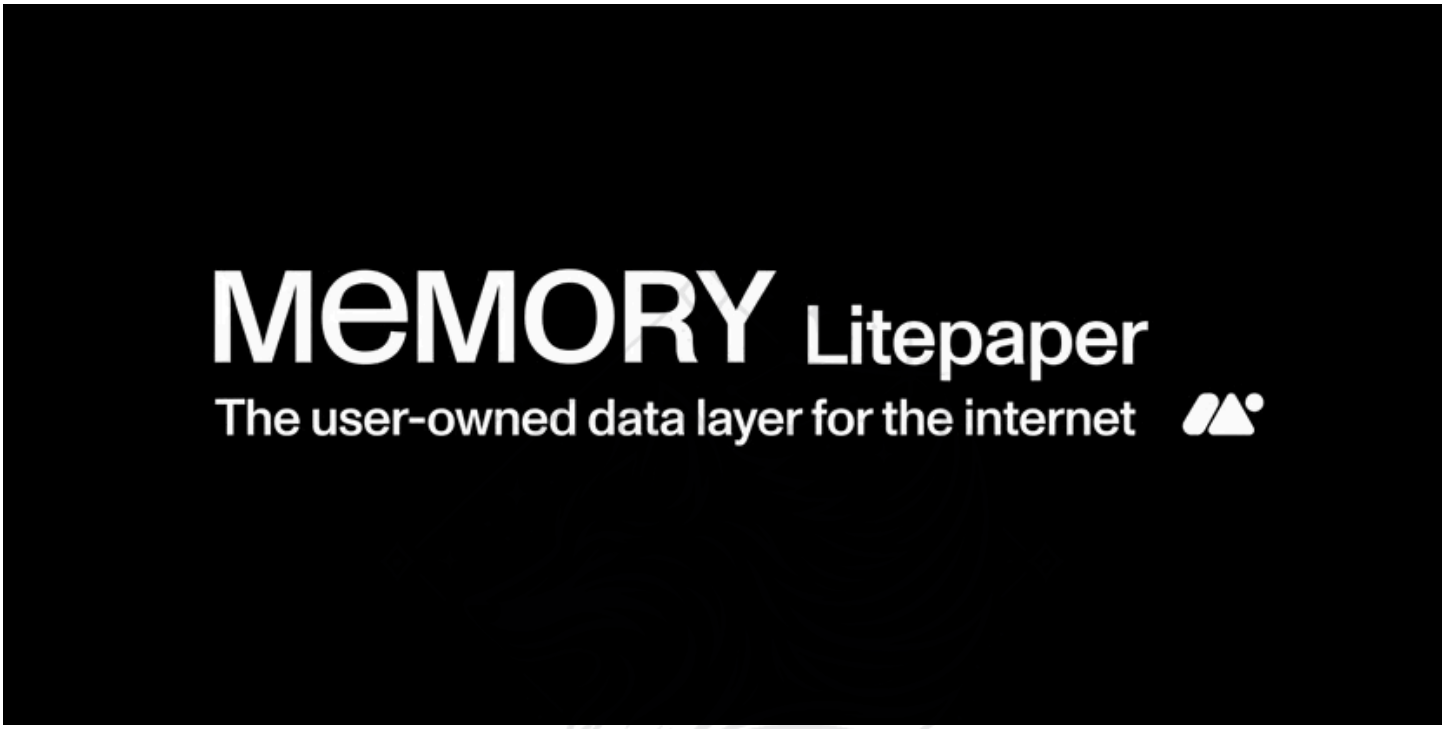
Search...Ctrl+K

Memory Protocol

Sign in
Subscribe



Memory Protocol: Litepaper

The user-owned data layer for the internet

Abstract

Memory Protocol enables users to monetize their digital footprint across the internet. By aggregating public data and securing private user information, Memory creates a unified data marketplace where users earn $MEM tokens whenever applications access their information. The protocol addresses the fundamental Web3 challenge of fragmented digital identities while providing sustainable revenue streams for data creators.

Archived copy · cryp2nova.com



Introduction

Internet users generate valuable data through every online interaction: tweets, posts, reviews, and preferences. Yet this data remains siloed within platforms that monetize it without sharing value with its creators. Users cannot port their digital history across applications, leading to fragmented experiences and lost opportunities.

Memory Protocol solves this by creating a user-owned data layer for the internet. Through automatic indexing of public data and secure storage of private information, Memory enables:

- **Data Portability**: Your digital identity moves seamlessly between applications
- **Monetization**: Earn $MEM tokens when apps access your data
- **Privacy**: User data remains private via end-to-end encryption
- **Enriched Experiences**: Apps deliver personalized services using comprehensive user data

In Web3, one of the biggest issues apps face is creating crafted experiences for users based on their identities and data. Users typically connect to apps with a wallet address that has no social identity attached to it, making it hard to create custom experiences and recommendations. Memory powers apps by providing an API that maps all identities attached to a user. Users can be queried by wallet address, Farcaster, Twitter, Lens, or Zora accounts, and the result is an identity graph with all the user identities related to the queried address for the following platforms: Ethereum address, Solana

Archived copy · cryp2nova.com

address, email, website, Farcaster, ENS, Basenames, GitHub, Factory, Talent Protocol, Lens, and Zora. Memory also provides in-depth data access for user data, such as Twitter and Farcaster follow graphs, posts, and a set of private data provided by users. One of the biggest advantages for apps is that by using Memory to get personalized data for their users, part of the API cost goes back to their users in the form of protocol revenue share.

In short, Memory allows users to own and monetize their private and public data while enabling apps to craft personalized experiences for their users by accessing in-depth information about them while also rewarding their users with part of Memory's protocol revenue.

Memory Protocol Overview

Memory Protocol facilitates users to aggregate their publicly available data and upload their private data so they can control and monetize it via a share of the protocol revenue generated by third-party apps consuming their data.

Data Consumption by Consumer Apps

At the core of Memory's economy is the $MEM token, used by consumer applications (any app or service using Memory to retrieve user data) to query user data. Apps purchase API credits at a fixed USD price. The cost is charged in $MEM based on its current USD value. A percentage of the revenue goes to the protocol and the rest goes to the user that got queried. Rewards are periodically distributed via a Merkle Tree where users can claim the rewards. $MEM rewards are not only a way to allow users to monetize their data but also an onboarding mechanism to Memory. Users can get $MEM rewards even if they haven't had any contact with Memory by having their public data queried by consumer apps. Even though they can receive a reward as revenue share for public data access, they are incentivized to upload their private data too, increasing their data value and likelihood of getting more rewards in the future.

Consumer applications access user data through the Memory using two payment methods:

- **API Credits**: Pre-purchased with $MEM tokens for regular usage
- **x402 Micropayments**: Enable one-time purchases without KYC requirements

Archived copy · cryp2nova.com



Protocol Overview

The Memory Protocol provides two main services:

Identity Graph

The identity graph provides an engine that queries all identities (social, email, websites, web3 identities) that are publicly linked to a wallet address or linked by users via the Memory app. It provides an array of identities based on a single wallet address, allowing apps to create a richer user experience and have a better understanding of the user identity and data. Even if the user has a wallet address that doesn't have any link to a user identity, they can go to the Memory app and link this address to another wallet, Twitter, Farcaster, and other social accounts to expand the identity graph. All identity links generated by a user are validated by the Memory backend. Users can get $MEM rewards for linking different identities to their wallet addresses to enrich the publicly available identities.

An interesting use case for Memory's identity graph that uses public links with user-generated links is for embedded wallets. Users usually have a public address that is linked to an ENS name and has other links to Twitter and Farcaster accounts. But imagine the user just created an embedded wallet for a specific app. In that case, the identity graph will be empty since the wallet doesn't have any public link to any other identity. The user is then incentivized to go to the Memory app and provide a single link between their public wallet and the new embedded wallet. By doing that, all identities linked to the public wallet will also be linked to the new embedded wallet, making the customization experience for the user much better and providing user rewards. It's worth noting that the user can either make a link via the Memory app or within a third-party app via Memory's API.

Archived copy · cryp2nova.com



Data Graph

The data graph provides public user data that's automatically indexed by Memory's engine, with no need for user action, such as Farcaster and Twitter follow graphs and posts. It also enables users to upload private data that is encrypted and stored within Memory. There are two types of private data:

- **Structured data:** Predefined data sets by Memory and validated on upload, such as ChatGPT conversation histories and Spotify listening preferences. Third-party apps pay a fixed price to consume it.
- **Unstructured data:** Users can upload any arbitrary data with a valid schema for consumption. It requires a pool of data curators to assess the value and validity of the data in order to price it,

Archived copy · cryp2nova.com

making the price dynamic for third-party apps.

Protocol Timeline

Memory Protocol will evolve through parallel development tracks, expanding data capabilities while progressively decentralizing infrastructure. Both roadmaps work in tandem to create a robust, community-owned data marketplace.

Data Availability Roadmap

The Memory Protocol will launch in three progressive phases, each expanding data types and monetization options while maintaining $MEM as the sole payment token.



Phase 0: Network Bootstrap
The initial phase builds network effects through zero-friction participation. Memory's backend automatically indexes users' existing public social data from Twitter and Farcaster, requiring no user action. This creates immediate value where users earn passive $MEM income whenever consumer applications query their public data. By removing all barriers to entry, Phase 0 establishes a foundational user base and demonstrates the protocol's value before introducing more complex features.

Archived copy · cryp2nova.com

Phase 1: Structured Data Marketplace
This phase introduces active data monetization through pre-defined categories. Users can upload specific data types such as ChatGPT conversation histories, Spotify listening preferences, and movie recommendations through validated templates ensuring data quality and consistency. The protocol implements fixed pricing per category, creating predictable economics for both providers and consumers. Revenue from each transaction is transparently split between users and the protocol treasury, establishing sustainable economics while maintaining simplicity.

Phase 2: Open Data Economy
The final phase unlocks the protocol's full potential by enabling users to monetize any data type. Users can create and submit custom datasets with proper schemas and metadata, from cooking preferences to specialized professional knowledge. To maintain quality, Phase 2 introduces curators who stake $MEM to signal valuable data, earning rewards for accurate assessments or facing slashing for poor judgment. This creates a self-regulating market where pricing dynamically adjusts based on demand and curator confidence.

Decentralization Roadmap

Memory will transition from centralized operations to full decentralization through four careful phases, ensuring security and reliability while progressively distributing control to the community.

Phase 0: Centralized Foundation
During initial launch, the Oscillator team operates a centralized backend to ensure rapid iteration and stable growth. While centralized, all user data remains encrypted end-to-end, maintaining privacy standards that will persist through decentralization. This phase prioritizes product-market fit and user experience refinement without distributed infrastructure complexity. No node rewards are distributed during this foundational period.

Phase 1: Node Architecture Migration
The protocol transitions to distributed node architecture while maintaining Oscillator team control. This phase replaces the monolithic backend with a network of nodes utilizing Multi-Party Computation (MPC) encryption and consensus mechanisms for secure data storage and retrieval. Though centrally operated, this establishes the technical foundation for future decentralization. Node operators receive no rewards during testing and optimization.

Phase 2: Trusted Partner Expansion
Following successful node network operation, the protocol begins selective decentralization by inviting trusted partners and established validators to operate nodes. The network implements EigenLayer's Actively Validated Services (AVS) framework for economic security, introducing the first $MEM rewards for node operators. This controlled expansion tests decentralized operations while maintaining high security and performance through reputable operators.

Archived copy · cryp2nova.com

Phase 3: Permissionless Network

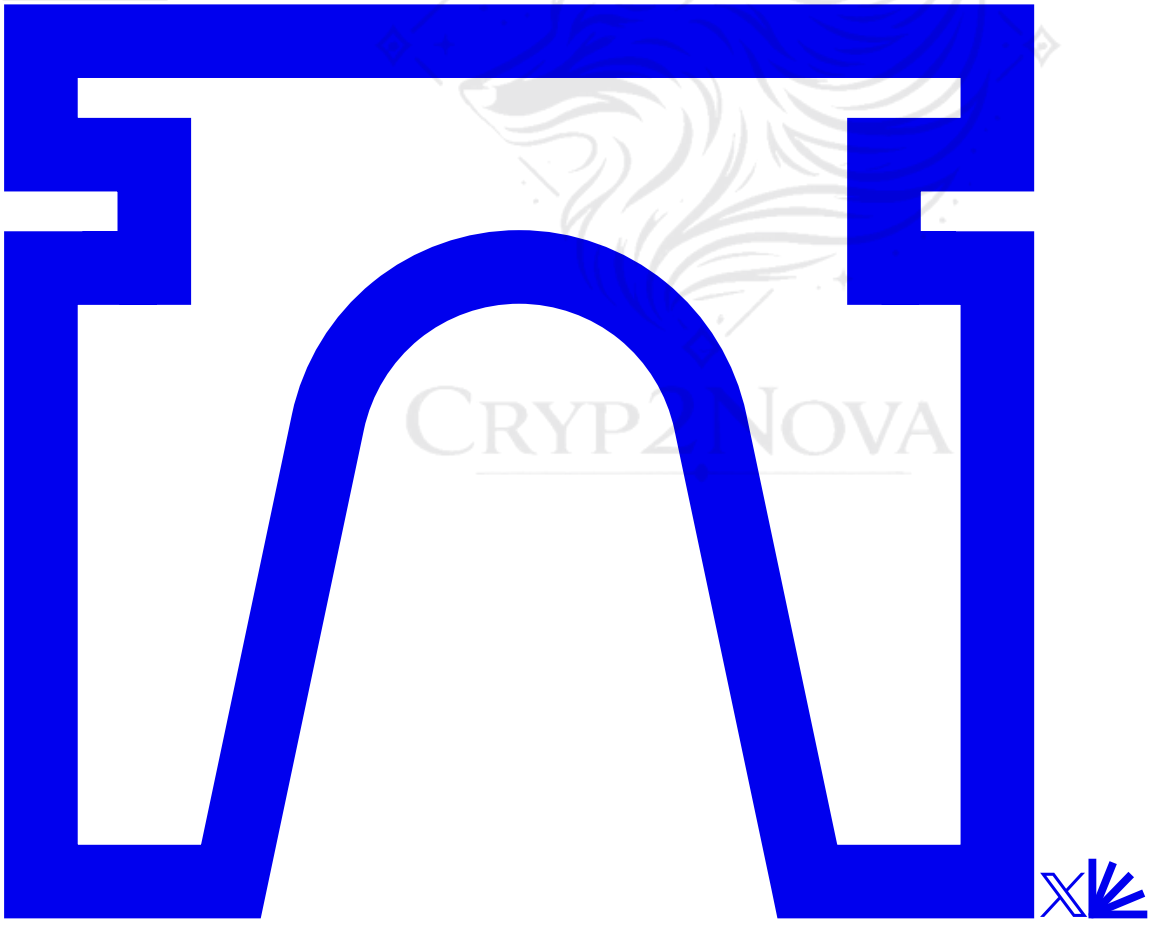
The final phase achieves full decentralization by opening node operation to any community member. Operators must stake tokens (ETH or $MEM, pending governance) to join the network, creating economic alignment and security guarantees. All qualified participants can contribute to data processing, network security, and governance while earning protocol rewards proportional to their stake and performance.

Conclusion

Memory Protocol creates the foundation for a user-owned internet where data generates value for its creators. By solving the fragmentation of digital identity and enabling seamless data monetization, Memory empowers both users and developers to build richer, more personalized experiences.

The combination of immediate utility through public data indexing, progressive expansion into private data markets, and sustainable token economics positions Memory as the definitive solution for Web3 data ownership and monetization.

Start writing



©2025 Paragraph Technologies Inc

Archived copy · cryp2nova.com