# SMART INDIA HACKATHON 2025

## TITLE PAGE

- **Problem Statement ID –** 25024
- **Problem Statement Title-** Comprehensive Cloud-Based Practice Management & Nutrient Analysis Software for Ayurvedic Dietitians, Tailored for Ayurveda-Focused Diet Plans
- **Theme-** MedTech / BioTech / HealthTech
- **PS Category-** Software
- **Team ID-**
- **Team Name-** SIH Winners

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# IDEA TITLE

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## Background (The Problem)

Today: Diet charts prescribed manually in Ayurvedic hospitals → handwritten, unstandardized.

**Pain Points:**

- Time-consuming for doctors.
- Inconsistent quality of care.
- Patients lack personalized, holistic guidance.

## Our Vision

**AyurDev =** Ayurveda + AI + Cloud-first Ecosystem

**One place for:**

- Connecting patients with certified doctors.
- Personalized Prakruti analysis.
- Ayurveda-compliant diet charts.
- Voice AI + chatbot for 24/7 guidance.

**Goal:** Digitize Ayurveda without losing its essence.

## Unique Proposition (Why Us)

1. **PrakrutiSense**
   Guided Q&A → Dosha profiling (Vata/Pitta/Kapha).
   Hybrid ML + rule engine, stored in MongoDB.
2. **AyuChart**
   Auto diet charts → blends nutrients + Ayurvedic principles
   8K+ food items, recipe-level analysis, PDF export.
3. **VaaniAI (powered by OmniDimension)**
   Multi-modal, multi-lingual AI voice agent.
   Context-aware Q&A, diet advice, appointment handling.
4. **AyurMind (RAG Engine)**
   LangChain + Pinecone + Google GenAI embeddings.
   Groq LLM → Ayurveda-specific, fast, accurate answers.
5. **Cloud Security**
   Node.js + Express + JWT auth.
   MongoDB Atlas (encrypted), HIPAA/GDPR-ready.

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# USER JOURNEY

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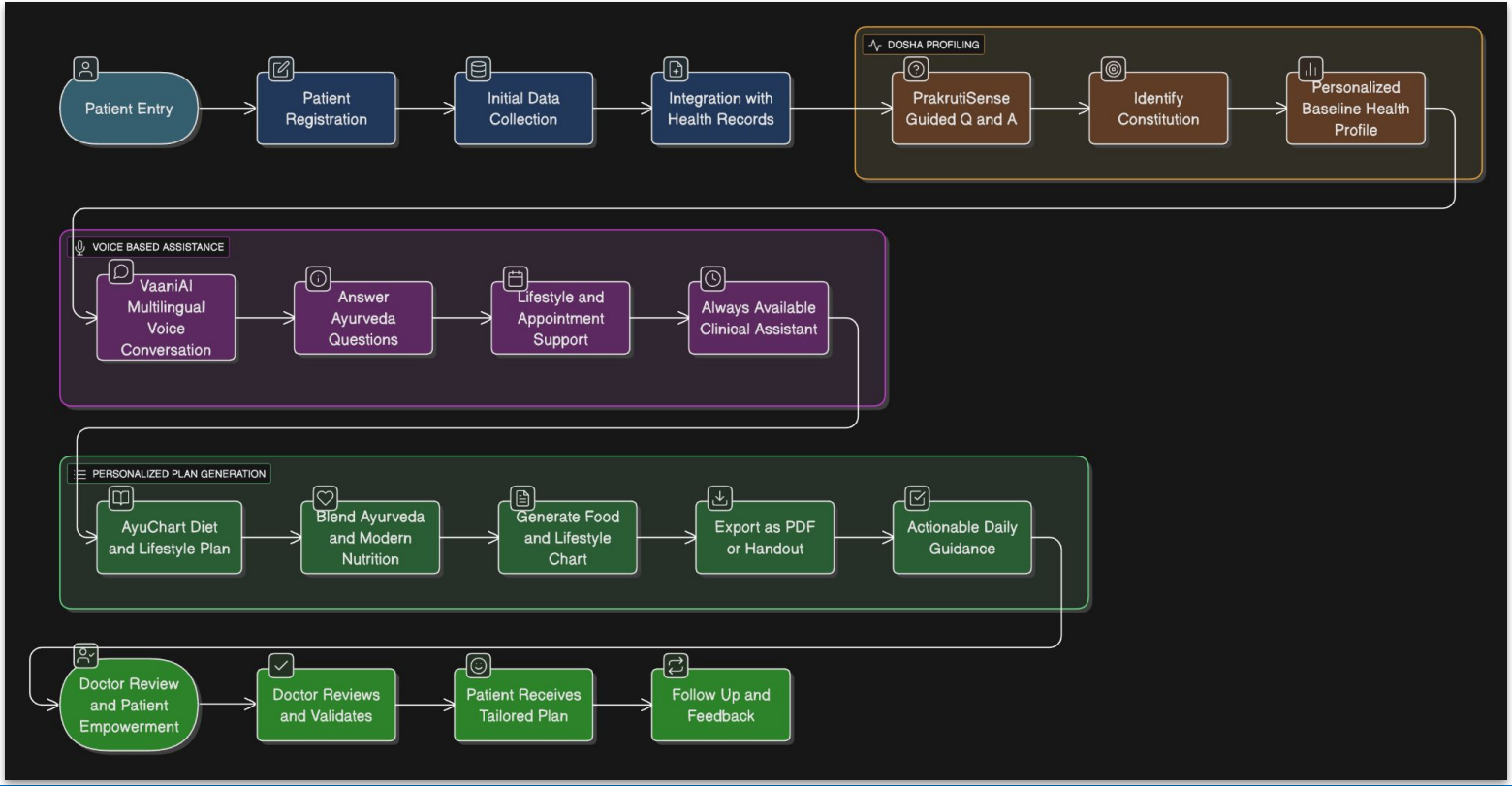

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# TECHNICAL APPROACH

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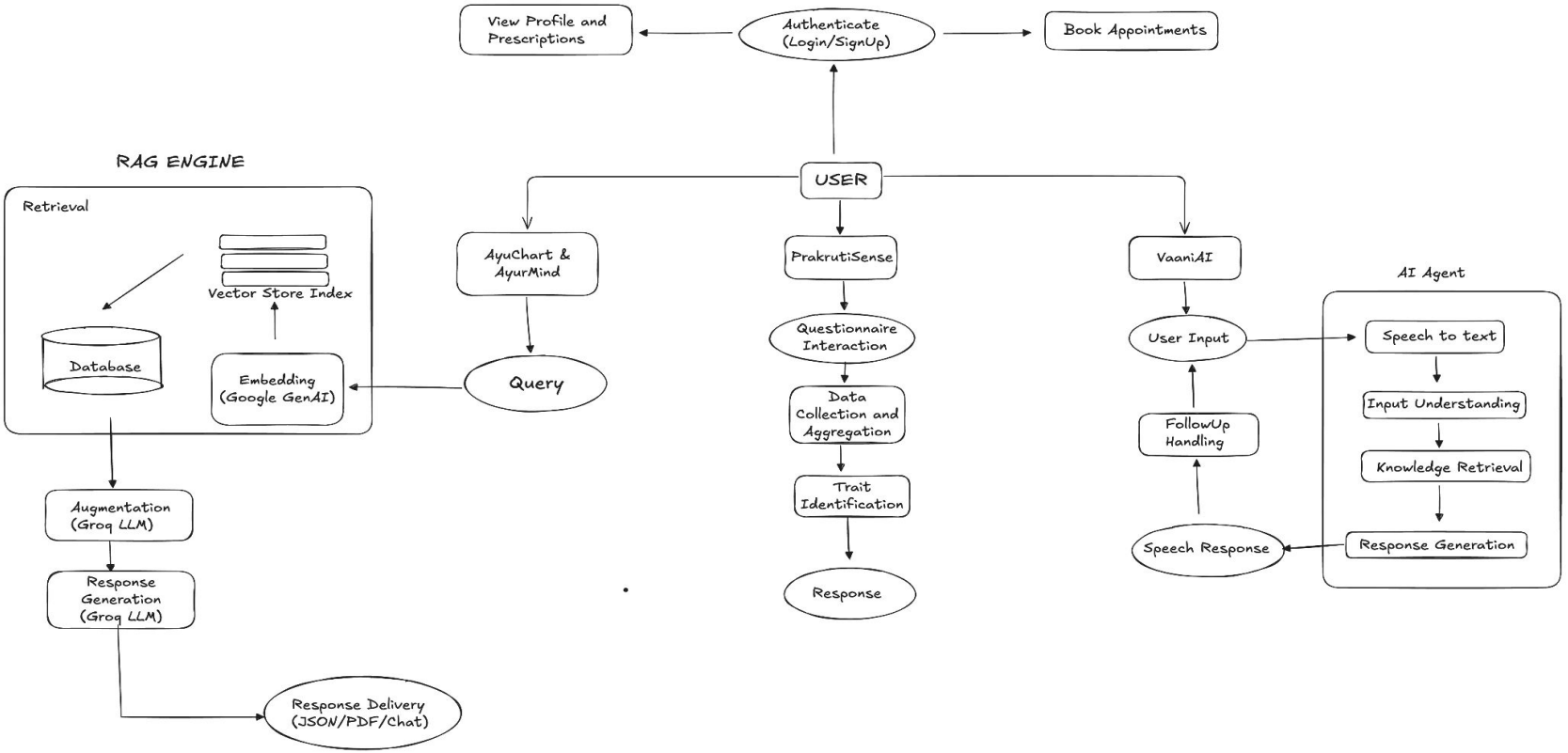

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# TECHNICAL APPROACH

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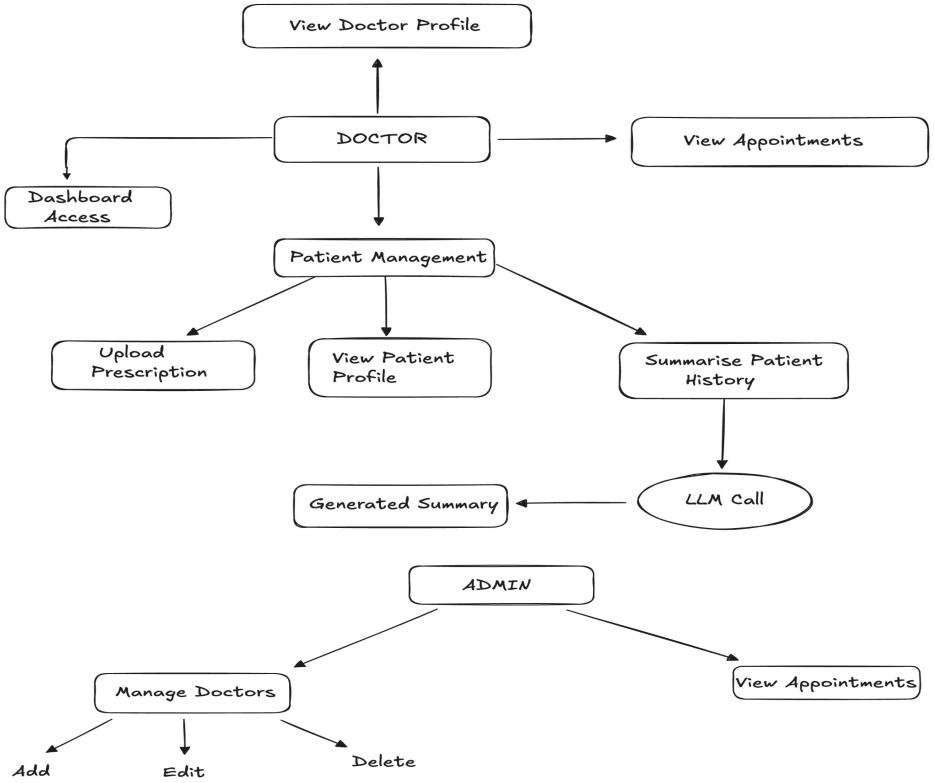
## Technical Architecture & Workflow

- **Frontend:** React + Tailwind (patients, doctors, admin).
- **Backend:** Node.js + Express.
- **DB:** MongoDB Atlas (structured data).
- **AI/RAG:** LangChain + Pinecone + Google GenAI embeddings + Groq.
- **Deployment:** Vercel (frontend), AWS/GCP (backend).

### RAG Workflow (AyurMind Engine)

1. Curated Ayurvedic texts → Chunk → Embeddings (Google GenAI).
2. Stored in Pinecone (vector DB).
3. User query → Retriever → Groq LLM.
4. Persona prompt → Ayurvedic context → Output (text/voice/PDF).



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# FEASIBILITY AND VIABILITY

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## Feasibility

- **Technical:** Proven stack (AI/ML, cloud, multilingual NLP).
- **Operational:** Runs on web/mobile, no extra hardware needed.
- **Economic:** Low-cost cloud infra, easily scalable.
- **Clinical Validity:** Backed by expert-reviewed Ayurvedic datasets for reliability.

## Viability

- **Market:** Ayurveda = $10B+ global industry, 16% CAGR.
- **Adoption:** Aligned with *Digital India* & *Ayushman Bharat*.
- **Scalability:** Clinics → Hospitals → Govt. schemes → Global.
- **Sustainability:** Digital-first, paperless, reusable database.

## Challenges

- Accuracy of Ayurvedic classification.
- Doctor adoption resistance.
- Connectivity issues in rural setups.

## Mitigation

- Expert-reviewed database.
- Simple UI, multilingual support.
- Online-first mode + sync.

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# IMPACT AND BENEFITS

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| | |
|---|---|
| **Doctors** | Faster prescriptions, reduced admin work. |
| **Patients** | Personalized diet, 24×7 voice support. |
| **Hospitals** | Digital records, reporting, better efficiency. |
| **Society** | Preventive health, lifestyle-based care |
| **Environment** | Paperless, reduced waste. |

## Broader Impact

- Promotes Ayurveda in global nutrition tech.
- Bridges **modern dietetics + Ayurveda wisdom**.
- Supports **government health missions**.

## RESEARCH AND REFERENCES


- Agentic Retrieval-Augmented Generation: https://paperguide.ai/papers/6ec876c3-06c2-4635-bcc4-2d1d13dd024f-agentic-retrieval-augmented-generation-a-survey-on-agentic-rag/
- Omnidim docs for creating Vaani AI - https://www.omnidim.io/docs
- For building RAG based model- https://github.com/NirDiamant/RAG_Techniques
- Ayurveda Traning dataset - https://www.kaggle.com/datasets/rcratos/ayurveda-texts-english