

STAYCHAIN™ WHITE PAPER

Decentralized Property Management for a Smarter, Blockchain-Powered World

Patent Pending — Provisional Utility Patent Filed 2025

Inventor: Joshua Capps | Assignee: NOVA X QUANTUM Inc.

WHAT IS STAYCHAIN™?

StayChain™ is a decentralized property management platform designed to revolutionize the way rentals, leases, and real estate investments are handled. Built on blockchain, AI, and IoT infrastructure, StayChain™ eliminates intermediaries, reduces fees, and enables full automation of booking, payments, ownership, access, and dispute resolution.

Whether managing a vacation rental, office lease, or fractional investment property, StayChain™ turns property interaction into a seamless, secure, and scalable experience.

PROVISIONAL UTILITY PATENT — GLOBAL IP INFRASTRUCTURE

StayChain™ is currently protected under a provisional utility patent filed with the United States Patent & Trademark Office. This filing outlines a decentralized ledger-based platform with 12 claims and 9 supporting figures detailing tamper-proof smart contracts, IoT-based access, AI-driven risk management, biometric authorization, and tokenized ownership logic.

The non-provisional patent is under development to secure global rights through Fenwick & West LLP, covering AI automation, decentralized insurance, rent-to-own contracts, DeFi mortgage finance, biometric identity, and cross-chain real estate governance.

WHAT MAKES STAYCHAIN™ REVOLUTIONARY

1.

Dynamic Digital Agreements

Replaces outdated paper contracts with smart contracts stored on blockchain, automating booking, payments, deposits, extensions, refunds, and compliance.

2.

Fractional Ownership & Tokenization

Enables real estate to be divided into digital shares — giving global investors access to passive income through on-chain ownership.

3.

IoT-Enabled Smart Access + Biometric Keys

Smart locks issue NFT-based digital keys that auto-expire on checkout, enabling secure entry without physical keys.

Biometric access support (fingerprint, facial recognition) provides secure, hands-free entry to properties — eliminating unauthorized access and enhancing convenience.

4.

Multi-Currency Payments

Supports fiat, crypto, and stablecoins with real-time conversion and escrow logic for seamless global transactions.

5.

AI-Driven Fraud Detection & Risk Scoring

AI scans for fake listings, Sybil attacks, and renter risk patterns, protecting owners from fraud and optimizing platform security.

6.

On-Chain Dispute Resolution

Uses DAO governance, AI mediation, and Zero-Knowledge Proofs (ZKPs) to resolve conflicts transparently and fairly.

KEY APPLICATIONS ACROSS INDUSTRIES

- Vacation Rentals: Automates short-term rentals, eliminating platform fees
 - Office Leases: Enables frictionless digital leasing for commercial spaces
 - Real Estate Investment: Allows global tokenized ownership with smart income distribution
 - Hotels & Resorts: Enables contactless bookings, biometric check-ins, and AI room management
 - Corporate Leasing: Controls access and compliance across dynamic workspaces
 - Rent-to-Own Contracts: Converts rental payments into equity on-chain
 - Blockchain-Based Insurance: Settles claims automatically based on IoT and AI assessments
-

CORE BENEFITS OF STAYCHAIN™

- Transparency: All transactions and agreements are verifiable and immutable
 - Security: Access, payment, and identity are governed by decentralized systems with biometric protection
 - Efficiency: Smart contracts automate every step of the rental process
 - Scalability: Supports single homes, hotel chains, and global leasing portfolios
 - Global Reach: With multi-currency and multilingual support, StayChain™ serves users worldwide
-

PATENT-PROTECTED CAPABILITIES INCLUDE

- Decentralized smart contract automation
- Real-time escrow and multi-currency support
- Biometric key-based entry and access control
- IoT-based smart locks and NFT-based credential management
- Tokenized fractional ownership with DAO governance
- Blockchain-based rental insurance and smart claim processing
- AI-driven pricing, risk assessment, and fraud prevention
- Rent-to-own financing via self-executing smart contracts
- DeFi mortgage lending backed by real-world property tokens
- Zero-Knowledge Proof-based transaction privacy
- Web2/Web3 integration for cross-platform adoption
- Quantum-resistant encryption and secure identity
- On-chain tax, compliance, and audit automation

THIS IS THE FUTURE OF PROPERTY MANAGEMENT

StayChain™ isn't just a booking system — it's a fully decentralized, intelligent ecosystem for global real estate. From tokenized ownership to biometric entry and blockchain-secured payments, it creates a new world of trustless property management.

Smart contracts.

Secure assets.

Sovereign ownership.

StayChain™

Where real estate meets the blockchain.