Securing your Future with your own Hands

AN IMS [ISO 21001, ISO 9001, ISO 14001, ISO 45001] CERTIFIED TRAINING INSTITUTION

NETTUR TECHNICAL TRAINING FOUNDATION

PROJECT SYNOPSIS

On

FARMASPHERE

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1. PROBLEM STATEMENT

Farmers face challenges in selling their produce at fair prices, accessing real-time weather data, receiving updates on government schemes, and learning modern farming techniques. This lack of access to resources, combined with middlemen reducing their profits, creates a need for a platform that empowers farmers and improves their livelihood.

2. SCOPE OF THE PROJECT

The project will enhance farmers' income by eliminating middlemen through a direct marketplace. It will improve farming efficiency using real-time weather data and crop recommendations. Tutorials and government schemes information will educate and empower farmers. A scalable platform that can grow to include AI and IoT features in the future.

3. OBJECTIVE OF THE PROJECT

To create a web platform that provides farmers with a direct marketplace, real-time weather and crop advisory, farming education, and updates on government schemes. To integrate a voice assistant supporting regional languages for accessibility.

4. LITERATURE SURVEY

4.1 EXISTING SYSTEMS

- **AgroStar**
  - **Developer:** AgroStar was founded by Shardul Sheth and Sitanshu Sheth.
  - **Launched:** 2013
  - **Description:** AgroStar is an Indian agri-tech platform that allows farmers to purchase agricultural inputs (seeds, fertilizers, pesticides) directly through their mobile phones.
  - **Features:**
    - Mobile-based ordering system for farming products.
    - Guidance on using purchased products for better results.

- **Limitations:**
  - No integration with real-time weather data.
  - Focuses more on product sales than providing holistic farming solutions.
  - Lack of direct marketplace for farmers to sell their produce. **Kisan Suvidha App**
- **Developer:** Developed by the Ministry of Agriculture and Farmers Welfare, Government of India.
- **Launched:** 2016
- **Description:** Kisan Suvidha is a mobile application designed to provide useful information to farmers about weather forecasts, crop advisories, and mandi prices.
- **Features:**
  - Provides weather updates for the next 5 days.
  - Market price details for crops in nearby mandis.
  - Pest and disease advisories for crops.
- **Limitations:**
  - Does not have a direct selling or buying marketplace.
  - Lacks interactive or personalized recommendations.
  - No integration with voice assistance or offline mode for regions with poor connectivity**.**

4.2 RESEARCH GAP

Existing platforms provide fragmented services that focus only on individual needs of farmers. These include:

- **Marketplaces without Advisory**: Platforms like AgroStar do not integrate advisory or educational support.
- **Weather Alerts Without Marketplace**: Apps like Kisan Suvidha provide weather updates but do not empower farmers to sell their produce.
- **Lack of Accessibility for Semi-Literate Farmers**: None of the existing platforms offer robust voice assistant support to make technology accessible to farmers in their regional languages.

4.3 UNIQUENESS OF THE PROPOSED SOLUTION

The **Farmer Resource and Marketplace Hub** aims to address these gaps by:

- Combining a **direct marketplace** with advisory and educational features.
- Offering **real-time weather updates** integrated with pest alerts and crop suggestions.
- Providing a **voice assistant** to make the platform accessible for semi-literate and non-tech-savvy users.
- Including a **government schemes module** to educate farmers about financial and policy support available to them.

4.4 LITERATURE SURVEY (BOOKS AND RESEARCH PAPERS)

- **"Precision Agriculture Technology for Crop Farming" by Qin Zhang Oct 15, 2015.**
  - Discusses using technology like weather forecasting and pest monitoring to enhance agricultural productivity.
- **"Sustainable Agriculture" by S. Singh and J.P. Mishra on March 10, 2022.**
  - Highlights the importance of education in sustainable farming and modern techniques.
- **"Agricultural Marketing and Price Analysis" by Bailey Norwood on Nov 16, 2007.**
  - Analyzes inefficiencies in current marketplaces and emphasizes the need for direct farmer-to-consumer platforms.
- **Research Paper: "Adopting Digital Agriculture: Benefits and Challenges" by A. Patel et al., 2021**
  - Explores how digital platforms transform farming and identifies gaps in current solutions.
- **"Voice Technology in Agriculture" by R. Bose, Journal of Agricultural Research, 2022**
  - Details the potential of voice assistants to make technology more accessible for semi-literate farmers.

5. HARDWARE AND SOFTWARE REQUIREMENTS

5.1 HARDWARE REQUIREMENTS

- **Processor:** Intel Core i5 or higher
- **RAM:** 8 GB or more
- **Storage**: 500 GB or more

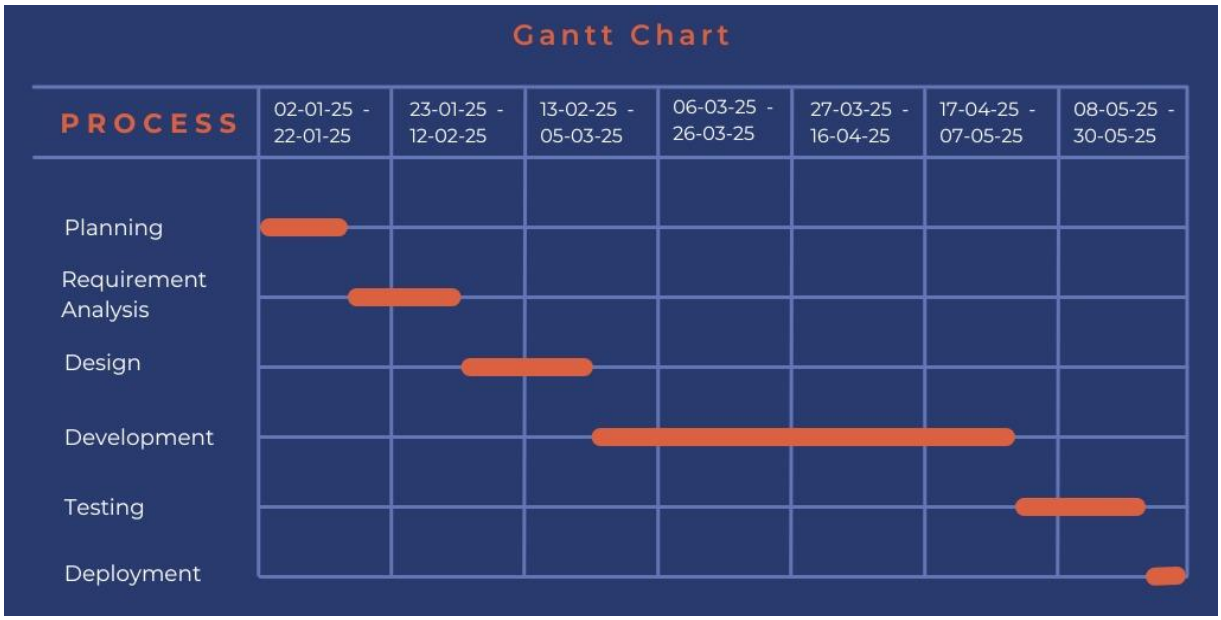
5.2 SOFTWARE REQUIREMENTS

- **Frontend:** HTML, CSS, JavaScript, React.js.
- **Backend:** Django(Python), Node.js (optional)
- **Database:** MySQL or SQLite
- **APIs:** OpenWeatherMap API, Government Scheme APIs
- **Voice Assistant:** Google Text-to-Speech or Amazon Polly
- **Deployment:** Vercel

6. TASKS AND TIMELINE

Phase	Task	Start Date	End Date	Duration (days)	Dependencies
Project Planning	Define project scope	2/1/25	8/1/25	7	None
	Prepare project schedule	9/1/25	15/1/25	7	Define project scope
Requirements Analysis	Gather Requirements	16/1/25	23/1/25	8	Project Planning
	Analyse Requirements	24/1/25	31/1/25	8	Gather Requirements
Design	System Architecture	3/2/25	12/2/25	10	Requirements Analyse
	UI/UX Design	13/2/25	24/2/25	12	Create System Architecture
Development	Develop Backend and Database	25/2/25	2/4/25	37	Develop Backend and Database
	Frontend Development	3/4/25	14/5/25	43	Frontend Development
Testing	Functional Testing	15/5/25	20/5/25	6	Functional Testing
	Performance Testing	21/5/26	26/5/25	6	Performance Testing
Deployment	Deploy Software	27/5/25	30/5/25	4	Software deployment

7. GANTT CHART



8. CONCLUSION

The Farmasphere will serve as a one-stop platform to address the challenges faced by farmers, empowering them with technology and information. The voice assistant feature ensures accessibility for those unfamiliar with digital platforms. The project has significant future potential, including AI-driven insights and IoT for advanced farming solutions.

9.REFERENCES

- **OpenWeatherMap API Documentation:** https://openweathermap.org/api
- **Google Cloud Text-to-Speech Documentation:** https://cloud.google.com/text-tospeech
- **Article:** "Digital Platforms for Farmers" by WhatsApp, Zoom, and Microsoft Team, 2023.