

DAO

Decentralized Autonomous Organizations - Workshop

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SUISSE**

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Schedule

Theory

1. DAO Definition
2. Governance
3. Real-World Applications

Practice

1. Setup
2. Foundation
3. Vote

DAO: **Definition**



Decentralized autonomous organizations (DAOs)

- Member-owned communities without centralized leadership.
- A safe way to collaborate with internet strangers.
- A safe place to commit funds to a specific cause.

“Decentralized Autonomous Organizations as a Threat to Centralized Platforms...”

<https://ethereum.org/en/dao/>

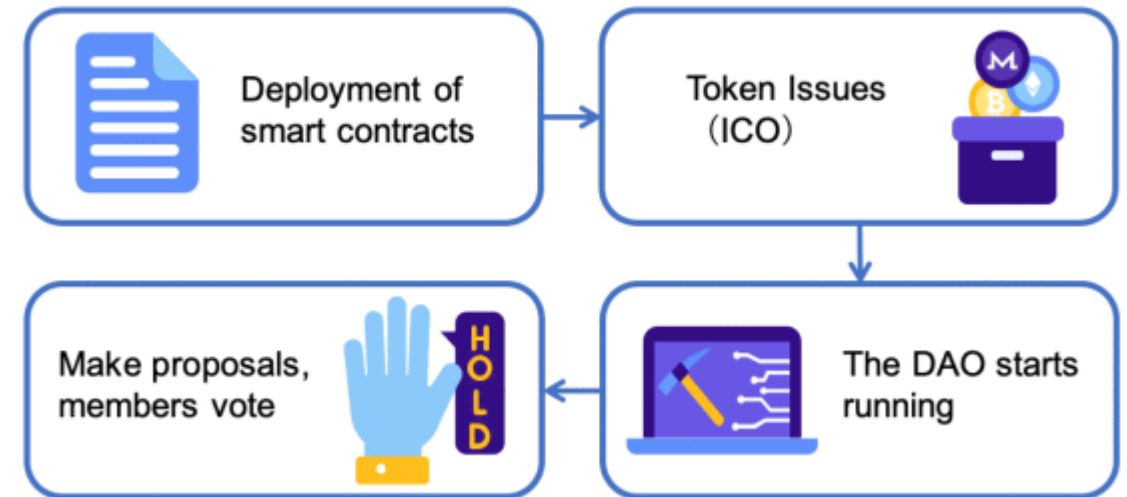
DAO: Definition

DAO	A Traditional Organization
<p>Usually flat, and fully democratized.</p> <p>Voting required by members for any changes to be implemented.</p> <p>Votes tallied, and outcome implemented <i>automatically</i> without trusted intermediary.</p> <p>Services offered are handled automatically in a decentralized manner (for example distribution of philanthropic funds).</p> <p>All activity is transparent and fully public.</p>	<p>Usually hierarchical.</p> <p>Depending on structure, changes can be demanded from a sole party, or voting may be offered.</p> <p>If voting allowed, votes are tallied internally, and outcome of voting must be handled manually.</p> <p>Requires human handling, or centrally controlled automation, prone to manipulation.</p> <p>Activity is typically private, and limited to the public.</p>

<https://ethereum.org/en/dao/>

DAO: Definition

The concept of a Decentralized Autonomous Organization (DAO) was originally introduced by a white paper [1], in which a DAO is defined as **an organization built on smart contracts** that can execute autonomously. A DAO achieves the decentralized organization by encoding a **set of rules** in smart contracts that define its operational settings [2].



[1] V. Buterin et al., "Ethereum white paper: A next generation smart contract decentralized application platform", *First Version*, vol. 53, 2014, [online] Available: https://cryptorating.eu/whitepapers/Ethereum/Ethereum_white_paper.pdf.

[2] L. Liu, S. Zhou, H. Huang and Z. Zheng, "From Technology to Society: An Overview of Blockchain-Based DAO," in *IEEE Open Journal of the Computer Society*, vol. 2, pp. 204-215, 2021, doi: 10.1109/OJCS.2021.3072661. keywords: {Blockchains;Security;Organizations;Bitcoin;Databases;Fault tolerant systems;Computer hacking;Blockchain;contracts;DAO;fault tolerant system;governance},

Real-World DAOs

3 Members...

Swiss Shield DAO

swiss-shield.dao.eth ▾

The Swiss Shield DAO is a neutral organisation supporting DAOs purposes and mission statements.

June 2023 Ethereum Wallet-based



Follow

19 Proposals created

New proposal



New transfer

Executed

ETH Transfer to Vault

\$1,301,492.95

Treasury value



Swiss Shi...



Finance > Transfers

Give feedback

Connect

All transfers

\$19652599.72 Total Volume

+ New transfer

Real-World DAOs



3+ Billion \$ in assets
(Peter Thiel..), now Mantle



Buying Land
in 3D



Buying Land in Wyoming, USA

Real-World DAOs

Bittopia

The screenshot shows the BITLOPIA website interface. At the top, the BITLOPIA logo is on the left, and navigation links for 'Learn', 'Share', 'Contribute', 'Collaborate', and 'Connect' are in the center. On the right, there are two buttons: 'ENROLL' (green) and 'MY BU' (blue). Below the navigation is a hero section with a background image of people in a meeting. A dark overlay contains the text 'Explore Available Courses' and 'begin your journey with us'. Below this is a breadcrumb trail 'Home > Courses'. The main content area features the heading 'Begin your journey with a course of your choosing' and a subtext 'All curriculums are open source and overseen by Oracles. All courses are facilitated by Mentors.' At the bottom, there are three course cards: 'How to Get a Swiss Bank in Your Pocket' (with a USB drive image), 'Introduction to Decentralization' (with a network diagram), and 'DAO Decentralized Autonomous Organizations' (with a laptop and document icon).

Practice



1. Ethereum wallet installation

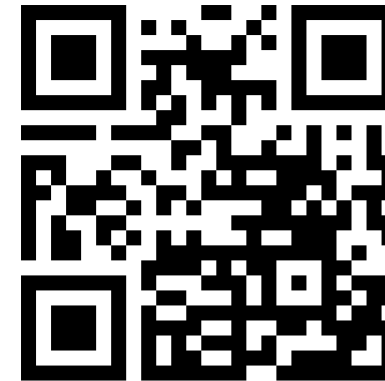


Pros

- Non-custodial and open-source
- Most widely used
- **Lots of browser extensions**

Cons

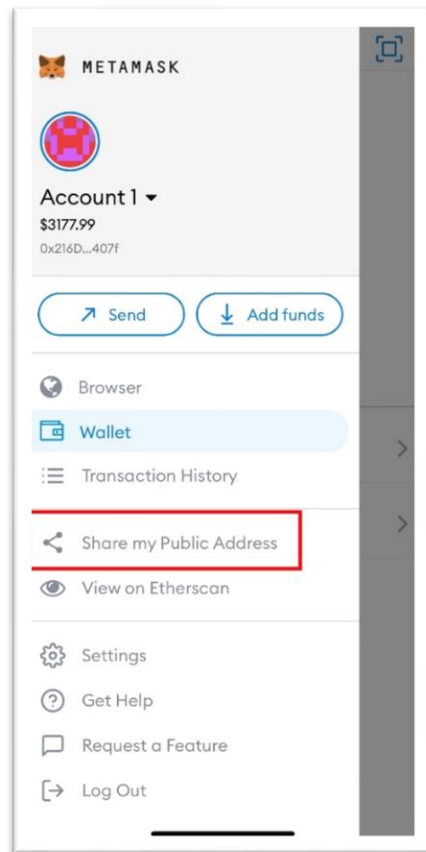
- Mobile app browser has issues with some platforms (like with one we will use)



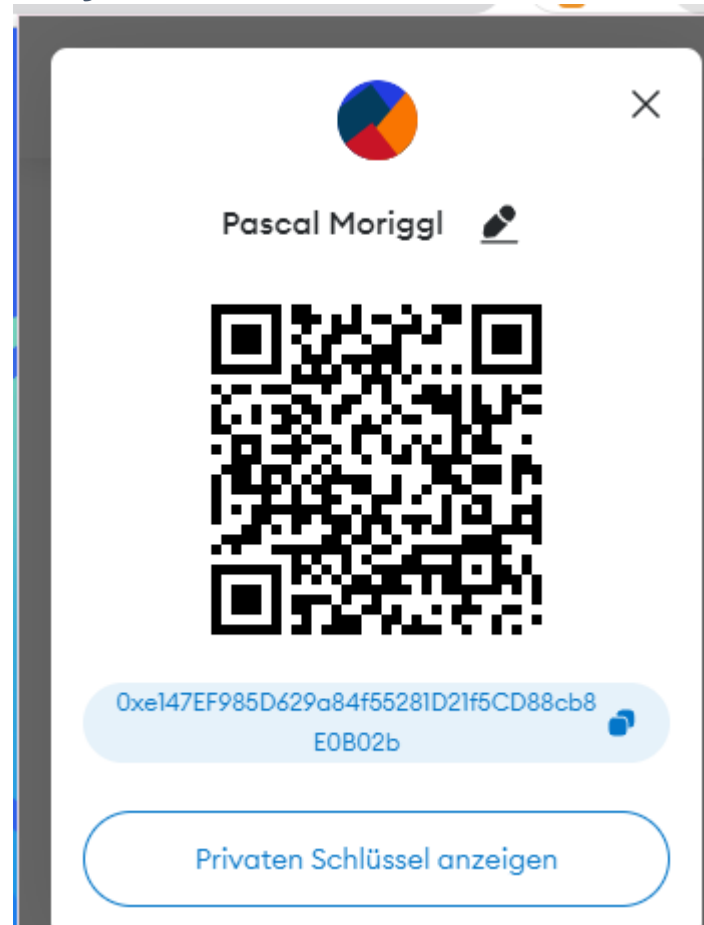
metamask.io/download

2. Sharing Ethereum address

Step 1: copy address in your wallet



Metamask mobile



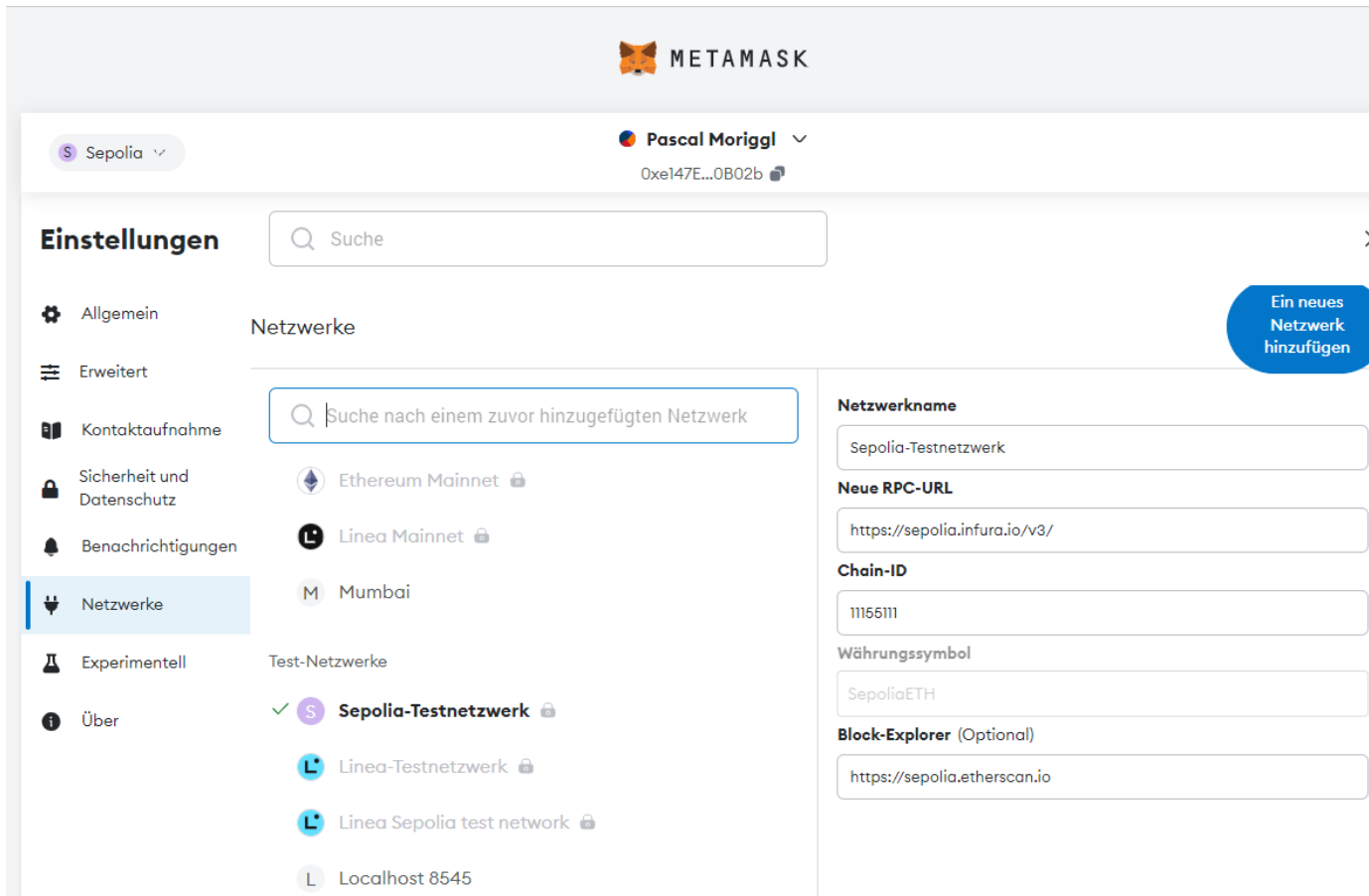
Metamask browser

2. Sharing Ethereum address

Step 2: share it with us

It will be used during the initialization phase of DAO establishment

3. Connecting Wallet to Sepolia testnet: Metamask



Sepolia-Testnetzwerk

<https://sepolia.infura.io/v3/>

11155111

SepoliaETH

<https://sepolia.etherscan.io>

You need tokens

We will send you some tokens that you need for the first vote!

Live Stream:


- Spread Tokens
- Setup DAO
- Log in to Aragon: Vote

Challenges

Future DAO









Governance: Challenges



Uniswap Governance

Discover Delegates

View Proposals

Proposals

9. Add 1 Basis Point Fee Tier	ACTIVE
8. Upgrade Governance Contract to Compound's Governor Bravo #	EXECUTED
7. Community-Enabled Analytics	CANCELED
6. DeFi Education Fund	EXECUTED
4. Reduce the UNI proposal submission threshold to 2.5M	EXECUTED
3. Uniswap Grants Program v0.1	EXECUTED
2. Retroactive Proxy Contract Airdrop — Phase One	DEFEATED
1. Reduce UNI Governance Proposal & Quorum Thresholds	DEFEATED

Source: Sybill.org

Governance: Challenges

Uniswap
Proposals

Proposals > Proposal #1 DEFEATED ACTIVE

Reduce UNI Governance Proposal & Quorum Thresholds

Voting ends approximately undefined

For	23,989,531	Against	107,134
Top Voters		Top Voters	
@Dharma_HQ	15,460,368	0x188C...2F28	38,617
0x1994...9b81	7,889,068	0x0000...1cDa	16,905
0x0591...D1F1	144,600	0x1AA5...a1a6	12,462
0x2D40...d45C	136,364	0x08A9...D265	9,962
0xD2Af...85b5	125,001	0x9209...30C9	7,215
0xAE5c...aA23	64,432	0xCaea...0C32	4,413
0x145b...8c48	57,000	0xA6a4...CD7F	2,909
0xe0A5...DB1A	25,820	0x54f3...BFc1	2,326
0x2361...8920	7,000	0x0f29...1F49	1,853
0x315D...Cd5D	7,000	0x69b1...dDEf	1,099

to Compound's Governor EXECUTED

CANCELED

mission threshold to 2.5M EXECUTED

EXECUTED

drop — Phase One DEFEATED

1. Reduce UNI Governance Proposal & Quorum Thresholds DEFEATED

Source: Sybill.org

Governance: Challenges

The screenshot shows a Uniswap proposal page. At the top, it says 'Uniswap Proposals' and 'Proposal #1'. The title of the proposal is 'Reduce UNI Governance Proposal & Quorum Thresholds'. The status is 'ACTIVE'. The proposal is attributed to 'Dharma' and is 'to Compound's Governor'. The proposal text includes: 'Uniswap's governance has been discussed extensively and have been discussions on lowering these thresholds to make governance more accessible. Having followed these discussions from the beginning, Dharma has prepared a proposal that we think achieves the goal of making governance more accessible, while still ensuring that Uniswap governance is not subject to unilateral deleterious actors. We propose a threshold of 3m UNI for proposal submission, and 30m UNI as quorum. background: 3m=0.3%, 30m=3% of UNI tokens'. The proposal is marked as 'DEFEATED'.

Bottom line: governance can be hard because of lack of engagement!

Source: Sybill.org

Governance: **Challenges**

Accountability

Governance voters are collectively accountable for their decisions (poor decision => everyone's coins drop to zero), but no voter is individually accountable

Public goods provision

How do you incentivizes contributions to protocol development, upgrade and maintenance?

Voting

Who, on what, and how?

Governance: **Voting**

coin holders: one coin = one vote

The Problem: governance power without economic interest

–borrower has governance power without economic interest lender has economic interest
without governance power

–borrow coins on platform short term

This is how we vote

Governance: **Voting**

humans (proof of personhood):

- network participant = one vote
- A fair reflection of economic interest?



BrightID uses trusted relationships between people to verify its users. This includes people's ability to recognize someone in person using all available information, including recognizing their face. A real person's ability to recognize another person far surpasses that of an AI.

Check out the token drop system from LEU:
<https://leu.zuerich/>

Governance: Voting

contributors (proof of participation):

- people who made meaningful contributions to a network
- What's meaningful?
- Does this translate into a meaningful stake?



POAP (Proof of Attendance Protocol) is a way to keep long-lasting records of life experiences.

What is it?

POAP is an ethereum-based protocol that event organizers use to generate unique proof of attendance NFTs. Each NFT badge enables attendees to prove they were actually at the virtual or in-person event.

Governance: Voting Challenges

The screenshot shows a forum post on UNISWAP by user Luchango. The post is titled "Luchango" and is dated "3d". The text of the post reads: "Hey, I saw you voted NO with 4m UNI on my temperature check proposal... Why would you do that? Its a proposal that benefits everyone!! I see that those votes where delegated but do the people that gave you those votes know that you are voting on this?? Why would you hurt a very beneficial proposal for everyone like that?? Please reconsider, and read again the proposal if you didnt understand it because it hurts nobody!". Below the text are icons for heart, link, flag, bookmark, and a "Reply" button. A summary table is visible below the post:

created	last reply	1	4	1
3d	2d	reply	views	user

Below the table, there are two user avatars: "monet-supply" and "Luchango". At the bottom of the table is a button labeled "Add or Remove...".

Below the first post is a second post by Luchango, dated "2d". The text of the second post reads: "I will give you 5.000 USDC if you change your vote on my proposal to YES. And if you help me with the consensus check I will give yo another 5.000, and if you help me make the official proposal, I will give you 10.000 USDC. Will you help me?". Below this text are icons for heart, link, flag, and a "Reply" button.

Big idea: blockchain does allow new and different vote participation rules!

Governance: **Voting Challenges**

- can be very subtle
- status quo vs new proposal (often has a status quo bias)
- voting among alternatives plus status quo
- single votes, resource vote ("quadratic voting"), ranked ballots, etc

Governance: **Voting Challenges**

Who should vote? e.g.,

- coin holders: one coin = one vote
- humans: network participant = one vote
- contributors: people who made meaningful contributions to a network

What should you vote on?

- parameters
- one-off choices
- Pairwise

How should you vote?

- one at a time
- ranked ballot

Governance: **Voting Challenges**

2000 US Presidential Vote with

- Bush vs. Gore vs Nader
- Most liberals preferred Gore and Nader to Bush
- Suppose 55% for Gore/Nader and 45% for Bush
- If liberals split 50/50, Bush wins.

Vote splitting and strategic voting is very real issue (both on the left and on the right)

Some voting rules: Majority, Super-majority, two-tier voting with delegates, plurality (among more than 2 candidates, the one with the most votes), ranked voting (e.g. with Borda count (top gets n points, next n-1, etc.)



Governance: Voting Challenges

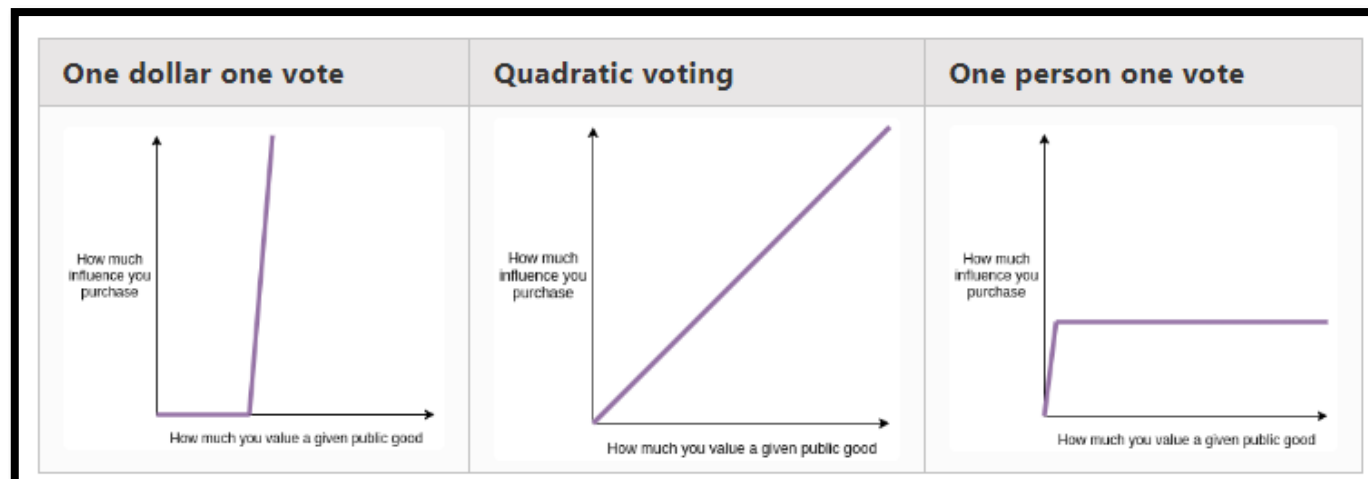
basic idea:

- solve the "how much you care" problem
- you pay for your vote
- your marginal cost is increasing (to reflect how much you care)

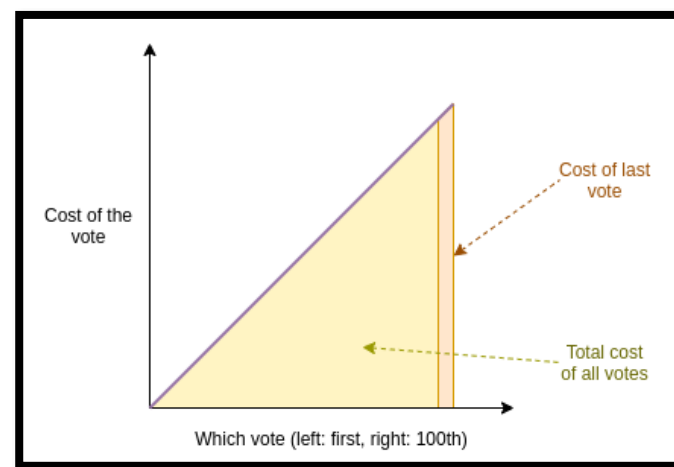
how done:

people are endowed with "voice credits"
to vote on a topic a voter chooses voice credits
(costs per vote)

Result: quadratic cost is the only rule that ensures that commonly best utility is implemented (and that people vote as such)



<https://vitalik.ca/general/2019/12/07/quadratic.html>



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