



Minor Project - III

Semester - VI

Title - Web Development & Machine Learning

Topic - **GreenPact** – Sustainable farming through assured contracts.

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Problem Statement

AIM

Our aim is to ensure fair pricing, market stability, and secure agreements between farmers and buyers through an assured contract farming system.

Solution/Idea

1 Comprehensive Digital Platform

One-stop solution for managing transactions, contracts, market trends, and crop listings (including MSPs).

2 Contract Security

Enforcing legally-bound, OTP-verified contracts with advance payments *reduce fraud & payment delays*. Only verified buyers and sellers can register, ensuring *authenticity* and trust.

3 Seller's Interface

Access to market news, demand forecasts, "*E-Mandi*" for crop listings and multi-buyer access to *reduce dependency & improved negotiation*.

4 Buyer's Interface

View crops, use "*Kisan-Kart*" to post requirements, and browse multi-offerings.

5 Help & Support

Chatbot assists navigation; Users can *file complaints* managed by the administrative system.

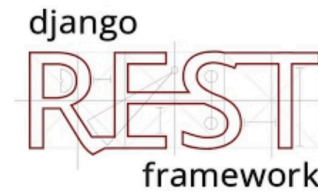
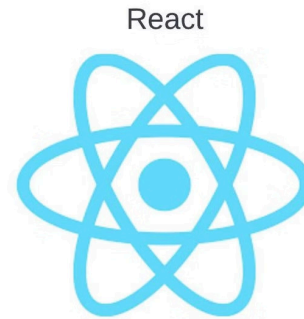
Problem Resolution

- **Market Access:** Direct link to markets *bypasses intermediaries*.
- **Price Transparency:** Real-time data aids *better price negotiation*.
- **Predictive Insights:** Market trend analytics help farmers plan crop cycles effectively *reducing market fluctuation risks*.
- **Contractual Stability:** Legally-bound contracts provide *income stability*.
- **Market Security:** *Reducing financial losses* from companies (*incase not buying produce*) by providing a huge online marketplace.

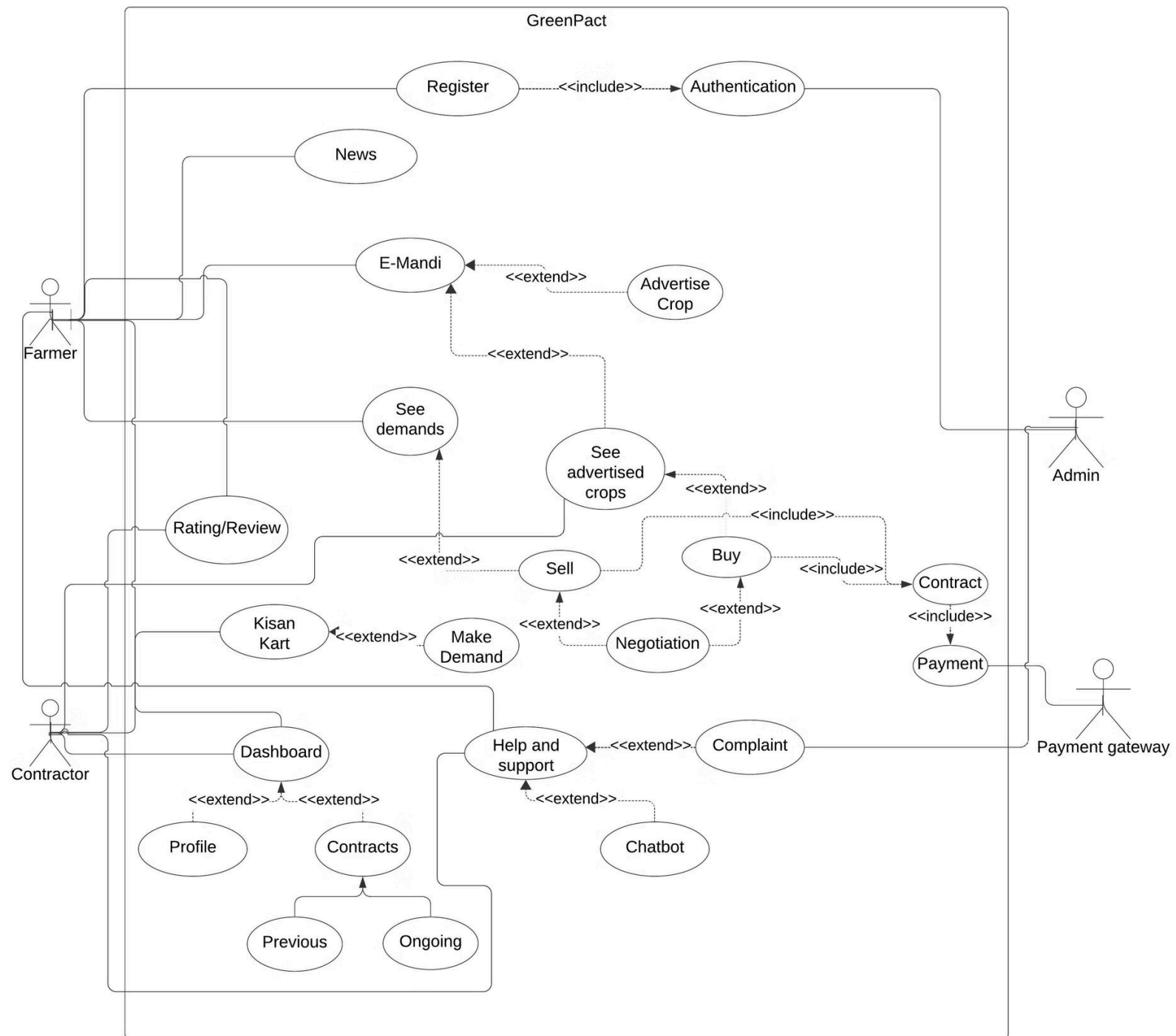
What is Unique in Project?

Inclusion of FPOs(Farmer Producer Organizations)	supports <i>consolidation</i> aiding small-scale farmers meet <i>large market demands</i> , aligning with government initiatives.
Community-Based cookingContract Understanding Aid	Chatbot simplifies contracts, explains clauses, and ensures farmers are <i>well-informed before signing agreements</i> .
Multilingual Communication Support	<i>Eliminates language barriers.</i>
Ratings & Reviews	Enables buyers and sellers to view each other's ratings, <i>aiding in effective decision-making</i> .
Long-term Contracts	Allows price negotiation based on MSP, ensuring <i>stable income</i> across <i>all seasons</i> .

Tech Stack



Use Case Diagram



Feasibility

1-) Technical

- Aadhaar and payment APIs simplify integration, cutting development complexity.
- Despite ease of integration, the process can still be time consuming during implementation.

2-) Financial

- Revenue comes from transaction fees, premium features, and ads, ensuring financial sustainability.
- Existing Aadhaar and payment gateways reduce the need for new infrastructure, lowering upfront costs.
- Features like Aadhar API and SMS OTP are not free, so we'll need to budget for these costs

3-) Market

- Rising demand for digital agriculture and tax benefits will boost farmer adoption of the platform.
- Widespread digital payments and platform scalability ensure strong market potential.

Challenges and Risks

- Clear contracts between farmers and contractors require standardization, transparency, and effective dispute management.
- The platform must use strong encryption and robust security to protect contracts, pricing, and payment details.
- Limited or unreliable internet in rural areas can hinder platform use.

Impact

- **Income Stability:** MSP has increased farmers income by 30-35% for certain crops.
- **Transaction Transparency:** 25-30% of farm produce is sold through organized channels. This platform will increase that percentage.
- **Market Insight:** Offers real-time market trends to guide farmers on planting and selling decisions.
- **Efficient Selling:** Simplifies crop advertising and selling for quicker and more effective transactions
- **Enhanced Bargaining:** Improves negotiation power through direct buyer engagement.
- **Financial Planning:** Enables long-term contracts, potentially boosting farmer incomes 10-15% through expanded access to contract farming arrangements.

Benefits

1-) Social Benefits

- **Farmer Empowerment:** 86% of Indian farmers are small and marginal, often lacking direct market access.
- **Multilingual Communication:** A multilingual platform fosters inclusivity and collaboration among diverse farming communities.
- **Knowledge Sharing:** 22 million farmers are using agri-tech platforms. This number can grow with integrated chat services.

2-) Economic Benefits

- **Informed Production:** Price volatility can cause up to 30% income swings for farmers yearly. Real-time market trends can help reduce this.

3-) Environmental Benefits

- **Resource Efficiency:** Market and weather insights help manage water, soil, and fertilizers efficiently.
- **Consolidated Farming:** FPO-driven practices promote eco-friendly land and resource use.

Current Progress

- Title discussion and it's research work.
- Proposed Solution
- Knowledge and requirements gathering.
- Use-case diagram, flow chart and database design prepared.
- User authentication and authorization done.

Future Planning

- Setting up contract.
- Implement functionality using backend and databases.
- Testing
- Deployment

Reference

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- Reddy, A. Amarender. "Electronic national agricultural markets." Current Science 115.5 (2018): 826-837.
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Reference

- What has the Govt offered protesting farmers from Punjab? The proposed new formula is for NCCF, NAFED, and CCI to buy at a contracted MSP for five years. How will this arrangement work, and what have the farmers said?

Thank You