Fyni: A Hyper-Personalized Financial AI Agent for Web3 Finance

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***Abstract*—This paper presents *Fyni*, a hyper-personalized financial AI agent built on the Virtuals protocol and powered by Kryptos. Fyni addresses two pressing issues in Web3 finance: the fragmentation of user financial data across countless platforms and the lack of personalized AI assistants to manage digital assets. We introduce Fyni's architecture, which comprises a Data Layer (integrating comprehensive on-chain and off-chain data via KryptosConnect), a Memory Layer for individualized context *stored off-chain for privacy and efficiency*, and an Intelligence Layer that enables autonomous decision-making and collaboration with other agents using the *Agent Commerce Protocol (ACP)*. We outline the utility of the FYNI token in accessing the agent's services, staking for influence and rewards, paying agent fees, participating in governance, and supporting a sustainable token economy through redistribution and burn mechanisms. We compare Fyni's proactive-first, modular approach with related AI agent projects (EVA, I.R.I.S., Wayfinder, Sentient AI, and Mamo), highlighting how Fyni's combination of a user-centric persona and plug-in modularity (for data, memory, and multi-agent tools) differentiates it in the emerging agent ecosystem. Finally, we provide a roadmap for Fyni's development within the Virtuals and Base community.**

***Index Terms*—Web3, DeFi, AI agents, Personalization, Data Aggregation, Privacy, Trusted Execution Environments, Agent Commerce Protocol**

I. Introduction

Blockchain and Digital Assets have unlocked a vast landscape of financial opportunities from decentralized finance (DeFi) and NFTs to on-chain gaming economies. However, this landscape is highly fragmented, and users often juggle dozens of wallets, exchanges, and protocols to manage their assets. Tools exist for portfolio tracking and analytics, but they tend to present raw data dashboards rather than personalized advice. Unlike traditional finance, where personal bankers or robo-advisors tailor recommendations to an individual's goals, the digital assets world largely offers one-size-fits-all interfaces. This lack of personalization leaves users overwhelmed and unable to fully capitalize on opportunities or preempt risks aligned with their unique profiles.

Recent advances in AI and agent frameworks hint at a solution: *a personal AI financial agent* that knows a user's holdings, understands risk appetite, learns from behavior, and autonomously helps manage and grow their crypto wealth. Such an agent must seamlessly connect to fragmented data sources, maintain a memory of user preferences, and coordinate with other specialized AI agents to perform complex tasks. This vision is what Fyni aims to realize.

In this paper, we introduce Fyni, a hyper-personalized AI agent. Fyni is built on top of Kryptos, an Interconnected Web3 financial data standardization protocol, and leverages Virtuals' Agent Commerce Protocol (ACP) for agent-to-agent collaboration. The following sections detail the problems Fyni addresses, its architectural design, the ACP mechanism enabling autonomous multi-agent workflows, the FYNI token's role in the ecosystem, comparisons with related projects, and a development roadmap.

II. Problem: Fragmented Data and Lack of Personalization in Web3

A. Fragmented Web3 Data

A typical user may have assets on multiple Ethereum addresses, tokens on Base or other L2 networks, liquidity positions on various DeFi protocols, NFTs in different wallets, and accounts on several centralized exchanges. Each platform operates in a silo with its own interface. This makes it extremely difficult to get a holistic view of one's financial status, let alone make informed decisions. As a result, users often miss critical insights (for example, an impending liquidation on one platform) or opportunities (e.g., a better yield on an asset elsewhere) simply because the information is scattered. A unified data layer is needed to aggregate and harmonize this information. Kryptos addresses this by introducing an "open banking "- like data standardization protocol for Web3, connecting thousands of blockchain and exchange data sources into one layer [1]. This breadth of integration is the foundation upon which Fyni can operate; it ensures that no part of the user's financial picture is "blind" to the agent.

B. Lack of Personalized Intelligence

Even when data is aggregated, today's tools mostly provide static analytics or generic recommendations. They do not learn from the individual user's behavior or adapt to their personal goals. In Web3, two users with the same portfolio might have very different intentions; one may be a long-term holder focused on security, another an active trader seeking high yields. The current dashboards will not distinguish between them. This is where personalization is crucial. The next generation of agents should maintain a personal memory of user preferences (investment horizon, risk tolerance, interests like gaming or NFTs, etc.) and contextualize any advice or action with that in mind. In addition, interactions with the agent should feel personal; the agent should recall past conversations and decisions, creating a sense of continuity. Other projects like EVA on Virtuals demonstrate the value of an agent having contextual identity and (public) on-chain memory for transparency [3]. Fyni builds on the concept of

persistent memory, but applies it to financial decision making with a *privacy-first off-chain* design.

C. Single-Agent Limitations

The complexity of Web3 often requires specialized expertise. Without a standardized method for consulting experts, an agent "all-knowing, all-capable" is impossible to build or would be dangerously unreliable outside its core competency. Fyni therefore interoperates with other AI agents (e.g., consulting a security audit agent before interacting with a new protocol or delegating a yield task to a specialized yield agent). The Agent Commerce Protocol (ACP) provides a standard that allows agents to reliably find each other, exchange value, and fulfill tasks in a trust-minimized way [2].

III. Fyni Architecture and Solution

Conceptual overview. Fyni's architecture is divided into three layers—the Data Layer aggregates all user financial data across platforms; the Memory Layer stores personalized context off-chain; and the Intelligence Layer houses Fyni's decision-making engine and its interface to the Agent Commerce Protocol (ACP) for multi-agent collaboration. The agent's persona adapts to user preferences (e.g., cautious vs. adventurous) while always acting within the user's goals.

A. Data Layer: Unified Web3 Data via KryptosConnect

Fyni's capabilities begin with the Data Layer, responsible for aggregating and standardizing information from the user's entire financial footprint. Rather than reinvent the wheel, Fyni leverages **KryptosConnect**, the flagship data interoperability feature of Kryptos [1]. KryptosConnect functions as an API and data pipeline that links blockchains, decentralized protocols, and centralized exchanges in one place. This is akin to an "Open Banking" standard for crypto; it can pull in wallet balances, transaction histories, DeFi positions, NFT holdings, exchange account balances and trade records, and more.

By leveraging KryptosConnect, Fyni gains broad coverage across the Web3 space. For a user, this means Fyni can see everything the user allows it to see: for example, an Ethereum wallet's DeFi loans, a Base NFT portfolio, a CEX account's holdings, and even off-chain references like tax reports, all in one unified data model. This comprehensive scope is critical. With it, Fyni can remind users of upcoming unlocks on vesting tokens, calculate true net worth across platforms in real time, or alert if a user is overexposed to a particular asset. Data freshness is also ensured. Kryptos provides real-time or high-frequency updates on demand, so Fyni operates on up-to-date information.

User privacy and consent are paramount: KryptosConnect allows users to securely share only the data needed with Fyni without exposing private keys (e.g., read-only access via public addresses or secure API keys for CeFi). All sensitive data sharing is opt-in and encrypted.

B. Memory Layer: Personalized Off-Chain Memory (Privacy & Efficiency)

While raw data is essential, equally important is how Fyni remembers and learns from user-specific context. The Memory Layer is Fyni's personalized memory bank. It stores information about the user and the agent's interactions over time, including factual data (e.g., baseline stablecoin allocation), preference data (e.g., risk tolerance, constraints like "never sell Asset X"), and interaction logs (e.g., questions asked, advice given, and user responses). By maintaining this memory, Fyni avoids redundant advice and refines strategies to better suit each individual.

Off-chain by design. Fyni's user memory is stored *entirely off-chain* for privacy and performance. All detailed records of the user-agent relationship, preferences, behaviors, and conversation history are maintained within Kryptos' infrastructure on Google Cloud Platform (GCP), **encrypted at rest** and processed using **Trusted Execution Environments (TEE)** where appropriate [4]. This ensures sensitive financial information and personal patterns never appear on a public ledger, and remain confidential during storage and computation. The off-chain approach also enables high throughput and low latency (e.g., handling detailed chat logs and analytics) without incurring blockchain costs.

C. Intelligence Layer: Autonomous Reasoning and Orchestration

At the top of the stack is the Intelligence Layer, the core AI and autonomy engine of Fyni. This layer comprises Fyni's internal reasoning module and its external collaboration module.

Internal reasoning (The Fyni Agent Briain. Fyni's decision-making draws on state-of-the-art large language models (LLMs) and the Virtuals agent framework. Given (i) data context from the Data Layer and (ii) user context from the Memory Layer, Fyni generates recommendations or action plans (e.g., rebalancing, risk alerts, evaluating opportunities). Autonomy is user-configurable (e.g., confirmation requirements, whitelists, value limits).

External collaboration via ACP. When encountering tasks outside its direct expertise, Fyni engages the *Agent Commerce Protocol (ACP)* [2] to collaborate with specialized agents. *We do not detail ACP here.* At a high level, ACP provides a standard for (a) discovering suitable agents, (b) negotiating terms, and (c) settling value and outcomes in a trust-minimized fashion using smart contracts. This allows Fyni to safely "plug in" expert services (e.g., security reviews, tax optimization, complex execution paths) while maintaining user safeguards.

IV. ACP (Agent Commerce Protocol) — High-Level Summary

ACP is a communication and transaction standard that enables autonomous agents to work together with clear terms and on-chain enforcement [2]. Conceptually, interactions follow phases such as *request* and *discovery*, *negotiation* of terms, *execution* with escrowed value, and *evaluation*/settlement of

results. Fyni utilizes ACP as the "lingua franca" to extend capabilities through trusted collaborations; the deep protocol internals are outside the scope of this paper.

V. FYNI Token Utility and Economic Design

Fyni is not only a technological product but also a community-driven platform within the Virtuals ecosystem. The FYNI token is central to aligning incentives among users, token holders, and the agent's long-term objectives. Unlike simple utility tokens, FYNI is designed with multi-faceted roles: it gates access to the agent, facilitates a fair economic model for usage, empowers the community in governance, and ensures the sustainability of Fyni's services through a unique token flow (including staking, fees, and burn mechanisms). Below, we outline the key utilities and mechanics of the FYNI token:

- **Access & Premium Features:** Holding FYNI can gate access to advanced capabilities (e.g., deep analytics, priority support, larger memory quotas).
- **Staking for Personalization and Rewards:** Staking FYNI can unlock enhanced personalization tiers and fee discounts, and may receive non-guaranteed reward distributions derived from platform revenues as governed by policy.
- **Agent Usage Fees (Pay-as-you-go):** Certain services incur fees (e.g., execution, external agent costs). FYNI can be used as the medium of payment, with potential discounts when paying in FYNI.
- **Governance and Co-Ownership:** FYNI holders can propose and vote on roadmap priorities, integration targets, risk parameters, and treasury allocations, steering Fyni's evolution.
- **Redistribution & Burn Mechanics:** A portion of platform fees (and token taxes where applicable) can be allocated to staker incentives, buybacks, and/or burns – subject to governance, compliance, and sustainability objectives.

This token design aims for *utility-first* adoption and sustainability (e.g., avoiding passive-profit framing). As adoption grows, more usage leads to more fees, which can support rewards, buybacks, and development, reinforcing the ecosystem flywheel.

VI. Comparison with Related Projects

EVA (Virtuals Protocol). EVA is a pioneering agent exploring contextual identity and on-chain memory with emotional reactions [3]. EVA's focus is personality and social interaction; Fyni focuses on privacy-preserving, finance-first personalization using an off-chain Memory Layer.

I.R.I.S. developed with Nethermind, IRIS is aimed at smart contract security analysis and real-time developer insights. It exemplifies specialized agents that Fyni can consult via ACP when security diligence is required.

Wayfinder. An AI tool for discovering optimal on-chain pathways and execution routes. Fyni can leverage such capabilities via ACP to implement complex strategies as part of a broader personalized plan.

Sentient AI. A general-purpose agent initiative emphasizing empathetic, human-like assistants. In contrast, Fyni specializes in Web3 finance with domain-specific data and safeguards; generalist models can be integrated as components where appropriate.

Mamo. A Base-native yield farming concierge focused on automated APY optimization. Fyni includes yield optimization as one facet among many (asset allocation, risk, tax-aware strategies) and emphasizes user-tailored guidance with optional automation.

In conclusion, Fyni distinguishes itself from these projects by combining personalization, modularity, and financial-domain focus in one agent. Fyni is, in essence, the first Web3 financial agent to bring *all* these elements together – a distinct persona for each user, powered by a constellation of expert modules and agents, underpinned by a community-driven token economy.

VII. Roadmap

Phase 1: Prototype & Data Integration (Current). Establish core KryptosConnect integrations (Ethereum, Base, major CEXes, popular DeFi protocols). Build an initial reasoning engine with basic profiles. Closed alpha prioritizing data coverage and correctness. Outcome: working prototype that reads cross-platform portfolios and outputs coherent overviews with initial personalized tips.

Phase 2: Beta Launch on Base (Q3-Q4 2025). Public beta within the Virtuals and Base ecosystem. Introduce the off-chain Memory Layer features (histories and preferences persisted privately). FYNI token generation event (TGE) via Virtuals' genesis launch mechanisms. Chat interface for advice and personalized insights. Governance feedback loops for prioritizing integrations and features.

Phase 3: Autonomous Agent Collaboration (Q4 2025). Enable ACP-powered collaborations with selected specialist agents (e.g., yield optimization, security analysis, market insights). Test progressively complex workflows with evaluator roles where needed. Expand Fyni's execution capabilities with rigorous guardrails (whitelists, value limits, confirmations). Security audits throughout.

Beyond 2026. Cross-chain expansion, compliance modules (where desired), specialized sub-agents, global localization, and continuous model upgrades prioritized via FYNI governance.

VIII. Conclusion

Fyni represents a new breed of AI agent: one that fuses autonomous AI with the composability of digital assets to deliver a personalized, context-aware experience. By tackling data fragmentation and delivering privacy-preserving memory, Fyni empowers users to navigate crypto finance with confidence. Its layered architecture (Data, Memory, Intelligence) and ACP-enabled collaboration position it not as a solitary bot, but as an integrative platform orchestrating a society of agents for the user's benefit. The FYNI token aligns the community around

this mission, incentivizing usage, rewarding contributions, and decentralizing control.

As the Virtuals/Base ecosystem grows, Fyni aims to be a flagship example of how AI and blockchain can co-evolve: an agent that is autonomous, trustworthy, and user-aligned. Our roadmap outlines how Fyni differentiates itself through hyper-personalization and modular design, and how it will evolve through community-led development.

ACKNOWLEDGMENTS

We thank the Virtuals community, developers, and contributors across the Base ecosystem.

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