



 Pure wallet

- ISO/IEC 27001 Certified
- PCT International Patent

United States	BLOCKCHAIN-BASED MOBILE ELECTRONIC WALLET SYSTEM
Australia / Europe	ELECTRONIC WALLET SYSTEM WITH SPLITTING METHOD FOR OFFLINE TOKENS HAVING CRYPTOCURRENCY ACCESS RIGHTS IN BLOCKCHAIN
China	ELECTRONIC WALLET SYSTEM FOR PARTITIONING OFFLINE TOKENS WITH BLOCKCHAIN-BASED CRYPTOCURRENCY ACCESS RIGHT



The Problem

Crypto wallets today are online-only, hardware-dependent—and routinely hacked.

\$3B+ Lost to hacks in 2023

Problems with Traditional Crypto Wallets

High Fees

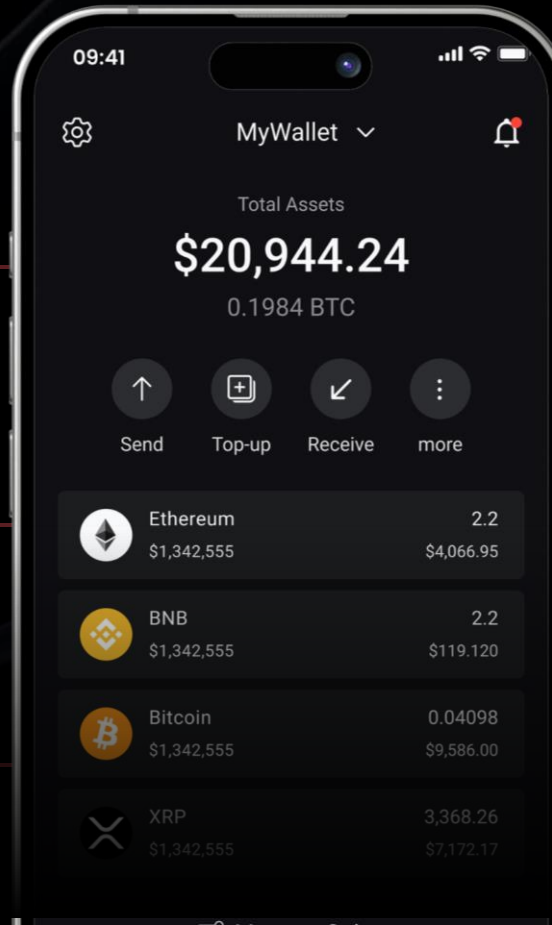
Designed for P2P, but gas fees make USDT and USDC hard to use for micro transactions.

No Real-Time

High demand slows public chains, disrupting Micro transactions and daily use.

Central Reliance

USDT and USDC were built for P2P, But now sit in exchanges as trading assets, with lost accessibility and control.



Solution with Pure Wallet

Zero Gas Fees

Built on Pure Chain's DAG + PoA² architecture, users can send tokens instantly with no gas cost.

No Internet Needed

Offline signing and verification allow secure transactions without connectivity.

Offline Wallet Functionality

Pure Wallet enables full asset control through P2P transfer, eliminating exchange dependency and restoring stablecoins as real, usable currency.

The Problem

Current Problems in Existing Wallets & Blockchain Systems

COLD WALLET

Current Problems

Utility

- Higher Blockchain network traffic (TPS) causes higher gas fee
 - Average gas fee : \$18 (bitcoin), \$1 (Ethereum)
- Current Blockchain developments are focused on Layer 2 projects for lowering Gas fees
 - Requires more complex infrastructure which leads to higher cost
- Double authentication transactions requires double gas fee

Physical Compromise Risk

- Counterfeit devices
- Impossible to access assets if the user loses both of own hardware and private key information

Solution

Security

- Cold wallet system allows access control of the assets from network to user's device
- More tokens generated, higher security level
- Access to cold wallet token requires both private key and device
- Less vulnerable to attacks
- Even if transaction history is accessible, third-party cannot access cold wallet tokens

Economical Value

- No need for additional hardware
- Multiple device support for registered address

The Problem

Current Problems in Existing Wallets & Blockchain Systems

OFFLINE WALLET

Current Problems

High Gas Fee / Low TPS

- Network congestion increases gas and limits transaction throughput
- Small transactions often cost more than their value

Hardware Wallet Limitations

- Stores only private keys — digital assets remain online
- Requires connection to PC or smartphone
- Devices can be lost, stolen, or physically damaged

On-chain History Vulnerability

- Public ledger exposes wallet addresses, balances, and transaction history
- Enables malicious users to target high-value accounts

Solution

Security

- Offline transactions occur off-chain, eliminating gas fees
- Parallel validation allows simultaneous, congestion-free transactions
- Stable and predictable transaction time, regardless of network conditions

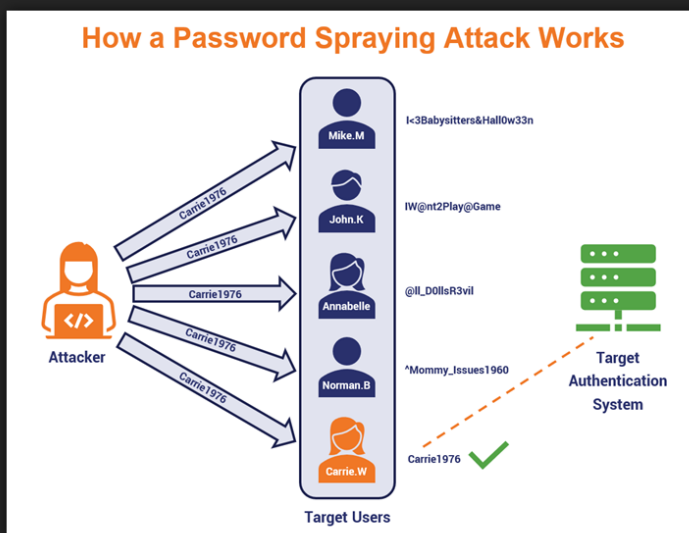
Privacy

- Off-chain transactions remain invisible to blockchain explorers
- All transaction data stays private and protected from malicious actors

Pure Wallet Functionality-Offline

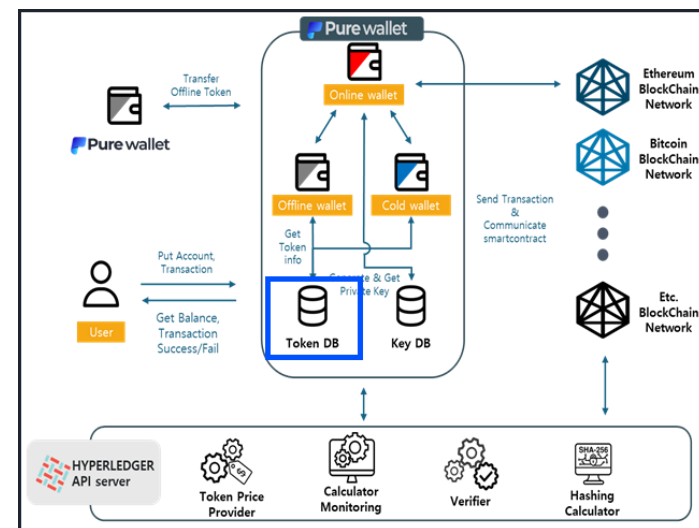
Random Key Scanning Attack (Brute Force Attack)

- Online tools generate random private keys to find wallets with funds
- Attackers scan for weak keys and steal from vulnerable addresses
- The "Ethercombing" study reported \$54M stolen from 732 Ethereum wallets with weak keys



Overview of Offline Token Security Technology

- Inaccessible via network: managed only within the physical device
- Blocks online attacks and random private key scanning by design
- Assets and keys are stored exclusively within the smartphone's internal memory



Product Overview

Powered by Pure Chain
– our proprietary offline blockchain protocol.

- ◆ 60+ Chain Support
- ◆ Post-Quantum Encryption
- ◆ Fireblocks Insurance
- ◆ 2FA + Custodial Cold Wallet
- ◆ Non-Custodial Cold Wallet
- ◆ Mobile-Only Cold Storage



Pure Chain :

The Offline Blockchain Engine Powering Pure Wallet

KEY INNOVATIONS

SAM⁺ (Smart Auto Mining)

Dynamically starts/stops mining based on transaction demand to save energy

PoA² (Proof of Authority and Association)

Built-in standby validator ensures network trustworthiness and uptime

ZKP Layer 2 (Zero-Knowledge Proof)

Increases scalability and drastically reduces gas fees

THE PURE CHAIN ADVANTAGE

Challenge

Pure Chain's Response

Internet Dependency

Offline mode via Pure Wallet

Centralized Failures

Multi-layer redundancy with Pure Edge

Low TPS / High Gas

7,000 TPS with SAM⁺ / Zero Gas

Trust in Permissioned Environment

PoA² with validator failover mechanism

Industry Customization Needs

Modular deployment in PBaaS, SBaaS, IaaS model

Performance Comparison

38,000+ TPS and sub-millisecond validation
— redefining real-time blockchain performance.

	<i>bitcoin</i>	ethereum	IOTA	 Pure Chain
■ Architecture	Linear Chain	Linear Chain	Linear Chain	DAG (Enhanced)
■ Throughput	7 TPS	15-30 TPS	50-500 TPS	38.833 TPS
■ Block Time	10 min	12 sec	None	None
■ Finality	60 min	2-5 min	1-2 sec	<1 Second
■ Scalability	Limited	Limited	High	Very High
■ Processing	Sequential	Sequential	Parallel	Parallel

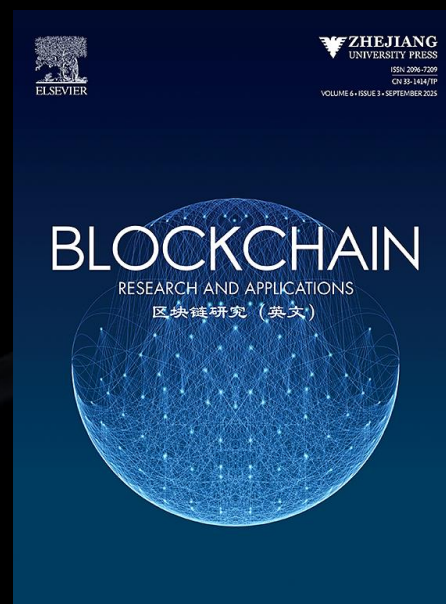
* Measured on a single-node test. Actual network performance may vary by environment.

Pure Chain's Verified Infrastructure

Recent Research & Publications

Blockchain-as-a-Service: A Pure Chain Approach

has been officially accepted in Blockchain Research and Applications (Elsevier, 2025)



8+ RESEARCH PAPERS

Integrating Machine Learning with Proof-and-Association for Dynamic Signer Selection in Blockchain Network, D.-S. Kim, R.Syamsul, ICT Express, 2024

Smart Auto Mining(SAM) for Industrial IoT Blockchain Network, I.S. Igboanusi, Allwinnaldo, R. N. Alief, M. R. R. Ansori, J.-M. Lee, D.-S. Kim, IET Communications, 2022

Proof-of-Authority-based Secure and Efficient Aggregation with Differential Privacy for Federated Learning in Industrial IoT, M. A. P. Putra, R. N. Alief, S. M. Rachmawati, G. A. Sampedro, D.-S. Kim, J.-M. Lee, Internet of Things. 2024

Proof-of-Authority-and-Association Consensus Algorithm for IoT Blockchain Networks, D.-S. Kim, I. S. Igboanusi, L. A. C. Ahakonye, G. O. Anyanwa, ICCE 2025

Blockchain side implementation of Pure Wallet(PW): An offline Transaction Architecture, I. S. Igboanusi, K. P. Dirgantoro, J.-M. Lee, D.-S. Kim, ICT Express, 2021

AI Model Stability in Industrial IoT Intrusion Detection: Leveraging the Characteristics Stability Index, L. A. C. Ahakonye, C. I. Nwakanma, J.-M. Lee, D.-S. Kim, Journal of Korean Institute of Communications and Information Sciences, 2024

Leveraging Quantum Blockchain for Secure Multiparty Space Sharing and Authentication on Specialized Metaverse platform, E.A. Tuli, J.-M. Lee, D.-S Kim, Scientific Reports, 2024

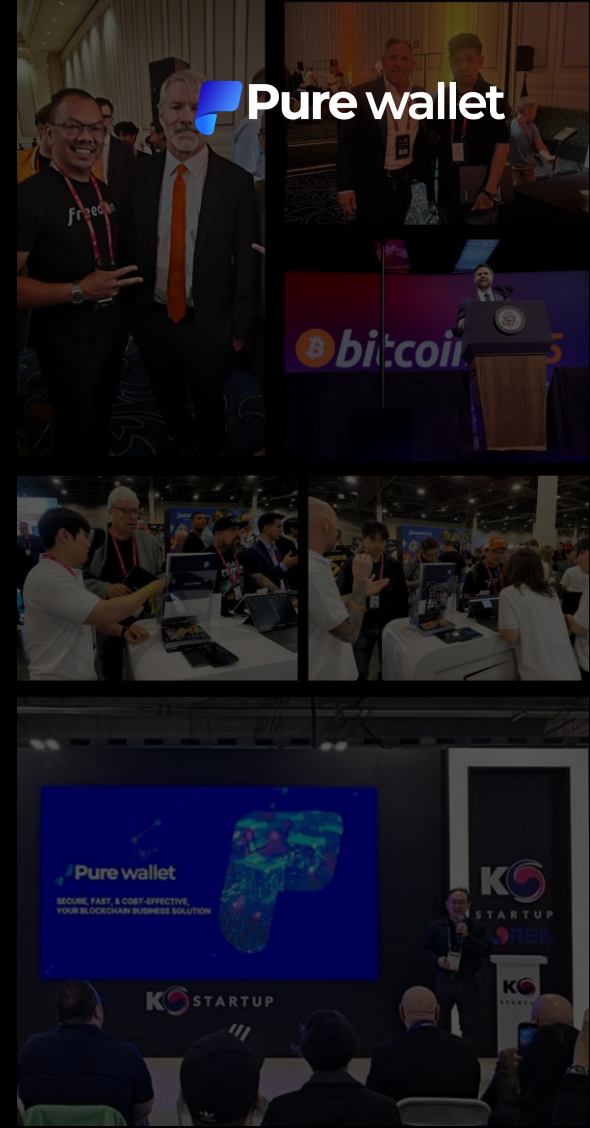
Pure NFT: A Blockchain-Based Ticketing System with Lightweight AI for Scalping Prevention, G. A. Haryadi, A. Zainudin, J.-M Lee, D.-S Kim, ICCE 2025

22+ PATENT CERTIFICATE

Blockchain-based Mobile Electronic Wallet System	10-264318(KR)
Beacon-based Chat Service System using MQTT	10-1863284(KR)
Blockchain-based Data Sharing Method for Enhancing Reliability and Security of Distributed System	10-2307973(KR)
User Device and its Control Method	10-2051539(KR)
Methods for Encryption and Decryption Contents	10-2154737(KR)
User Terminal Device and its Display Method	10-2183448
Proof-of-Authority Method for High-Trust Blockchain Network	10-2024-009017(KR)
Proof-of-Authority Method for High-Trust Blockchain Network	PCT-KR2024-010241
Blockchain-based Mobile Electronic Wallet System	18287128(US)
Electronic Wallet System with a Method for Split Offline Tokens for Cryptocurrency Access Using Blockchain	10-2024-0069046(KR)
Blockchain-Based Offline Voting Service Method with Enhanced Security and its System	10-2023-0318385(KR)
Blockchain-Based Offline Voting Service Method with Enhanced Security and its System	10-2023-0318385(KR)
Offline Voting Service Method Using Blockchain and its System	10-2023-0064875(KR)
Offline Voting Service Method Using Blockchain and its System (duplicate)	PCT/KR2023/016024
Blockchain-Based Mobile Electronic Wallet System	PCT/KR2021/015676
Auction Method and System for Tracking and Managing a Supply Chain of Non-Fungible Token(NFT)-based Fisheries	10-2023-0064870(KR)

Traction

- Featured at CES 2025 & Bitcoin 2025
- Airdrop campaign
- Grassroots enthusiasm
- Industry Recognition
 - Recognized by Korean Provincial Government for innovation in blockchain technology
 - Awarded as Outstanding Startup at the National Startup Festival
 - Honored by the Ministry of SMEs and Startups
 - Selected as Top Performing Company in the National Business Incubation Program



CoinPedia.

 BLOCKCHAIR

BENZINGA

MarketWatch

 BINANCE SQUARE

 CoinMarketCap

BUSINESS
INSIDER

AP

 CoinStats

 TradingView

Competition

All-In-One Crypto Wallet

- All the features you need are now in one app. Pure Wallet brings hot, cold, and offline storage together in a simple and secure mobile experience.

OFFLINE WALLET

	Offline Transaction	Security Level	Minimum Access Requirement	Add-on Required	Gas Fee	Price
 Pure Wallet Offline Wallet	Possible	128 x n (number of Device)	Private Key+ User Device	H/W Not Needed	Free	\$39.95
 LEDGER	N/A	AES-128	N/A	Pay-to-Use	Up to Network	\$270
 TREZOR	N/A	AES-128	N/A	Pay-to-Use	Up to Network	\$169
 BitBox	N/A	AES-128	N/A	Pay-to-Use	Up to Network	\$120
Coinkite	N/A	AES-128	N/A	Pay-to-Use	Up to Network	\$219.99

COLD WALLET

	Non-Repudiation	Encryption of Private Key	Offline Transaction	Gas Fee	TPS	Untraceable Transaction History
 Pure Wallet Offline Wallet	Possible	AES-256	Possible	Free	Unlimited	Possible
 Pure Wallet Hot Wallet	N/A	AES-128	N/A	Pay-to-Use	Up to Network	N/A
 METAMASK	N/A	AES-128	N/A	Pay-to-Use	Up to Network	N/A
 SafePal	N/A	AES-128	N/A	Pay-to-Use	Up to Network	N/A
coinbase	N/A	AES-128	N/A	Pay-to-Use	Up to Network	N/A

Pure Wallet Team



Larry Lundy

Chief of IoT Officer &
Innovation Advisory



Nhan H. Nguyen, MD, JD

Chief Legal Officer(CLO)
Tech Innovator



Eric M. Jackson

Chief Marketing Officer(CMO)
PAYPAL Mafia Member



Dr. Dong-Seong Kim

CEO of Nslab &
Professor At KIT



Thomas Pongetti

Data Processing &
Security Expert at JPL Lab



Thank you

