# Archai

Scalable primitives for land, housing and community infrastructure ownership

v 0.1

**Archai** is a hyperstructure packaging real estate into arbitration-enabled, programmable, non-speculative, and participatory hybrid on-chain-off-chain entities coordinated by dynamic protocol-level logic. The Archai generalized protocol enables real-world assets to be held in a network of autonomous SPVs governed by the Archai foundation, unlocking the individual ability to stake assets into regenerative, yield-bearing settlements in the context of a dynamic reward layer, incentivizing co-building, co-maintenance and co-ownership of Archai's communities. Archai hosts numerous civilizational models, including the Amagi model and others.

The goal of Archai is to create a trustless, scalable operating system for land and infrastructure ownership that is:

- Liquid: Enables flexible entry/exit through staking rather than only through purchase.
- **Programmable**: Orchestrates governance, capital flows, and surplus allocation decisions via autonomous legal vehicles.
- Composable: Integrates autonomous legal entities and digital infrastructure via a modular architecture.

Archai is able to produce **Non-speculative constructs**: speculative rentier dynamics and price appreciation logic are no longer shipped by default.

Archai is not a single village or settlement or civilizational design. It is the financial and coordination substrate for thousands.

# 2. System Overview

### 2.1 Core Concepts

- Stake, in addition to Buy: Users can now stake capital for a term (e.g. 3-7 years) into a project vault.
- **Earned Equity**: Stakeholders earn equity based on time, contribution, and timing.
- Mass Trust or SPV: Real estate is held by a hybrid on-chain off-chain autonomous legal wrapper governed by protocol-aligned rules.
- **Surplus Reinvestment**: Yields are partially distributed and partially reinvested via a commons treasury.

### 2.2 Archai Layers

• Legal Layer: Modular entity templates (e.g. Cayman Foundation, Swiss Verein, Panama Company).

- Vault Layer: On-chain smart contracts that manage staking, redemption, equity accrual.
- Governance Layer: Staked-based, resident-weighted, trustee-checked decision system.
- Commons Layer: Protocol-level treasury for surplus capture and village seeding.

## 3. Staking Model

#### 3.1 Terms

- **Principal**: Locked for 3–7 years
- **Yield**: Reduced rent + equity + network benefits
- Redemption: Principal withdrawable after term, subject to protocol health

### 3.2 Equity Formula

equity = (stake\_amount \* multiplier) / vault\_valuation

- **Multiplier** is time-dependent (e.g. 40% for 5 years)
- Vault Valuation reflects trust NAV (revalued periodically)

#### 3.3 Rent Calculation

```
rent = (asset_value - stake_amount * rent_discount_factor) * base_rate
```

## 4. Vault Architecture

Each Archai project is instantiated as a **Vault**, a smart contract coordinating:

- Stake deposits and redemptions
- Equity ledger
- Rent discounts
- Surplus allocation

Vaults can plug into:

- Real-world SPVs/trusts via notarized off-chain agreements mediated through Mass
- Commons contracts for contribution to Archai network

• Cross-vault liquidity for mobile staking

## 5. Legal Infrastructure

Archai supports jurisdiction-specific wrappers that comply with real estate laws, zoning laws and building code. Each Vault is paired with a legal entity (e.g. SPV or trust) that:

- Holds land/infrastructure
- Signs protocol-aligned DAO charter
- Vests governance to digital contracts + trustees

#### Governance is hybrid:

- On-chain votes by stakers + residents
- Trustee oversight for legal enforcement + emergency action

### 6. Surplus Mechanism

Surplus = Net operating income - cost of service + reinvestment reserves

#### Allocation:

- 50–70%: Returned as yield to stakers/residents
- 20–40%: Reinvested into infrastructure, care, or expansion
- 5–10%: Protocol fee into Archai Commons Treasury

#### Commons Treasury uses:

- Seed grants for new villages
- Resident subsidies
- Protocol R&D

### 7. Archai Token

The protocol token (\$ARCH) governs the Archai network.

#### **Utilities:**

- Stake-weighted voting
- Access to preferred vaults
- Claim on commons surplus
- Underwriting of network health (via insurance mechanisms)

## 8. Roadmap

- 1. MVP: Single-vault deployment with legal wrapper + staking logic
- 2. Multi-vault registry: Cross-village coordination + equity portability
- 3. Commons Layer: Global treasury, grants, surplus pooling
- 4. Legal Modules: Jurisdiction SDK for compliant SPV instantiation
- 5. **Mobile Interface**: Resident dashboard + staking app

# 9. Closing

Archai is a hyperstructure for post-rentier civilization. It abstracts necessary primitives providing programmable capital modules that can spread across space, culture, and legal boundaries.