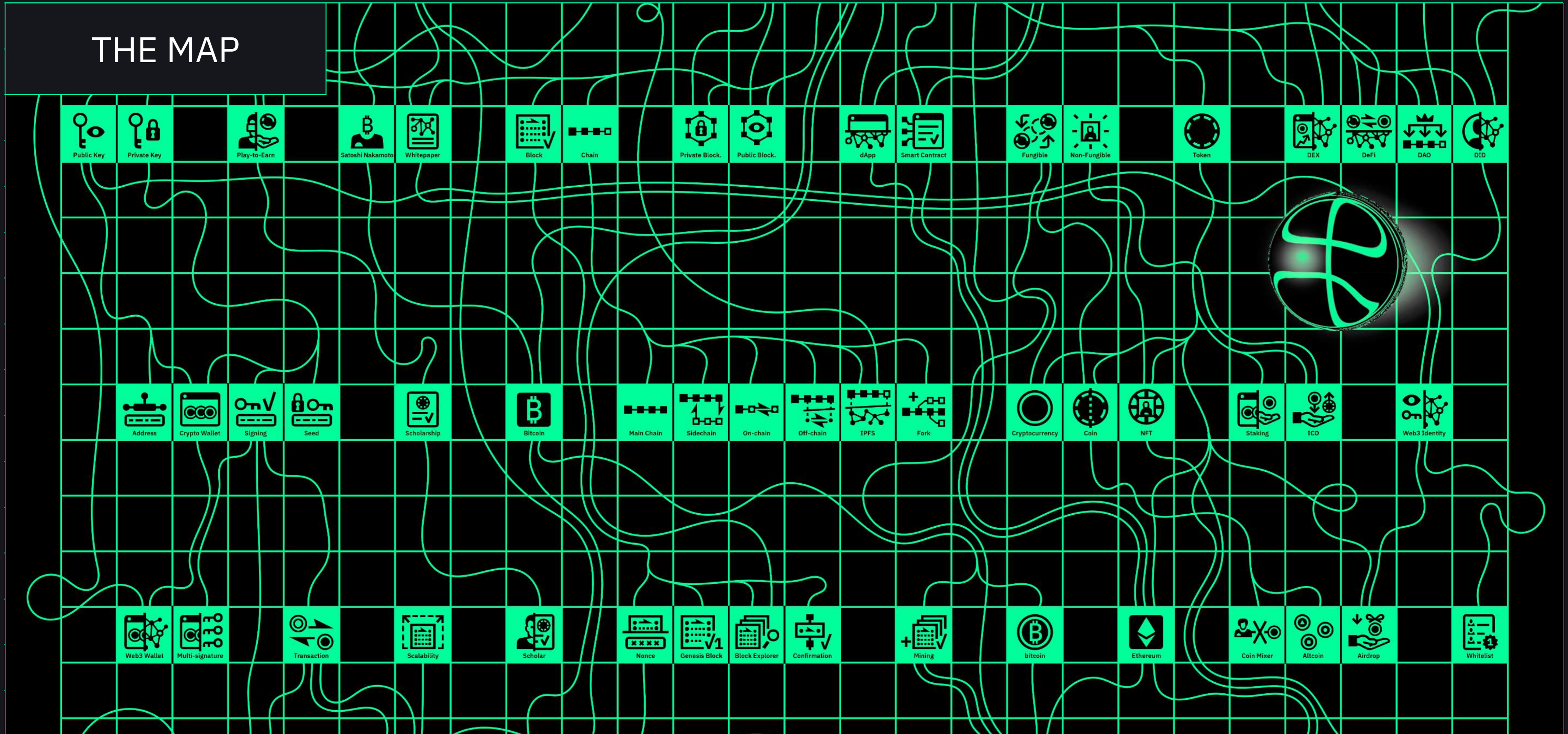
LEXICAL STRUCTURE



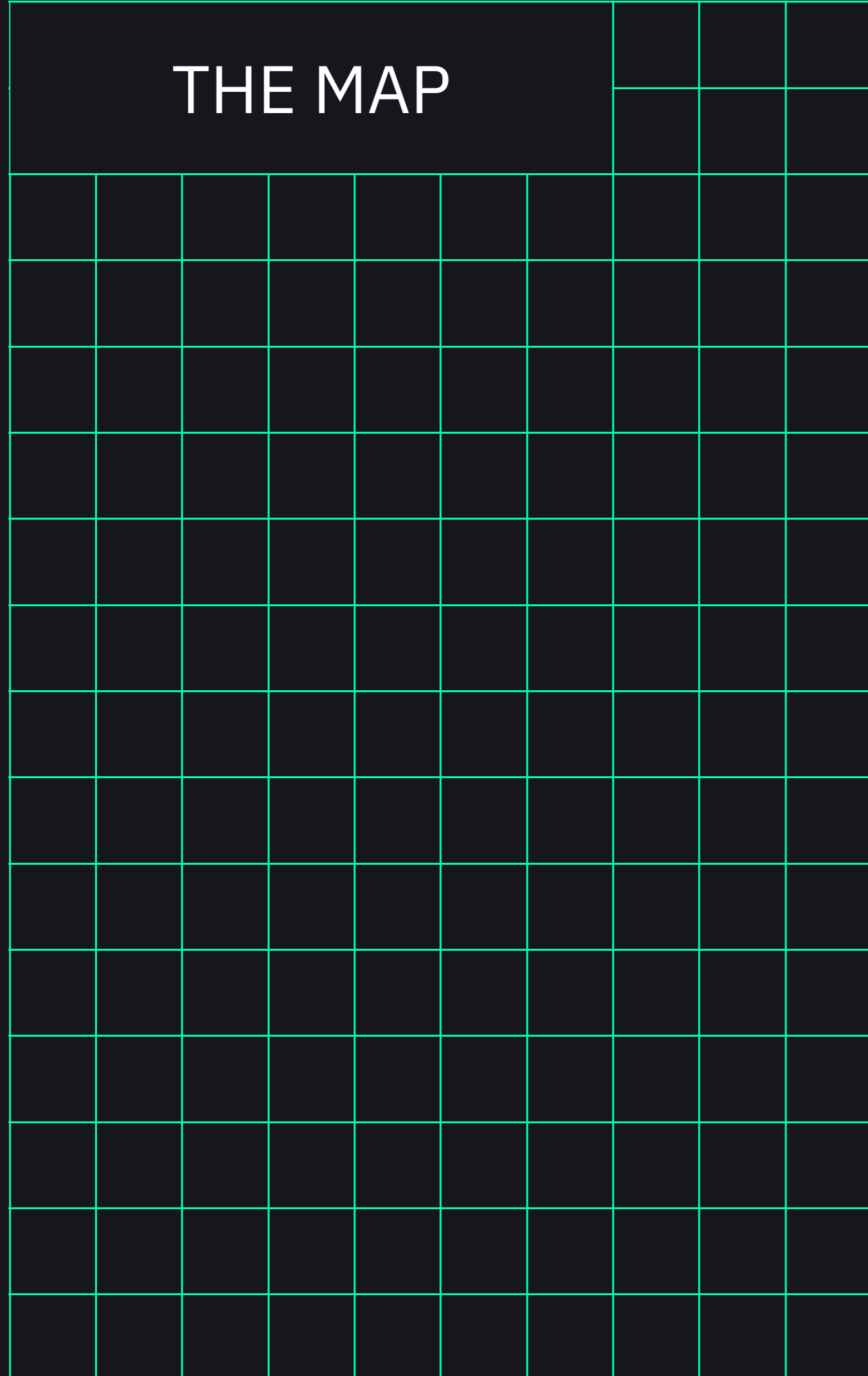
LEXICAL STRUCTURE



THE MAP

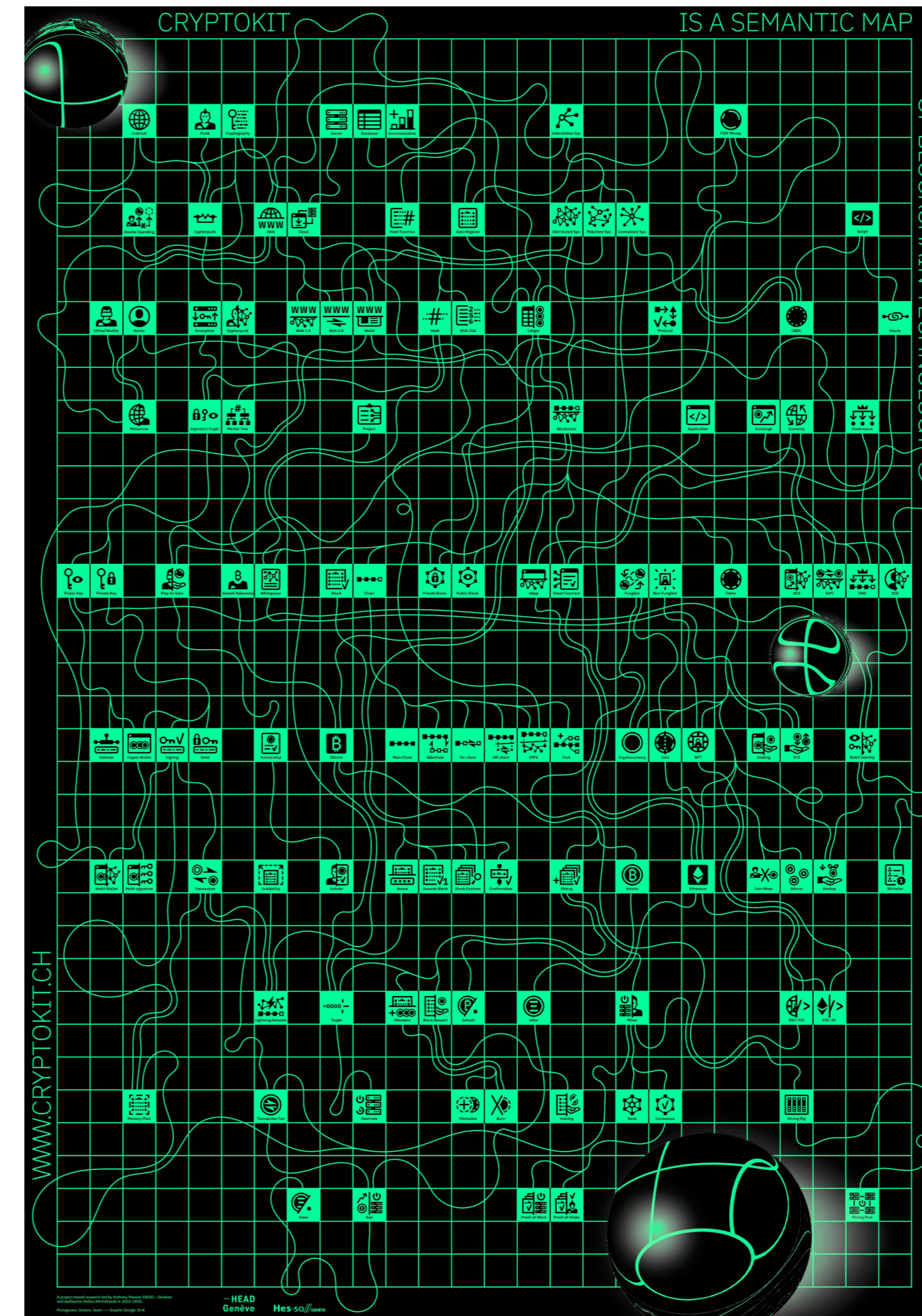


THE MAP



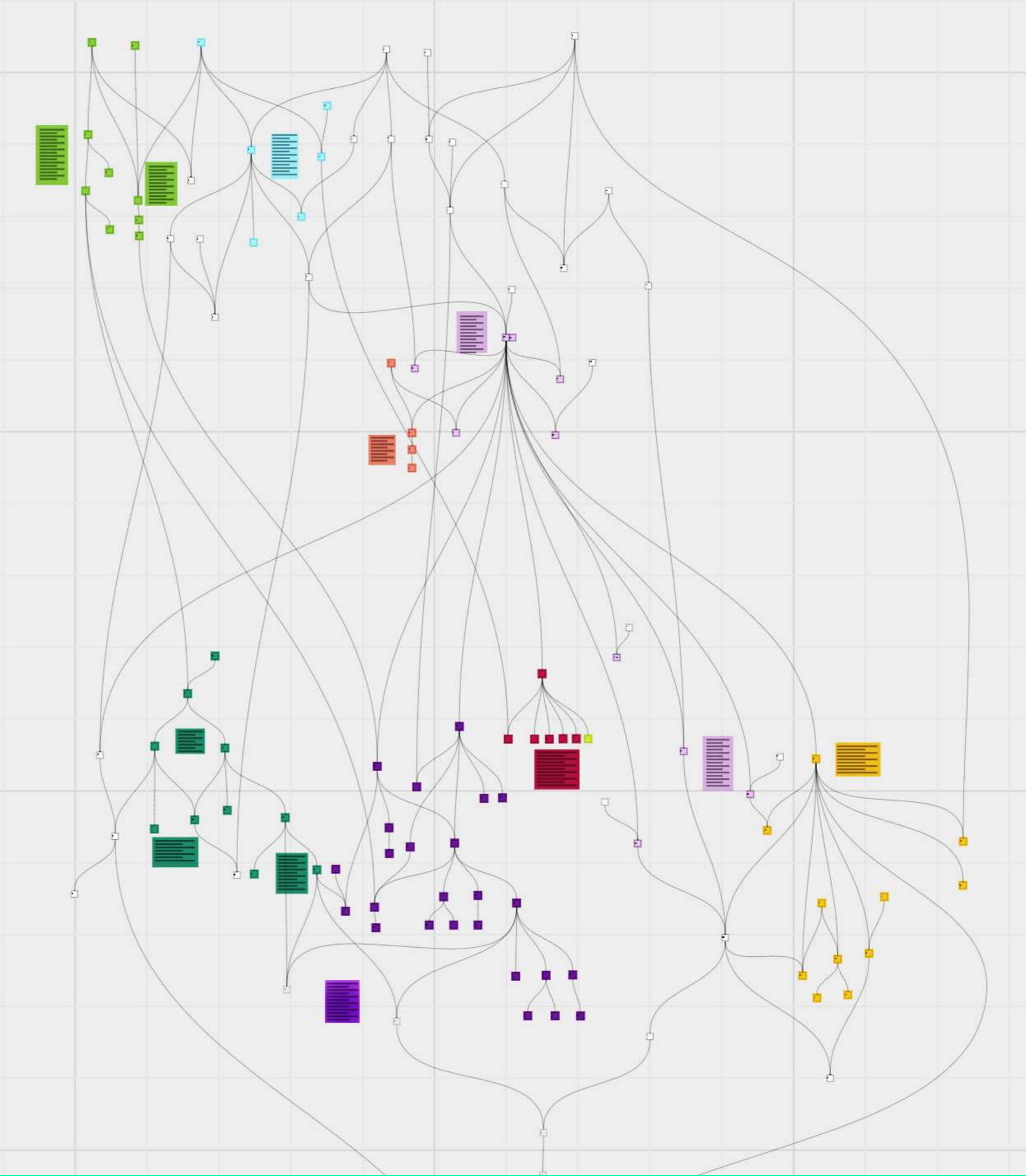
THE MAP

Graphic design: E+K
Black and green silk-screen printing
F4 format (89.5 × 128 cm)
CHF 30

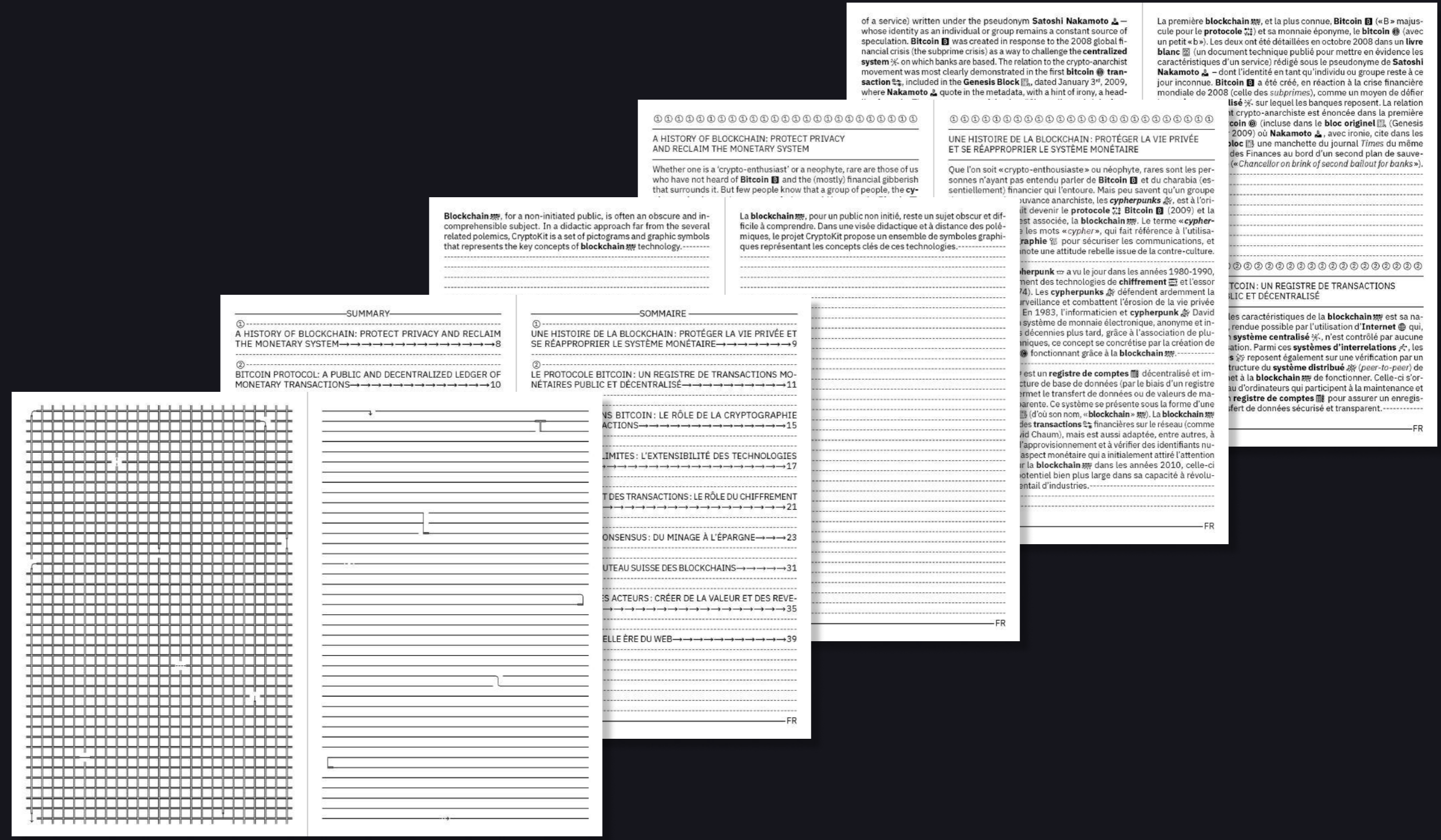
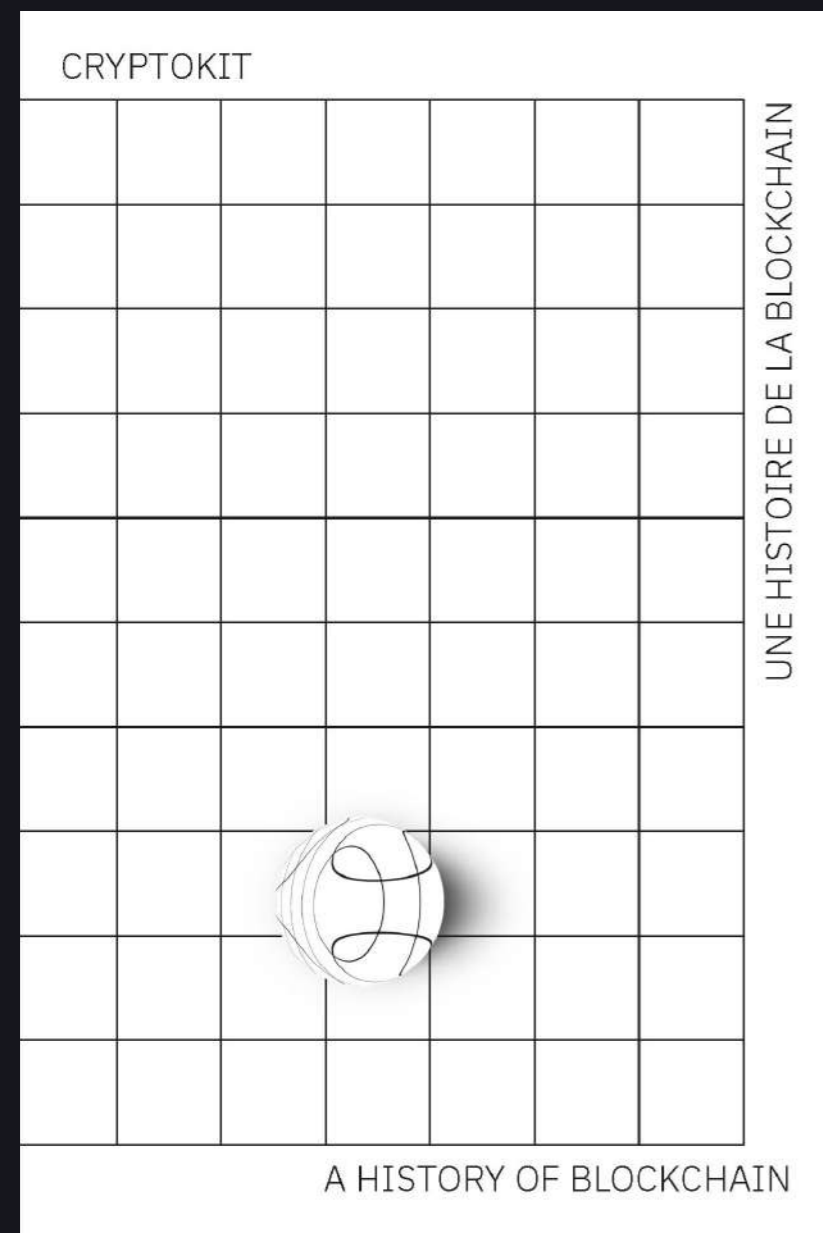


THE BOOKLET

From
lexical to
narrative



THE BOOKLET



Graphic design: E+K, 52 pages — print-on-demand — 15,6 × 23,4 cm — 5 USD

CRYPTOKIT

HISTORY OF BLOCKCHAIN

UNE HISTOIRE DE BLOCKCHAIN

A HISTORY OF BLOCKCHAIN

Summary table of contents with page numbers for sections like 'A HISTORY OF BLOCKCHAIN', 'ETHEREUM', 'Bitcoin', etc.

Summary table of contents for French version, including 'L'histoire de Blockchain', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Spanish version, including 'Historia de Blockchain', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for German version, including 'Geschichte von Blockchain', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Italian version, including 'Storia di Blockchain', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Japanese version, including 'ブロックチェーンの歴史', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Korean version, including '블록체인 역사', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Russian version, including 'История блокчейна', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Chinese version, including '区块链历史', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Hindi version, including 'ब्लॉकचेन का इतिहास', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Urdu version, including 'بلاک چین کی تاریخ', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Bengali version, including 'ব্লকচেইন ইতিহাস', 'Ethereum', 'Bitcoin', etc.

Summary table of contents for Arabic version, including 'تاريخ البلوك تشين', 'Ethereum', 'Bitcoin', etc.

Blockchain is a distributed ledger technology... The most common use case is for cryptocurrencies...

The blockchain is a chain of blocks... Each block contains a list of transactions...

The blockchain is a decentralized network... It is not controlled by any central authority...

The blockchain is a secure system... It uses cryptographic techniques to ensure security...

The blockchain is a transparent system... All transactions are visible to all participants...

The blockchain is a tamper-proof system... It is difficult to alter the data once it has been recorded...

The blockchain is a trustless system... It does not require any trusted third party...

The blockchain is a peer-to-peer system... It is managed by a network of participants...

The blockchain is a scalable system... It can handle a large number of transactions...

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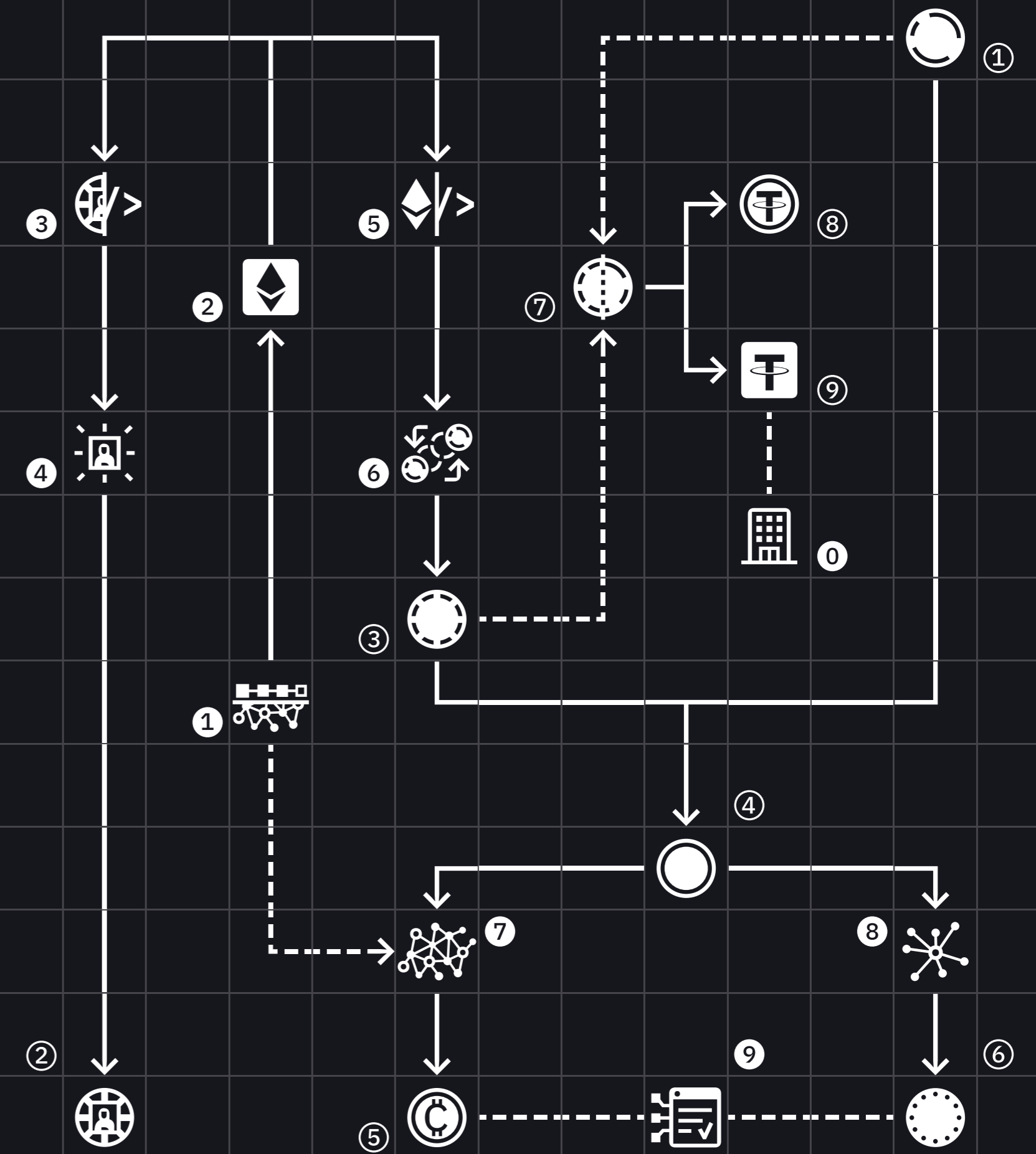
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The blockchain is a peer-to-peer system... It is managed by a network of participants...

The blockchain is a scalable system... It can handle a large number of transactions...

DIAGRAMS

From
narrative
to
functional



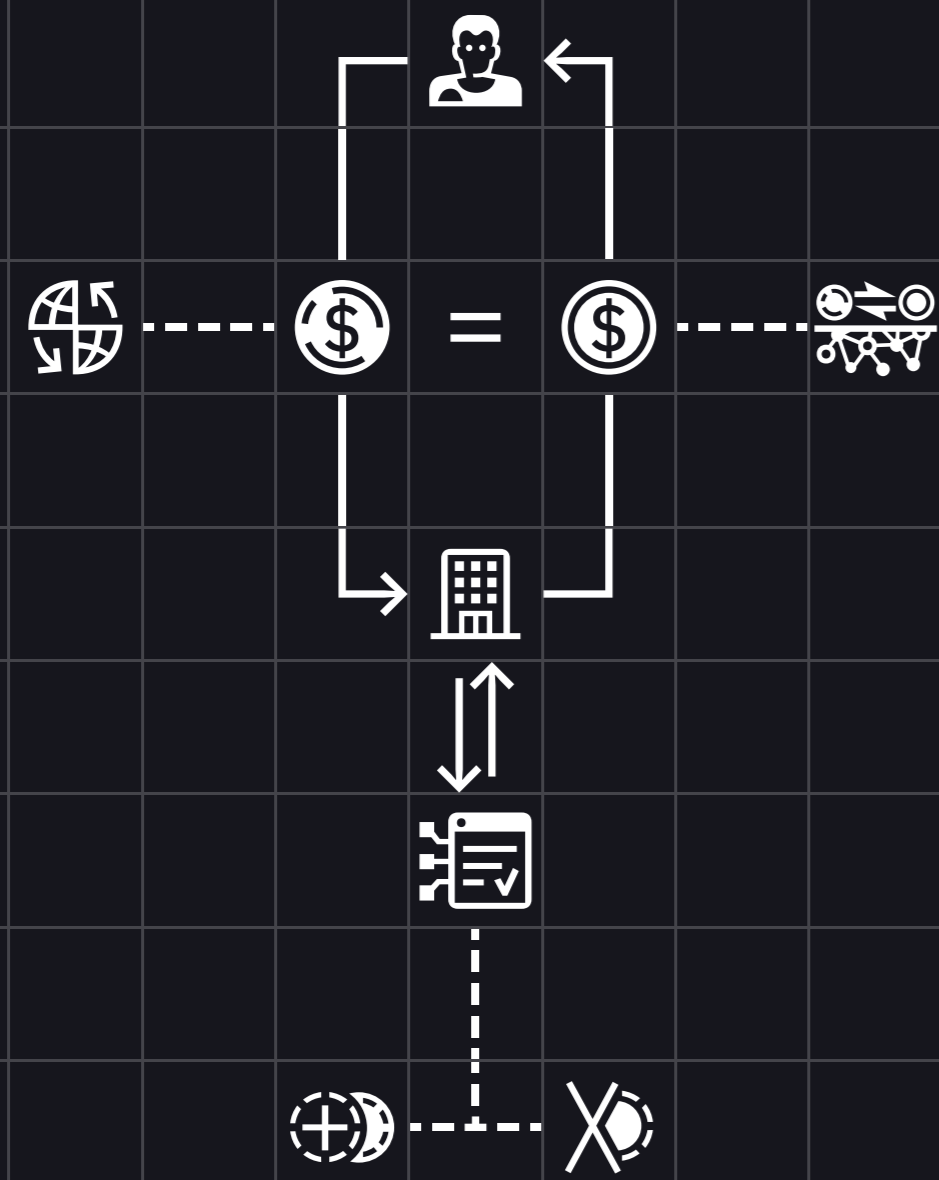
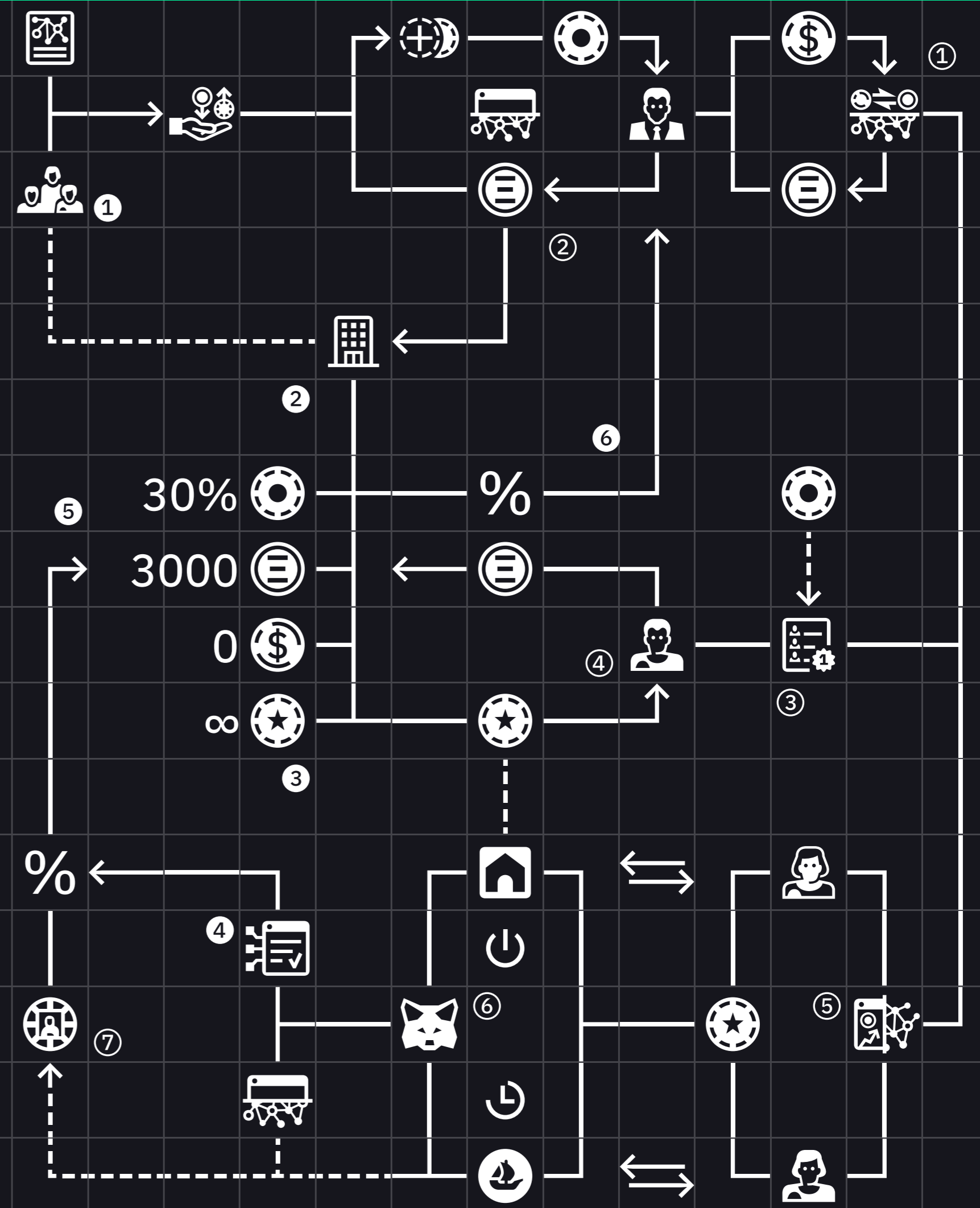


Diagram of an ICO

“Web3 Art Basel”




SLIDES & LECTURES

HES-SO Geneva Bachelor
transversal course

ANTICIPER L'AVENIR DES MÉTIERS DE LA CRÉATION

CYPHERPUNK

A cypherpunk is an individual who is an advocate of the use of strong cryptography in order to protect privacy, freedom and data security with a view of open censorship and surveillance.



2ND SEMESTRE 2023

HEAD - GENÈVE HES-SO

ANTICIPER L'AVENIR DES MÉTIERS DE LA CRÉATION

FROM WEB 1.0 TO WEB3


Over the years, Web 2.0 has aggregated values and data. For the first time since 30 years of Web history, we could deeply change business models.

WEB3 ROADMAP

Web3 offers a **ALL-IN-ONE** ecosystem: a monetary system (*Cryptocurrencies*) within an economic system (*DeFi*) to trade digital assets (*NFT*). All this is managed by governance (*DAO*) and digital identity (*DID*).


HEAD - GENÈVE HES-SO

2ND SEMESTRE 2023



Web 1.0: **CONSUME**
Economy of Information

2ND SEMESTRE 2023

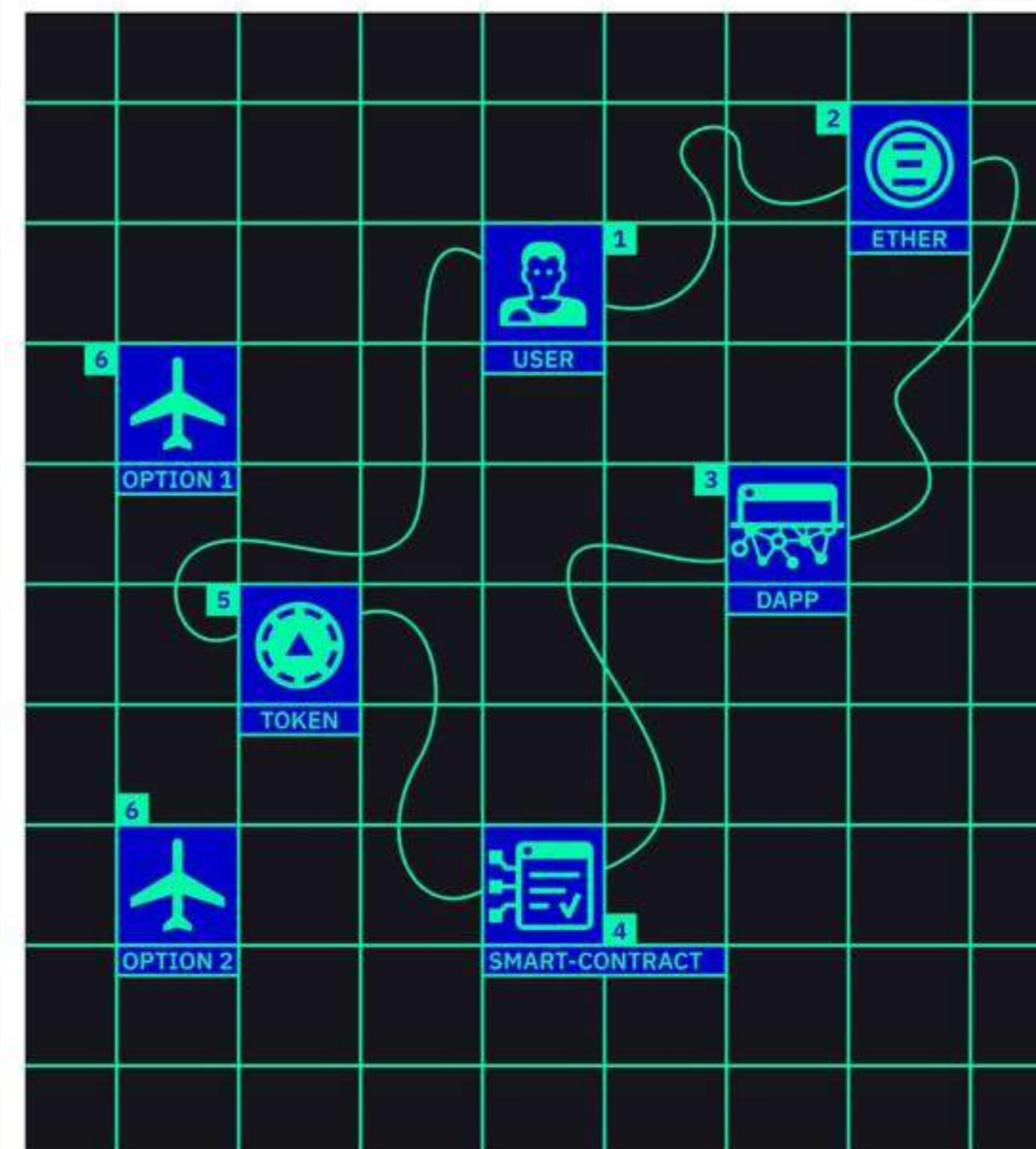


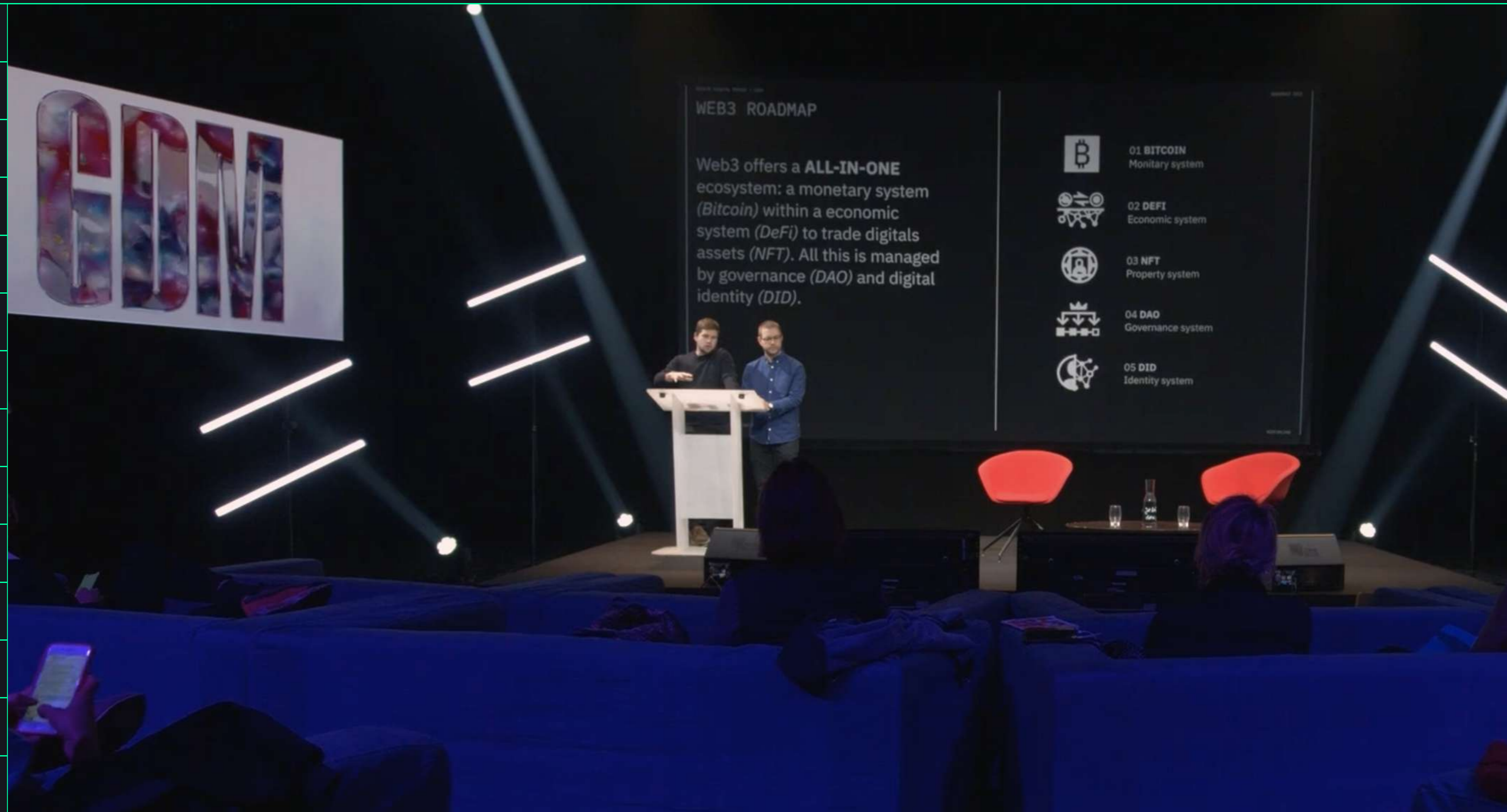
- 1 - **CRYPTOCURRENCIES**
Monetary system
- 2 - **DeFi**
Economic and financial system
- 3 - **NFTs**
Property system
- 4 - **DAOs**
Governance system
- 5 - **DIDs**
Identity system

GUILLAUME HELLEU

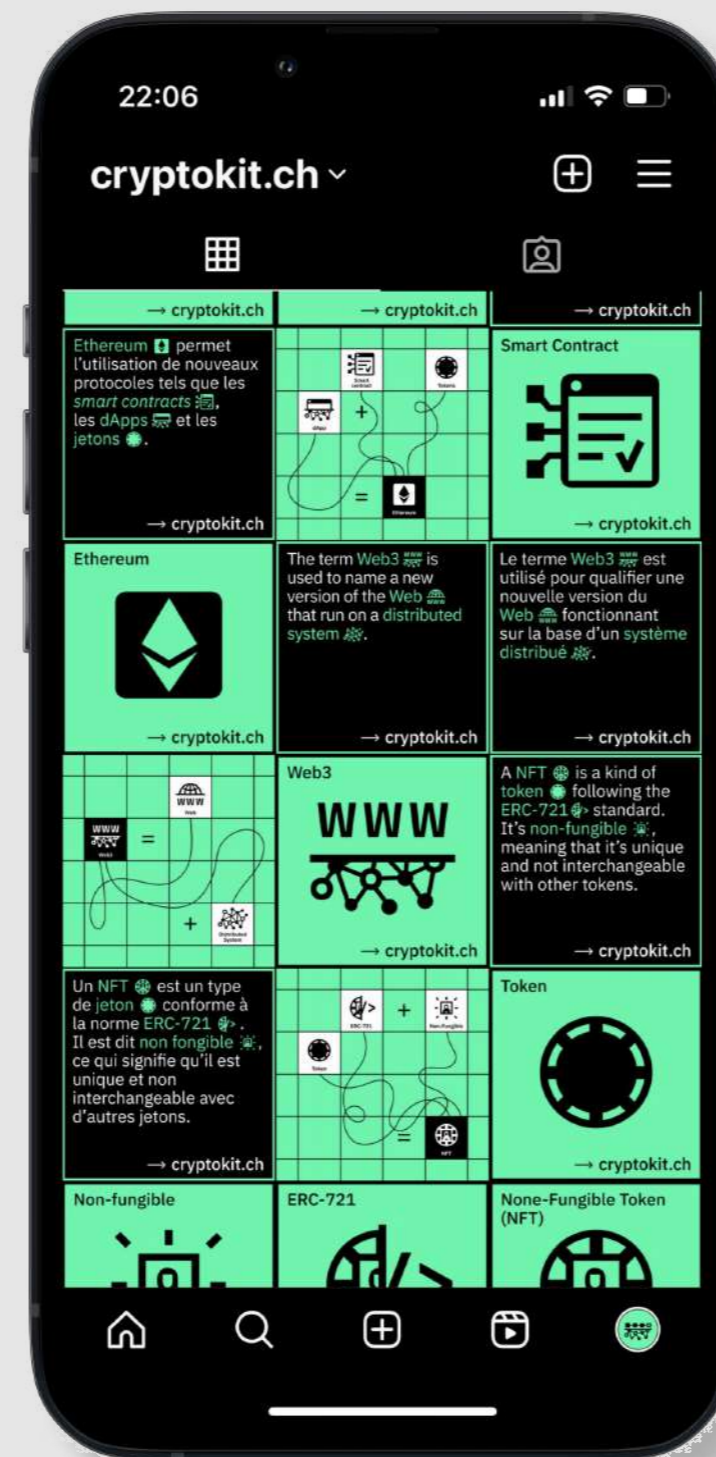
WEB3 PROTOCOL

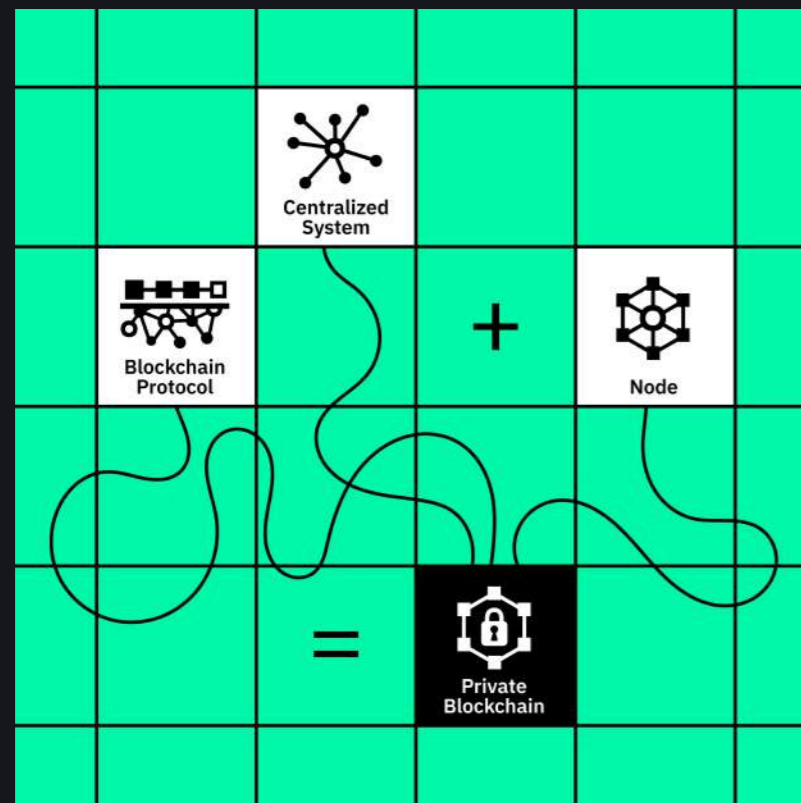
The user [1] will send ethers [2] to the decentralized application (dApp) of the airline [3] which will record the transaction in a smart contract [4] and create a token-ticket [5]. Two scenarios are possible [6].





Geneva International Film Festival (GIFF):
Geneva Digital Market, 2022





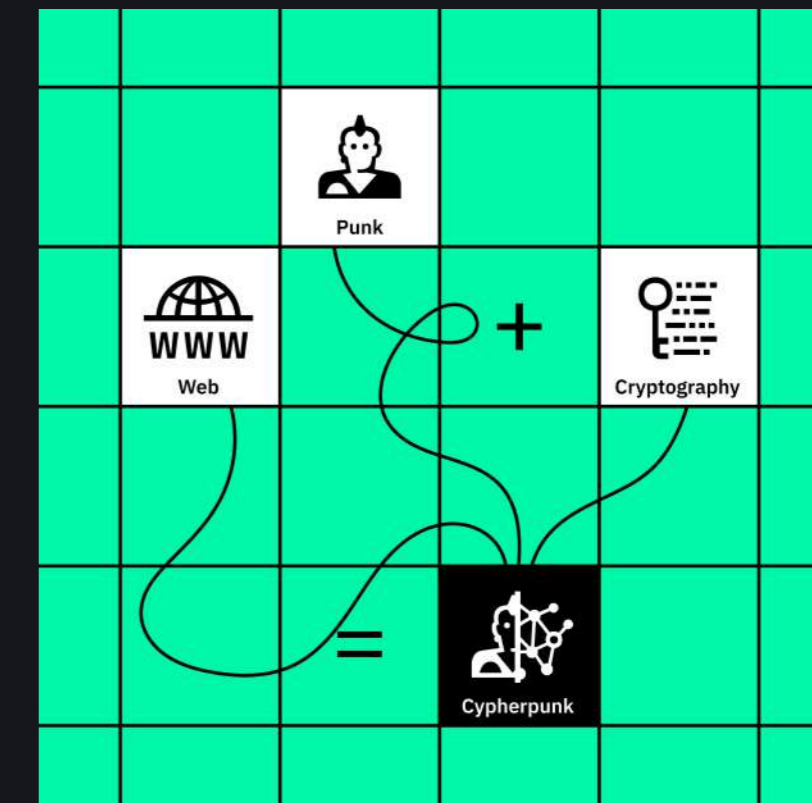
Lightning network ⚡ is a technical update of the Bitcoin ₿ protocol made to solve the scalability 📈 problem of transactions 🔄.

→ cryptokit.ch

Metaverse



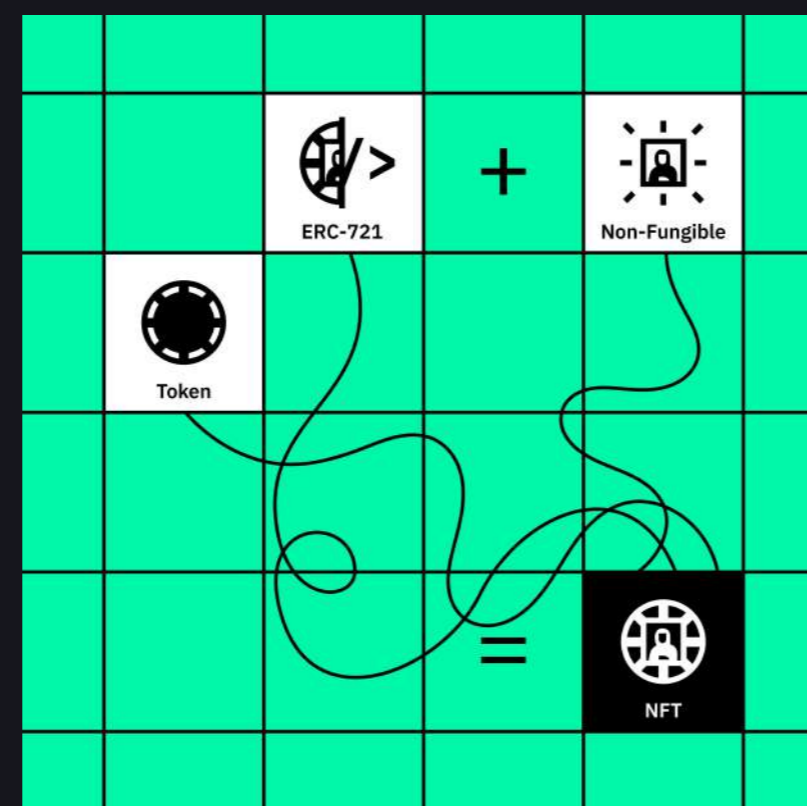
→ cryptokit.ch



Satoshi Nakamoto



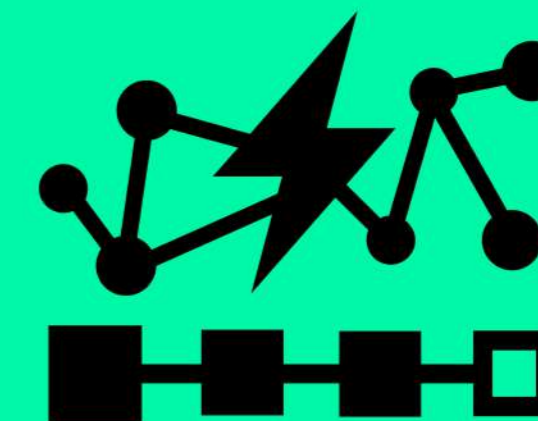
→ cryptokit.ch



Satoshi Nakamoto ₿ is a cypherpunk 🕸 who is anonymous and is the author of the whitepaper 📄 of Bitcoin ₿ on October 31st, 2008.

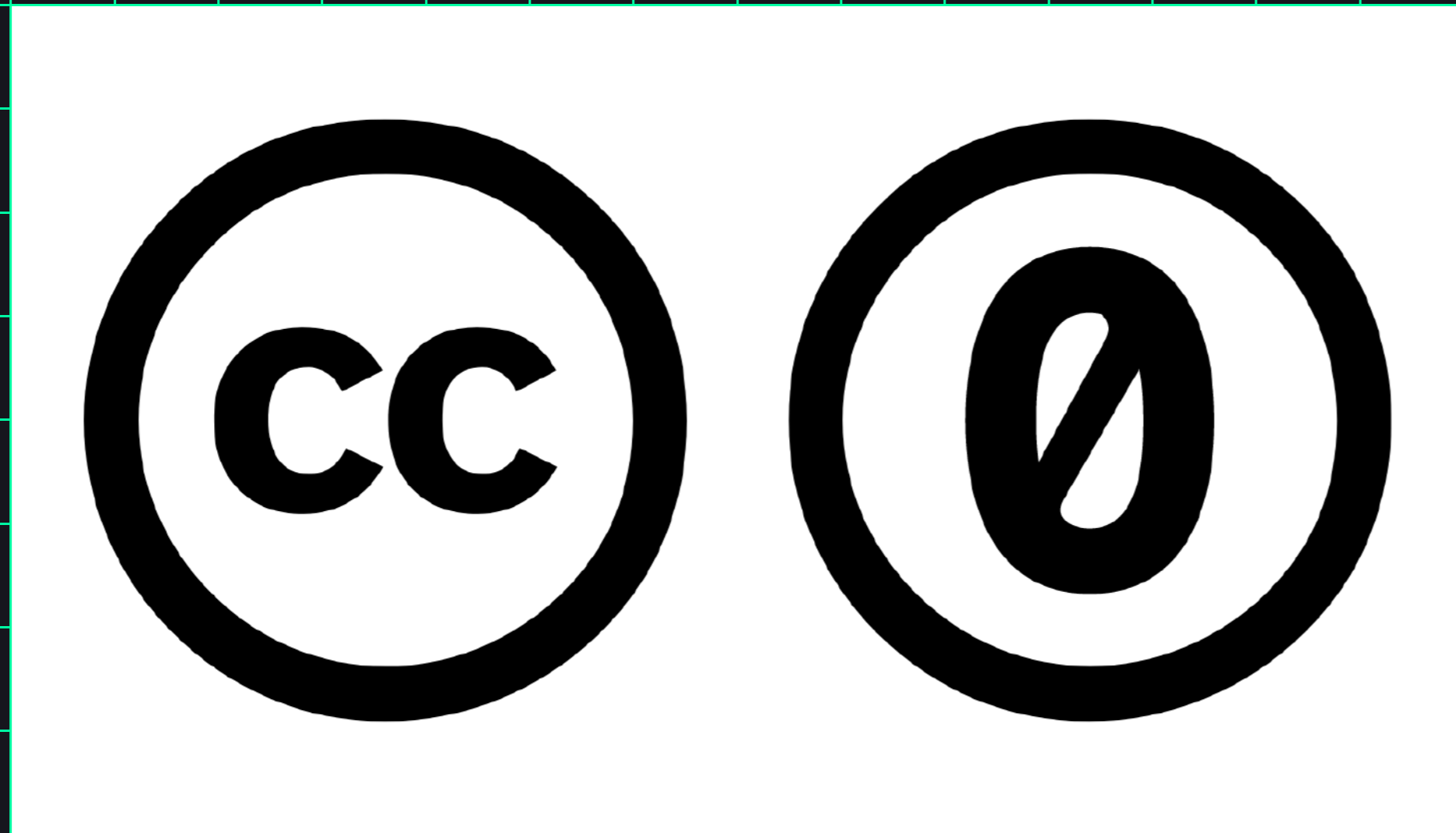
→ cryptokit.ch

Lightning Network



→ cryptokit.ch

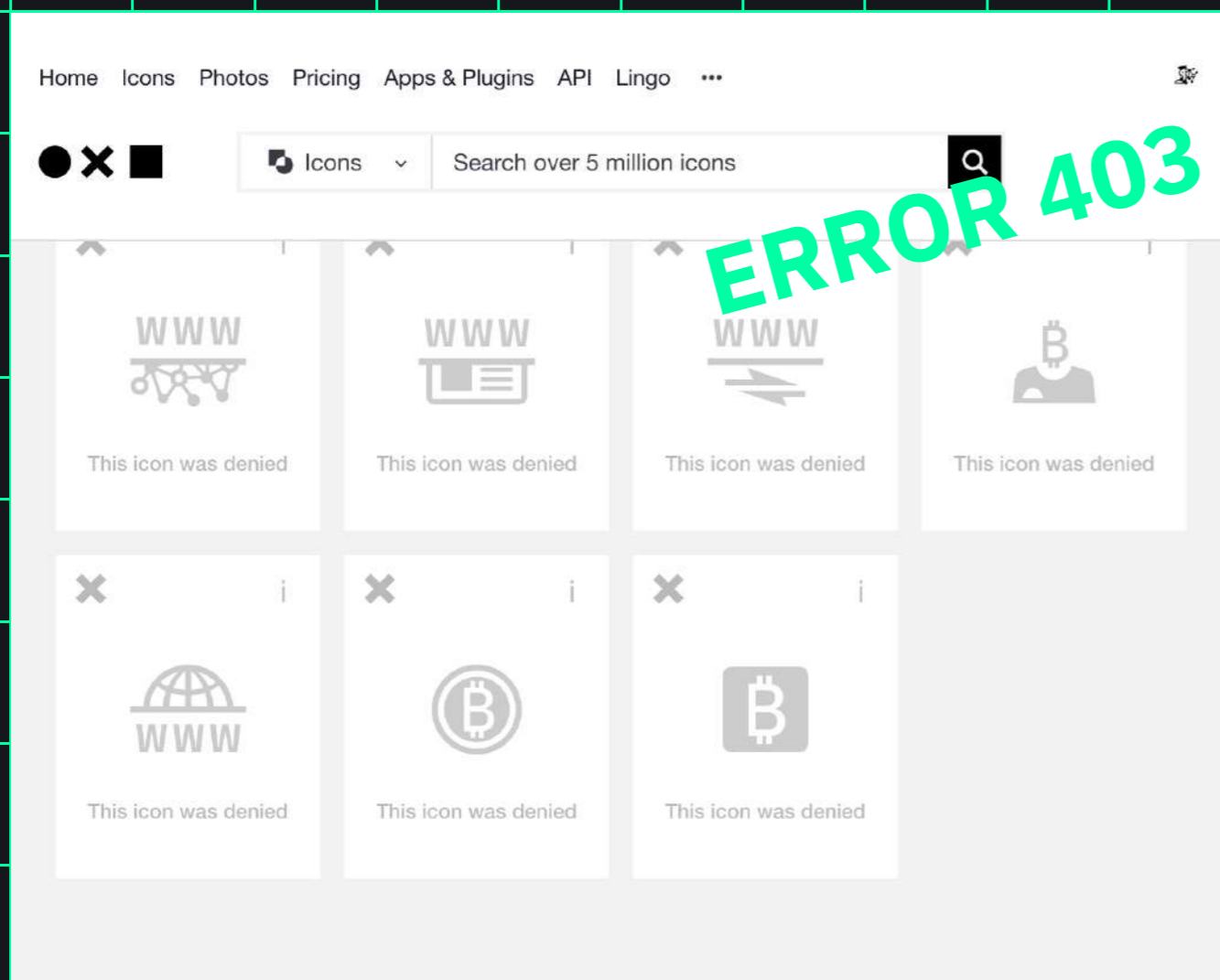
FROM OPEN SOURCE TO CC 0
“NO RIGHTS RESERVED”



Typeface file: SIL OFL



THENOUNPROJECT.COM



Home Icons Photos Pricing Apps & Plugins API Lingo ...



Icons

Search over 5 million icons



Cryptokit

The CryptoKit project provides a visual mapping of blockchain technology and Web3 protocols to make them accessible to a wide audience. It includes an open source typeface of more than 200 pictograms of key blockchain terms. The CryptoKit project was funded by HES-SO Genève from 2022 to 2023. Team: Anthony Masure (applicant, HEAD – Genève, HES-SO), Guillaume Helleu (associate researcher), Océane Juvin (type design).

<http://www.cryptokit.ch>

Search for icons by this creator

Icons

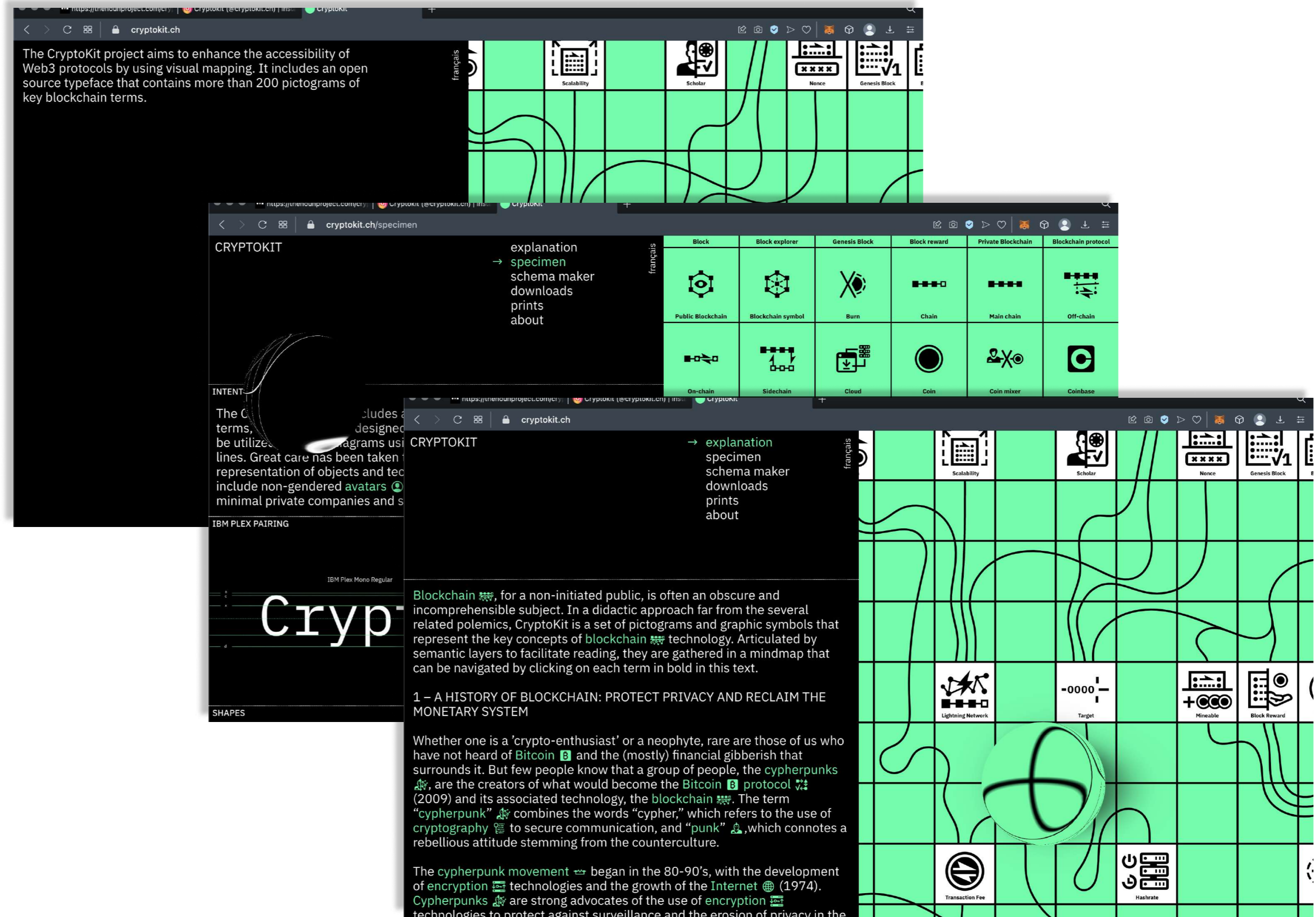
[View All Icons](#)

THE WEBSITE

www.cryptokit.ch

CRYPTOKIT.CH

Webdesign: E+K &
Alexandre Texier



CRYPTOKIT.CH

The CryptoKit project aims to enhance the accessibility of Web3 protocols by using visual mapping. It includes an open source typeface that contains more than 200 pictograms of key blockchain terms.

français

Scalability	Scholar	Nonce	Genesis Block
Lightning Network	Target	Mineable	Block Reward
Transaction Fee	Hashrate		

— HEAD Genève Hes-so GENÈVE

The screenshot shows the website cryptokit.ch. At the top, there is a navigation menu with the following items: explanation, specimen, schema maker, downloads, prints, and about. A language selector for 'français' is also visible. The main content area features a grid of icons representing various blockchain concepts, including Scalability, Scholar, Nonce, Genesis Block, Lightning Network, Target, Mineable, Block Reward, Transaction Fee, and Hashrate. A central 3D-rendered sphere with a plus sign is connected to these icons by lines. Below the grid, there is a section titled '1 – A HISTORY OF BLOCKCHAIN: PROTECT PRIVACY AND RECLAIM THE MONETARY SYSTEM'. The text in this section discusses the obscurity of blockchain for a non-initiated public and introduces the cypherpunk movement, which began in the 80-90's and is associated with the development of encryption technologies and the Internet.

CRYPTOKIT → explanation
specimen
schema maker
downloads
prints
about

français

Scalability Scholar Nonce Genesis Block

Lightning Network Target Mineable Block Reward

Transaction Fee Hashrate

1 – A HISTORY OF BLOCKCHAIN: PROTECT PRIVACY AND RECLAIM THE MONETARY SYSTEM

Whether one is a 'crypto-enthusiast' or a neophyte, rare are those of us who have not heard of **Bitcoin** ₿ and the (mostly) financial gibberish that surrounds it. But few people know that a group of people, the **cypherpunks** 🧑🏻‍🔧, are the creators of what would become the **Bitcoin** ₿ protocol 📄 (2009) and its associated technology, the **blockchain** 📄. The term "cypherpunk" 🧑🏻‍🔧 combines the words "cypher," which refers to the use of **cryptography** 🔒 to secure communication, and "punk" 🧑🏻‍🔧, which connotes a rebellious attitude stemming from the counterculture.

The **cypherpunk movement** 🧑🏻‍🔧 began in the 80-90's, with the development of **encryption** 🔒 technologies and the growth of the **Internet** 🌐 (1974). **Cypherpunks** 🧑🏻‍🔧 are strong advocates of the use of **encryption** 🔒 technologies to protect against surveillance and the erosion of privacy in the digital age. In 1983, computer scientist and **cypherpunk** 🧑🏻‍🔧 David Chaum proposed an anonymous, untraceable electronic money system. A few

CRYPTOKIT.CH

cryptokit.ch/specimen

CRYPTOKIT

- explanation
- specimen
- schema maker
- downloads
- prints
- about

français

INTENT

The Cryptokit includes about 200 pictograms of key blockchain terms, designed to pair with IBM Plex. These symbols can be utilized in diagrams using logical connectors such as arrows and lines. Great care has been taken to avoid any mimetic or illustrative representation of objects and technologies. Other design considerations include non-gendered avatars to align with Web3 anonymity and minimal private companies and services to avoid advertising.

IBM PLEX PAIRING

IBM Plex Mono Regular | Cryptokit

Crypto

Block	Block explorer	Genesis Block	Block reward	Private Blockchain	Blockchain protocol
Public Blockchain	Blockchain symbol	Burn	Chain	Main chain	Off-chain
On-chain	Sidechain	Cloud	Coin	Coin mixer	Coinbase
Company	Confirmation	Consensus	Cryptocurrency	CBDC	Cryptography
Asymmetric cryptography	Cyberpunk	Cyberpunk (left)	Cyberpunk	Decentralized Finance (DeFi)	Register
Database	dApp	DAO	Blockchain	Blockchain	Blockchain
Discord	Dollar	Dollar (CBDC)	Dollar Stablecoin (USDC)	Double Spending	Economy
Blockchain	Blockchain	Blockchain	Blockchain	Blockchain	Blockchain

SHAPES

CRYPTOKIT.CH

The screenshot shows the website interface for cryptokit.ch/schema. At the top, there is a navigation menu with links: explanation, specimen, → schema maker, downloads, prints, and about. Below the menu is a search bar and a list of categories: BITCOIN, ETHEREUM, WEB3, CYBERSPACE, CRYPTOGRAPHY, and PROTOCOLS. The BITCOIN category is expanded, showing a grid of icons for various concepts like Address, Bitcoin, Block, Mining, etc. The main content area features a diagram on a grid background. The diagram includes a central globe icon, a person icon, a lightning bolt icon, a dollar sign icon, and a mining icon. Arrows indicate relationships between these elements. At the bottom of the interface, there are controls for 'show names', 'hide grid', 'reset', and an 'export' button.

04

Q&A

www.cryptokit.ch
@cryptokit.ch

@anthonymasure
@ohp.ju
@helleuguillaume