



CODECELL-CMPN,VESIT

SYRUS HACKATHON 2025

Category Code: C1

Problem Statement Title: KrishiConnect: AI-Powered Smart Marketplace for Indian Farmers

Team Name: Krishi Mitra

Institute Name: Vivekanand Education Society's Institute of Technology



Idea / Approach details (& implemented features)

1. Direct Farmer-to-Consumer Marketplace:

- Eliminates **3-4 layers of middlemen**, increasing farmer revenue by **40-60%**
- Creates verified farmer profiles with secure digital payment infrastructure
- Implements transparent pricing showing exact markup percentages

2. AI-Driven Dynamic Pricing System:

- The system will collect real-time data from major agricultural markets across India to establish baseline prices.
- AI will establish minimum and maximum price thresholds to prevent exploitation during market fluctuations.
- Risk assessment for various crop options based on climate and market volatility

3. Comprehensive Tracking & Analytics:

- Dialect Recognition: The system will understand regional variations within each language.
- Audio Navigation System: Farmers can navigate the entire platform using voice commands for listing products, checking orders, and withdrawing payments.
- **Voice-to-Text Conversion:** Product descriptions spoken by farmers will be automatically converted to text for listings.



Idea / Approach details (& implemented features)

1. Comprehensive Tracking & Analytics Implementation:

- Real-time monitoring of inventory, orders, and market trends
- Data-driven insights to optimize selling strategies

2. Revenue Model:

- Charge a percentage commission (e.g., 5-10%) on each sale made through the platform.
- Farmers set their prices, and the platform takes a cut.
- Charge customers a delivery fee based on distance and order size, Option for free delivery above a certain order value.

3. Transport Model:

- Tie up with third-party delivery services (Dunzo, Shadowfax, Porter, etc.) for deliveries.
- Customers can **choose between home delivery or pickup** from designated collection centers.
- Offer an option for refrigerated delivery for dairy, meat, or highly perishable items.



Innovation (Showstopper)

AI-Powered Agricultural Ecosystem:

In India's agricultural landscape, farmers typically receive only **33-50% of the final consumer price** due to multiple intermediaries. KrishiConnect revolutionizes this system by creating a **direct marketplace powered by advanced AI**.

Smart Crop Recommendation:

- AI analyzes, weather patterns, and market demand
- Predictive analytics to forecast market trends and pricing
- **Historical pricing** data will inform farmers about optimal selling times based on **3-5 year patterns**.
- Yield prediction models showing expected returns for different crops

Voice-First Accessibility:

- Multilingual voice commands for farmers with limited tech literacy
- Voice-based market updates and alerts.
- Product descriptions spoken by farmers will be automatically converted to text for listings.



Innovation (Showstopper)

Cold Storage To address post-harvest losses, the platform will integrate:

- **Cold Storage Mapping:** Real-time availability of facilities within the farmer's vicinity.
- **Bulk Booking Discounts:** Preferential rates negotiated for platform users.

Product Details

Product Name
Premium Product

Category
Electronics

Select Quantity

100 units

200 units

300 units

400 units

500 units

600 units

700 units

800 units

900 units

1000 units

Selected: 800 units

Price Negotiation

Original Price

₹100/unit

5% Off
₹95/unit

10% Off
₹90/unit

15% Off
₹85/unit

20% Off
₹80/unit

25% Off
₹75/unit

30% Off
₹70/unit

40% Off
₹60/unit

50% Off
₹50/unit

You're getting 15.0% discount!

Users can
negotiate
for bulk
Bookings

Nearby Cold Storages

Agro Cold Storage

★ 4.5

Capacity: 1000 tons
Available: 500 tons
Temperature: 4°C
Price: ₹100/ton/day

Temperature Control Humidity Control 24/7 Monitoring
Failed to load map. Please try again later.

Farm Fresh Storage

★ 4.2

Capacity: 800 tons
Available: 300 tons
Temperature: 2°C
Price: ₹120/ton/day

Temperature Control Humidity Control 24/7 Monitoring Forklift Service

Rural Cold Chain

★ 4

Capacity: 500 tons
Available: 200 tons
Temperature: 0°C
Price: ₹90/ton/day

Temperature Control Humidity Control 24/7 Monitoring Loading Assistance



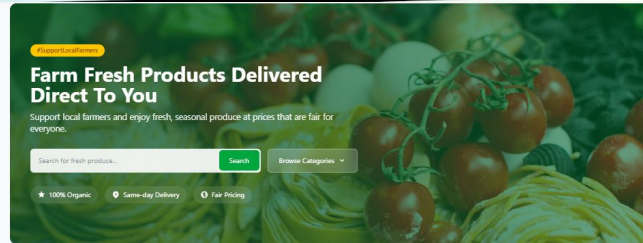
Tech Stack

1. **Frontend: React + Tailwind CSS**
 - Responsive design for mobile-first approach
2. **Backend: Node.js + Express.js**
 - Scalable architecture for handling millions of transactions
3. **Database: MongoDB**
 - Flexible schema for diverse agricultural products
 - Efficient data retrieval for market analysis
4. **ML Models: TensorFlow, PyTorch**
 - Advanced algorithms for price prediction and crop recommendations
5. **Authentication: Firebase**
 - Secure user verification, Multi-device synchronization
6. **Tools & APIs: LangChain, Hugging Face, Sarvam, Mistral Saba, Google DialogFlow**
 - Voice recognition and natural language understanding
 - Multilingual support for regional languages





Implementation/Prototype/Use Case Diagram (screenshots)



Meet Our Farmers



Rajesh Kumar

Growing organic vegetables for over 15 years using traditional farming methods.

[View Products](#)



Sunita Patel

Specializes in dairy products from grass-fed cows raised on her family farm.

[View Products](#)



Amit Singh

Third-generation rice farmer practicing sustainable agriculture methods.

[View Products](#)

Featured Products



Fresh organic tomatoes grown without pesticides

₹35 ₹40

Organic



Locally grown spinach, perfect for salads and cooking

₹30

Organic



Stone-ground whole wheat flour for baking

₹55 ₹60

Organic



Fresh cow milk delivered daily

₹50

Organic



Organic turmeric powder for cooking and health benefits

₹80

Organic



Sweet and crisp apples from organic orchards

₹65 ₹70

Organic



Premium long-grain basmati rice

₹120

Organic



Pure unfiltered honey from local beekeepers

₹150

Organic



Why Choose Krishi-Connect?



Directly from Farmers

Buy directly from verified local farmers, eliminating middlemen and ensuring farmers get fair prices for their produce.



Traceability & Transparency

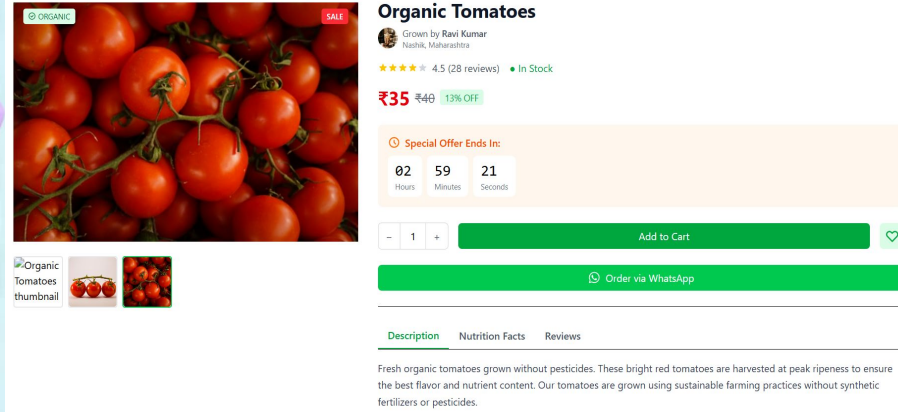
Know exactly where your food comes from and which farmer grew it. Complete transparency from farm to table.



Fresh & Healthy

Our products are harvested and delivered within 24 hours, ensuring you get the freshest and most nutritious food possible.

Implementation/Prototype/Use Case Diagram (screenshots)



Organic Tomatoes
Grown by Ravi Kumar
Nashik, Maharashtra

★★★★★ 4.5 (28 reviews) • In Stock

₹35 ₹40 13% OFF

Special Offer Ends In:
02 Hours 59 Minutes 21 Seconds

- 1 + [Add to Cart](#)

[Order via WhatsApp](#)

Description Nutrition Facts Reviews

Fresh organic tomatoes grown without pesticides. These bright red tomatoes are harvested at peak ripeness to ensure the best flavor and nutrient content. Our tomatoes are grown using sustainable farming practices without synthetic fertilizers or pesticides.

Latest Articles



[Sustainable Farming](#) • 5 min read

Sustainable Farming Practices for Small Farmers

Learn how small-scale farmers can implement sustainable practices that benefit both the environment and their crops.

[Ravi Kumar](#)
Apr 15, 2023 [Read more](#)

[Seasonal Guide to Growing Vegetables in India](#)

[Crop Planning](#) • 10 min read



[Organic Farming](#) • 5 min read

Organic Pest Management Techniques

Discover natural ways to keep pests away from your crops without using harmful chemicals.

[Priya Singh](#)
Apr 10, 2023 [Read more](#)



[Water Management](#) • 7 min read


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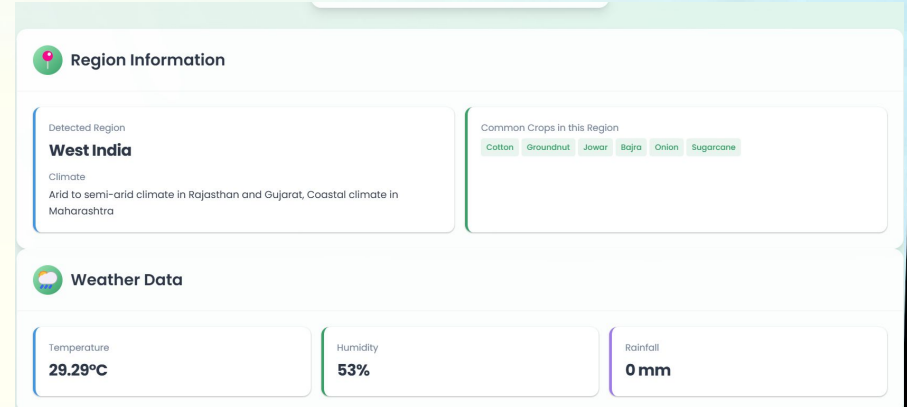
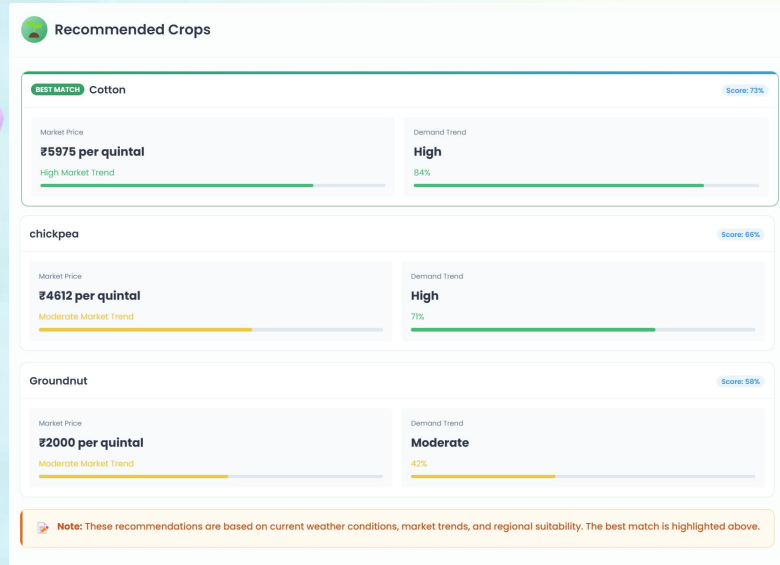
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Featured Farmers

-  **Ravi Kumar**
Organic Vegetables
Nashik, Maharashtra
-  **Priya Singh**
Fruits Specialist
Dhule, Maharashtra

Farmers can explore and learn about **innovative crops**, **modern agricultural techniques**, and **advanced farming strategies** to enhance productivity and sustainability.

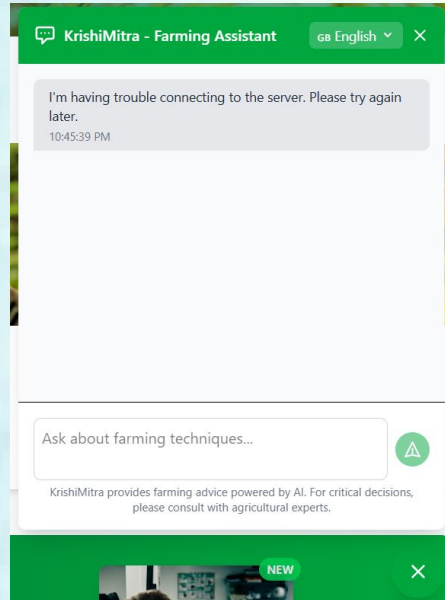
Implementation/Prototype/Use Case Diagram (screenshots)



AI recommendation - Based Demand trend on previous dataset.

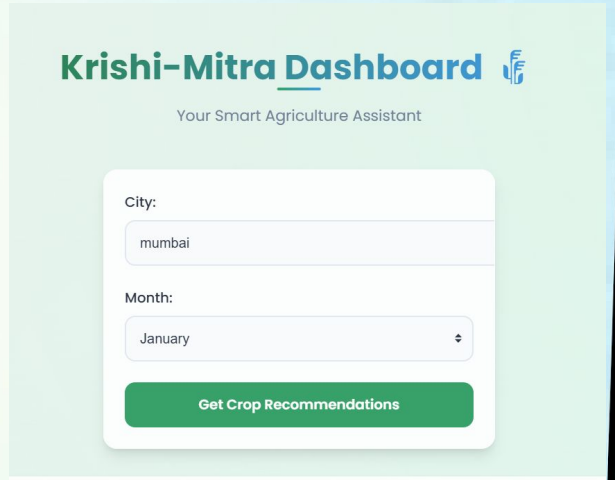


Implementation/Prototype/Use Case Diagram (screenshots)



**AI recommendation
Based on the region
and Season**

**AI chat bot trained on our
specific data.**



Unique features of our Website as mentioned by our Mentor



Future Objectives

Enhanced AI Prediction Models:

- Implement advanced **weather impact analysis** on pricing
- Create predictive models for optimal harvest timing

Marketplace Expansion:

- Integrate with **international export platforms**
- Develop specialized categories for organic and specialty crops

Vision

Agricultural Ecosystem Transformation:

- Creating a self-sustaining, tech-enabled agricultural economy
- **Hybrid Transport Model:** Local farmer deliveries + third-party logistics integration for scalability.

Farmer Financial Empowerment:

- Increasing farmer income by **40-60%** through direct market access
- Reducing **post-harvest losses by 30-50%**

