Aevir : Building Decentralized Collective Intelligence

Foreword

Artificial Intelligence is rapidly evolving into a new factor of production, with an impact comparable to the steam engine of the Industrial Age and the semiconductor of the Information Age. However, this exponential technological progress stands in stark contrast to the high degree of centralization in underlying economic value and governance rights. The three core resources—data, computing power, and cutting-edge algorithms—are concentrating at an unprecedented speed within a few tech giants, forming insurmountable barriers. Under this paradigm, the public, as the ultimate producers of data and contributors of value, reside at the bottom of the value distribution chain, with their creations captured by platforms at near-zero marginal cost.

The challenge we face is not merely technical, but a profound socio-economic structural issue. When society's collective intelligence is encapsulated in opaque black boxes, with benefits and applications arbitrarily determined by centralized entities, unequal value distribution is merely a symptom. The deeper risks lie in the stagnation of social innovation and the marginalization of individual autonomy.

Aevir is not proposed to build just another more efficient AI model, but to design a verifiable, executable "Economic Constitution" for a decentralized collective intelligence economy. We believe the fundamental solution to unequal value distribution lies not in ex-post human intervention or moral appeals, but in a a priori mathematical and axiomatic design of economic rules. By precisely defining the processes of value creation, distribution, capture, and circulation using rigorous mathematical language, we strive to minimize trust costs in economic activities, ensuring protocol execution relies on no centralized arbiter.

Aevir is a grand socio-economic experiment. Its success depends on our ability to jointly construct a positive-sum game environment that both incentivizes the

emergence of individual wisdom and ensures the maximization of collective interests.

This whitepaper aims to outline the macro vision and foundational blueprint of Aevir. Given the system's complexity, specific technical specifications and execution mechanisms are detailed in the following specialized documents, which will be released sequentially:

- **Aevir Tokenomic Whitepaper**

- **Aevir AI Framework Whitepaper**

- **Aevir Blockchain Whitepaper**

- **Aevir Community Governance Whitepaper**

Abstract

Aevir is a decentralized AI collaboration network driven by Proof of Intelligent Contribution (PoIC). It transforms the computational work required to maintain blockchain consensus into contributions beneficial to "Collective Intelligence," aiming to build a self-evolving AI ecosystem that aggregates global wisdom and is owned and governed by its contributors.

Aevir's core mechanism, PoIC, primarily drives three key sectors: the Aevir Knowledge Market, the Aevir Blockchain, and the Aevir Intelligent Ecosystem. These cover the complete intelligence cycle from training data sourcing and distributed model training to Agent development and application. Within this ecosystem, high-quality knowledge, DePIN (Decentralized Physical Infrastructure Networks), the Axon model, vertical domain models, and diverse Agents catalyze and collaborate with each other under token incentives to co-evolve.

As infrastructure for the future Intelligent Internet, Aevir converts the cost of maintaining blockchain network security into "Intelligent Contributions" that create high-quality content and facilitate distributed training. This effectively resolves the inefficiency of traditional consensus mechanisms and the data monopoly problem of centralized AI. By building a value network that integrates a knowledge market, distributed training, and an Agent economy, Aevir continuously incubates "Collective Intelligence" built and shared by all of humanity.

The protocol adopts an AEV + AUV Dual-Token Model and adheres to a 100% Fair Launch principle, strictly pegging token distribution to real intelligent contributions. Aevir is committed to returning the rights of creation, ownership, and governance of AI to every participant, jointly building an intelligent future serving public interests and governed by a global community.

1. Industry Evolution

1.1 From Information Interconnection to Intelligent Collaboration

The evolution of the Internet can be categorized into stages, each deepening the dimensions of connectivity and modes of value creation.

Information Internet (Web 1.0): Represented by portals, the core was "one-way connection of information." Information was produced and distributed by centralized institutions, with users primarily acting as passive consumers.

Social & Mobile Internet (Web 2.0): The proliferation of social media and smartphones ushered in the "Read-Write" era, realizing "two-way connection between people." Users became content creators, and the platform economy rose. However, this model is built on the uncompensated possession of user data, with platforms becoming centralized control points for data and value distribution.

Value & Intelligent Internet (Web 3.0 & AI): We are currently entering a new phase. Blockchain technology, through decentralization and immutability, builds a "Value Internet" allowing value to flow as freely as information. Simultaneously, AI, as a new productive force, is changing how value is created. The Aevir protocol aims to combine these technologies to build a network that can both freely circulate value and continuously create intelligence.

1.2 Artificial Intelligence Industry Pain Points

Current AI development is primarily driven by a centralized model. While efficient in

early technological development, its inherent structural defects are becoming increasingly apparent, forming four major challenges.

1.2.1 Data Monopoly

The biggest bottleneck in current AI development lies in the data barriers and predatory economic models constructed by centralized giants. Giants monopolize the vast majority of global high-value data, confining users in closed systems without ownership or revenue rights. This mechanism not only deprives data providers of due returns but also stifles innovation opportunities for small and medium developers through data hegemony. Without new high-quality data entry, the entire AI ecosystem loses the possibility of evolution. Breaking this barrier and returning data value to providers has become an inevitable requirement for the next stage of AI.

1.2.2 Uneven Distribution of Compute

The training costs for frontier large models have climbed to tens or even hundreds of millions of dollars, turning AI R&D into an extreme capital-intensive race. High compute thresholds constitute insurmountable innovation barriers, shutting out SMEs, academic institutions, and independent developers. Ironically, massive amounts of global consumer-grade edge compute (GPU/CPU) remain idle. The scarcity and expense of centralized compute versus the idle waste of edge compute constitute an extreme resource mismatch.

1.2.3 Privacy Issues

Centralized AI services require users to upload private data to cloud servers. In this process, users completely lose control over their data. Whether sensitive trade secrets or personal biometric information, they face risks of abuse, leakage, or targeted advertising. Lacking "usable but invisible" privacy computing protection, the convenience of AI comes at the cost of user privacy security.

1.2.4 Knowledge Quality Issues

With the proliferation of AIGC (AI-Generated Content) and the solidification of the

traffic economy, the digital world faces a severe "Signal-to-Noise Ratio" crisis. On one hand, homogeneous synthetic data generated by AI rapidly floods the network; if models continue recursive training on these "data echoes," it will trigger "Model Collapse," leading to intelligence degradation and cognitive distortion. On the other hand, centralized algorithms prioritize emotional content over deep information to drive clicks. This dual pollution not only exacerbates human echo chambers but also dilutes the high-quality "human real data" required to sustain AI evolution.

1.3 Core Vision

Facing these limitations, Aevir chooses to build a new paradigm based on decentralized principles.

1.3.1 Fundamental Principles

The Aevir ecosystem follows these principles:

100% Fair Launch: The Aevir protocol is community-driven from the start. The total supply of 1 billion AEV tokens has no allocation reserved for the team, advisors, or early investors. All tokens are distributed fairly to participants through Intelligent Contributions (PoIC) to the network.

Privacy-First Distributed Intelligence: The protocol employs privacy computing technologies like Federated Learning to build a "Data stays, Value flows" training model. Users' raw data remains on local devices; only encrypted and anonymous model parameter updates are aggregated, aiming to fundamentally resolve the conflict between AI development and personal privacy.

Diversified AI Assets: The core intelligent assets produced by the protocol are multi-layered and composable. This includes: Axon models and vertical domain models generated through collective wisdom forming the ecosystem's capability base; Personal Intent Agents trained by users based on their own data; and various Agents and AI applications built upon the ecosystem.

Knowledge NFT Protocol: In Aevir, high-quality knowledge contributions receive token incentives. Furthermore, both vertical domain models generated by collective wisdom and Personal Intent Agents trained on individual data can be encapsulated as

NFTs. These NFTs are digital intelligent agents and intelligent assets that can be traded, leased, and programmatically composed.

Community as the Protocol: Key decision-making power belongs to the community. Every key parameter and major upgrade of Aevir will be decided by the AevirDAO, composed of veAEV holders. The protocol's evolutionary path is dynamically shaped by the community's collective wisdom.

1.3.2 Ultimate Goal

Aevir's long-term goal is to build decentralized "Collective Intelligence." This is a self-evolving intelligent ecosystem aggregating global wisdom, comprised of massive high-quality knowledge, Axon models, professional vertical models, and diverse Agents.

In this network, everyone's knowledge, experience, and judgment become nutrients nourishing the growth of this "Collective Intelligence." In turn, the intelligent results produced are fed back to everyone as services through open protocols.

By building a value network integrating a knowledge market, distributed model training, and an Agent economy, Aevir continuously incubates "Collective Intelligence" co-built and shared by the community, returning AI creation, ownership, and governance rights to every participant.

2. Market Positioning & Differentiation

2.1 Limitations of Decentralized AI Projects

Existing projects combining AI and blockchain have explored different directions but often have specific limitations.

Table 1: Comparison of Existing Solutions

Project Type	Core Value Proposition	Major Limitations	Aevir Differentiation
Decentralized Compute Platforms	Provide GPU compute rental markets.	1.Incentivize "computation"rather than "intelligence." 2. Compute often used for homogeneous tasks, decoupled from AI value creation. 3. Unsolved source of high-quality training data.	PoIC consensus directs compute to valuable AI training and includes knowledge contribution incentives, forming a "Data + Compute" value loop.
Data/Content Monetization Platforms	Allow creators to sell content via NFTs, etc.	1. Content value separated from AI model training. 2. Value capture is often one-off, lacking longevity. 3. Prone to speculative behavior rather than sustained value creation.	Content is training data. High-quality knowledge units continuously nourish vertical models and bring long-term returns to contributors, not just one-time sales.
AI Model DAOs	Community governance and investment in AI models.	1. High governance threshold; low participation for ordinary users. 2. Lacks continuous, decentralized model training mechanisms. 3. Incentive models not granular enough to quantify contribution.	Agent economy and low-threshold nodes allow ordinary users to participate in value creation. Federated learning provides continuous, distributed training capabilities.

Common Limitations:

Incentives Decoupled from Value Creation: Rewards compute resources but fails to effectively reward intelligent outcomes.

Content & Model Split: Lack of direct value transmission mechanism between content ecosystems and AI model training.

High Barrier to Entry: Excludes a vast number of non-technical users from the core value creation system.

2.2 Challenges of Federated Learning

Federated Learning is not new, but its large-scale commercial application is hindered by a "Tragedy of the Commons" dilemma. Open-source frameworks lack two key elements:

Incentive Mechanism: Lack of a strong, fair, and reliable economic model to drive individuals and institutions globally to continuously contribute data and compute resources.

Coordination Mechanism: Effectively coordinating global nodes, verifying contributions, and precisely distributing value in a decentralized environment is complex. Centralized coordination contradicts decentralization and raises efficiency and trust concerns.

Aevir is designed to provide a complete "Incentive & Coordination System" for Federated Learning. Through PoIC consensus and a dual-token model, the protocol precisely quantifies every effective intelligent contribution (content or training) as an on-chain asset and automatically distributes value via smart contracts.
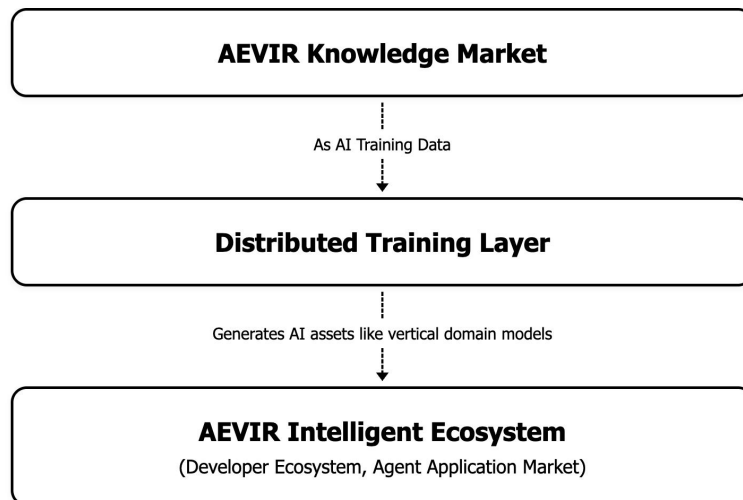
2.3 Aevir's Positioning

Aevir is positioned to pioneer a full-process ecosystem covering intelligence from source to creation to application. Its structure comprises three interconnected layers:

Knowledge as Training Data: The AEVIR Knowledge Market not only serves users but its structured knowledge units serve directly as training material for models, ensuring data purity.

Training as Value Creation: Distributed training transforms from a cost center into the network's core value creation engine via PoIC consensus.

Intelligence as Asset: AI outcomes, including models, personalized Intent Agents, and applications built upon them, are concretized as intelligent assets that users can own, trade, and compose.

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│          AEVIR Knowledge Market           │
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              As AI Training Data
                    ┊
                    ▼
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│         Distributed Training Layer        │
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        Generates AI assets like vertical domain models
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│          AEVIR Intelligent Ecosystem      │
│   (Developer Ecosystem, Agent Application Market)  │
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3. Aevir Core Design

3.1 Design Principles

Aevir's technical decisions follow three principles:

Direct Value-Contribution Mapping: The protocol must precisely identify and quantify contributions beneficial to the ecosystem, whether creating a profound answer or completing an efficient AI training round. This is the foundation of a fair incentive system.

Privacy-Preserving Collaboration: User privacy and data sovereignty must receive the highest level of protection. Collaboration is based on voluntary and informed consent using Federated Learning and Differential Privacy.

Composability: All core components, especially Personal Intent Agents and AI applications built on vertical models, must be designed as open, standardized modules.
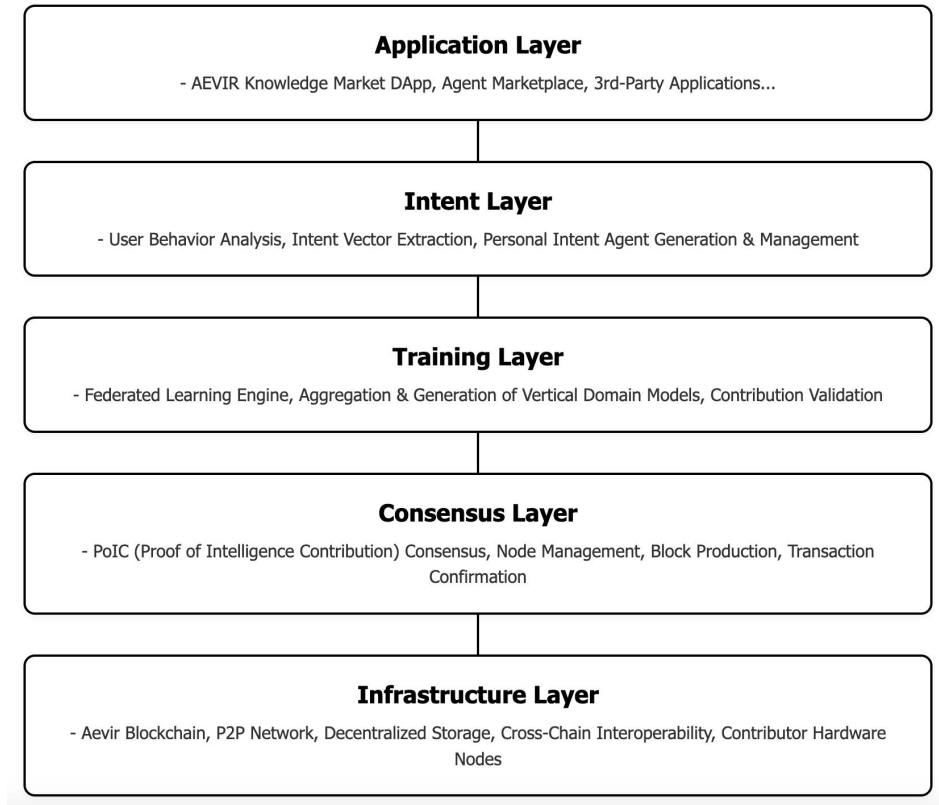
3.2 Overall Architecture

Aevir adopts a layered architecture where each layer has clear responsibilities. It is a dedicated chain for pricing, verifying, and settling intelligent contributions.

Application Layer: User interface, including Knowledge Market, Distributed Training Platform, Agent Market, and third-party apps.

Intent Layer: Middleware connecting user behavior and AI. It runs locally, analyzing interaction data, converting it into standardized "Intent Vectors" for training Personal Intent Agents.

Training Layer: The "Compute Core." It organizes and coordinates global nodes for distributed AI model training via the Federated Learning Engine.

Consensus Layer: The network foundation. It guarantees transaction security via PoIC consensus on the Aevir Blockchain and measures "Intelligent Contribution" to distribute AEV tokens.

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│                    Application Layer                          │
│  - AEVIR Knowledge Market DApp, Agent Marketplace, 3rd-Party  │
│                       Applications...                         │
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│                       Intent Layer                            │
│  - User Behavior Analysis, Intent Vector Extraction, Personal │
│             Intent Agent Generation & Management              │
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│                     Training Layer                            │
│  - Federated Learning Engine, Aggregation & Generation of     │
│       Vertical Domain Models, Contribution Validation         │
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│                    Consensus Layer                            │
│  - PoIC (Proof of Intelligence Contribution) Consensus, Node  │
│   Management, Block Production, Transaction Confirmation      │
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│                 Infrastructure Layer                          │
│  - Aevir Blockchain, P2P Network, Decentralized Storage,      │
│   Cross-Chain Interoperability, Contributor Hardware Nodes    │
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3.3 Tech Stack Selection

● Consensus: PoIC Consensus combined with BFT finality (e.g., Tendermint). PoIC handles value creation/distribution; BFT ensures fast block confirmation.

● Smart Contracts: EVM Compatible. Allows Ethereum developers to seamlessly build on Aevir.

● Storage: IPFS + Arweave Hybrid. IPFS for fast access; Arweave for permanent storage of high-value knowledge units.

● Privacy: Differential Privacy + Secure Multi-Party Computation (MPC). Noise is added to model updates (Differential Privacy), and MPC ensures coordinators cannot see individual raw updates.

● Cross-Chain: Native support for LayerZero and IBC.

4. PoIC Consensus Mechanism

4.1 Limitations of Blockchain Consensus

Mainstream consensus mechanisms have inherent efficiency or fairness issues:

Proof of Work (PoW): High energy consumption; computation produces no external value.

Proof of Stake (PoS): Capital Matthew Effect; rich get richer, leading to centralization.

4.2 Proof of Intelligent Contribution (PoIC)

PoIC's core philosophy: The "work" maintaining network security should be "Intelligent Work" contributing to the network's core value—"Collective Intelligence."

Under PoIC, a node's IntelliPoint determines its reward share and eligibility to be a Proposer. It is a weighted sum of Training Points and Knowledge Contribution Points:

$$P = \left(w_t P_t^{\alpha} + w_l P_l^{\alpha} \right)^{\frac{1}{\alpha}}$$

IntelliPoint (P): Final composite score.

TrainingPoint (P_t): Metric for AI compute resources (e.g., GPU) contributed.

LibraryPoint (P_l): On-chain metric for the value of knowledge contributed by a node.

w_t, w_l: Weight coefficients adjustable via governance.

Additional Metrics:

KnowledgePoint: Value of a single piece of content.

ReputationPoint: Value of a single user's knowledge contribution (for reward distribution).

4.3 Knowledge Contribution Scoring

A multi-dimensional scoring system ensures fairness and resistance to manipulation.

A. Community Curation:

Quadratic Voting Verification: Users vote on knowledge using AUV tokens.

Reputation-Weighted Curation: Voting power is weighted by user reputation and stake.

B. Content Quality & Data Purity:

A DAO-elected "Gatekeeper AI" filters obvious violations without judging viewpoints, ensuring Data Purity for model training.

C. Time-Weighted Rewards:

Rewards are split: immediate release based on initial heat, and linear release based on long-term citations and updates.

4.4 TrainingPoint Scoring

A. Phase 1: Performance Benchmarking

Nodes download a global model, train on local data, and report performance on a standard test set. Random verification nodes re-run tests to audit.

TrainingPoint = f(Performance Gain, Hardware Contribution, Stability)

B. Phase 2: Verifiable Computing (Roadmap)

Introduction of Zero-Knowledge Proofs (zk-SNARKs) for trustless verification of training without revealing data.

5. Technical Architecture Analysis

5.1 Operation of PoIC

5.1.1 Ecosystem Roles and Responsibilities

- The protocol designs flexible participation roles to accommodate participants with varying levels of resources:

- Intelligent Contributor Node: As nodes running the Aevir protocol, Intelligent Contributors are the infrastructure units of the network. They ensure network security and stability by participating in the PoIC consensus. Simultaneously, they convert the computational work of maintaining the network into "Intelligent Contributions" beneficial to the ecosystem—specifically, providing AI computing power (such as GPU resources) or contributing effective knowledge in the knowledge market. They are the unified carriers and value engines of the three pillars: network security, computing power, and knowledge value distribution.

- Knowledge Contributor Node: The knowledge and data providers of the ecosystem. This is a functional identity; any entity that provides, shares, and is verified as contributing valuable knowledge, data, algorithms, or models in the AEVIR knowledge market can obtain this identity. An Intelligent Contributor Node can simultaneously be a Knowledge Contributor.

- Proposer: The leader and producer of the block for the current round. In each block cycle, the Intelligent Contributor with the highest network-wide IntelliPoint score is designated as the Proposer for that round, responsible for packaging transactions and creating new blocks. This is a deterministic, elite mechanism based on contribution rankings.

- Validation Committee Member: The supervisor and confirmer of the consensus layer. Their core responsibility is to perform post-proposal verification: after the Proposer broadcasts a new block, Validation Committee Membes audit the legitimacy of the block data and the proofs of intelligent contribution. A block is only finally confirmed and formally written into the main chain after obtaining verification confirmation from multiple Validation Committee Membes, thereby ensuring the security and Finality of the network consensus.

5.1.2 Incentives and Penalties

The AEV rewards generated by each block will be distributed into three different reward pools:
- Proposer Pool: Designed to heavily reward the top contributor of the round. The mechanism involves receiving 20% of the total block reward. The entire amount in the pool is distributed as a one-time, immediate payment to the node designated as the Proposer for the current block.
- Intelligent Contribution Pool: Designed to provide inclusive incentives to all

nodes providing basic computing power and knowledge. The mechanism involves receiving 30% of the total block reward. The amount in the pool is distributed proportionally based on the IntelliPoint score of all Intelligent Contributors.

- Knowledge Contribution Pool: Designed to vigorously drive the prosperity of the knowledge market and the growth of data value. The mechanism involves receiving 50% of the total block reward. The amount in the pool is distributed proportionally based on the ReputationPoint of all Knowledge Contributors.

The protocol establishes a strict Slashing mechanism: for behaviors such as double signing, long-term offline status, or submitting malicious content or fake training results, a portion or all of the staked AEV will be slashed.

5.2 Federated Learning Engine

The training layer is responsible for organizing global nodes to collaboratively evolve AI models. It is mainly divided into the federated learning training of the Axon model and the federated learning training of various vertical models.

5.2.1 Federated Learning Workflow

1. Model Distribution: The coordination server distributes the latest version of the global model (i.e., the latest Axon model or a specific vertical domain model) to the nodes participating in the current round of training.
2. Local Training: Each node trains the model on its local private data. During this process, data does not leave the local device.
3. Gradient Upload: Nodes calculate local model updates (gradients) and upload them after adding noise using differential privacy technology to protect privacy.
4. Secure Aggregation: The coordinator collects encrypted gradients from various nodes and performs a weighted average based on the weights of each node to update the global model. This process will be enhanced by Secure Multi-Party Computation (MPC) in the future to improve security.
5. Cycle Iteration: The new global model becomes the basis for the next round of training, starting a new cycle.

5.3 From Data to Personal Intent Agent

The intent layer is responsible for transforming users' digital footprints into valuable intelligent assets.

5.3.1 Definition of "Intent"

"Intent" is the abstraction and vectorized representation of the deep needs behind user behavior, including explicit intent (such as search queries), implicit intent (such as browsing preferences), and deep intent (potential needs inferred through association analysis).

5.3.2 Transformation Path from Data to Agent

User behavior data is analyzed locally by AI models and extracted into encrypted intent vectors. Users can choose to use these vectors to train a personalized Personal Intent Agent model and finally mint it as an ERC-721 standard NFT through the Knowledge NFT Protocol. The entire process is fully controlled by the user, who can update, pause, or delete their Agent at any time.

5.4 AEVIR Knowledge Market

The AEVIR Knowledge Market is a decentralized knowledge economy. Users initiate topics here to solicit knowledge, while other members contribute content around these topics. Through a collective evaluation mechanism combined with reputation-weighted voting, high-quality knowledge is jointly identified and confirmed. Verified knowledge contributions are converted into quantifiable on-chain value. This design aims to effectively incentivize the continuous generation of high-quality knowledge and provide reliable data sources for the artificial intelligence training of the Aevir network.

Its core components include:

- Domain: A classification directory for knowledge, used to organize content in different professional directions.
- Questopic: A specific question or discussion theme initiated by a user within a specific Domain using AUV tokens, or a specific piece of knowledge, insight, or article. This is the starting point of knowledge creation.
- Publish: When publishing a Questopic, the user must choose to publish it on an Intelligent Contributor Node. The topic and knowledge quality of the Questopic are important sources for the Intelligent Contributor Node's Library Point within the PoIC consensus mechanism.
- Discussion: Users participate in the discussion of a Questopic using AUV tokens, and their discussions are also treated as evaluable knowledge.
- Evaluation: Users evaluate the quality of knowledge by voting on various topics and discussion contents using AUV tokens based on reputation weighting.
- Knowledge Cleansing: High-quality knowledge is processed and cleansed by the node's data processing models and manual efforts to form structured datasets suitable for model training.
- Knowledge Unit: The specific content collection within a Questopic, such as questions, answers, related discussions, and cleansed structured data. To balance efficiency and decentralization, the complete content of the knowledge is stored in off-chain distributed storage, while key information such as its metadata,

content hash, ownership, and evaluation results are encapsulated as standardized data units and recorded on-chain to ensure verifiability and immutability.

5.5 AEVIR Intelligent Ecosystem

The AEVIR Intelligent Ecosystem is a decentralized collective intelligence ecosystem built by the Aevir protocol. Based on a high-quality knowledge source, it integrates the entire process from model training and application development to the economic circulation of agents. The ecosystem consists of four core parts: Training Knowledge Sources, Distributed Training & Vertical Domain Models, Developer Ecosystem, and the Agent Economy.

5.5.1 Training Knowledge Sources

This is the data foundation relied upon for AI model training within the Aevir ecosystem. It integrates two types of data sources: one is community general knowledge verified via the reputation-weighted voting mechanism and organized structurally; the other is professional domain knowledge from Intelligent Contributors. This dual-track design aims to build a knowledge base that possesses both breadth and depth, providing high-quality, trustworthy data input for subsequent vertical domain model training.

5.5.2 Distributed Model Training

The ecosystem is built upon the Proof of Intelligent Contribution (PoIC) consensus protocol. The process begins with a single initiating node fusing an open-source base with a specific domain knowledge base to generate an initial global model and publishing a federated training task. Subsequently, the PoIC mechanism incentivizes various nodes to join in, utilizing local computing power to collaboratively optimize the model. This process ensures that raw data remains local while producing the final iterated vertical domain model, which serves as the core foundation of the ecosystem's intelligent capabilities.

5.5.3 Aevir Foundation Model: Axon

Axon is Aevir's general foundation model, serving as the default training task for nodes across the network. It adopts a federated learning architecture, utilizing the idle computing power of nodes to train on local Questopic knowledge. By continuously aggregating distributed model gradients, Axon can internalize dispersed structured knowledge from the entire network into model parameters in real-time, thereby constructing a dynamically updated general model covering ecosystem-wide knowledge.
- Default Training Mechanism:Axon employs a unique "fill-in" federated training strategy. In the Aevir network, when an Intelligent Contributor Node is not

assigned a specific vertical domain model training task, its computing resources do not sit idle but automatically switch to the default Axon training protocol. This mechanism ensures that the network's compute utilization rate remains at saturation, converting every bit of computing power into an increment of intelligence.

- Questopic-Based Knowledge Aggregation:Axon's training data comes directly from high-quality content verified by consensus in the AEVIR Knowledge Market.
Axon Training Step:
  1. Localized Learning: Nodes download the latest copy of the Axon global model and call upon the high-quality Knowledge Units (from different Questopics) hosted on that node, which have undergone data cleansing, to serve as the training set.
  2. Federated Evolution: Nodes fine-tune Axon locally without leaking raw data, extracting knowledge features and generating model gradients.
  3. Global Intelligence Emergence: Gradients uploaded by thousands of nodes are securely aggregated, allowing Axon to absorb all cross-domain knowledge generated within the entire ecosystem in real-time.

5.5.4 Developer Ecosystem

Developers can leverage the vertical domain models provided by the ecosystem to integrate various external tools (such as APIs, data sources) and other models, or perform secondary development. This allows them to build functionally diverse Agents and decentralized applications (dApps) tailored to different application scenarios.

5.5.5 Agent Economy

This is the application and value circulation layer of the ecosystem's intelligent achievements. Its design encompasses Personal Intent Agents, Intelligent Assetization, Composability, and Collaboration.

- Agent Market: A decentralized market for developers to publish and users to call various Agents.
- Personal Intent Agent: Users can refine "intent vectors" based on their digital behavior on personal devices to train personalized Agents exclusive to themselves, ensuring data privacy and control throughout the process.
- Knowledge NFT Protocol: A standard protocol for encapsulating AI models and Agents as on-chain assets (NFTs).
- Composability & Collaboration: Agents within the protocol are designed as standardized, callable modules. When multiple Agents collaborate to complete a complex task, the AUV fees paid by the user are automatically distributed via smart contracts to the owner of each participating Agent based on their contribution, forming an automated value distribution network.

6. Dual-Token Economic Model: AEV & AUV

6.1 Necessity of Dual Tokens

Decouples "Store of Value" (AEV) from "Medium of Exchange" (AUV).

6.2 AEV (Governance & Equity)

- Total Supply: 1 Billion.

- Functions: Gas fees, Network Security, Governance (veAEV), Minting AUV.

- Deflation: Buyback and burn from fees.

- Distribution: 100% Fair Launch via PoIC.

6.3 AUV (Utility)

- Usage: Payment for Knowledge Market activities, Agent services, and rewards.

- Supply: Minted only by staking AEV.

- Burn: All AUV consumed in ecosystem activities is permanently burned.

- Stability: Dynamic supply based on ecosystem demand.

6.4 AUV Consumption Scenarios

Scenario	AUV Flow
Initiate Questopic	100% Burned
Bounty	80% to Reward Pool, 20% Burned

Publish Answer	100% Burned (Anti-spam cost)
Content Promotion	100% Burned
Call Agent	Paid to Owner + Protocol Fee
Mint Agent NFT	100% Burned
Reputation SBT	100% Burned

6.5 Value Flywheel

1.   Knowledge-User Loop: Quality content -> More AUV interaction -> Higher rewards -> More content.

2.   AI-App Loop: Better Data -> Better Models -> More Agents -> More AUV consumption -> More Compute.

3.   Network-Value Loop: Ecosystem prosperity -> High AUV demand -> More AEV staking -> AEV value rise -> Network security.

7. Decentralized Governance

7.1 AevirDAO Architecture

- Council: Highest decision-making body (elected by veAEV).

- Governance Committee: Executive body.

- Oversight Committee: Emergency powers for security.

- Technology & Validator Committees: Specialized operational bodies.

- ABC SubDAOs: Domain-specific governance (e.g., Legal AI, Finance AI).

7.2 Governance Process (AIP)

Discussion -> Formal Submission (Stake veAEV) -> Voting -> Timelock -> Automatic Execution.

7.3 Hybrid Governance Model

Voting weight = Stake + Reputation.

Reputation: Earned via contribution, non-transferable, boosts voting power, required for committee eligibility.

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8. Development Roadmap

- Phase 1: Infrastructure & Launch: Testnet, PoIC testing, Knowledge Market Beta, Fair Launch.

- Phase 2: Expansion: Mainnet, Agent Market v1, Axon Model release, SubDAOs formation.

- Phase 3: Deepening: ZK-Proof integration, Agent Composability SDK, Full DAO handover.

- Phase 4: Prosperity: Enterprise Federated Learning solutions, Ecosystem Foundation, Mature DAO.

Conclusion

The Aevir protocol is not just a technical framework but a social coordination model designed to distribute the rights of AI creation and ownership more broadly to individuals. We believe that a Collective Intelligence connected, nourished, and

shared by global wisdom will surpass any single organization in potential.

Aevir is an open protocol. We encourage developers, researchers, and content creators to review our design, contribute code, and participate in building the network to jointly construct an intelligent future belonging to all participants.

Specific technical specifications are detailed in:

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