An identity bridge from web2 to web3

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A pragmatic approach to on-chain identity
Interep’s Aims

- Bridge existing reputation to Ethereum
- Integrate with providers of digital identity
- Add privacy guarantees using Semaphore
Real-world identity is mirrored in digital ID...
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but we need to filter out the bots!
What does an Interep application look like?
The Application Stack.

Zero Knowledge

Application

Semaphore

Interrep

EVM Blockchain

Group Management

← ID Sources
Identity Providers - Social

- Twitter
- Reddit
- GitHub
- More to be added…
Identity Providers - Other

- Email
- Government authorities
- Curated groups
- Other ID projects
- On-chain sources
Semaphore

- Semaphore groups are membership sets
- Members may *signal* on a *topic*
- e.g.: Signal = Vote, Topic = Proposal
- Strong privacy guarantees
Groups

- Users prove membership with ID source
- Multiple tiers
- Groups represent inherent levels of guarantee
- Strong Guarantees/smaller pool vs weaker guarantees/large pool
- Interrep groups can be shared across applications
Joining a group

Prove ownership
User proves ownership of the web2 ID, e.g. via OAuth

Tier assessment
Data from the ID source is used to assess the group tier.

Connect to Eth account
User signs a message with their chosen Ethereum account.
A semaphore ID is returned. This will be used in the application.
The link between the web2 ID and the Eth account remains private.

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On-chain Groups

- Curated groups, or
- On-chain ID sources, e.g. NFT owners
Applications

- Private voting
- Social networks
- Anti-spam. (see Rate Limiting Nullifier)
- Fair airdrops
- Sybil-resistant faucets
Where are we heading?

Our aspiration with Interep is that in building applications on Ethereum that rely on identity, we don’t need to discard the relationships and reputation we’ve built up in the centralised world - but we don’t need to bring along the opportunities for surveillance or misuse. We can have applications that respect personal privacy.

Our Ethereum accounts can become more contextual, more relational, more social, and more credibly human.
Links

- APP: https://interep.link
- DOCS: https://interep.link/docs
- CODE: https://github.com/interep-project
Thank you!

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Privacy & Scaling Explorations
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