**Heirloom Blockchain Project Overview**

**Introduction** Heirloom is an innovative platform that enables individuals, creators, and enterprises to take control of their data in an AI-driven world. By leveraging blockchain technology and utility tokens, Heirloom ensures ethical, transparent, and accurate data-sharing while empowering users to license and monetize their data on their terms. The ecosystem integrates Proof-of-Personhood (PoP) and Proof-of-Provenance mechanisms to validate human users and authenticate data as human-generated, ensuring AI systems are powered by trusted, premium-quality data.

**Core Purpose** Heirloom bridges the gap between humans and AI systems by providing tools that enable users to:

1. Verify their identity and creative contributions.
2. License and monetize their data ethically and transparently.
3. Maintain granular control over data-sharing interactions.

**Ecosystem Components and Token Dynamics**

1. **Heirloom Foundation**:  
   * Governs the Heirloom ecosystem through decentralized governance.
   * Issues utility tokens ($HIT and $HRLM) to manage identity and community growth.
2. **Heirloom AI (HeirloomHQ.ai)**:  
   * The commercial platform allowing users to upload, manage, and connect their data to AI systems.
   * Supports secure data provenance with the $PRVN token.

**Token Overview**

* **$HIT (Heirloom Identity Token):**
  + Ensures every user is a verified human.
  + One token issued per user.
  + Supports governance participation via the Human Council.
  + Burns a fraction of $HRLM upon issuance to balance supply and ecosystem growth.
* **$PRVN (Provenance Token):**
  + Verifies the authenticity and origin of data assets.
  + Issued upon data upload and verification.
  + Can attach to $HIT tokens and burn a portion of $HRLM upon issuance to ensure utility alignment.
* **$HRLM (Heirloom Token):**
  + Supports the platform’s development and incentivizes early adopters.
  + Enables staking and governance participation.
  + Allows users to claim $HIT pre-launch and access rewards.

**How Tokens Work Together**

1. **Verification and Identity**:  
   * $HIT tokens verify user identity and enable participation in governance.
   * Burn mechanics align $HIT token issuance with $HRLM supply.
2. **Data Provenance**:  
   * $PRVN tokens authenticate data assets as human-generated and verifiable.
   * These tokens attach to uploaded data and integrate with $HIT to establish a comprehensive trust framework.
3. **Platform Development**:  
   * $HRLM funds development, rewards early adopters, and facilitates governance.
   * Staking options provide additional incentives for ecosystem engagement.

**Project Roadmap**

1. **Current Phase**:  
   * Develop core platform features for data control, licensing, and monetization.
   * Establish governance mechanisms with $HIT and $HRLM.
2. **Short-Term Goals**:  
   * Introduce analytics tools for user insights.
   * Expand data provenance features with $PRVN tokens.
3. **Medium-Term Goals**:  
   * Launch Heirloom’s proprietary LLM for data query and management.
   * Deploy trusted AI agents for autonomous data management.
4. **Long-Term Vision**:  
   * Build an interoperable AI ecosystem connecting humans, data, and AI agents ethically.
   * Establish Heirloom as a global leader in human-centered AI.

**Current Project Status**

1. **Network Information**:  
   * Chain: Polygon Amoy Testnet (chainId: 80002)
   * RPC Endpoint: [https://rpc-amoy.polygon.technology](https://rpc-amoy.polygon.technology/)
   * Gas Configuration:
     + Max Fee: 120 gwei
     + Priority Fee: 96 gwei
   * Deployment Wallet: 0xFd700530BFA4d3B80BA7bA63731e451Be7c8Bc00
2. **Core Token Contracts**:  
   * **PRVNToken**:
     + Address: 0x1fC9F0fF7A6D3e9C0C64d187B01a43BbFF7939d8
     + Status: Deployment Verified ✓
     + Features:
       - Role-based access control implemented
       - Gas optimization configured (120/96 gwei)
   * **SimpleHIT**:
     + Address: 0x6AFF771a6245945c19D13032Ec954aFA18DcA1b2
     + Status: Deployment Verified ✓
     + Test Coverage: 100%
     + Core Functionalities:
       - Token issuance and revocation
       - Role management system
       - Transfer restriction controls
       - Interface compliance verification
3. **Management Contracts**:  
   * **AccessManagement**:
     + Address: 0xe74f7E647A65923db32A1D76B0BCc078340B966A
     + Status: Deployment Verified ✓
     + Key Features:
       - Granular permission system
       - Time-based access controls
       - Role hierarchy implementation
   * **LicenseManager**:
     + Address: 0x433674053Fc3696b1707313e2dF95CcA81B9DE7b
     + Status: Deployment Verified ✓
     + Features:
       - Token-gated access system
       - Comprehensive royalty management
       - License validation controls
4. **Supporting Modules**:  
   * **HITLinking**:
     + Address: 0x0380587A1C83Db122F02c5FB10e2e069f8e85Ef2
     + Status: Deployment Verified ✓
     + Test Coverage: 100%
     + Verified Components:
       - Token validation system
       - Link management functionality
       - Query pagination implementation
       - MAX\_LINKS enforcement
   * **GovernanceModule**:
     + Address: 0x20086dA7De70Bd6476230c0C573a1497789Aae2E
     + Status: Deployment Verified ✓
     + Configuration:
       - Minimum participation threshold: 5
       - Admin controls verified
       - Governance parameters set
   * **ConcreteMetadataManagement**:
     + Address: 0x2abf1b5524548128257d20BeB4373ce7D34dF419
     + Status: Deployment Verified ✓
     + Features:
       - ERC721 standard compliance
       - URI management with rate limiting
       - Metadata validation system
5. **Testing Summary**:  
   * Unit Testing:
     + Complete coverage for SimpleHIT
     + Complete coverage for HITLinking
   * Core Functionalities Verified:
     + Gas optimization confirmed
     + Role-based access control validated
     + Event emission verification complete
6. **Repository Status**:  
   * All pull requests merged to main branch
   * Deployment scripts committed and verified
   * Test files updated with latest cases
   * Contract verification scripts added and tested
7. **Deployment Checklist**:  
   * All contracts deployed
   * On-chain verification complete
   * Test coverage requirements met
   * Gas optimization targets achieved
   * Security controls verified
   * Documentation updated

## 

## **Technical Stack**

**Smart Contract Layer**

Solidity v0.8.28+ with ERC721 implementation

OpenZeppelin contract extensions

Hardhat development environment

Polygon Amoy testnet deployment

**Frontend Stack**

React/Next.js

Web3.js/Ethers.js for blockchain interaction

Wallet connection capabilities

Transaction handling and event management

**Backend Architecture**

Node.js runtime

Supabase for authentication and database

Plaid API integration

Secure webhook handling

**Infrastructure**

IPFS for decentralized storage

Testing suite: Chai/Mocha

Automated deployment pipeline

Contract verification tools

**Outstanding Tasks**

1. ~~New Wallet Created for Heirloom~~
2. Token Supply Created
3. Backend service implementation
4. Frontend development
5. External service integration
6. Production setup
7. Live test of token functionality

**Call to Action for Blockchain Developers** We are seeking experienced blockchain developers to:

1. Optimize deployed smart contracts for $HIT, $PRVN, and $HRLM.
2. Support the deployment of testnet environments.
3. Collaborate on integrating blockchain functionality into the Heirloom platform.

**Contact Information** For further details or to join the development team, please contact Angela Benton ab@fruitvc.com. Let’s build a future where humans lead the AI revolution ethically and transparently.