HACK KRMU 5.0

PROBLEM STATEMENT ID	TEAM ID	TEAM NAME
PS-7	**HK-135**	**Expidition X**

Team Members

From IILM UNIVERSITY , GURGAON

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PROBLEM!

“Farmers face reduced yield and income due to undetected crop diseases and often apply wrong or ineffective treatments.”

15–25% Yield Loss

Crop diseases destroy harvests annually

Wrong Pesticide Use

Misdiagnosis leads to costly mistakes

No Regional Awareness

Farmers work in isolation without warnings

Reactive, Not Preventive

Existing apps address problems too late

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SOLUTION !

“Smart AI Solution for Crop Disease Detection, Prevention and Treatment”

AI Diagnosis - through image

Upload photo—disease detected in 7-8 seconds ✅

Instant Treatment Guidance

Provides instant treatment guidance and preventive measures. ✅

Localized Voice Support

Provides guidance in local languages with voice support. ✅

Accurate Disease Predictions

Analysis of Historical soil data, climate, and historical crop data to provide accurate disease predictions. ✅

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Comprehensive Solution

AI Diagnosis

Upload photo—disease detected in 30 seconds

Geo-Intelligence

GPS mapping with color-coded health index (Green/Yellow/Red)

Community Alerts

Neighbors notified when outbreaks detected nearby

Voice Guidance

Step-by-step treatment in local language

Historical Tracking

Patterns analyzed for risk prediction

Offline First

Working without Internet

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How It Works?

Open App

Capture Photo

AI Analysis

Solution with PROPER PLAN!

Step 1: Capture

Open app → photograph affected crop

Step 2: Analyze

AI identifies disease with confidence score , GPS tracks location, updates regional heatmap

Step 3: Planned Solution

Detailed plan with better understanding for farmers in their own language.

Step 4: TTS (Text to speech - Indian accent)

For better understandability for farmers - (Multi-Language)

Also Stores DATA for trend analysis & prediction for Training boss model

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UNIQUE & INNOVATIVE FACTORS !

✔️ Works without internet

✔️ Solves literacy gap with voice guidance

Hybrid AI (Edge + Cloud) architecture

Supports multiple languages with local voice and text guidance ✅

1

📸 Farmer scans diseased leaf

2

🤖 On-device AI gives instant diagnosis

3

☁️ Low-confidence cases verified by Cloud “Boss Model”

4

📅 Generates structured 7-Day Action Plan

5

🎧 “Suno” button provides voice guidance in local dialect

6

🚨 Community alerts for contagious pests

7

📊 Crop Health Score with daily reminders

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TECH STACK!

Frontend

Flutter (Dart) for cross-platform mobile development.

AI Model

TFLite (EfficientNetB3) for instant offline disease detection.

Data Storage

MongoDB for centralized disease records & alerts.

Geo-Services

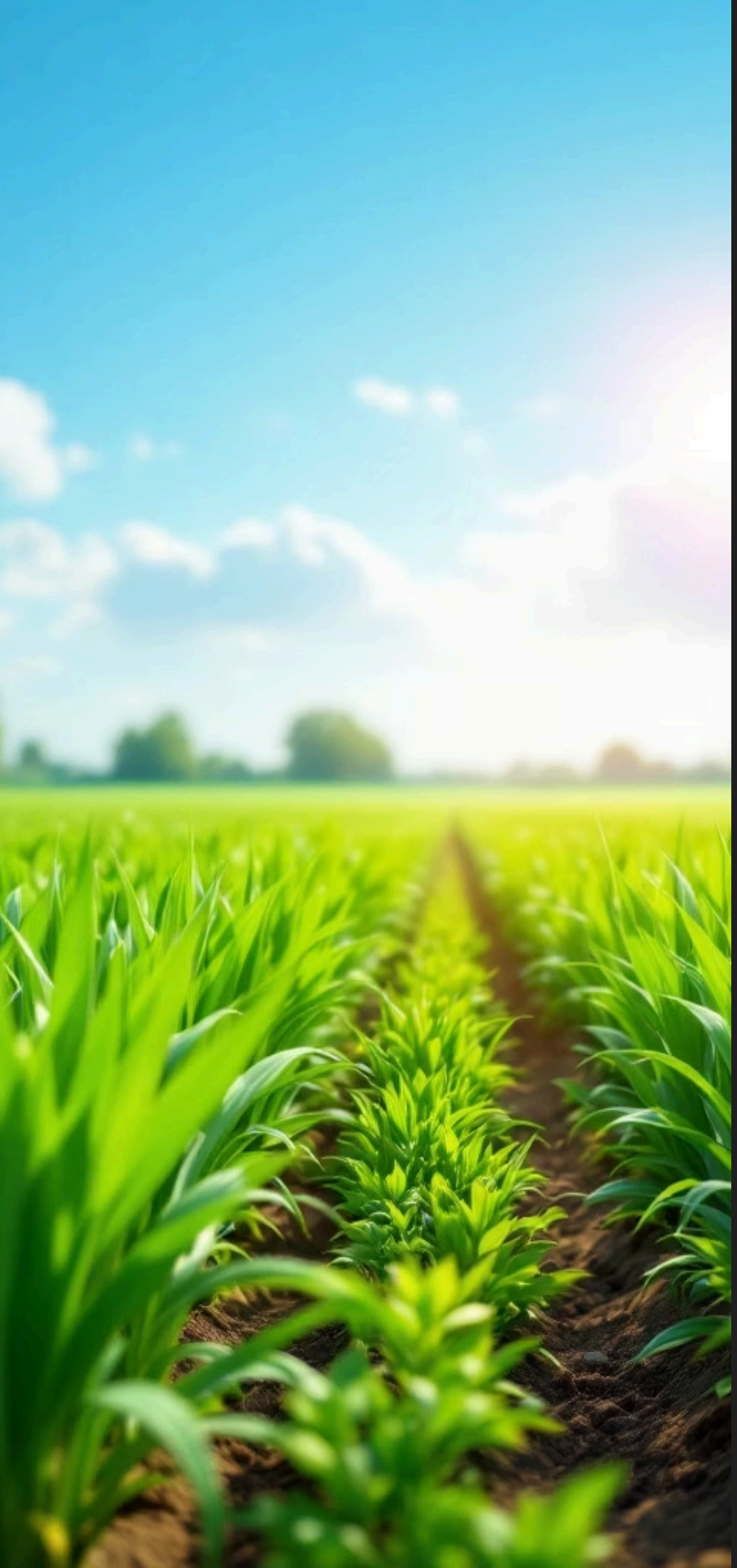
GPS for field-level detection & community alerts.

Dynamic RAG System

RAG system for offline action plans with audio.

Boss Model

PyTorch/TensorFlow for high-precision verification.



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Transformative Impact

25%
Less Crop Loss

20%
Less Pesticide Misuse

22s
Fast Diagnosis

Real-time monitoring prevents regional outbreaks before they spread

Higher Yield

Farmer Confidence

Income Growth

Community Awareness

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Thank You

Smart Farming • Healthy Crops • Digital India

Our Vision

Empowering every farmer with technological solutions

Call to Action

Please Select us for Round - 2

Thankyou!