HACK KRMU 5.0

- **PROBLEM STATEMENT ID :** PS-7 DIGITAL DOCTOR FOR FARMERS
- **TEAM NAME :** EAGLE X
- **TEAM ID :** HK 082
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PROBLEM

Farmers often encounter significant challenges when managing crop health. In many rural areas, there is limited or delayed access to agricultural experts, making timely diagnosis difficult. Language barriers and inadequate internet connectivity further restrict access to reliable agricultural information and advisory services.

Moreover, the absence of clear and actionable treatment guidance frequently leads to incorrect diagnosis and ineffective solutions. As a result, farmers experience reduced crop yields, financial instability, and increased risk of food insecurity.

OUR SOLUTION – FASALDOC

- AI-Based Crop Disease Detection – Farmers scan affected leaves and receive instant disease identification.
- 7-Day Structured Treatment Plan – Provides clear, step-by-step guidance for effective crop recovery.
- Real time Live Voice Support– Enables real-time voice interaction
- Multilingual Support-delivers solution in local languages.
- 24/7 AI Chatbot Assistance – Offers instant answers and continuous support for farmer queries.
- Daily Crop Companion – Provides personalized daily farming advisories based on crop and region.
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FLOW OF SOLUTION

DETECT & DIAGNOSE

- Farmer scans crop (or calls helpline)
- AI analyzes image/voice symptoms
- Identifies disease with confidence score
- Multilingual + voice explanation

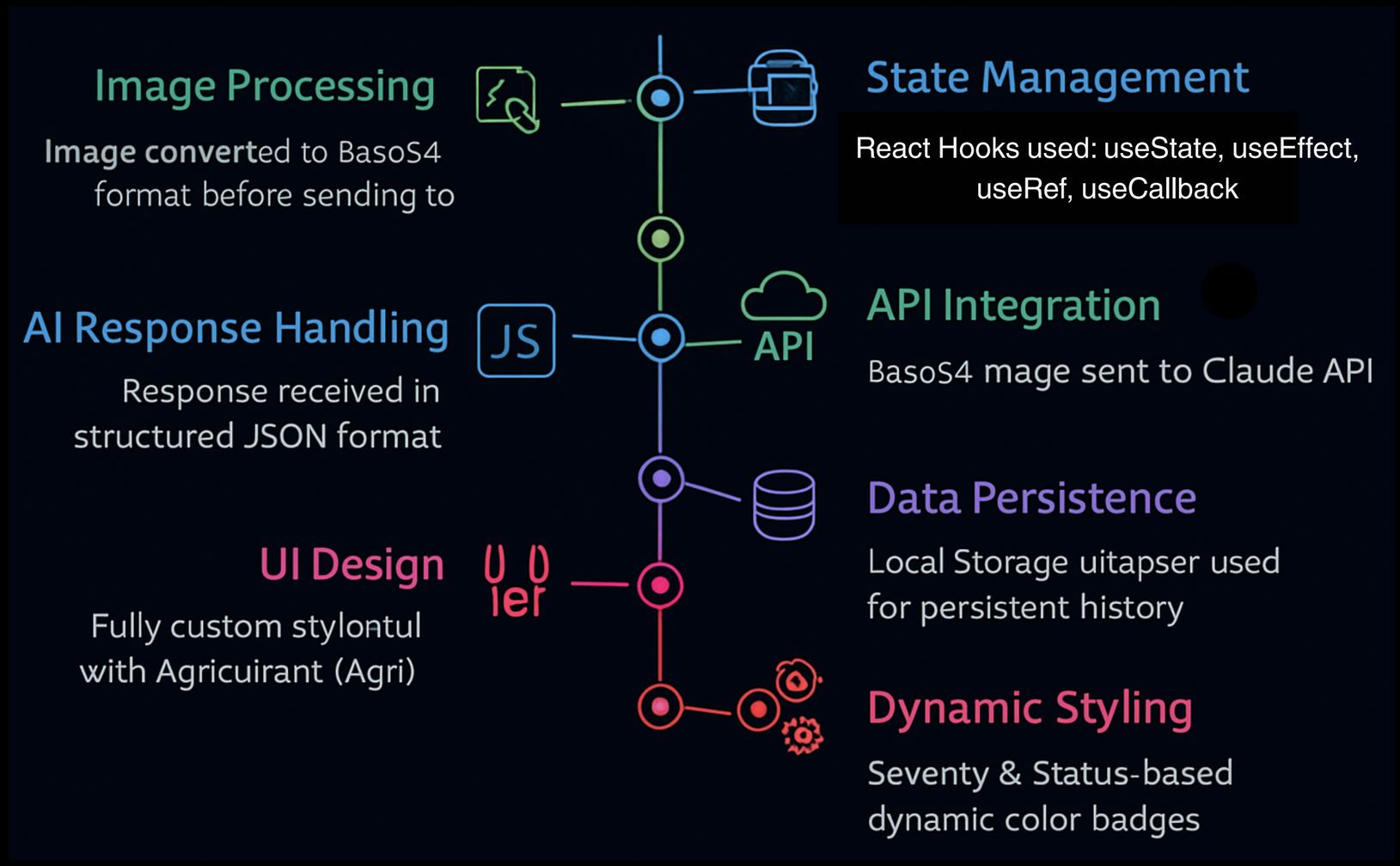
GUIDE & DECIDE

- Structured 7-Day treatment plan
- Location-based pesticide suggestions
- Chemical vs Organic comparison
- Cost, yield impact & risk estimation

MONITOR & PREDICT

- Provides a structured 7-day treatment plan with clear, step-by-step guidance for effective crop recovery.
- Provides Local recommendations
- Provides chemical and organic options of pesticides.

TECH STACK & APPROACH



UNIQUENESS & INNOVATION FACTOR

Call-Based Support for Low Network Areas

Even if internet connectivity is weak or unavailable, farmers can simply call a helpline and describe their crop issue. The system provides diagnosis and treatment guidance through voice.

➡ Ensures accessibility for rural and economically weaker farmers.
➡ No farmer is excluded due to technology limitations.

5 km Radius Disease Cluster Detection

If multiple farmers within a 5 km radius report the same disease, the system automatically detects a regional outbreak and generates an alert.
➡ Identifies area-specific crop health issues.
➡ Sends preventive advisories to nearby farmers.
➡ Acts as an early agricultural epidemic warning system.

Chemical vs Organic Treatment Comparison

Before investing money, farmers can compare chemical and organic treatment options based on cost, expected yield impact, recovery time, and risk level.
➡ Enables smarter financial decisions.
➡ Reduces unnecessary expenses.
➡ Empowers farmers with data-driven choices.

FEASIBILITY

Millions of Indian farmers struggle with crop diseases and lose a large part of their yield every year.
Smartphone use in rural India is increasing, making digital solutions more practical than ever.
Modern AI can accurately identify crop diseases from images.
Voice support in local languages makes the system easy to use, even for low-literacy farmers.
The cost of running each diagnosis is very low, making the solution scalable and affordable.

CHALLENGES

Not every village has stable internet, so offline and call-based support is important.
AI is not perfect — unclear images or rare diseases may affect accuracy.
Farmers may take time to trust AI instead of traditional advisors.
India’s language and dialect diversity requires continuous improvement in voice systems.
Pesticide recommendations must follow state regulations carefully.

Stream Revenue Over Time

	1 JAN Year 1	2 Year 2	4 Year 3
Transaction/API	₹3–8L	₹20–35L	₹60–90L
Institutional SaaS	₹5–10L	₹40–70L	₹1.2–2Cr
Brand Campaigns	₹2–5L	₹15–30L	₹50–80L
Data Products	–	₹5–15L	₹30–60L
Total	₹10–23L	₹80L–1.5Cr	₹2.6–4.3Cr

REVENUE MODEL

1.Transaction-Based Revenue (Pilot Stage)

- ₹1–3 for AI crop Advisory
- ₹1-5 per call advisory via telecom integration
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2. Institutional SaaS (Core B2B Engine)

- ₹2–5L per district (KVK / Agriculture Office license)
- ₹20–50L per state agriculture
- ₹5–15L research dataset access(ICAR/Research Institution Dataset Access)

3. Sponsored Seed Campaigns

- ₹50,000–₹2L per campaign
- Seasonal & district targeting

4. Data & Intelligence (Year 2+)

- ₹2–10L crop intelligence reports :They use it for planning, budgeting, and policy decisions.
- Long-term strategic monetization

Research & Reference

Crop Disease Detection Using CNN:
https://ieeexplore.ieee.org/document/8373819

NLP & Multilingual Language Models IndicTrans2 – Multilingual Machine Translation https://github.com/AI4Bharat/IndicTrans2 AI4Bharat Models & Resources https://ai4bharat.org/

Agricultural Advisory & Data ICAR (Indian Council of Agricultural Research) https://icar.org.in/ FAO – Crop Pest & Disease Impact Reports https://www.fao.org/plant-health/en/ Krishi Vigyan Kendra (KVK Agricultural Extensions) https://www.kvk.icar.gov.in/