PHX: A Decentralized, Merit-Based Digital Currency

Abstract

PHX is a decentralized digital currency that operates without requiring high computational resources or financial investment. It introduces a Proof of Daily Engagement (PoDE) model, enabling any user with an internet connection to participate. PHX is accessible through a web application, preserving decentralization by eliminating the need for downloads or personal data.

Following its listing on decentralized exchanges, PHX will support in-app PI–PHX Exchange, fostering growth alongside the PI Network while promoting token lock-up and long-term stability.

1. Introduction

The rise of cryptocurrencies has shown that decentralized money is possible, yet existing models often reintroduce barriers:
- Mining requires specialized hardware.
- Exchanges impose KYC and account creation.
- Custodial wallets compromise decentralization.

PHX addresses these challenges by:
1. Providing a web-based platform accessible anywhere.
2. Implementing a PoDE model that rewards daily participation.
3. Planning in-app decentralized exchange integration with PI, promoting liquidity and long-term adoption.

2. System Design

2.1 Token Issuance
- Total supply: 21,000,000 PHX (pre-minted).
- Fixed supply ensures scarcity; no additional issuance is permitted.

2.2 Distribution
- Daily Mining: Users claim PHX once per 24-hour period.
- Referral Program: Rewards both referrer and referee; verified portion released after KYC.
- KYC Verification: Only KYC-verified users can withdraw, preventing Sybil attacks.

2.3 Web Application

- Accessible via browser without installation or personal data collection.
- Preserves decentralization while enabling global participation.

2.4 Blockchain Integration

- Built on Stellar Network: low fees, fast settlement (~5s), scalable.
- Backend tracks PoDE sessions, referral logic, and reward calculation.
- Token settlements executed on-chain.

3. Proof of Daily Engagement (PoDE)

3.1 Concept

PoDE allows users to initiate one mining session per day. Each session is proof of active participation, incentivizing consistent engagement.

3.2 Mathematical Model

Let:

R = reward per session

U_t = unique active users at time t

S = total token supply

Cumulative distributed supply D_T:

$$D_T = \sum_{t=0}^{T} R * U_t, \quad D_T <= S$$

3.3 Properties

- Low barrier: no hardware or complex setup required.
- Habit formation: daily engagement strengthens network security.
- Sybil resistance: KYC verification ensures human users.

4. Security and Fair Distribution

- KYC Verification: Uses Pi Network KYC to confirm unique human participants.
- Withdrawal Conditions: Minimum 170 mining sessions (~6 months) + KYC verification.
- Referral Incentives: Dual-phase bonus with diminishing rewards to limit monopolization.

5. Decentralized Exchange Integration

- In-App PI–PHX Exchange: Users can swap PI and PHX directly.
- Liquidity & Lock-Up: Encourages holding PHX, reduces circulation, strengthens token stability.

- Seamless Experience: Users interact with exchange without leaving the web app.

6. Threat Model
- Sybil Attack → Prevented via KYC verification.
- Bot Automation → Daily mining requires manual engagement.
- Wealth Centralization → Fixed supply, diminishing referral rewards, and withdrawal conditions prevent token hoarding.

7. Economic Model
- Utility: PHX serves as medium of exchange, store of value, and incentive for participation.
- Inflation Control: Fixed supply; tokens distributed gradually through engagement.
- Lock-Up Effect: Exchange integration with PI promotes token retention and long-term stability.

8. Roadmap

Phase	Description
1	WebApp launch & PoDE implementation
2	Referral system & user growth
3	Decentralized exchange listing (PI–PHX)
4	In-app exchange integration
5	Governance features & global adoption

9. Conclusion
PHX demonstrates that decentralization is not just blockchain-based, but also accessible, human-centric, and community-driven. Through PoDE, web accessibility, KYC verification, and PI integration, PHX provides a scalable, fair, and resilient digital currency ecosystem.

PHX = Accessibility + Security + Sustainable Growth