

July 2, Tardigrade: Orbital Meshnet for Decentralized Social Medias

Taylor Hulsmans

June 2022

Tardigrades belong to an elite category of animals known as extremophiles, or **critters that can survive environments that most others can't**. For instance, tardigrades can go up to 30 years without food or water.



Tardigrades are the first known animal to survive after exposure to outer space. In September 2007, dehydrated tardigrades were taken into low Earth orbit on the FOTON-M3 mission carrying the BIOPAN astrobiology payload.

Abstract

I have spent the majority of this week composing a whitepaper for a pure vision of the CAW manifesto. Called Tardigrade: Orbital Meshent, It ZKsnarks both nodes and vertices of a rudimentary social graph and integrates with any cryptographic primitives to expose the social media tech stack to composability and competition. IPFS pubsub passing of EIP-712 signatures of funds under a timelock opens an array of metagames like Tip jar and honourbox. I conclude with a remark on the central desire to 'break open' the verticalized techstack of social media to market forces to receive more configurability.

0.1 Where it started, where it ended

What started out as simple and rudimentary nodes of user names and vertices of connections spiraled exponentially into big data in very centralized locations. Analysis is always playing catch up, with its ethics concerns in tow. What became photos with friends became, amygdala hijacking advert algorithms, hacker wizard analytic, and update_subscription doom-scroll. The desire of a user to potentiate a network has become lumped in with a lot of other code, that is, in the end, better off being broken up and exposed to free market and defi composability principles.



Figure 1: How many times has one seen the exact same text, firstly wrapped in a Tweet, and secondly a 4chan post, and ascertained an entirely different meaning? How many times has one prejudiced a text simply by virtue of what url it is hosted at? Tardigrade brings control of the medium to producers and consumers.

0.2 Where can we go

Thus than, is the enabling power of Tardigrade, to tear back the social network graph into its most rudimentary form, and than expose all of the extra-erroneous state to composability and competition with any cryptographic value primitive. A platform can offer multiple options of moderation services, a user can contribute to algorithms they find useful, creators can find more options in cryptographic incentivization strategies. If the medium is the message, than it may be worth reducing the switching costs of the medium.

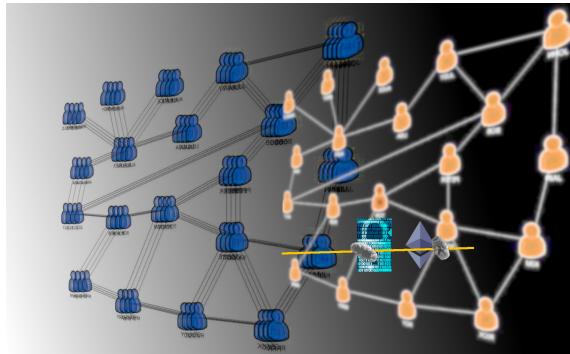


Figure 2: Inject Tardigrade for defi composability, or build with it natively. Whether ad algorithms trying to scare you into junk food ads, or regex filters shadowbanning your post, keep your network intact when caused to leave it.

0.3 Where should we go

Tardigrade targets the problem statement that current social media is too vertically integrated on too few firms, and attempts to break open the tech stack

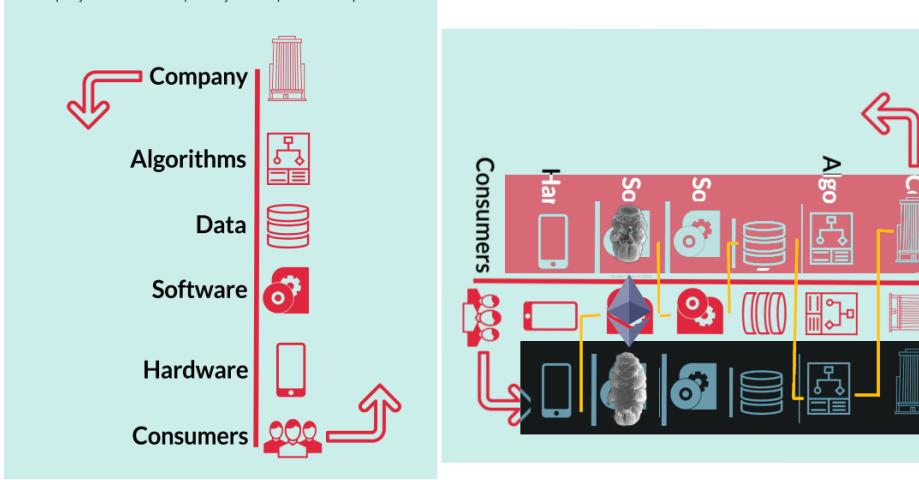


Figure 3: The choice of a user to potentiate a network often is associated with deep neural net behaviour analysis, moderation practices, and perhaps driven by incentive structures ill befitting of the knowledge they desire to purloin. Tardigrade potentiates the environment to pick and choose their data stream and analysis stack from side to side, instead of all or none up and down.

to composability and competition. Algorithms- open, transparent, swappable, creatable. Moderation-integratable, layerable, configurable. Long term to short term platforms of various incentive structures all become subject to free market competition principles that a user can choose between without having to give up their connections. Hopefully, such a technology will offer a synthesizing principle on the often polarizing questions of user censorship, content moderation, fast vs slow content production incentives, algorithmic transparency, brand baggage, GPT botnet swarms and offer ways towards digital identity and big data collection that aren't so implicitly Orwellian.

0.4 System Definition

At its core Tardigrade is an Ethereum Composable IPFS Pubsub Mesh Network for horizontally scalable social medias. Username nodes and connection vertices- a rudimentary social graph is zksnarked into the blockchain, the rest is up to everyone else.

The username than roots itself as a deposit box for an array of IPFS Pubsub based EIP-712 value chaining defi metagames, enabling the highest level of composability with defi value primitives. The configurability and composability of the value system than makes it more palpable to independently monetize core elements of the heavily verticalized social media stack.

Release a token, integrate Tardigrade, build an algorithm people want their data being vacuumed into, start a new moderation service, deploy a social media

Smart Contracts:	No Native Token
- Usernames	Purely Infrastructural: BYOC
- Follows	Highest composability possible
- Following	Social Media Graph Focused
- Connected	Most important state kept onchain
- Explore zero knowledge	ZkSNARKs for privacy
- Deposit Boxes	Enable Signature Chaining Value
- Time and Deadline based Vaults	Explore weak security metagames
- EIP-712 Signature value chains	Event driven crypto architecture
- IPFS pubsub message passing	higher seed to leech ratio

Figure 4: Tardigrade provides the rudimentary base state of a social graph and exposes it to defi primitives, by integrating a vault system, it unclocks a class of metagames that can be played by chaining deadlines of EIP-712 signatures together (Ergo Tip Jar, Homeless in storm game Topologies) over IPFS publish-subscription message passing models such as Orbit-DB. Users can cultivate a network through Tardigrade that retains the persistency of critical data over social media life cycles. Some say reputation can even cross the Prisoner’s dilemma itself

that donates to a charity, or funds a common knowledge. Tardigrade is at its heart infrastructural, providing the tightest focal point coded around the fewest core principles. No token, just an idea that a very basic zero knowledge proof social graph on the ethereum blockchain is a good idea, there to join you and your friends across many social medias as they come and go, break apart and come together.

0.5 Conclusion

The case of existence for Tardigrade: Orbital Meshnet is discussed through a historical, technological and practical basis. What was a rudimentary database of usernames and friends, spiraled into heavily moderated forums of deep neural net data harvesters, leaving users little options but to tolerate update subscription doom scroll or lose their network. Tardigrade, Orbital Meshet, Is a persistent database for the most rudimentary and important part of the social graph, the username and its connections, hopefully using privacy preserving with zero knowledge proofs. At the same time, Tardigrade breaks open the so-

cial media tech stack to competition and composability, the advert algorithms, the moderation services, the data hosting, the platform hosters, to competition and composability with cryptographic incentives all competing for both a users attention and crypto. If the medium is the message, than hopefully Tardigrade, Orbital Meshnet can drive an ecosystem where the medium and be created, grow and retired in a decentralized fashion.