

chaiyao.io (Chai Emperor Coin) Whitepaper

Final Version for External Issuance

Version: v1.2 Date: 2025-12-25

Key Highlights (Executive Summary)

Project Type	Single-asset artwork RWA token demo (on-chain title proof, tradable circulation, privatization-enabled physical pickup)
Custodian (disclosure-first)	Shanghai Commercial Bank (Hong Kong) safe-deposit-box custody (custody document hash anchored on-chain)
Auction price anchor	Sincerity International Auction (Hong Kong)
Multisig governance	5 signers, threshold 3/5 (Asset side 2, Tech 1, Auction house 1, Foundation 1)
Core mechanisms	Evidence anchoring + linear vesting + daily unused amount burn + 67% squeeze-out (7-day notice) + safe-deposit-box pickup binding
Listing roadmap	2026-01-22 Shanghai Data Exchange data listing; by 2026-02-20 PancakeSwap; 2026-04 Gate.io

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0. Disclaimer

This whitepaper is provided solely for information disclosure and project description. It does not constitute an offer of securities, investment advice, or solicitation in any jurisdiction. Participants must independently assess applicable laws, regulations, tax and compliance obligations in their jurisdiction and bear all risks on their own. The project party makes no guarantees regarding secondary-market price, liquidity, or returns.

1. Project Summary

chaiyao.io (Chai Emperor Coin) uses a single top-tier Chai-yao-system collectible as the underlying asset. It establishes a standardized title-proof structure built on “auction sale records + bank safe-deposit-box custody documents,” and anchors them into smart contracts via tamper-proof hashes and governance events—forming a complete end-to-end art RWA demo:

- Title proof: evidence is verifiable, traceable, and versionable.
- Issuance: tokenomics, lock-up and vesting rules execute automatically on-chain.
- Circulation: supports market pricing and liquidity formation on a DEX (PancakeSwap).
- Exit & settlement: when an entity holds $\geq 67\%$ of the tokens, it may initiate a forced squeeze-out; only after reaching 100% concentration can the pickup condition for the Shanghai Commercial Bank (Hong Kong) safe-deposit box be triggered.

This demo also provides a replicable template for the subsequent platform rwaoption.io (an art RWA exchange + prediction market): on-chain asset structure, evidence pack, contract modules, governance & risk controls, and an issuance/listing roadmap.

2. Underlying Asset & Price Anchor (Asset & Auction Anchor)

2.1 Underlying Asset (Single-asset demo for this phase)

Asset Name: Five Dynasties Chai Kiln Blue-Glazed Openwork Dragon Boat Fortune Child Pillow

Dating / kiln narrative: In traditional literature and among collectors, “Chai kiln” is often described as an imperial kiln narrative associated with the Five Dynasties and Ten Kingdoms through the Later Zhou period, linked to Emperor Chai Rong of the Later Zhou. Records commonly state that the Chai kiln was established in the early Xian-de era of the Later Zhou, and its kiln site is generally associated with the area around present-day Zhengzhou, Henan.

(The precise kiln site and archaeological conclusions may still be subject to scholarly debate.) This whitepaper uses the above traditional and industry-common narrative as cultural background; the final authority shall be the physical characteristics of the specific collectible, its provenance chain, and disclosures in authoritative appraisal/auction documents.

Dimensions: 13 × 17 cm

Asset display & disclosure source: the chaiyao.io asset page (images, details, defect disclosures, provenance notes, etc.) will be fixed as disclosure appendices and committed as Evidence Pack Version V1.0.

2.2 First-auction Sale Anchor (Auction Anchor)

- Auction house: Sincerity International Auction (Hong Kong)

- Date: 2025-10-12
- Hammer price anchor: HKD 410,000,000
- Note: the final authority is the official sale document/settlement statement/catalog page issued by the auction house. Its hash will be committed on-chain as part of the title-proof evidence.

3. RWA Title Proof & Custody (Proof-of-Title & Custody)

3.1 Core Principle: documents stay off-chain, fingerprints go on-chain

chaiyao.io adopts an on-chain “fingerprint” notarization strategy: instead of writing sensitive documents in full on-chain, it writes their cryptographic hashes on-chain. Anyone who later obtains the original file can recompute and compare the hash, proving the document has not been tampered with and existed at a certain point in time.

3.2 Evidence Pack Components

- A. Auction evidence: auction_doc_hash (SHA-256 hash of the sale/settlement document) and auction_meta (fields that can be de-identified).
- B. Vault custody evidence: custody via Shanghai Commercial Bank (Hong Kong) safe-deposit box; vault_doc_hash (SHA-256 hash of the custody document, to be supplemented) and vault_meta (fields that can be de-identified).
- C. Disclosure pack: disclosure_pack_hash (packaged hash of chaiyao.io asset-page disclosure appendices).
- D. Metadata: assetId, evidence version, timestamp, reason for update, multisig confirmations, and notice-period records.

3.3 Custody Status & Offline Execution

- Offline custody and pickup are executed by the bank, auction house, and asset owner in accordance with custody terms.
- On-chain logic records whether conditions are satisfied and governance approvals are obtained, serving as publicly verifiable proofs.

4. Token (Chai Emperor Coin) Design (Token Design)

4.1 Basic Specifications

- Token type: ERC-20 (EVM)
- Chains: Ethereum + BSC
- Total supply: 1,000,000,000 tokens (1.0B)
- Primary trading/liquidity: BSC (aligned with PancakeSwap)

4.2 Price Anchor (Pricing in HKD)

Stage	Period	Base Price (HKD/token)
Stage A	2025-12-18 to 2026-01-12	0.25

Stage	Period	Base Price (HKD/token)
Stage B	2026-01-12 to 2026-01-22	0.30
Post-listing anchor	After the Shanghai Data Exchange listing on 2026-01-22	0.41 (historical auction anchor)

5. Tokenomics

5.1 Allocation Structure (100%)

Allocation	Share	Amount (tokens)	Key Rules
Owner / Holder	60%	600,000,000	10% released at TGE; then linear vesting (12 months). Unused daily amount is settled and burned. Prioritized for incentives such as rewards/buyback.
Advisor	1%	10,000,000	No lock-up; outbound transfers go through timelock.
Team	10%	100,000,000	10% released at TGE; 3-month lock; then 12-month linear vesting.
Follow-on Investors	20%	200,000,000	10% released at TGE; 3-month lock; then equal monthly vesting over 9 months.
Marketing	1%	10,000,000	No lock-up; 3/5 multisig + 12-hour timelock.
Liquidity	3%	30,000,000	No lock-up; 3/5 multisig + 12-hour timelock.
Ecosystem	2%	20,000,000	No lock-up; then linear release; 3/5 multisig + 12-hour timelock.
Foundation	3%	30,000,000	No lock-up; then linear release; 3/5 multisig + 12-hour timelock.

Note: Ecosystem-related budget totals 10% (Advisor 1% + Marketing 1% + Liquidity 3% + Ecosystem 2% + Foundation 3%).

5.2 Holders 60%: Linear Vesting + Daily Settlement Burn

HolderPool: 600,000,000 tokens; vesting period: 12 months; vesting method: per-second linear vesting.

Formula (for explanation): let T_0 be the TGE timestamp (seconds), $T_{end} = T_0 + 12 \text{ months}$ (defined by a constant number of seconds in the contract), $H_{total} = 600,000,000$:

$$H_{releasable_total}(t) = H_{total} \times \min(t - T_0, T_{end} - T_0) \div (T_{end} - T_0)$$

$$H_{claimable}(t) = H_{releasable_total}(t) - H_{claimed}(t)$$

Unused amount is burned at end of each day: settlement is based on calendar days (UTC or UTC+8 fixed at deployment). At the end of each day, the contract settles and burns the portion that has vested that day but was not used for rewards. Anyone can call `settleDay(day)` or `settleRange(from,to)` to trigger settlement, ensuring it can run unattended.

6. Multisig Governance & Security

6.1 Multisig Composition & Threshold

- Signers: 5; threshold: 3/5
- Seat allocation: Asset side 2, Tech 1, Auction house 1, Foundation 1

6.2 Timelock & Notice Period

- Routine treasury actions: 12-hour timelock
- High-risk actions: fixed 7-day notice period (squeeze-out redemption, evidence pack updates, custody status entering pickup-eligible, etc.)

6.3 Security & Audit (Recommended prerequisites before issuance)

- Third-party smart contract audit (including squeeze-out, TWAP reads, daily settlement burn mechanism).
- Separate custody of multisig private keys, hardware signing, and least-privilege for critical permissions.
- Key parameters and events are published on-chain for external verification.

7. Issuance & Sale Plan (Token Sale)

7.1 Two-Stage Issuance Pricing (HKD)

Stage A: 2025-12-18 to 2026-01-12 (valuation HKD 250M, HKD 0.25 per token). Stage B: 2026-01-12 to 2026-01-22 (valuation HKD 300M, HKD 0.30 per token). Post-listing anchor price: HKD 0.41 per token.

7.2 Entry Amount Discounts (Applicable to both stages)

Entry Amount (HKD)	Discount	Notes
1,000,000 – 5,000,000	5% off	Effective price = base price × 0.95
5,000,000 – 10,000,000	10% off	Effective price = base price × 0.90
≥ 10,000,000	15% off	Effective price = base price × 0.85

7.3 Sale Sources & Delivery

- This sale is recommended to mainly come from the follow-on investor pool at 20% (200,000,000 tokens).
- After investor tokens are delivered to the wallet, the following executes automatically: 3-month lock-up + 9 months of equal monthly vesting.
- Pricing is in HKD; on-chain settlement may use stablecoins, subject to the fundraising terms and payment instructions.

8. Privatization (67% Squeeze-out) & Vault Pickup (Settlement Loop)

8.1 Trigger Condition (Total supply basis)

When an entity (an address or its KYC-bound legal entity) holds/controls $\geq 67\%$ of total supply ($\geq 670,000,000$ tokens), it may initiate privatization. It is recommended to use the total-supply basis to avoid disputes arising from a circulating-supply basis.

8.2 Forced Redemption Definition (Protecting minority holders)

Privatization uses a forced redemption / buyback mechanism: the contract repurchases the remaining 33% of tokens and simultaneously creates claimable consideration for the redeemed holders (perpetually valid).

8.3 Redemption Price Rule (Default)

- Redemption price = $\max(\text{HKD } 0.41, \text{30-day TWAP}) \times (1 + 10\% \text{ premium})$
- TWAP prioritizes the main PancakeSwap pool; fallback: $\max(\text{HKD } 0.41, \text{latest issuance price} \times 1.10)$

8.4 7-Day Notice Period + Execution Flow

- Initiator calls `initiateSqueezeOut()` and deposits redemption funds into `SqueezeOutEscrow`.
- Enter a 7-day notice period (verifiable on-chain).
- After the notice period ends, the contract executes the buyback and accounting; consideration can be claimed at any time (perpetually valid).
- After 100% concentration is completed, `CustodyReleaseEligible(assetId)` is emitted.
- Upon 3/5 multisig approval of `CustodyRelease`, the contract state is updated to `PICKUP_ELIGIBLE`.
- Offline pickup is initiated under the Shanghai Commercial Bank (Hong Kong) safe-deposit box terms (custody document hash to be supplemented and anchored on-chain later).

9. On-chain / Exchange Roadmap (Roadmap)

- 2026-01-22: Shanghai Data Exchange data listing (title-proof notarization / data-element narrative).
- By 2026-02-20: launch on PancakeSwap (BSC) and create LP (controlled by multisig + timelock).
- 2026-04: align with the auction price window for Chai ware and push for Gate.io listing.

10. Technical Architecture & Contract List (Developer-ready scope for the CTO)

10.1 Contract Modules

- AssetRegistry (assetId)
- EvidenceRegistry (auction_doc_hash / vault_doc_hash / disclosure_pack_hash / versioning)
- CustodyStatus (custody state machine)
- ChaiToken (ERC-20)
- VestingVaults (Team / Investors / Ecosystem / Foundation)
- Treasury Multisig + Timelock (3/5 + 12h; high-risk actions 7d notice)
- HolderRewardAndBurn (per-second vesting + daily settlement burn)

- SqueezeOutEscrow (67% squeeze-out + 7-day notice + claimable payout)
- TWAP reader module (price source / oracle)

10.2 Key Events (Real-time Disclosure)

- EvidenceCommitted(assetId, version, auction_hash, vault_hash, disclosure_hash)
- CustodyStatusChanged(assetId, status)
- SqueezeOutInitiated(buyer, price, startTs, executeTs)
- SqueezeOutExecuted()
- CustodyReleaseEligible(assetId) / CustodyReleased(assetId)

11. Risk Disclosures

- Regulatory & compliance risk: jurisdictions may classify tokenized art differently.
- Custody & settlement risk: bank terms, insurance terms, pickup procedures, and force majeure.
- Market & liquidity risk: a historical anchor is not the same as a secondary-market execution price.
- Technical & governance risk: contract vulnerabilities, oracle anomalies, multisig governance failures, etc.

12. Appendix

- Shanghai Commercial Bank (Hong Kong) safe-deposit box custody document: public fields + file hash (vault_doc_hash).
- Sincerity auction final sale document/settlement statement/catalog page: public fields + file hash (auction_doc_hash).
- chaiyao.io asset-page disclosure appendices: full text and images packaged into disclosure_pack_hash.
- (End of document)