Is a Decentralized Collective Identity Possible?

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We are familiar with the paradigm where an individual has multiple digital identities to express different aspects of one's identity. You have your work identity, your family identity, your gamer identity, etc. This paradigm, while somewhat controversial is sufficient covered in digital identity discussion.

But we haven't discussed the paradigm where multiple people come together and create a singular identity - with various individuals needing access to do certain things on behalf of the collective identity.

Some might posit that corporations are a legal entity structure that provides the solution to this use case. But creating a corporation takes time and money, not to mention management overhead. Corporations tend to be more hierarchically structured, while the collective identity I'm talking about here is more peer to peer and often decentralized. We need a new way to think about decentralized collective identity. And what is decentralized collective identity anyway?

This paper presents a use case and asks:
- What is collective identity? What should be considered a collective identity?
- How do we define a collective identity?
  - Legally
  - Technologically
  - From a human user perspective
- Are there existing identity structures that address this idea of a peer to peer collective identity?
- Can decentralized identity technology offer a way to create empowered collective identities?
- How can one empower individuals as part of a collective identity, to individually act on behalf of the collective?

Today's technology systems are mainly set up for a single identity to use them, others allow teams to use them with incurred cost. There is no way for a group of people to create a collective identity with financial entity and the ability to login and use the system. The following use case is envisioned

for a small group of people, but could be applied to other ad-hoc, temporal business collaborations like film productions or other creative project based partnerships.

Instead of an individual having multiple identities, this flips that model by suggesting a collective identity composed of multiple individuals. How do the individual identities create, set rules/boundaries, revoke, track and audit these activities? How do the individual reconcile their collective identities with their individual identities? How do individual identities circulate in and out of the collective identity? There are many other questions to be asked and explored in this scenario.

Collective Identity Use Case

Whereas multiple people create a collective identity that acts as more than the sum of its individuals, in a somewhat unified way.
- Infrequent ad hoc events/conferences
- Renting/owning/sharing home together/utilities
- Informal joint venture/short-term business/emergent business "partnerships"
- A more radical idea: Mutual Aid: anonymously pay for other people for needs.

Background
A group of 6 people are organizing an event. They sell tickets and pay vendors. They make arrangements with local bars and restaurants. Two of the people are handling the finances, one is handling ticketing, three are handling restaurants/catering/other bills. Another one is handling paid email marketing. All of the individuals want to update the collective on their work statuses.

This is a one off (or once a year) event. The activity is not focused on making money. Ticketing vendors and others expect a cut of the funds. They make enough in ticket sales to cover these costs, but one person always has to put themselves on the financial line - accepting funding from paypal and other payment platforms directly, taking on the tax burden, and paying with their personal credit card. Not everyone in the team has the ability to take on the financial risk.

So the team shares the risk - some taking more financial risk than others to enable everyone to do the work, pay who needs to get paid. Another aspect is that each member brings their non-financial reputation to the team/event. This includes contacts, history, and their experience. This reputation is lent to the event to produce it, and both the reputation of the event grows and the reputation of the organizers grows as well. In the case that there is an issue or negative reputation situation, one of the organizers is a "fixer" to resolve any issues (financial, emotional, logistical, legal).

Activities
- They want to be able to log into jointly used accounts. Some need to be able to make payments. All should be able to view the current account balance/transactions.
- They want to be able to know ticket sales data and information, without one person being the one in charge.

- They want to agree and approve payments to 3rd parties and vendors. And also each other's individual accounts. (If they could not use the group account).

Ruth is at a store buying supplies for the event. She wants to use the group bank account to pay for things. She has been authorized by others in the group to make purchases up to $150 for the event. The receipt and other sales information is also saved to the group for auditing and tracking.

David is negotiating the venue cost, the legal paperwork, including insurance requirements, putting a deposit down. He is also working with catering option, that takes in information from ticketing information and catering options decision making by the whole team.

Raj and Jennifer are managing the finances and ticketing. Managing the number of tickets sold, the budget available, the transaction fees, other data associated with the ticket purchasers and the event. Jennifer manages the overall P&L budget and keeps a running audit of costs/payouts.

Sara and Chris are doing the marketing and outreach for the event, and like Ruth, need to purchase things with allocated budget.

Potential adjacent use cases:
- Delegated Identities: Parent, child. Guardian, pet. Adult child, adult parent. Unrelated adult, unrelated adult (non-formally bound romantic relationships, non-blood/legal family relationships, variations on a Relationship LLC).
  How is a collective identity similar/different from delegated identities?
- Human-Technology Collective Identities: Car/motorcycle owner (multiple owners) and the object. Solar panels that earn income for a home/property owner. Solar panel has identity to interface with the power grid. But also has identity information from property owner - is tied to their account.
- Human/AI Identity: Individuals augmented with technology are a new kind identity. Should they be addressed the same way human only identities are? Do they have other requirements/responsibilities?
- IoT Devices ownership/guardianship, vs who is habitating the space (surveillance, control)
- Underage income earners still under jurisdiction of parental control.
- Autonomous passive revenue income streams.