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AI for Bharat Hackathon

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Team Name : CodeAshRam

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Problem Statement : Small and rural farmers lack reliable access to real-time market intelligence and direct buyer networks, leading to unfair pricing and reduced income.

Brief about the Idea:

- **AgriBridge AI** is an **offline-first agricultural intelligence platform** that enables farmers to access real-time crop prices, selling recommendations, crop advisory, and verified buyer connections through voice calls, SMS, and a lightweight mobile application.
- The system combines **cloud-based AI intelligence** with **on-device optimized models** to ensure uninterrupted assistance even in low-connectivity environments.

How different is it from any of the other existing ideas?

- Offline-first AI (Voice, SMS, App)
- Edge + Cloud intelligence
- Direct farmer-to-buyer matching

How will it be able to solve the problem?

- Real-time mandi price visibility
- Demand & selling-time insights
- Reduces middlemen dependency

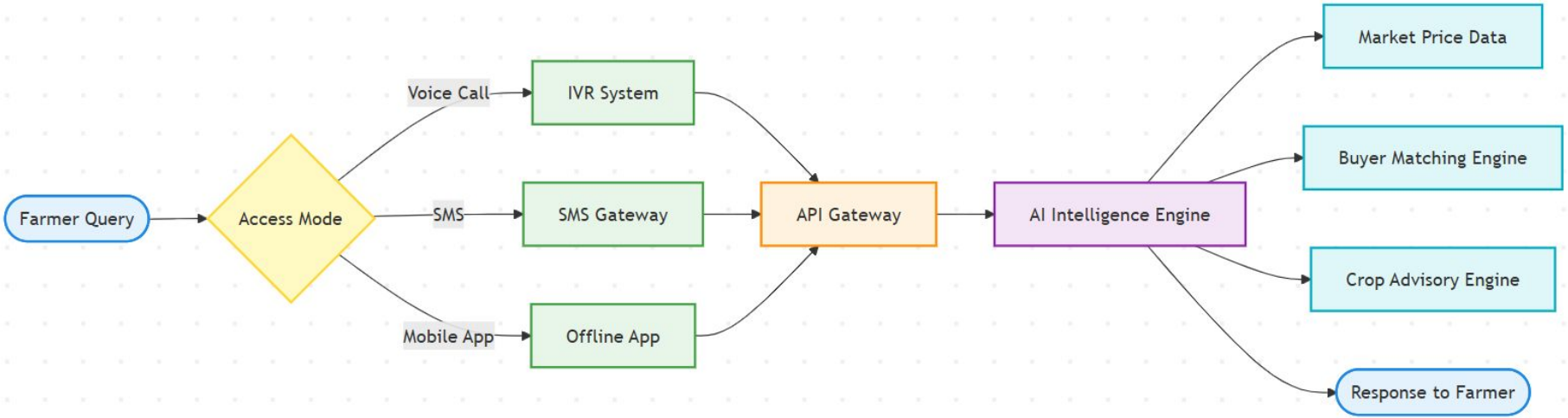
USP

- Works in low-internet rural regions
- Multilingual conversational AI
- Scalable global agri-intelligence platform

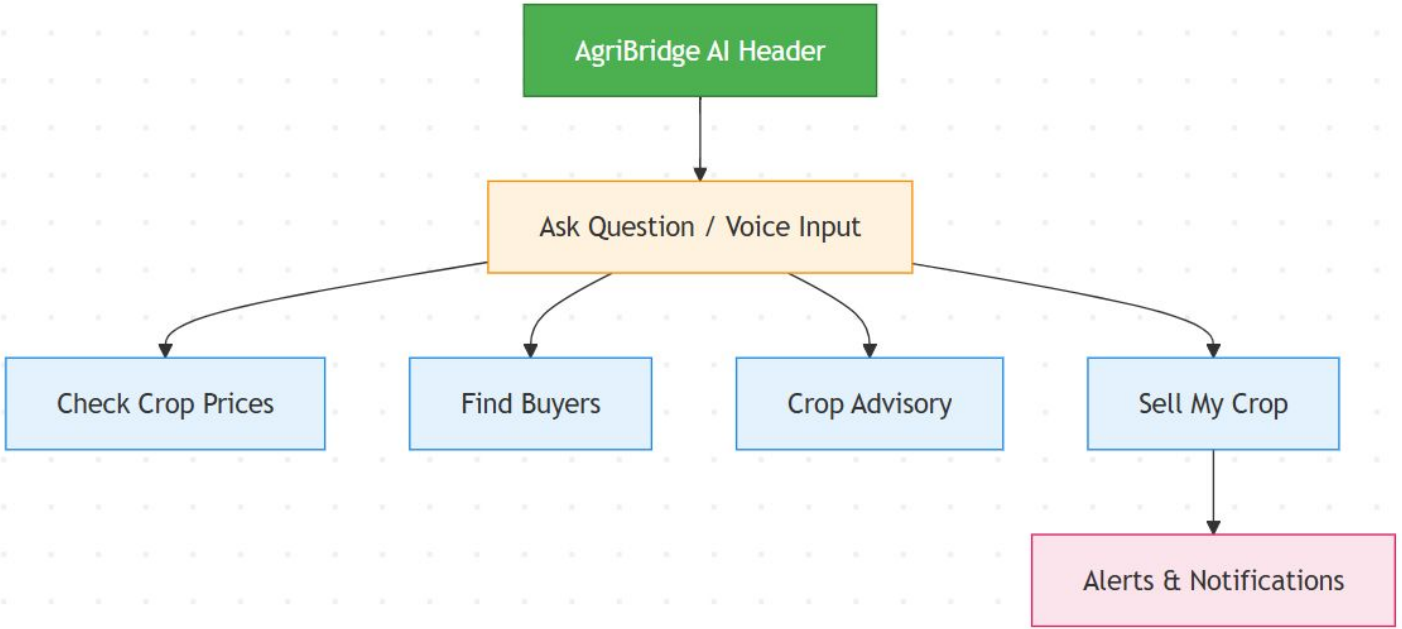
List of features offered by the solution

- Real-time mandi price updates
- Price trend prediction and selling recommendations
- Buyer/dealer discovery and matching
- Crop and fertilizer advisory
- Multilingual conversational AI
- SMS and IVR-based query system
- Offline mobile advisory using optimized small AI models
- Automatic cloud synchronization

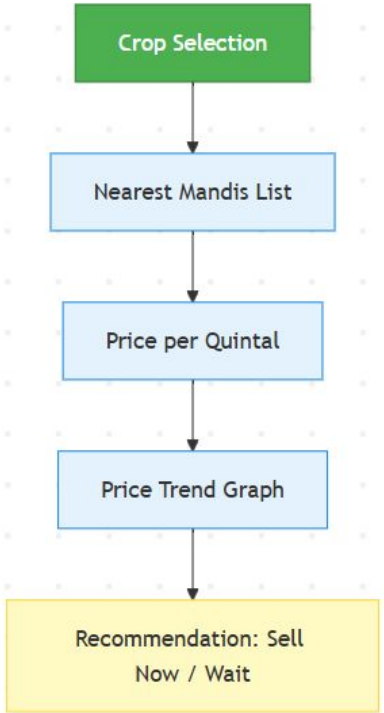
Process flow diagram or Use-case diagram



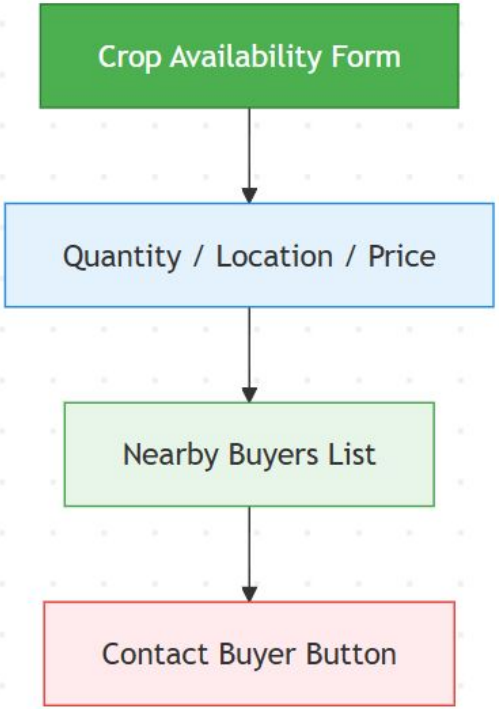
Wireframe of the Farmer Home Screen



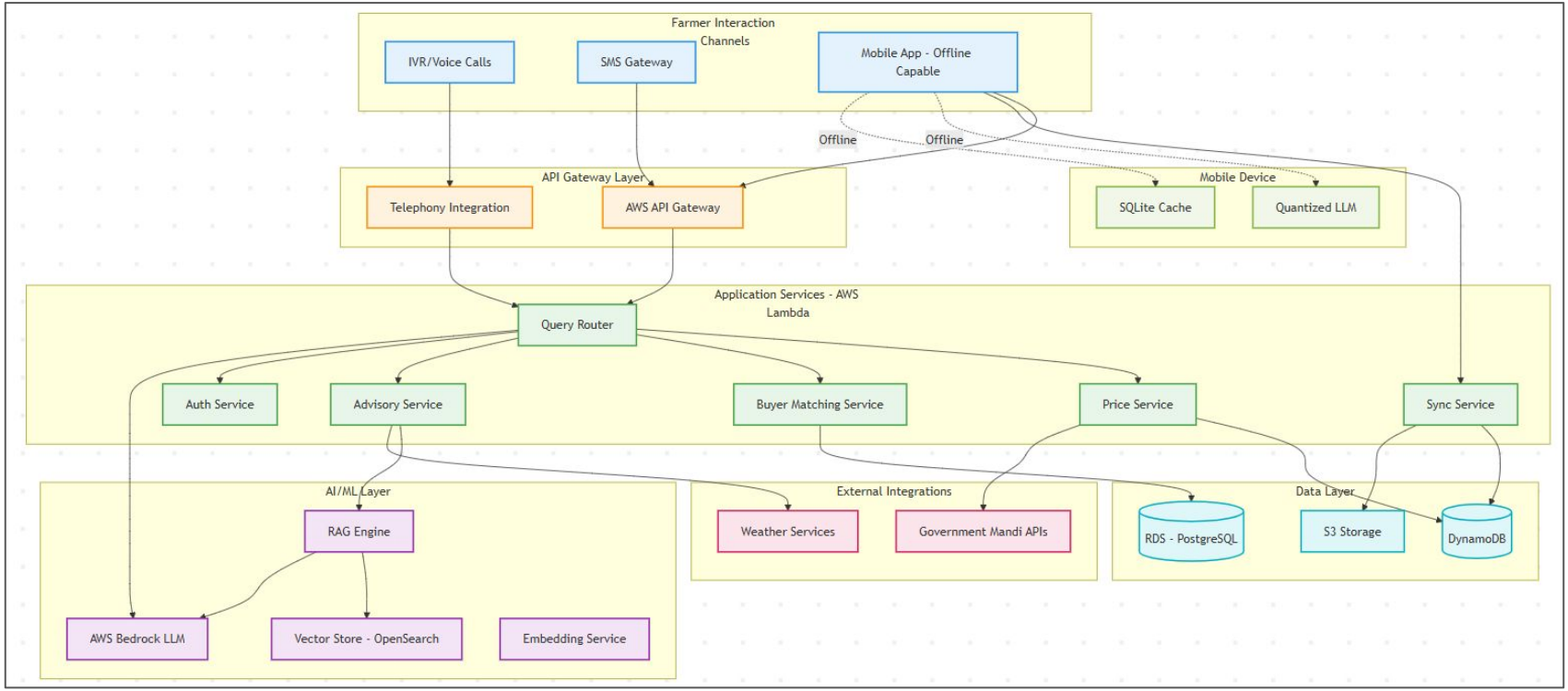
Wireframe of the Market Price Screen



Wireframe of the Buyer Matching Screen



Architecture diagram of the proposed solution:



Technologies to be used in the solution:

- Amazon Bedrock (LLM)
- AWS Lambda
- Amazon API Gateway
- DynamoDB / PostgreSQL
- OpenSearch (Vector Retrieval)
- SMS / IVR Telephony APIs
- Offline quantized LLM (TinyLlama / Gemma)
- Hugging Face Upskill optimization tool

Estimated Implementation Cost (Pilot – ~5,000 Farmers)

- Development Cost: **₹0 – Student-built / Open-source**
- Cloud Services (AWS Serverless): **₹10,000 – ₹20,000 / month**
- AI Inference (Bedrock usage): **₹10,000 – ₹15,000 / month**
- SMS / IVR Communication: **₹5,000 – ₹10,000 / month**

Estimated Total Pilot Cost:
₹25,000 – ₹45,000 per month

Scalability: Pay-as-you-use model → cost increases only with adoption.

Add as per the requirements for the hackathon:

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Thank You