

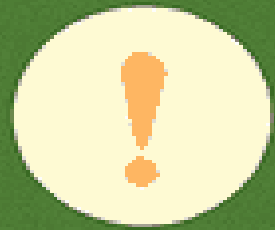
AGRICULTURAL FARM MANAGEMENT ASSISTANT

Data-driven solutions for Indian farmers



Team Lead: Lavanya

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Problem Statement

- Indian agriculture suffers due to unpredictable conditions
- Lack of accessibility to advanced technologies
- Complexities in decision making – crop selection and pest management





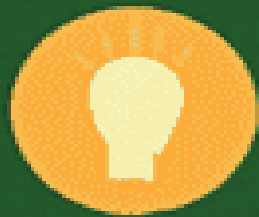
Objective

To develop a comprehensive GenAI platform that assists Indian farmers in managing their farms efficiently — from crop selection to harvesting — by providing real-time insights, automation, and digital tracking.

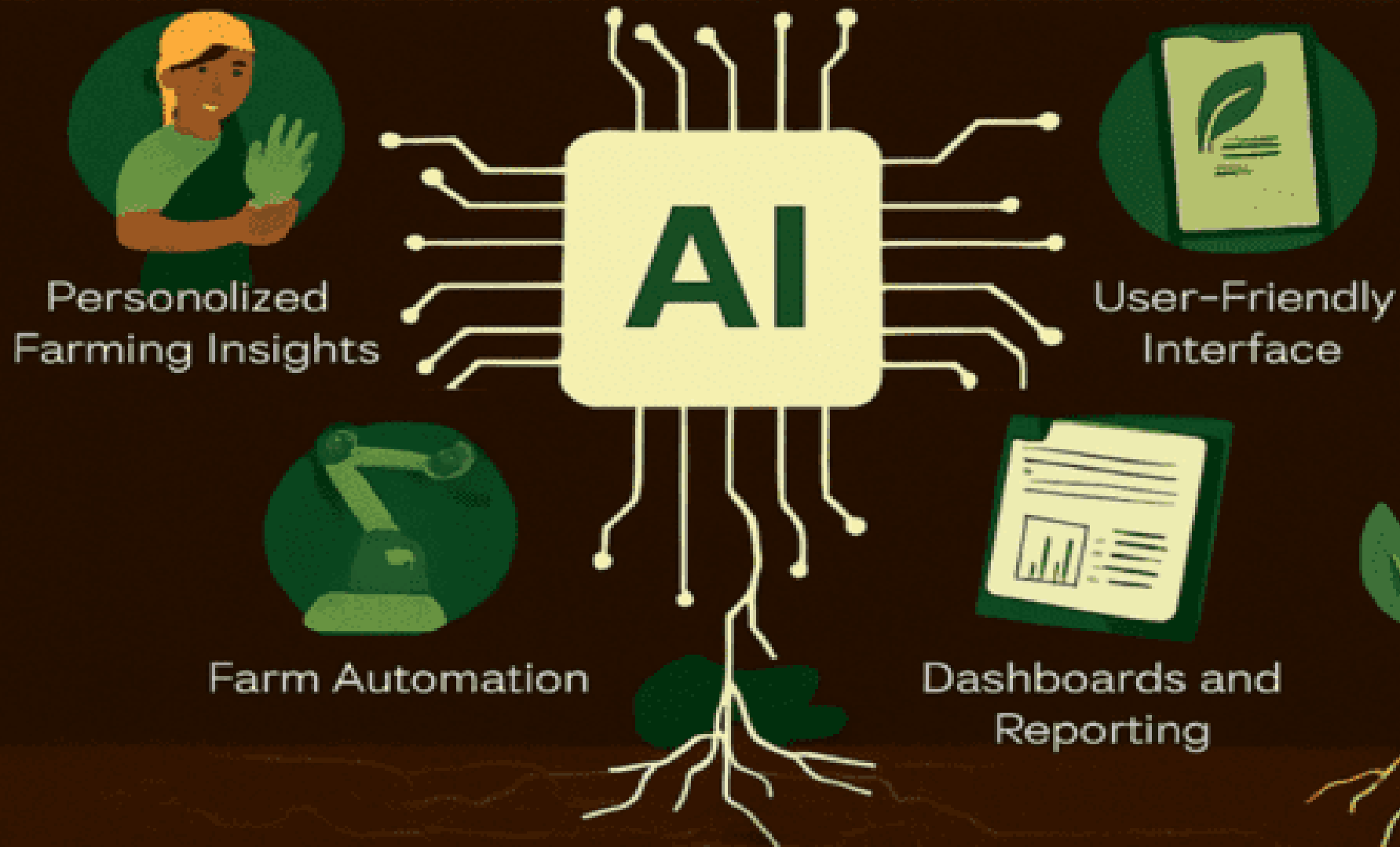


- 🌱 Crop selection guidance
- 💧 Weather-based planning
- 📄 Irrigation and fertilizer optimization
- ✅ Activity tracking and expense logging

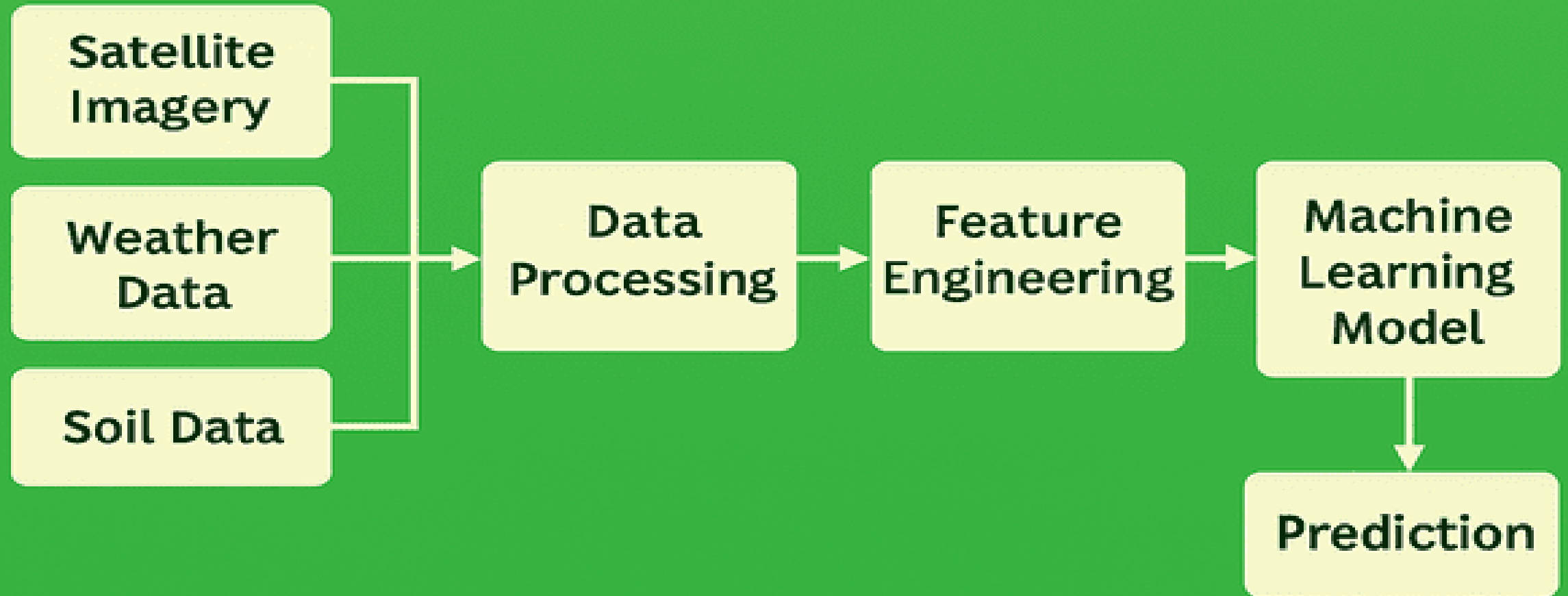




Proposed Solution



SYSTEM ARCHITECTURE





Solution Deep Dive

Crop Advisor



Farm Operations Tracker

- Provides real, time crop selection advice based on soil quality, climate conditions, and market trends.
- Acts as a consultative AI presence, offering guidance and answering queries via a chatbot interface.
- Features a dashboard to monitor farming activities, resources, and expenses





Key Features



Crop Advisor

Provides real time crop-selection advice based on soil quality, climate conditions, and market trends



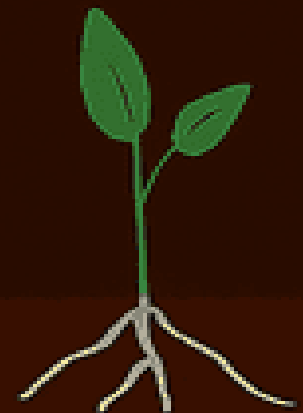
Virtual Assistant

Acts as a consultative AI presence, offering guidance and answering queries via a chatbot interface



Farm Operations Tracker

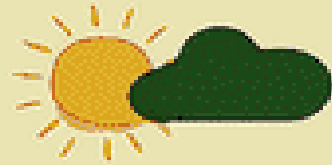
Features a dashboard to monitor farming activities, resources, and expenses





Weather Forecast

Monday



88^s / 75^oF

Tuesday



83^o / 64^oF

Wednesday

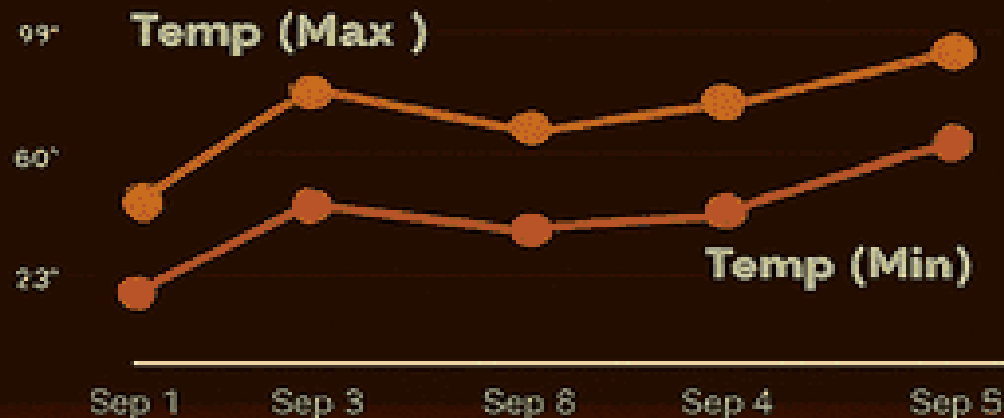


82^s / 68^o

Thursday



80⁴ / 70^o



Weather data guides
crop selection
and farming activities.



Soil Health & Pest Analysis



Soil pH Analysis

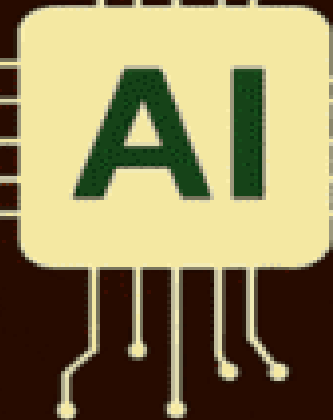
Tracks soil pH levels to optimize nutrient absorption



N P
K

Macro-Nutrient Analysis

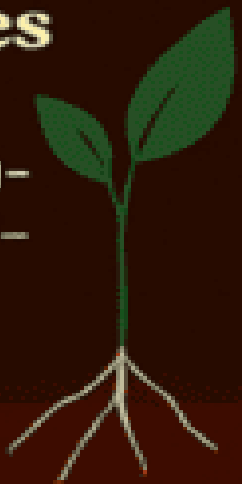
Monitors nitrogen (N), phosphorus (P), and potassium (K) to enhance soil fertility



Corrective Measures

Provides tailored solutions to mitigate pests

Analyzes soil pH & macro-nutrients and suggests corrective measures for pests infestation.





Irrigation & Fertilizer Scheduling

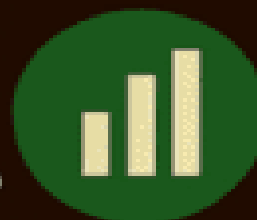
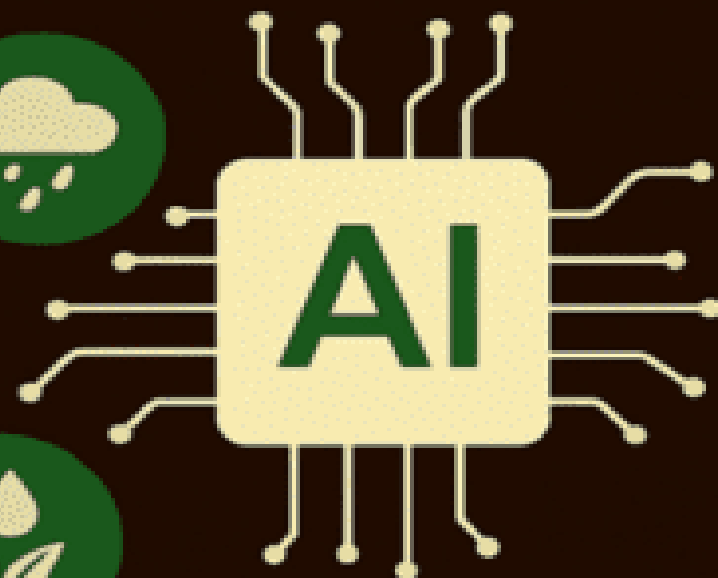
Weather-Based Irrigation

Helps farmers adjust irrigation schedules according to real-time weather data



Fertilization Optimization

Customizes fertilizer applications for maximum yield while reducing waste

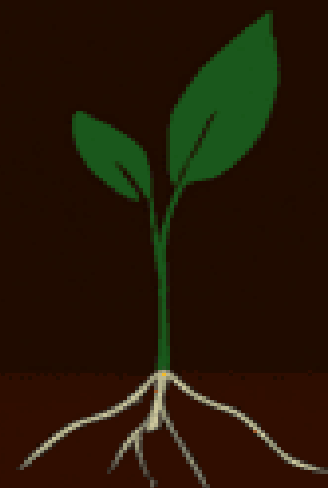


Irrigation Reporting

Offers reports on water use to aid in resource management

Corrective Measures

Leverages AI to craft precise irrigation and fertilization plans.





Digital Farm Diary



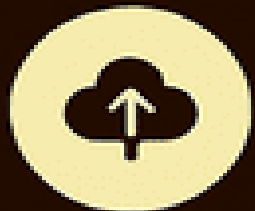
Activity Logs

Records daily farming operations such as sowing, irrigation, pest control, and harvesting with timestamps.



Voice Input

Allows farmers to log entries through voice command, easing use for those with limited literacy skills.

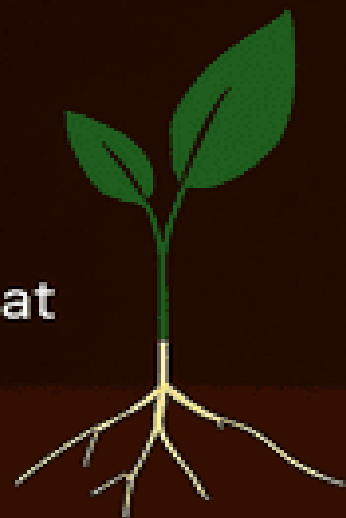


Offline Sync

Ensures farm diary entries are updated and synchronized even in areas with poor internet connectivity.

Data Summaries

Generates exportable summaries of farm activities that can aid in applying for government schemes.





Dashboard & Analytics



Visual Analytics

Represents crop health, expenses, yield, and other key metrics through intuitive charts and graphs



AI-Driven Insights

Provides actionable recommendations based on predictive analysis of farming data



Custom Filters

Users can sort and view data by crop type, date ranges, and regions for tailored insights



Downloadable Reports

Farmers and stakeholders can save reports locally or share them via email



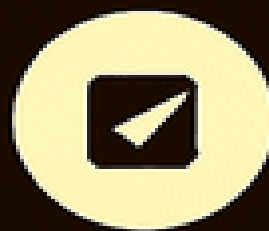


Farmer Profile & Preferences



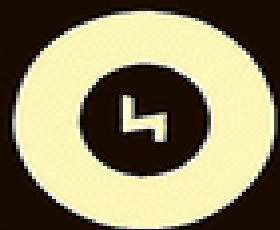
Personalized Dashboard

Customizes the interface based on the farmer's crop type, region, and harvest times.



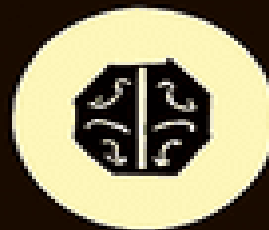
Language Preferences

Offers an interface in multiple local languages, and adjusts the literacy level of UI.



Historical Data

Tracks the farmer's past activities, time, and resource usage to provide baseline assessments.



Adaptive Intelligence

Learns from the farmer's decisions over time to refine recommendations and interfaces.





Government Scheme Integration



Eligibility Matching

Cross-references farmer's profile with up-to-date scheme eligibility criteria.



Subsidy Calculators

Provides real-time estimates on subsidies and grants for various schemes.



Timely Alerts

Notifies farmers about deadlines, document renewals, and payment releases.

Application Assistance

Guides through the application process and submits required documents.

Timely Alerts

Notifies farmers about deadlines, document renewals, and payment releases



THANK YOU