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Overview

RURI, a distinguished jewelry e-tailer based in Japan, is renowned for its collection of premium colored gemstones, which are primarily imported from the rich mining regions of Sri Lanka. Recognizing the shifting demands of the modern luxury market, RURI embarked on a transformative journey between 2022 and 2023. Collaborating with Tracified on a project funded entirely by RURI, the initiative sought to revolutionize the way customers interact with and verify the authenticity of high-value jewelry through cutting-edge technology.

The Problem

As a high-end retailer operating in a competitive digital landscape, RURI faced the challenge of enhancing customer loyalty while building a deeper, more resilient level of trust with a global clientele. They identified several critical gaps in the traditional gemstone market that hindered consumer confidence:

- **Necessity for Immutable Records:** High-net-worth customers required a tamper-proof digital record that could definitively catalog a stone's unique physical and chemical characteristics.
- **Opaque Value Chains:** There was a growing demand from ethically conscious consumers to access complex information that was historically difficult to verify. Specifically, RURI needed to provide visibility into:
 - The ethical mining process and the specific geographic origin of each stone.
 - Detailed artisan profiles, documenting the expert hands involved in the cutting, polishing, and delicate treatment phases.
 - Verified official certifications and endorsements from independent, third-party gemological experts.

The Solution

To address these challenges, Tracified engineered and implemented a sophisticated blockchain-based traceability system. This system was designed to bridge the physical and digital worlds by creating a comprehensive "digital twin" for every individual precious stone.

- **Multi-Chain Blockchain Integration:** The architecture utilized both Ethereum and Stellar blockchains to encode critical data into immutable smart contracts, ensuring global accessibility and security.
- **NFT Minting & Digital Twins:** Every gemstone was minted as a Non-Fungible Token (NFT). This NFT serves as a digital twin, containing cryptographic hashes of all vital value chain data, making the information inseparable from the asset.
- **Secure & Decentralized Data Capture:**
 - Cryptographic keys were issued to stakeholders to digitally sign data at every touchpoint, including mining, treatment, precision cutting, and final appraisal.
 - Custom-built native mobile applications (available on iOS and Android) and comprehensive web portals were deployed to ensure seamless data entry and real-time tracing across the supply chain.
- **Dedicated NFT Marketplace:** A bespoke marketplace was developed to facilitate the primary sale and subsequent secondary trading of these tokenized assets, providing a secure ecosystem for investors.

How it Works: From Mine to Marketplace

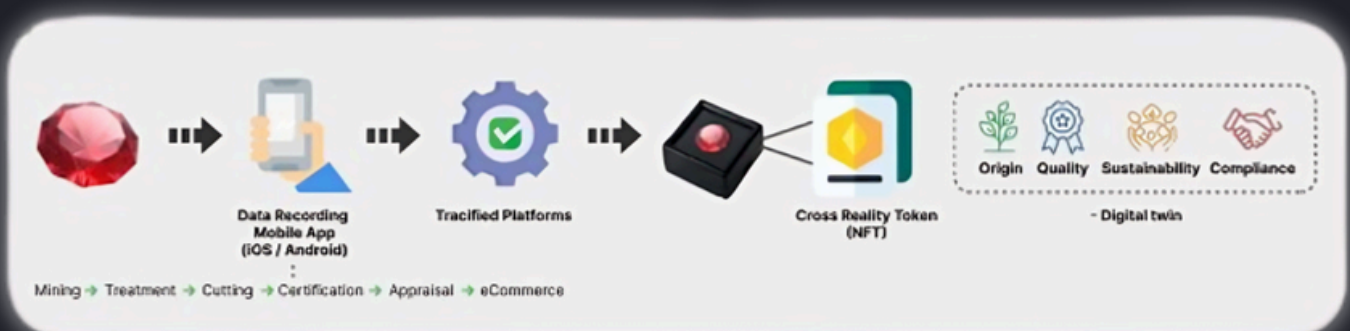
The Tracified platform automates the collection of data points through a streamlined, multi-stage lifecycle:

1. **Mining & Treatment:** Local mining partners record initial extraction data and treatment details directly via the Tracified Mobile App.
2. **Cutting & Certification:** As the stone moves to artisans, details of the craftsmanship are logged alongside digital copies of quality and compliance certificates.
3. **Appraisal & eCommerce:** Independent experts provide a final valuation, which is validated before the stone is listed on RURI's e-commerce platform.
4. **Digital Twin Generation:** Upon purchase, the consumer receives the NFT, which provides a visual and data-rich representation of the stone's Origin, Quality, Sustainability, and Regulatory Compliance.

Results

The strategic implementation of tokenized traceability yielded immediate and significant commercial benefits for RURI:

- **Justified Price Premium:** The presence of data-backed authenticity allowed RURI to command and justify a price premium in their web shop, as customers were willing to pay more for verified transparency.
- **Enhanced Consumer Confidence:** By providing a "digital twin," RURI enabled buyers to build total confidence in the stone's value and history without the need for a physical pre-inspection.
- **Secondary Market Flourishment:** The use of NFTs created a liquid second-hand market. Because the proven authenticity is permanently attached to the digital record, the stones retain higher resale value and trust over time.



Conclusion

By successfully merging traditional craftsmanship with blockchain technology and NFT minting, RURI and Tracified have established a new benchmark for transparency and luxury in the jewelry sector. This project ensures that every precious stone tells its unique, unalterable story—from the depths of the mine to the customer's hand—delivering unprecedented peace of mind for the consumer and fostering long-term brand equity for RURI.