



smarharvest

Smart Harvest

The farmer life and care

INNOVATION MEETS AGRICULTURE



PRESENTED BY TRIPLE A WEREWOLVES





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Idea/Approach Details



Describe your idea/Solution/Prototype here:



IDEA: Build an AI-powered system that suggests best farming practices (crop rotation, land usage, optimal use of fertilizers and water) based on local agricultural conditions (weather patterns and soil health)

This project addresses the multifaceted challenges that Indian farmers face, including unpredictable weather, volatile market prices, limited resource access, and insufficient information.

OUR SOLUTION:

Smart harvest, is a holistic digital platform designed to empower farmers with essential tools and information, leveraging technology to enhance agricultural practices and improve livelihoods.

- **Real-Time Weather Updates:** Alerts for proactive crop protection.
- **AI BOT:** It Provide answers to farming queries using comprehensive agricultural data.
- **Crop Health Monitoring:** Satellite imagery for optimal planting and harvesting schedules and Recommends crop rotation.
- **Resource Connection:** Links to local suppliers and equipment rental services.
- **Soil Health Monitoring:** AI models process this data to determine the nutrient deficiencies and suggest the best fertilizer to optimize soil health.

Goals:

Enhance productivity and crop management.

Increase farmer income.

Contribute to a sustainable and resilient agricultural sector in India.





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Key Features

Weather Information & Alert:
Real-time updates and alerts on weather conditions.

Market Information:
Real-time crop prices and market trends.

Crop Management:
Satellite-based health monitoring and planting schedules

Resource Access:
Information on suppliers and equipment rentals.

Daily Task Assistance:
Task scheduling and reminders.

Financial Services:
Information on loans, subsidies, and expense tracking.





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Continue.....

Harvest And Farming Life In Great World



- **Community Support:**
Farmer forums and expert consultations

- **Multilingual Support:**
Available in multiple local languages.



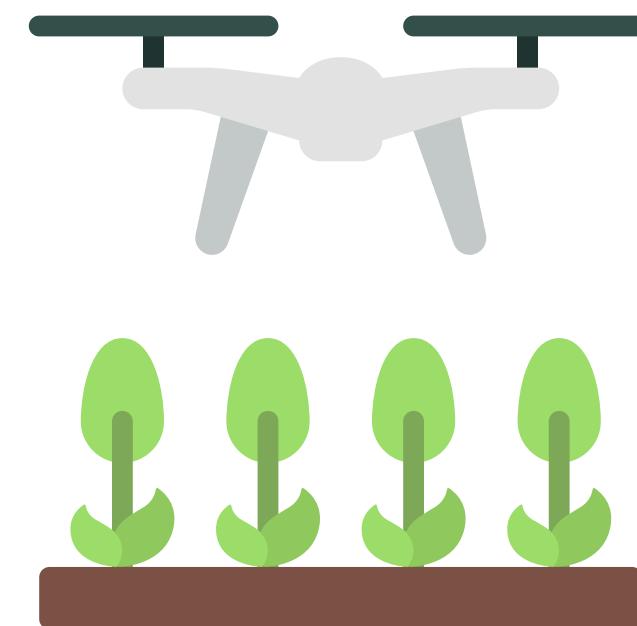
→ THE FARMER LIFE AND CARE

The Resources We wanna Use:

01

Application Development

Kotlin/Java: Android app development-
Firebase: Backend services (authentication, real-time database, analytics)



03

Weather Monitoring

Weather API: Fetching real-time local weather data
Firebase Cloud Messaging: Sending real-time alerts to users



02

Satellite Data Utilization

Google Earth Engine: Accessing and processing satellite imagery
Python: Image processing and analysis algorithms





04

Predictive Analytics

TensorFlow/Keras: Developing machine learning models

Python: Implementing machine learning algorithms



05

Sahay - The AI Bot

Building the conversational AI interface- Natural Language Processing (NLP) for understanding and responding to user queries





The Impact...

- 1. Sustainable Agriculture Practices:** Smart Harvest promotes sustainable farming methods, reducing deforestation, land degradation, and biodiversity loss.
- 2. Soil Conservation:** Smart Harvest encourages practices like no-till or reduced-till farming, cover cropping, and crop rotation, helping maintain soil health and prevent erosion.
- 3. Biodiversity Conservation:** Smart Harvest supports integrated pest management, reducing chemical use and promoting ecological balance.
- 4. Climate Change Mitigation:** Smart Harvest practices help sequester carbon, reducing greenhouse gas emissions.
- 5. Capacity Building:** smarharvest educates farmers on sustainable land management.

Challenges and Opportunities:

While Smarharvest has potential, challenges include:

- 1. Scaling up initiatives**
- 2. Ensuring adoption among smallholder farmers**
- 3. Addressing regional-specific environmental issues**



Potential Challenges AND SOLUTIONS

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-Challenge: Limited Internet Connectivity in Rural Areas

- **Solution:** Offer an offline mode for essential features like weather updates, task reminders, and market prices, syncing data whenever a connection is available.

- Challenge: Technological Literacy Among Farmers

- **Solution:** Design a simple, intuitive interface with multilingual support and offer tutorials in the form of short, animated guides on how to use FarmWell effectively.

- Challenge: Adoption of Sustainable Practices

- **Solution:** Provide incentives like badges, community recognition, or partnerships with government programs offering subsidies for farmers who adopt eco-friendly practices.



Team Member Details

Team Leader Name: BUDDARAJU JASHWANTH

Team Member 1 Name: PREETI AUDITTO

Team Member 2 Name: YARRARAPU TANHARIKA

Team Member 3 Name: K. PAVAN KUMAR



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Thank You



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