

Green-Sentinel

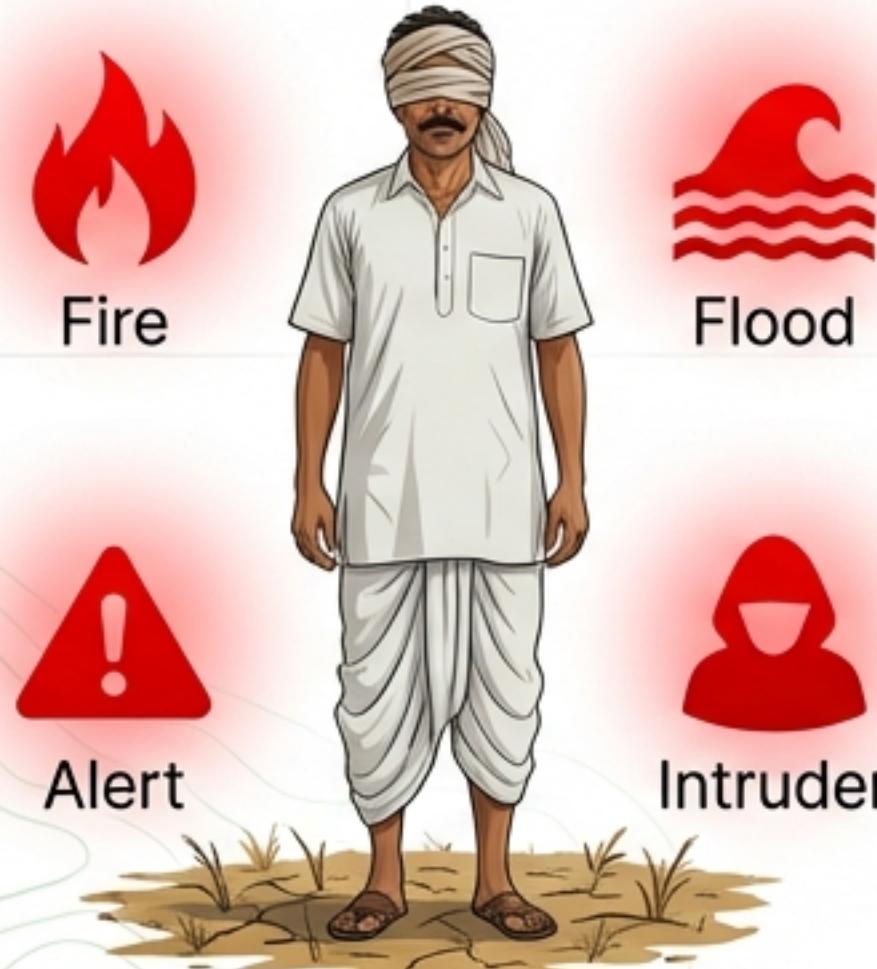
Remote Farm Threat & Crop Health Monitoring Platform

Track: Sustainability & AgriTech

Team: Green-Sentinel | Members: Shraddha Shravagi & Sudhindra Kini

Brief about the Idea

The Reality



1.2M+ farmers manage land remotely but are blind to threats.

Average Cost:
30%+ Crop Loss per incident

The Concept



Green-Sentinel is a Digital Immune System.

Combines Satellite Intelligence (NDVI) with Ground-Level AI Vision.

The Delivery: Zero-install Progressive Web App (PWA) + Instant WhatsApp Alerts

Your Solution (USP & Differentiation)

Standard CCTV (Passive)



- Passive recording only
- No intelligence
- Only sees visible light

Green-Sentinel (Active)



- Active Intelligence (<10s alerts)
- Sees invisible crop stress (NDVI)
- Zero-Install PWA

USP

Accessibility First: Works on basic Android phones via WhatsApp.
No complex learning curve.

List of Features



1. AI Threat Detection

Powered by Amazon Bedrock (Claude 3.5 Sonnet).

Detects humans, animals, and fire with >80% confidence.



2. Crop Intelligence

Sentinel-2 Satellite integration for NDVI heatmaps.

Generates a daily 'Farm Health Score' (0-100).



3. Instant Action

Automated alerts via Twilio.

<10 Second latency from detection to notification with snapshot evidence.



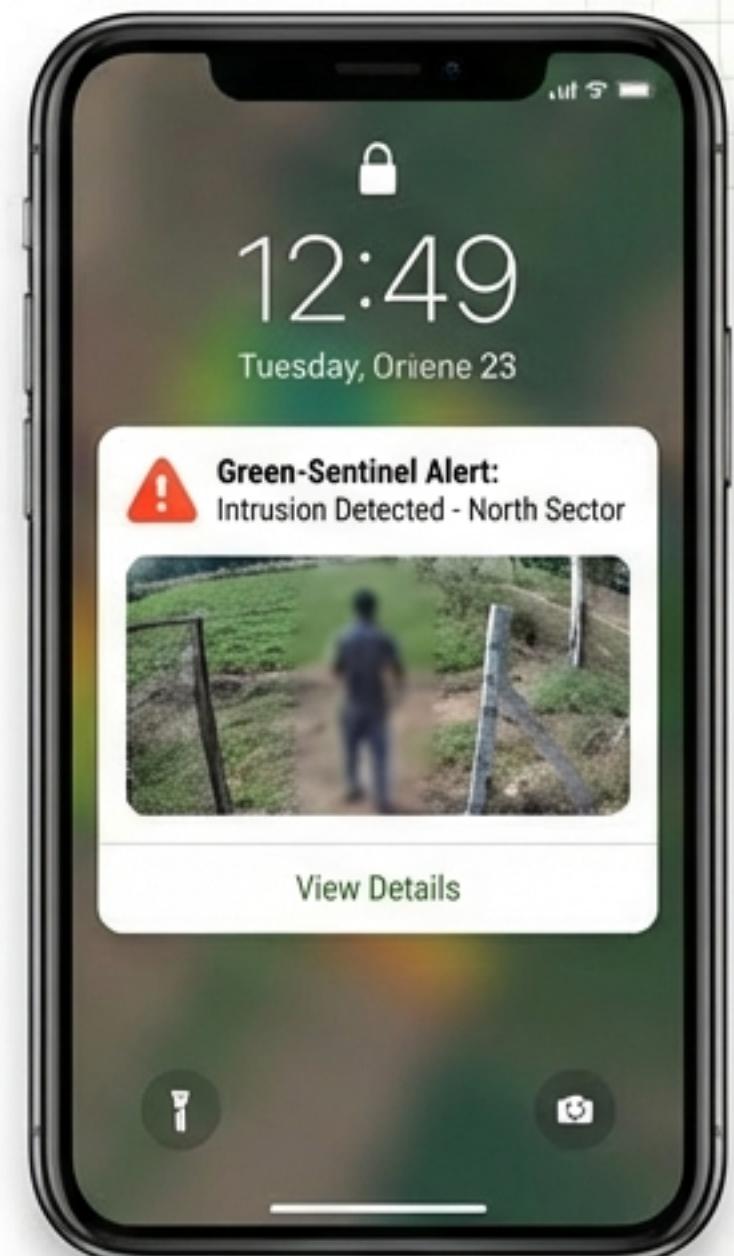
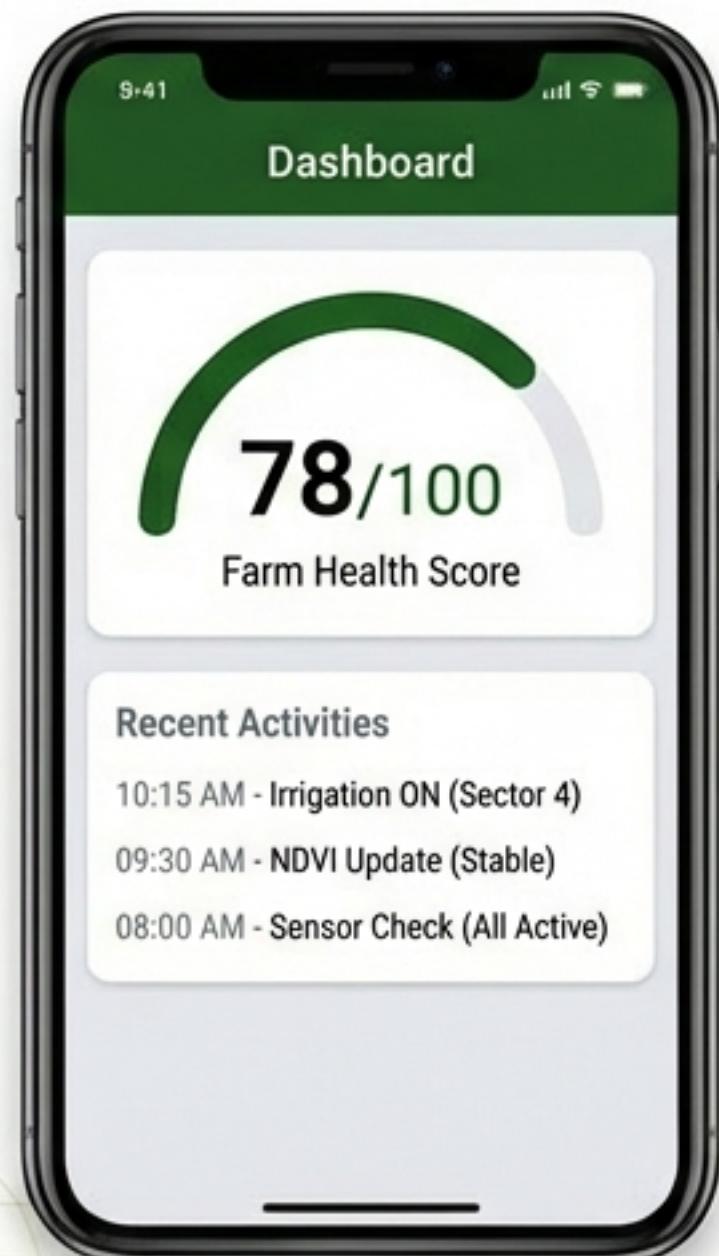
“Breaking the Language Barrier”

Inclusive Communication via Bhashini



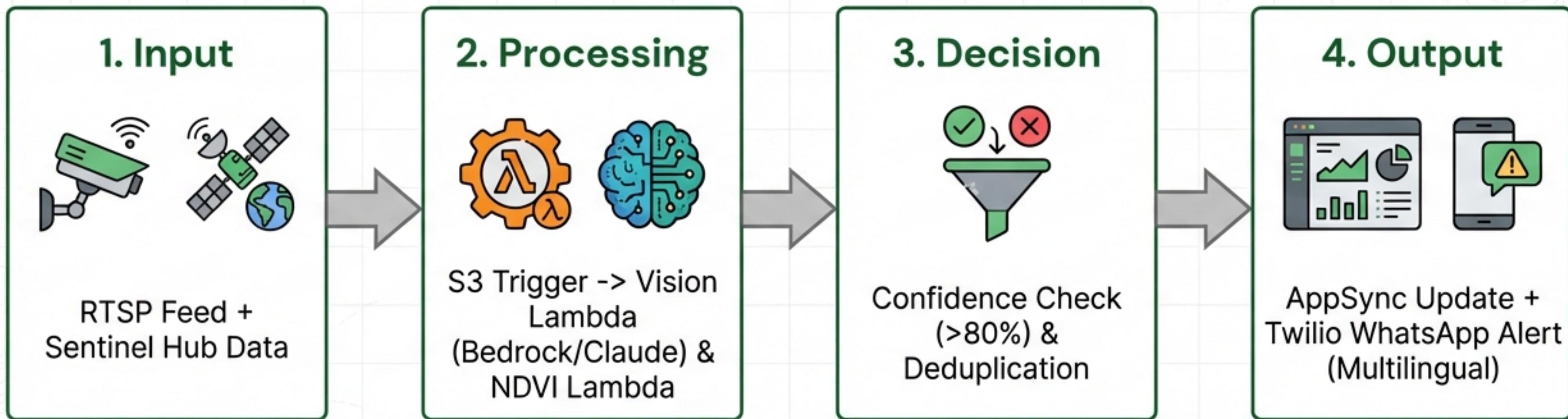
- Seamless integration with Government of India's Bhashini API.
- AI-powered translation of alerts into 6 Regional Languages.
- Ensures 100% comprehension for farmers, regardless of literacy levels.

Visual Representation (UI Mockup)

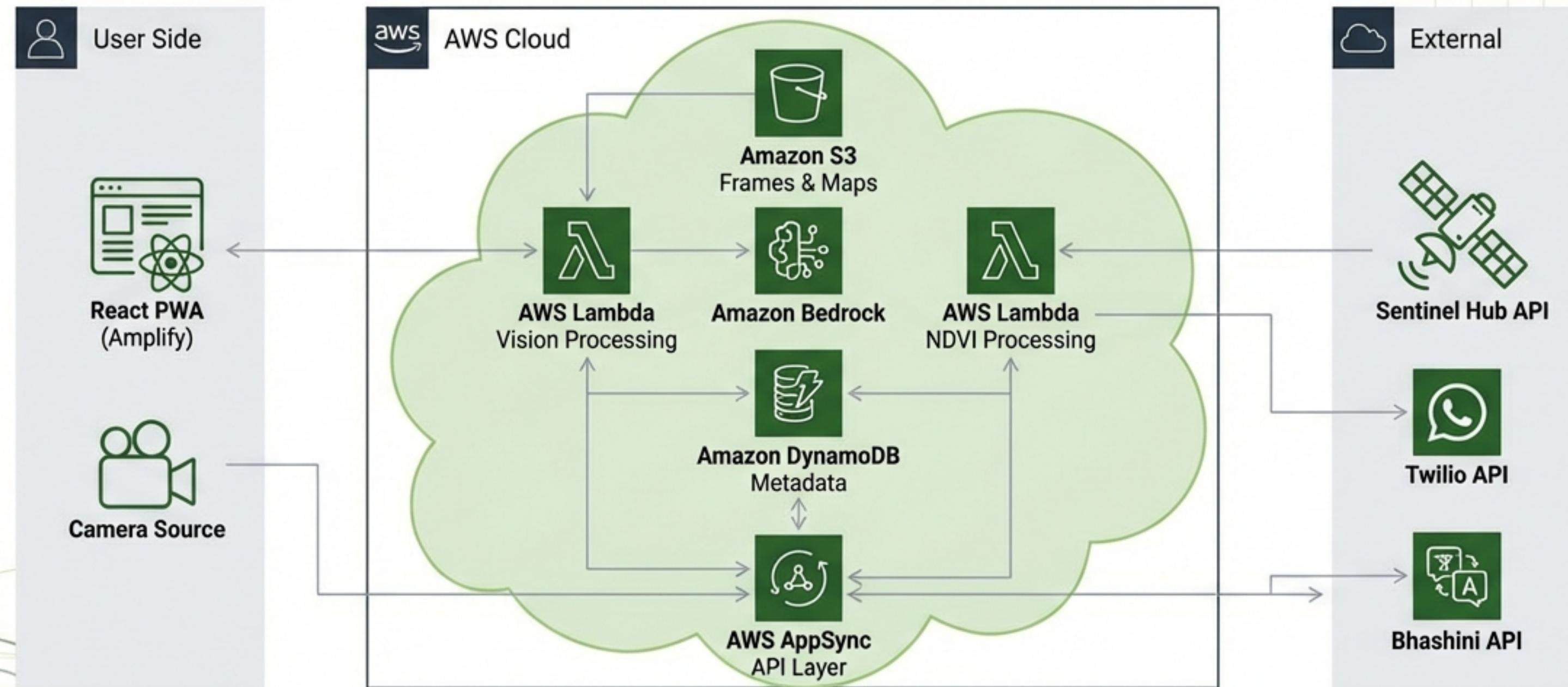


Zero-Install PWA: Accessible anywhere, designed for low-bandwidth rural internet.

Process Flow Diagram



Architecture Diagram



100% Serverless Architecture: Scales automatically from 1 to 4 cameras. Free-Tier Compliant.

Technologies Used

Cloud & Infra



AWS Amplify



AWS Lambda



Amazon S3



Amazon
DynamoDB



AWS
AppSync

AI & Intelligence



Amazon Bedrock

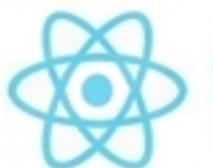


Claude



Sentinel Hub

Development



React



Vite



python™



Communications



Localization



Bhashini

Hackathon Requirements Checklist



AWS Integration: Bedrock, Lambda, S3, Amplify, AppSync included.



Format Compliance: requirements.mmd & design.md generated via Kiro.

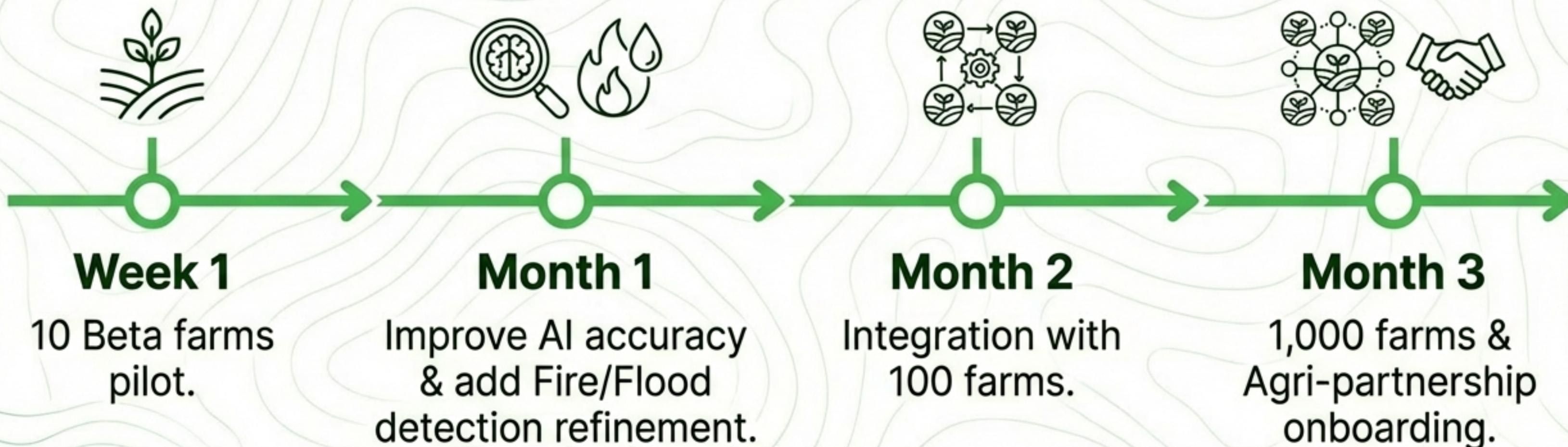


Innovation: Combines GenAI Vision + Geospatial NDVI Data + Bhashini Multilingual Support.



Feasibility: 2-Week MVP roadmap defined (Week 1: Infra, Week 2: Satellite).

90-Day Post Hackathon Roadmap



Target: ₹600Cr annual serviceable opportunity
(based on 10% penetration of 1.2M farms).

Green-Sentinel

Building the digital immune system for Indian Agriculture.

Shraddha Shravagi & Sudhindra Kini



[GitHub Repo](#)



[View Demo](#)

