

Google Cloud

PRESENTS

Agentic AI Day

Build the next generation of intelligent agents

Powered by **I2S**

Team Details

- a. Team name: **NEXBIT**
- b. Team leader name: **B Lakshmi Narayanan**
- c. Problem statement: **Providing farmers with expert help on demand**

Brief about the idea

Make a hyperlocal Digital Twin of the Farm that uses AI to turn weekly smartphone photos into a living timeline of how healthy the crops are.

The tool uses voice-first interaction to give farmers simple, actionable insights in their own language. It does this by combining visual crop analysis with hyperlocal weather forecasts and real-time local market price predictions.

This helps farmers find problems early, plan their harvests to make the most money, and deal with weather uncertainty with confidence.

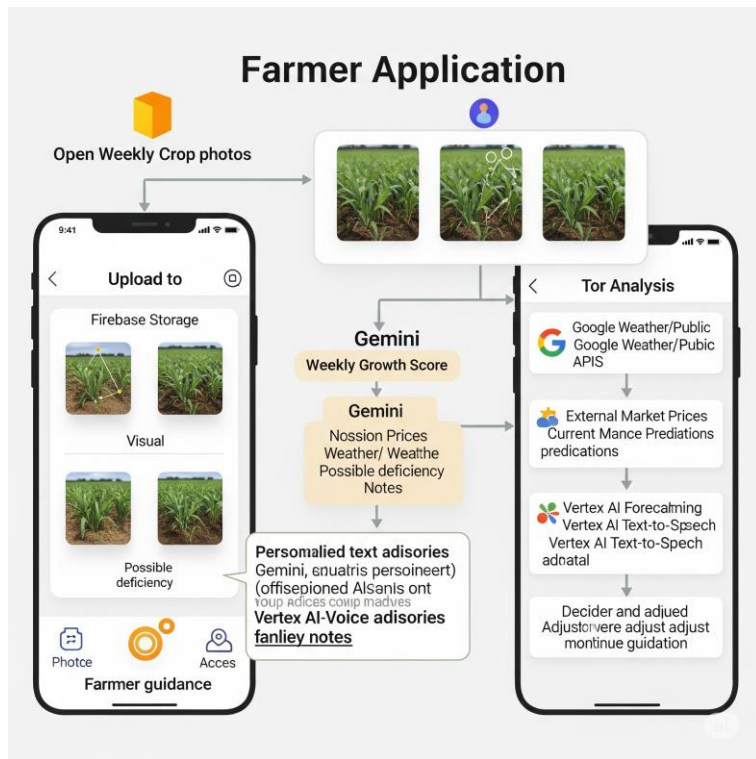
Opportunities

- **Opportunities:** How it's different and what makes it unique. Moves beyond static advisories. makes a crop timeline for each farmer that is personal and changes over time.
- Brings together real pictures, weather, and price forecasts into one place.
- Voice-first and local-language support make it easy for farmers who can't read or write.
- Creates a digital asset that farmers can share with banks, co-ops, buyers, or insurance.
- For multimodal, personalized, real-time analysis, it uses Google AI (Gemini, Vertex AI).

List of features offered by the solution

- Upload pictures of your farm every week so that AI can find growth patterns and signs of stress in your crops.
- Hyperlocal weather overlay shows the risk of drought or disease.
- Local market price tracker and prediction help you figure out when to harvest.
- Weekly advice in your own language (voice and text) that is tailored to you.
- A monthly digital report (in PDF and voice) to send to banks, buyers, or experts.
- Voice-first Q&A: Ask in Hindi or Kannada and get answers right away.
- Look at how this season is different from past seasons.

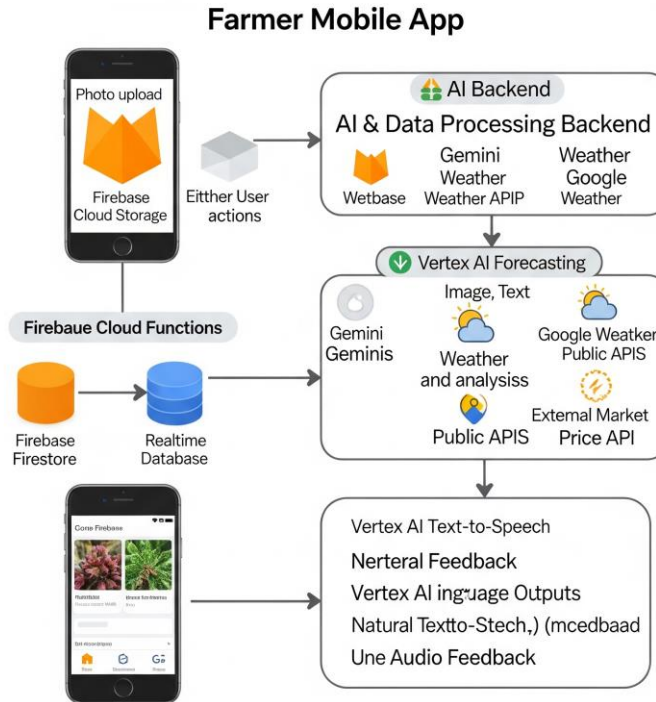
Process flow diagram or use-case diagram



Technologies to be used in the solution

Component	Google AI Product / Tool
Photo analysis	Gemini multimodal
Voice input & output	Vertex AI Speech-to-Text & Text-to-Speech
Price trend forecasting	Vertex AI Forecasting
Natural language advice	Gemini
App & data storage	Firebase Studio
Real-time market & weather	Public APIs + integration

Architecture diagram of the proposed solution graph TD



Wireframes/Mock diagrams of the proposed solution (optional)

FarmTwin

Dashboard

Upload Photos

Weather

Prices

Alerts

Settings

Help



Farmer John

Farm Digital Twin Dashboard



Crop Health Timeline & Digital Twin



Upload weekly field photos

Upload Photo

Visual Timeline of Crop Health



Crop Issue Alerts



Early sign of blight detected in Sector C.



Potential nutrient deficiency in new growth.



All crops healthy in Sector A.

Local Weather Trends



Current: 28°C, Sunny



Forecast (Next 7 days): Light rain, 25-30°C



Historical: Avg. 27°C, Monsoon season

Crop Price Forecasts

Rice (Basmati) **+5% in 3 months**

Wheat **-2% in 1 month**

Maize **Stable**

Actionable Insights



Apply fungicide to Sector C within 48 hours.



Consider soil test for nutrient levels in affected areas.



Monitor weather for optimal irrigation schedule.



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Thank you!

