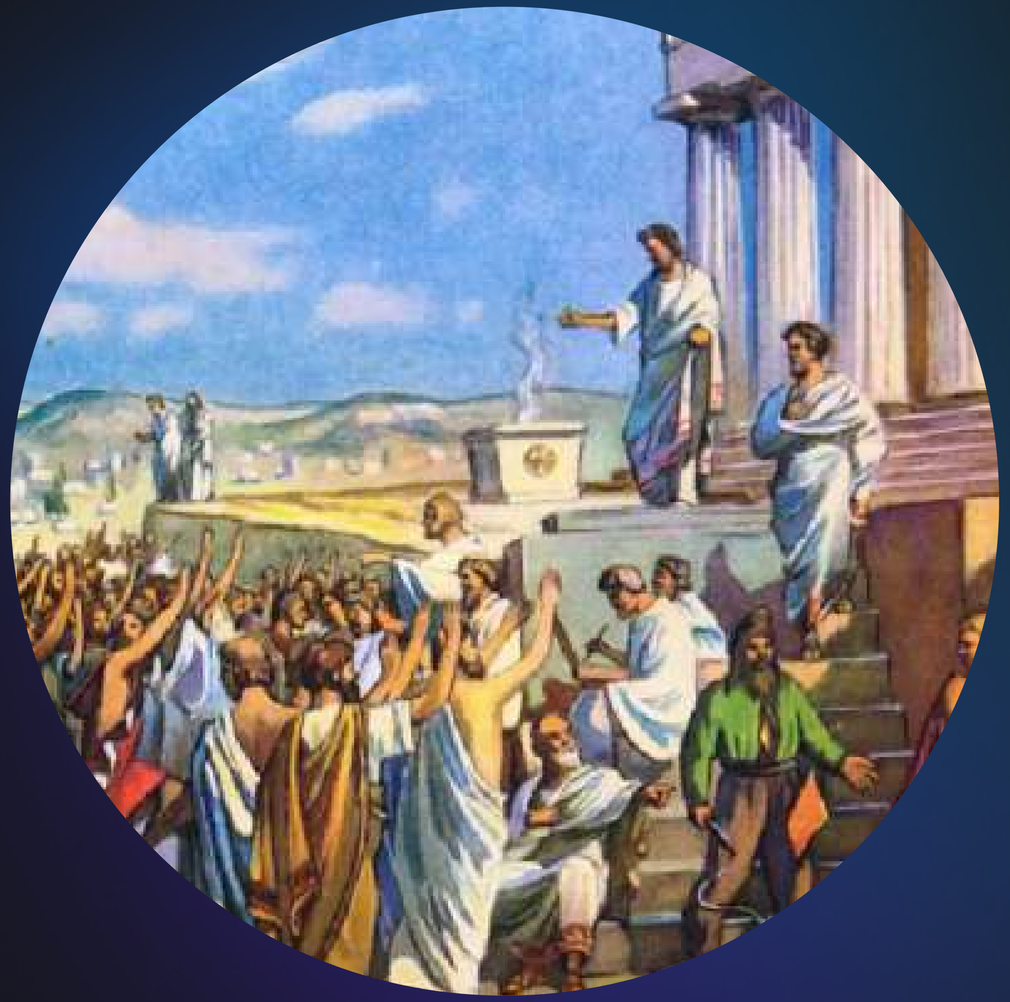
Demokratia

Turn DOs into DAOs

Reviving (on-chain) democracy with
privacy-preserving autonomous agents



Problem

- DAOs are touted as tools for decentralized governance
- Today's DAOs are centralized oligopolies, characterized by low entropy and participation rates

Table 7: Statistics of Voter Turnout

Voter Turnout	Mean	Median	Standard Deviation
Total	1.77%	0.10%	5.46%
Balancer DAO	2.34%	1.08%	3.26%
Uniswap	0.33%	0.18%	0.32%
QiDAO	1.26%	0.75%	1.31%
CityDAO	32.51%	27.36%	27.47%

Table 8: Distribution of Voting Power among Token Holders[79]

Top Voters (votes cast)	**Voting**	**% of all Voting**
1st	1,737	35%
1st+2nd	989	20%
1st+2nd+3rd	381	8%
1st+2nd+3rd+4th	159	3%
	3,266	**66%**
Other voters	1,697	34%
Total	4,963	100%

Source: Liu (2024)

Naive solutions

Minimally improve DAO UI/UX: simplify DAO creation, operation, and participation without challenging the paradigm of manual voting

snapshot

DAOstack

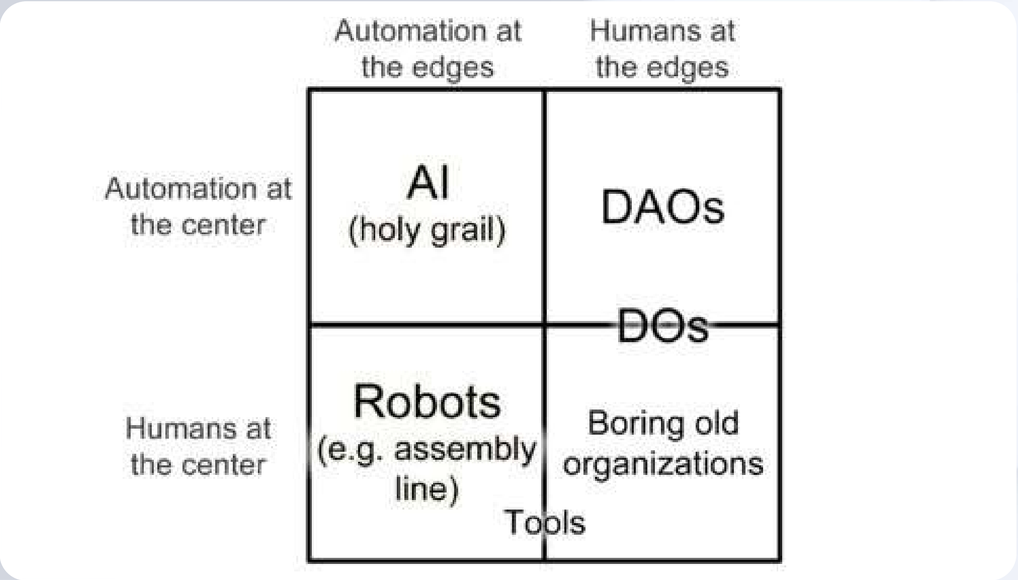
COLONY

ARAGON

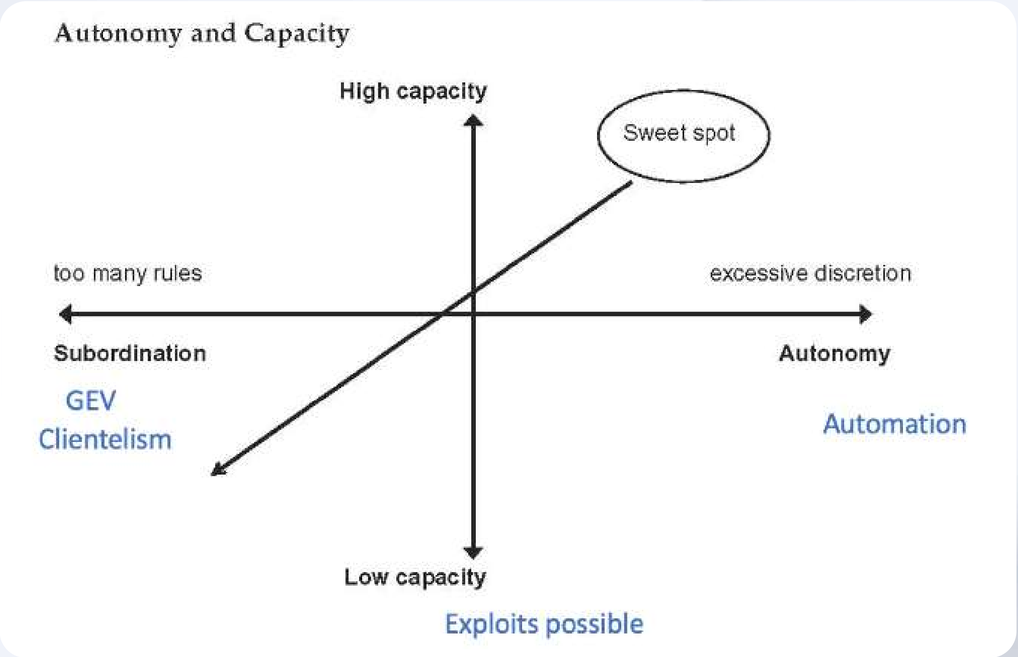
They failed, because people don’t have time to vote manually

Our solution

- Automate DAOs to achieve decentralized decision-making at scale
- We offer infrastructure to seamlessly integrate personalized autonomous agents in DAOs in a privacy-preserving manner



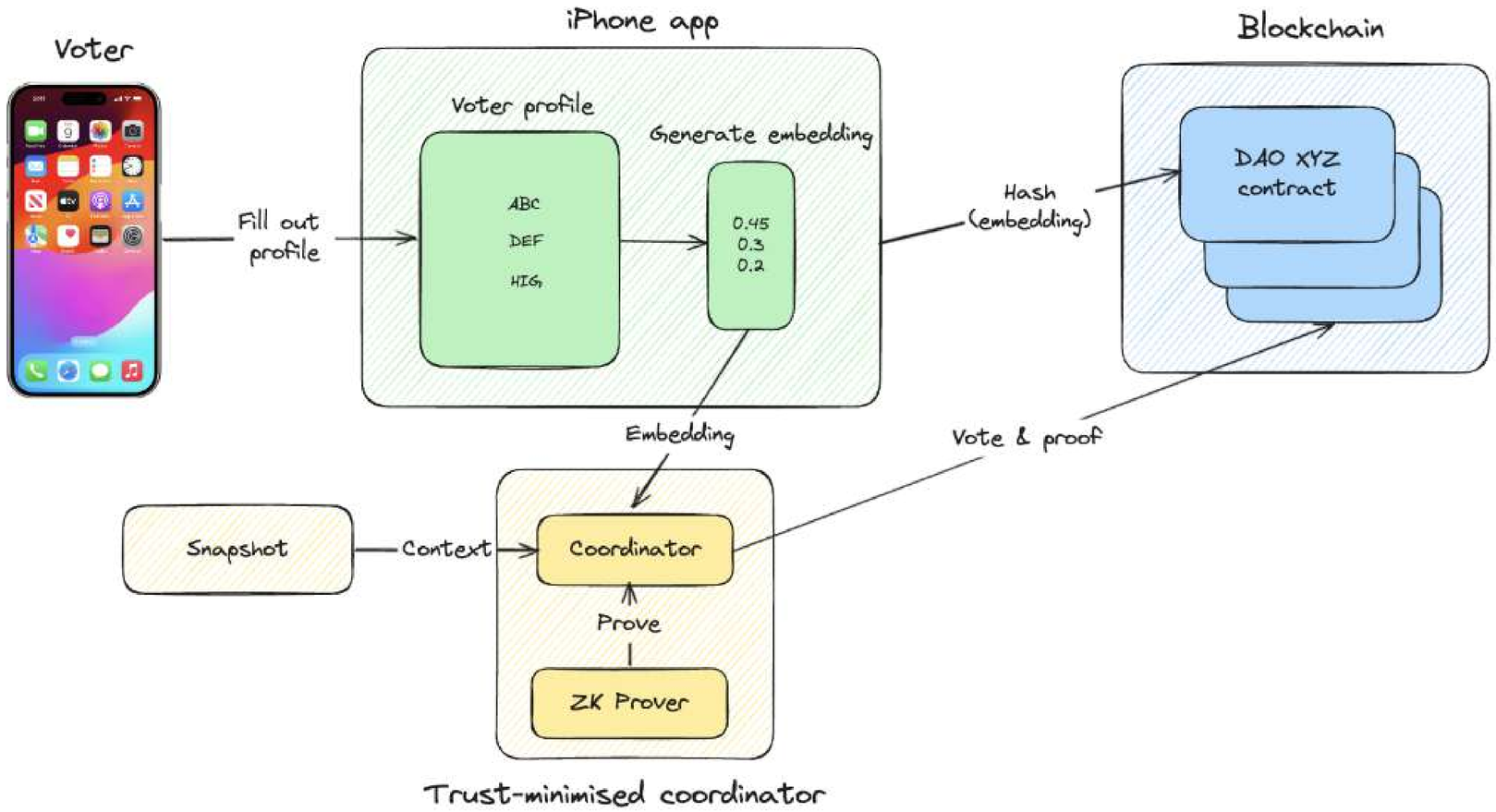
Source: Vitalik Buterin (2014)



Source: Francis Fukuyama (2013)

OUR SOLUTION

- Trust-minimised automation via zkML and privacy-preserving embeddings
- Autonomous Agent (AA) leverages highly-personalised user representations



VISION

Create scalable direct democracies through personalized automation

ROADMAP

Technical improvements

- Reducing trust in coordinator via TEEs
- Boosting AA accuracy through third-party data about the user (GDPR data requests)

Integrations

- Test integrations with Uniswap, Nouns, and Arbitrum DAOs
- Conducting an AA experiment in UK municipal elections

Challenges

- Making embeddings generated by an open-source model is practically impossible; FHE is needed for proper privacy guarantees
- The MACI framework is not very flexible and makes it difficult to integrates autonomous agents
- Lacking key crypto primitive implementations in Swift

TEAM

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ML Engineer

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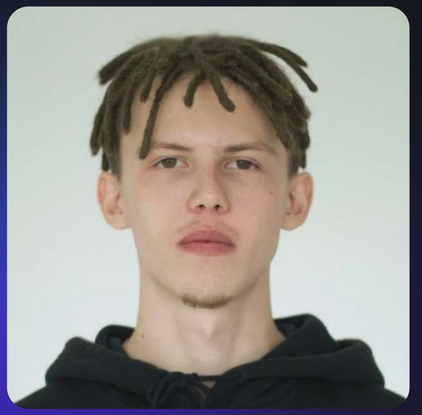

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Thank you!

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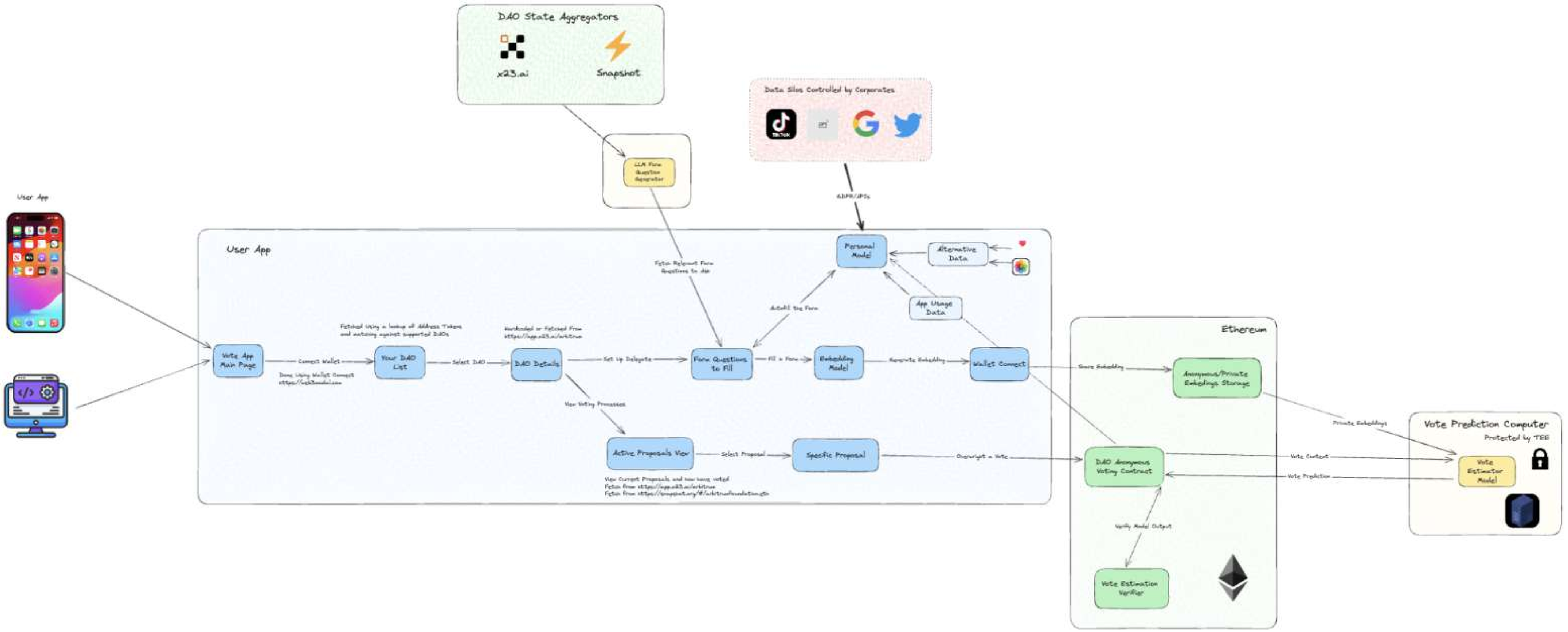
TECHNICAL DIAGRAM



CUSTOM MACI IMPLEMENTATION