



CODECELL-CMPN,VESIT

SYRUS HACKATHON 2025

Category Code: C1

Problem Statement Title: Nirman

Team Name: ByteMeHard

Institute Name: Vivekanand Education Society's Institute of Technology




Idea / Approach details (& implemented features)



Nirman leverages AI to **optimize vendor negotiations, enhance customer retention, streamline deliveries, and automate financial management** for manufacturers and retailers. It **secures better deals, reduces costs, boosts sales through AI-driven rewards, and provides real-time financial insights**—empowering businesses to scale efficiently and maximize profitability.

Implemented features : Used Gemini API to facilitate real-time price and term negotiations between retailers and manufacturers.


FEATURES




AI-Powered Negotiator
Uses market trends and supplier data to automate contract negotiations and secure the best procurement deals.



Customer Retention System
Personalized AI-driven rewards, discounts, and engagement strategies to boost customer loyalty.



Automated Balance Sheet
Real-time tracking of financial transactions, expense analysis, and profitability insights to enhance financial decision-making.



Smart Delivery Management
AI-optimized route planning, real-time tracking, and partner integration for cost-effective and timely deliveries.



Innovation (Showstopper)

1. AI-Powered Negotiation

Dynamic Pricing & Automated Deals: AI optimizes pricing and structures real-time deals.

Multi-Party & Sentiment Analysis: Supports simultaneous negotiations and evaluates negotiation tone for better outcomes.

2. Reward System

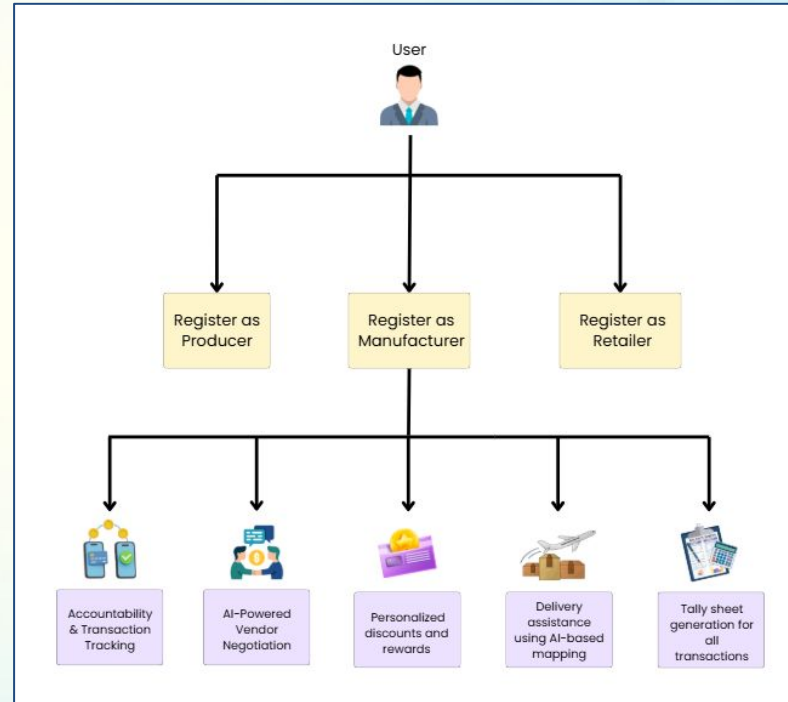
Incentivized Engagement: Loyalty points for transactions, feedback, and milestones.

3. Accountability & Tracking

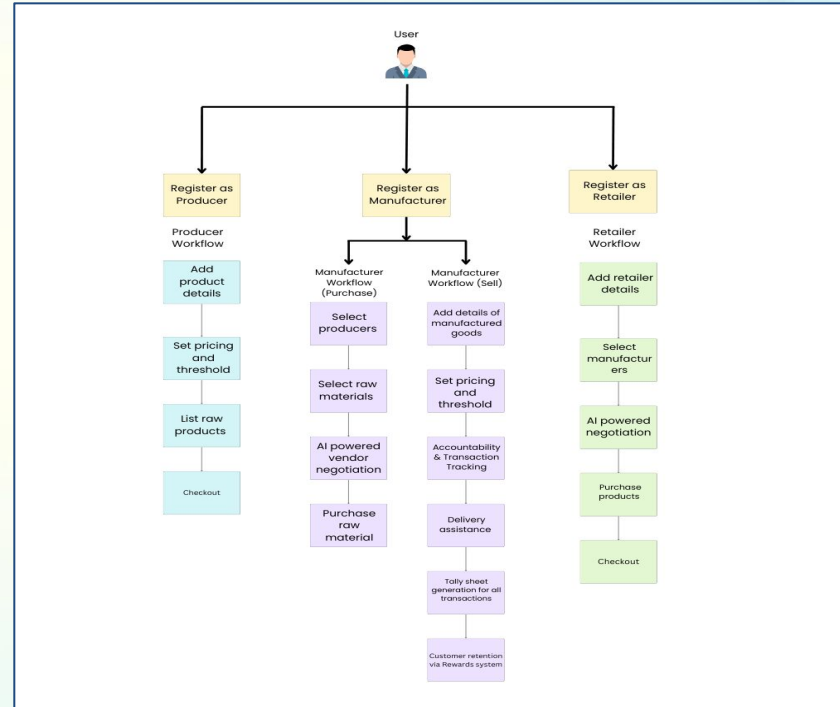
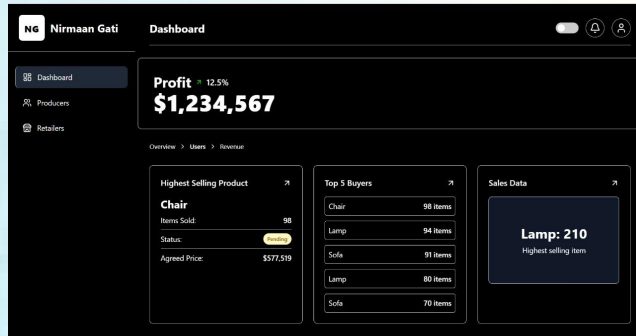
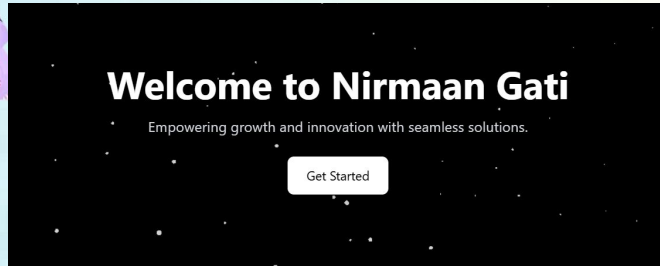
End-to-End Visibility: Tracks every transaction phase.

Blockchain Records: Ensures tamper-proof logs and real-time audits.

4. Multilingual Support & Text to Speech support



Implementation/Prototype/Use Case Diagram (screenshots)



Tech Stack

Frontend Development

Framework: ReactJS



Styling: Tailwind CSS



Components: ShadCN



Charts: ChartJS



Backend Development

- Framework: Node.js
- API: Express.js
- AI: Python (TensorFlow)
- Payments: Stripe/Razorpay
- Real-Time: Socket.io
- Automation: CRON Jobs

AI/Blockchain

Gen AI Models:

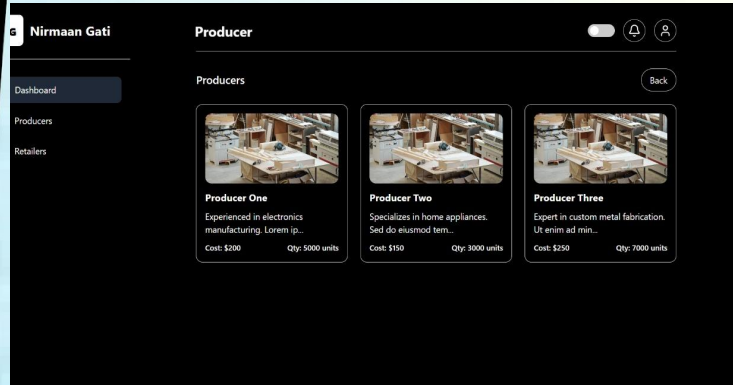
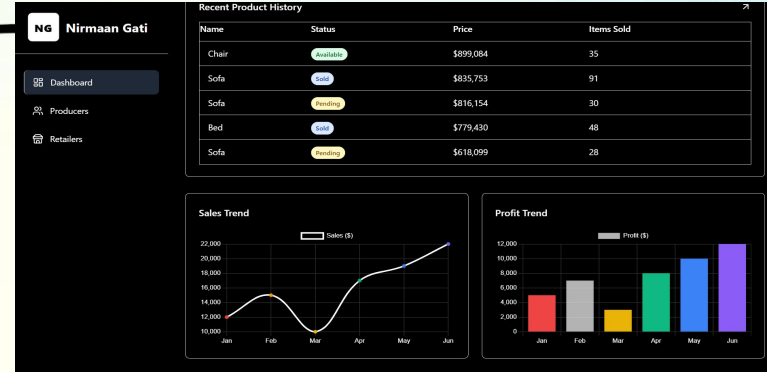
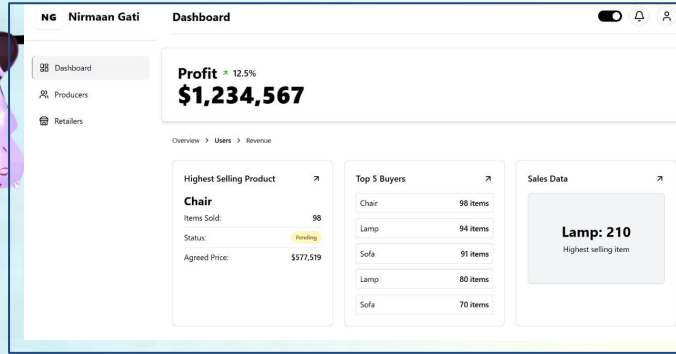
- **Gemini API** – For intelligent decision-making and dynamic customer engagement.
- **Groq API** – For high-speed AI processing and predictive analytics.
- **LangChain** – To manage and store chat history for seamless AI-driven interactions.

HardHat, Solidity: Real time audits

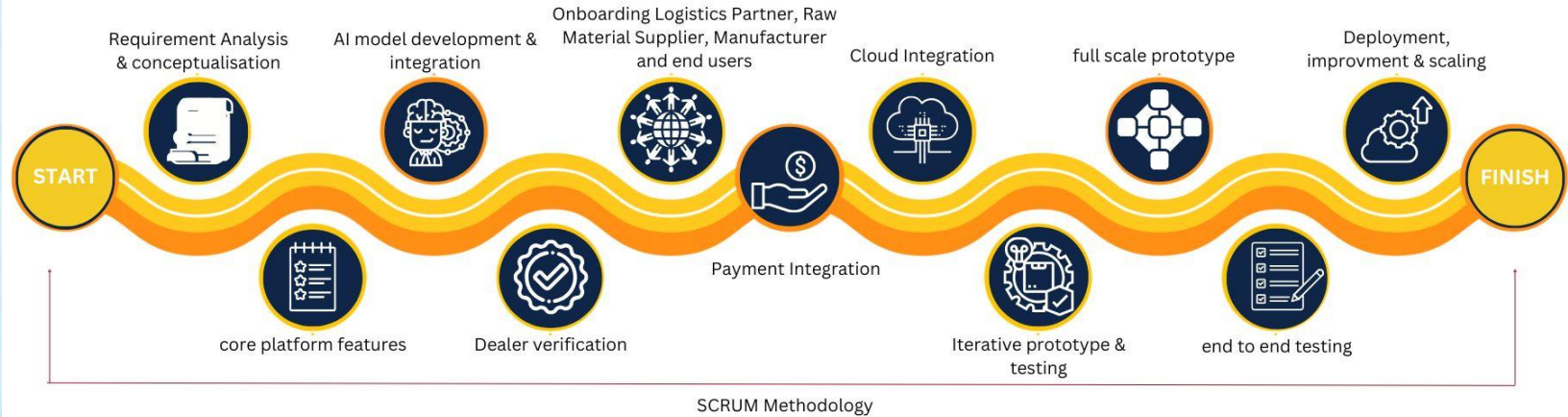
Payment: Razorpay



Implementation



Features



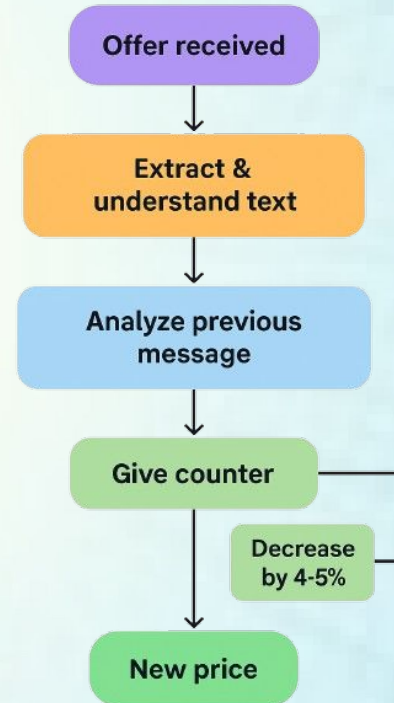
AI Powered Negotiator

Feature Explanation

- ✓The AI Negotiator facilitates price and contract negotiations between retailers and manufacturers and producers using Generative AI.
- ✓It understands negotiation dynamics, suggests optimal pricing, and counteroffers based on market trends, stock levels, and historical data.

Why & how it is implemented

- **WHY** : Implemented to automate negotiation processes, reduce manual intervention, and improve efficiency in business deals.
- **HOW** : Utilizes LLMs (Gemini API) to analyze historical negotiation data and predict optimal terms.
- WebSocket communication ensures real-time updates between parties.



AI Powered Negotiator

Tech Stack Used

- **Frontend:** React.js, Tailwind CSS, ShadCN
- **Backend:** Node.js (Express), RazorPay
- **Database:** MongoDB
- **AI:** Gemini API for text-based negotiation logic

Available Products


steelchasis	
Price:	\$1000
Available Quantity:	50 units
Manufacturer:	N/A
<button>Negotiate Price</button>	

respond to your offer shortly.

"I understand you're looking to get both units for \$1400. While the 30% discount is a bit steep, I can offer you a final price of \$1800."

1600 final

Okay, I understand your offer of \$1600. I can offer you a final price of \$1600.



Screenshots

← Back

Find your perfect deal

This is our AI negotiator. Let's get started!

Proceed to Checkout →

Hello! I am your AI negotiator. How can I help you today?

Type your message...

Send



Automated Balanced Sheet & Reward System

Feature Explanation

The Transaction Balance Sheet System provides **transaction tracking**, **real-time balance calculation**, **on-demand reports**, **multi-user access**, and an **audit trail** to ensure transparency, accuracy, and accountability.

Why & how it is implemented

- **WHY ??**
 1. **Transparency:** Tracks payments clearly between stakeholders.
 2. **Accuracy:** Provides real-time updates and reduces errors.
- **HOW ??**
 1. **Database Setup:** Store financial records using **SQL** or **MongoDB**
 2. **Automation:** Calculate **balance sheets** in real-time.
 3. **Dashboard:** Build a **ReactJS** interface for easy access.



Screenshots

NG Nirmaan Gati

Manufacturer Dashboard



Dashboard

Producers

Retailers

List Your Products

Profit ↗ 12.5%
\$1,234,567

Overview > Users > Revenue

Highest Selling Product ↗

Chair

Items Sold: 98

Status: Pending

Agreed Price: \$577,519

Top 5 Buyers ↗

Chair 98 items

Lamp 94 items

Sofa 91 items

Lamp 80 items

Sofa 70 items

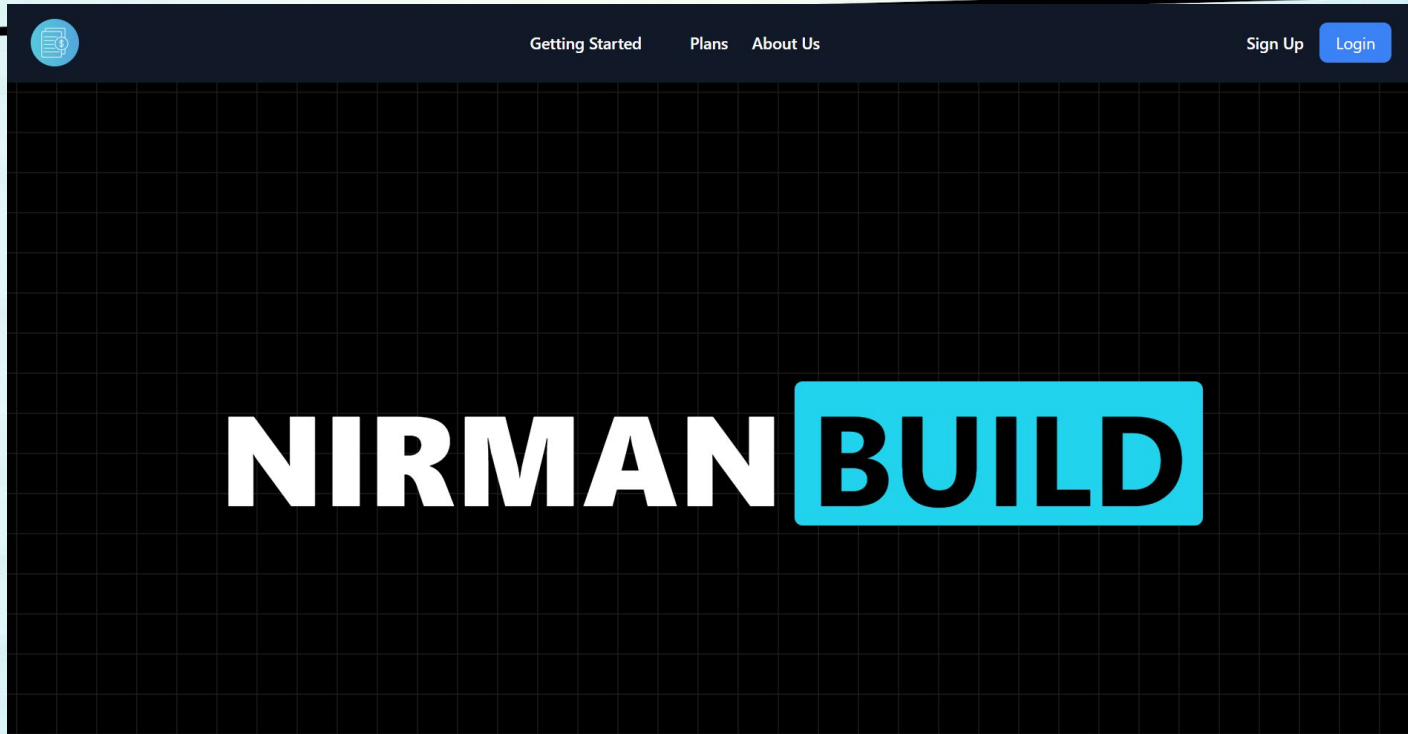
Sales Data ↗

Lamp: 210

Highest selling item

Recent Product History

Screenshots



Screenshots

NG Nirmaan Gati

Dashboard

Producers

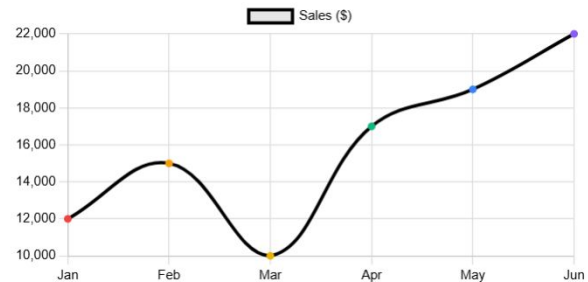
Retailers

List Your Products

Recent Product History

Name	Status	Price	Items Sold
Chair	Available	\$899,084	35
Sofa	Sold	\$835,753	91
Sofa	Pending	\$816,154	30
Bed	Sold	\$779,430	48
Sofa	Pending	\$618,099	28

Sales Trend



Profit Trend



Smart Customer Retention

Smart Customer Retention

- ✓ AI-driven **personalized discounts & loyalty programs** to increase repeat purchases.
- ✓ Automated engagement through targeted offers based on customer behavior.

Why & how it is implemented

Why is Customer Retention Important?

- **80% of a company's future revenue** comes from just **20% of its existing customers** (Pareto Principle).
- Acquiring a new customer is **5X more expensive** than retaining an existing one.
- Loyal customers **spend more** and refer new clients, driving organic growth.
- **MSMEs struggle** to offer retention strategies like large enterprises due to limited data-driven insights.



Smart Customer Retention

- How is Smart Customer Retention Implemented in Nirman?

AI-Driven Personalized Discounts & Offers

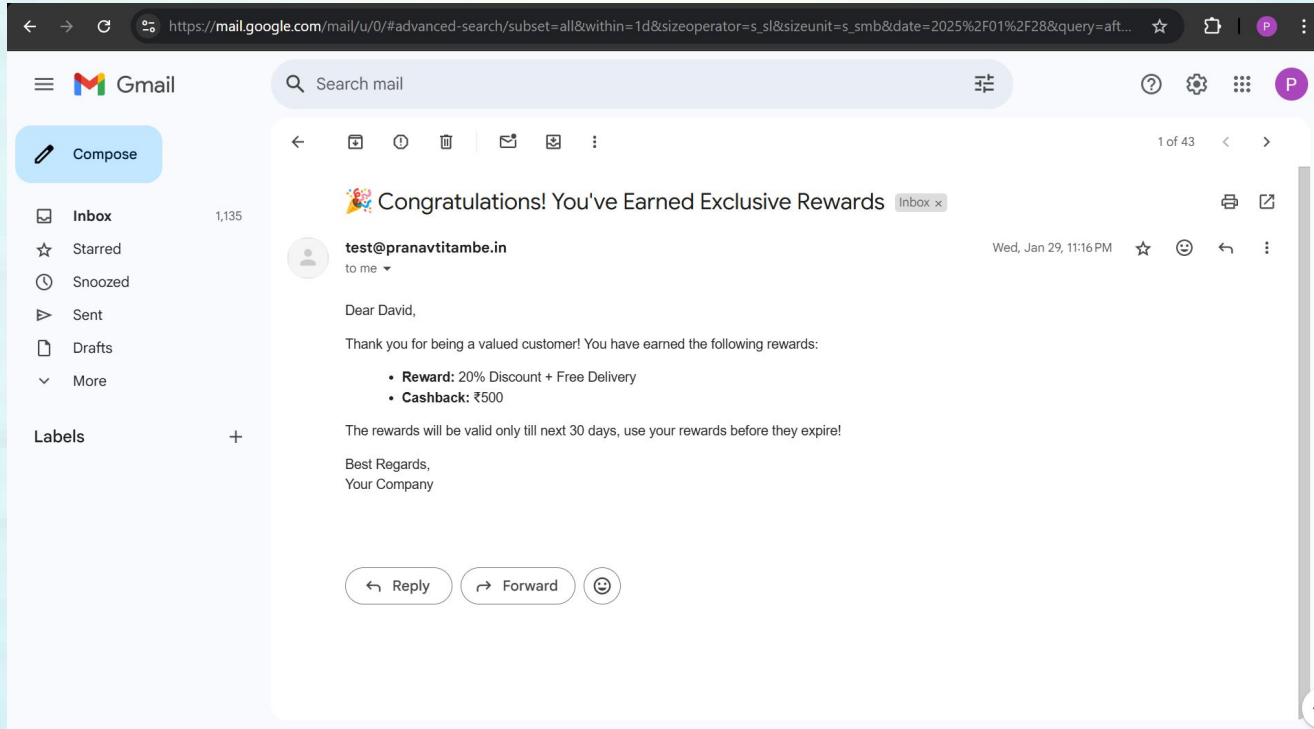
- Analyzes past purchases & customer behavior to generate **targeted discounts**.
- Sends personalized deals via **WhatsApp, Email, or App notifications** to re-engage customers.
- Example: If a customer frequently buys raw materials every 2 months, Nirman Gati suggests a **pre-order discount** at the right time.

AI-Powered Loyalty Program

- Automates **reward points, cashback, and tier-based benefits** for repeat buyers.
- Helps businesses retain high-value customers by offering **exclusive perks**.
- Example: A manufacturer can offer **bonus raw materials or priority support** to loyal customers.



Smart Customer Retention



Manufacturer Tax filing automation

Feature Explanation (Mentor Recommended Feature)

This feature automates the process of tax filing for manufacturers by analyzing income, expenses, deductions, and applicable tax regulations. It ensures timely submissions, minimizes errors, and simplifies the tax filing workflow.

Why & How It Was Implemented

Why: To reduce manual effort, avoid tax penalties, and ensure compliance with government regulations.

How:

- Collects financial data from transactions, invoices, and expense records.
- Categorizes taxable income and deductions using AI-powered classification.
- Generates pre-filled tax forms for easy submission.
- Provides alerts for upcoming tax deadlines..



Manufacturer Tax filing automation

Tech Stack Used

- **Frontend:** React.js, Tailwind CSS
- **Backend:** Node.js (Express)
- **Database:** MongoDB.
- **AI:** Gemini API for document parsing & tax classification
- **APIs:** Government tax APIs (if available) for direct submission



Government Scheme & Subsidy Support

Government Scheme & Subsidy Support (Mentor Recommended Feature)

- ✓ Integrates with **government portals** to help businesses discover relevant schemes & grants.
- ✓ Provides insights into subsidies like **ODOP (One District One Product)** for local manufacturers.

◆ Why is This Important?

- **Limited Awareness** – Many MSMEs are unaware of **government schemes & subsidies** that can reduce costs and boost growth.
- **Complicated Application Process** – Businesses struggle to navigate through **eligibility criteria & documentation**.
- **Lost Financial Opportunities** – Schemes like **ODOP, MSME Support, and Export Incentives** remain **underutilized**, leading to financial strain on small manufacturers.



Government Scheme & Subsidy Support

HOW:

Web Scraping for Scheme Data – Using **BeautifulSoup/Scrapy** to extract real-time scheme details from government sites like **MSME, ODOP, Startup India** and display them in the app.

AI Chatbot for Quick Queries – Integrating **LangChain + Gemini API** to answer subsidy-related questions dynamically, reducing manual content updates.

Simple Eligibility Checker Form – Building a **Google Form or React-based dynamic form** to match businesses with relevant schemes based on location, industry, and revenue.

Pre-Filled Subsidy Applications – Using **React-PDF or auto-fill APIs** to generate ready-to-submit forms, reducing effort for business owners.

Automated SMS/Email Alerts – Using **Twilio** to notify users about **grant deadlines & new subsidy announcements**.



Landing Page ScreenShots



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[Plans](#)

[About Us](#)

[Sign Up](#)

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NIRMAN SELL



Landing Page Screenshots



NIRMAN **SELL**

How It Works

Convenient Streamlined Process

Experience a seamless and efficient process designed to
make your life easier



Landing Page Screenshots

Choose Your Producers

Browse our extensive catalog to find the perfect material for your product.

[Check Now](#)



Sell Your Products

Select a price range, product and quantity that fits your business.

[Check Now](#)



Track Your Business

Real-time financial tracking, expense analysis, and profitability insights for better decision-making..

[Check Now](#)



Screenshots

What We Offer

Nirman Lite - \$19/month

- ✓ Basic financial tracking
- ✓ Expense categorization
- ✓ Limited reports

Subscribe

Nirman Pro - \$49/quarter

- ✓ All Free Plan features
- ✓ Advanced analytics & insights
- ✓ Real-time transaction monitoring

Subscribe

Nirman Gati - \$90/yearly

- ✓ All Pro Plan features
- ✓ Custom financial dashboards
- ✓ API access & team collaboration

Subscribe

