Smart Vendor Finder with Blockchain Verification

Reimagining Customer Experience Using Emerging Tech

Introduction

This presentation outlines the development of a smart buyer platform designed to enhance customer experience.

It leverages blockchain for verification, AI for personalized recommendations, and geo-location for proximity-based vendor discovery.

The goal is to create a trusted, transparent, and efficient local vendor marketplace.

Problem & Solution Overview

01

Local buyers face difficulties finding trustworthy vendors due to price manipulation and fake listings.

platforms lack verification, cheapest price assurance, and proximity sorting.

Our solution introduces a blockchain-secured platform to discover verified, affordable, and nearby vendors.

Challenges for Local Buyers

Buyers struggle with identifying trusted local vendors.

There is widespread price manipulation and false product listings.

No existing platform integrates verification, lowest-price guarantees, and geo-location effectively.

Smart Buyer Platform Concept

The platform offers tamper-proof vendor data through blockchain.

It provides personalized vendor suggestions using AI-powered recommendations.

Geo-location integration ensures users find vendors closest to them with verified, competitive pricing.

Blockchain-Based Trust

Vendor data including name, product, and price is hashed and stored on the blockchain for immutability.

When a buyer views vendor information, the backend verifies the data hash against the blockchain.

This process ensures that prices and listings have not been tampered with, enhancing trust and transparency.

Technology & Features

Our platform integrates diverse modern technologies to deliver a seamless and secure experience.

It combines frontend and backend frameworks, blockchain, AI algorithms, geo-location APIs, and decentralized storage.

These components work together to provide verification, personalization, and real-time proximity services.

02

Core Technologies Used

Frontend: React.js with Tailwind CSS, configured as a Progressive Web App for cross-platform accessibility.
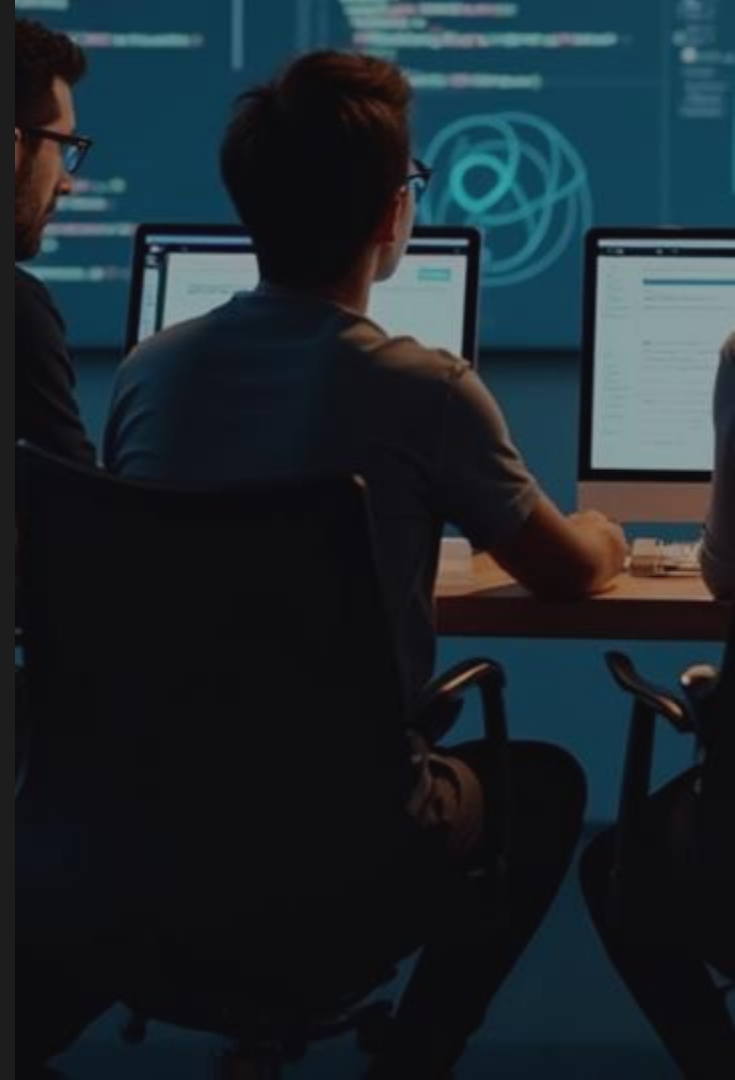
Backend: Node.js with Express framework managing API requests and data operations.

Database: MongoDB for scalable and flexible data storage.

Blockchain: Ethereum with Solidity smart contracts, Web3.js, and Ganache for local development.

AI: Python-based Scikit-learn models for behavior-driven vendor recommendations.

Geo APIs: Google Maps and Leaflet for accurate location services. Additional components include Twilio API for OTP verification, IPFS for decentralized media storage, and Chart.js for dashboard visualization.

Key Features Explained

Blockchain verification ensures tamper-proof vendor data to build buyer trust.

Geo-location sorting allows users to find nearby vendors prioritized by price and verification status.

AI-driven recommendations customize vendor suggestions based on user behavior and pricing trends.

QR code scanning supports instant physical verification of vendors on-site.

Progressive Web App support allows installation and native app-like performance.
An admin dashboard provides analytics on vendor onboarding, product categories, and price trends.

Security & Verification Mechanisms

Blockchain technology guarantees data immutability and trustworthiness of vendor information.

Twilio OTP system secures vendor login workflows, preventing unauthorized access.

IPFS is used for decentralized, permanent storage of vendor documents and media files.

This multi-layered verification framework protects the platform integrity and enhances user confidence.

Conclusions

The Smart Vendor Finder platform offers a transformative approach to local marketplace trust and efficiency.

By combining blockchain, AI, and geo-location technologies, it addresses critical challenges of vendor authenticity and price fairness.

The platform's scalable design enables adaptation across various industries to foster transparent, buyer-centric ecosystems.

This solution positions itself as a pioneering tool for improving customer experience through emerging technologies.

Thank you!

Do you have any questions?

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>> ROHITH V