SmartApp Studio

Build dApps Without Smart Contracts Using
AI + SmartNodes

- AI builds app structure and logic
- Token gated access
- Built-in Hedera support
- Built for the SmartNode ecosystem

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https://smartapp-studio-sgqp.vercel.app/

Powered by Hedera and HSuite Smart Nodes.

Describe your app idea

We handle the SmartNodes

Smart Nodes & SmartApps

What Are SmartNodes?

SmartNodes are off-chain validators operated by HbarSuite.
They securely execute application logic defined in **validator files**, without using smart contracts.
SmartNodes:

- Run custom logic from JSON-based validators
- Validate and co-sign transactions via **HTTPS callbacks**
- Use **NFTs as access keys**, enforcing permission logic
- Are decentralized, tamper-proof, and programmable

This model reduces risks and gas costs by keeping logic off-chain while ensuring trust through validator consensus.

What Are SmartApps?

SmartApps are decentralized applications built specifically for the SmartNode Network.
They replace traditional smart contracts with:

- **Validator configs** (JSON files) that define rules and permissions
- **HTS tokens** to license usage
- **HCS-10** for event logging and state tracking

SmartApps are:

- Easier to create (no Solidity)
- Safer (logic runs off-chain)
- Powered by **SmartNodes**, which enforce rules before any action is signed

SmartApps are powerful, but new tech needs new tools.

Developers need help adopting the SmartNode model.

01 **SmartNode Technology Is Emerging**

Developers face uncertainty with emerging tech. Without clear standards or examples, building SmartApps safely is challenging.

02 **New Architecture, New Learning Curve**

SmartApps use a unique structure based on Smart Nodes validator logic. Radically different from traditional smart contracts.

03 **Education is the Bottleneck**

We need to educate and onboard developers fast, or SmartApps risk slow adoption despite their potential.

SmartApp Studio

Solution

AI-Powered SmartApp Creation

From idea to working SmartApp, AI helps you build everything you need for the SmartNode ecosystem.

SmartApp Studio uses AI to help users turn their ideas into real code. Generates the full structure of a SmartApp, including logic and validator files, that SmartNodes use to securely manage token-gated access and transaction signing.

NFT LICENSING ENGINE & SUBSCRIPTION-BASED MODEL

Creates dynamic licenses using HTS tokens + HCS messages for access control, validation, and usage limitations.

CHATS WITH CODEBASE ACCESS AND SMART PINNING

The AI is trained on real SmartApp code and SmartNode architecture. It references and pins relevant content during conversations to streamline development.

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![SmartApp Studio]

Platform Stack & Core Integrations

Frontend

Built with modern web tech and integrated with Hedera wallets.

UI/UX Built using NEXT.js, React & Tailwind

Multi-session wallet support using WalletConnect 2.0

AI assistant interface trained to assist with SmartApp creation

Visual interface for license creation and subscription payments using HTS tokens and NFTs

NFT-based access control using dynamic metadata

Backend

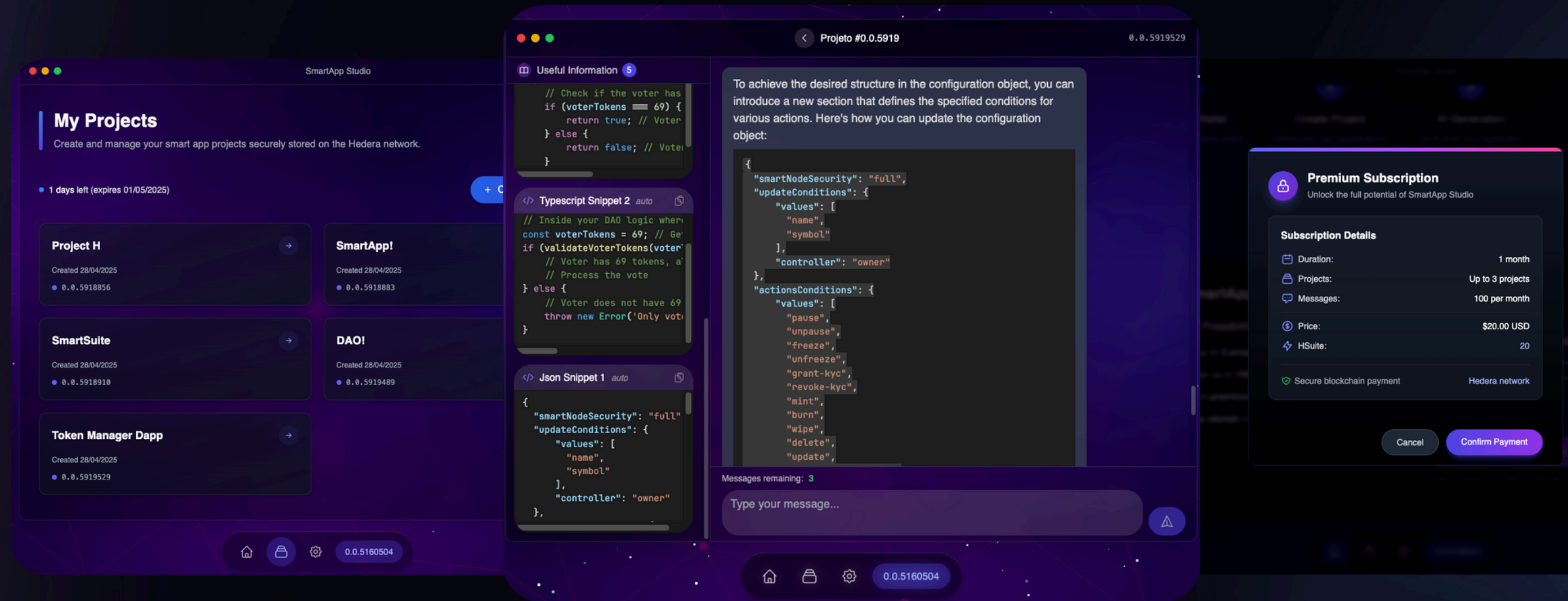Connects Hedera services, AI generation, and SmartApp logic.

Node.js backend with Express and TypeScript

Generates SmartApp logic and validator files using OpenAI

Uses the Hedera SDK to issue HTS tokens, create HCS topics, and log messages — forming our decentralized app database.

Uses Mirror Nodes and HCS to validate licenses, subscriptions, and access history in real time.

Uses HCS-10 protocol for AI-user communication and topic-based state management

MVP User Flow

SmartApp Studio is live on Hedera Testnet and already delivers an end-to-end SmartApp creation experience.

Users connect their wallet, mint a dynamic NFT that acts as their license and identity, and receive test HSuite tokens from the built-in faucet. These tokens can be used to activate on-chain subscriptions and unlock premium access.

Once subscribed, developers can create new SmartApp projects, interact with the AI assistant, and receive production-ready code tailored to real SmartNode architecture. **All user interactions and SmartApp activity are recorded using HCS-10 protocol in dedicated Hedera topics.**

SmartApp Studio

Impact & Technical Differentiators

SmartApp Studio accelerates SmartApp adoption by simplifying how developers interact with SmartNodes and validator logic.

It's the first platform purpose-built to onboard and empower developers within the SmartNode ecosystem.

Ecosystem Native

Built by a developer behind HbarSuite and SmartNodes, with direct knowledge of the validator architecture and Hedera stack.

Validator-Aware Architecture

Every SmartApp includes a validator config aligned with SmartNode execution standards. No retrofitting or guesswork needed.

AI-Powered Dev Experience

The assistant generates full logic, config, and structure to simplify onboarding for both Web2 and Web3 developers.

SmartApp Studio

Roadmap & What's Next

SmartApp Studio is evolving into the first complete platform for building, licensing, and deploying SmartApps on Hedera — powered by SmartNodes.
Below is our roadmap for turning this vision into reality:

Current Capabilities

- AI builds logic, structure, and validator files
- NFT licensing on Hedera Testnet
- WalletConnect + HCS for access and logs

Upcoming Enhancements

- GitHub deploy for generated projects
- App templates (marketplace, voting, gaming)
- Public HCS logs for auditing

Future Developments

- Deploy SmartApps directly to Smart Nodes
- Smarter AI for validator rule creation
- Full SmartApp workflow from idea to live deployment

We're not just building tooling — we're shaping how Web3 applications are built without smart contracts.