HACK KRMU 5.0

PROBLEM STATEMENT ID : PS06

TEAM NAME: Tech divas

TEAM ID : HK-133

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Problem Statement & Solution

Why This Project?
- Modern diet apps provide generic recommendations
- No personalization based on Ayurvedic Prakriti
- Manual calorie tracking is time-consuming
- Lack of AI-based Indian food recognition
- Users unaware of Dosha imbalance
- No integration of traditional Ayurveda with AI

Proposed Solution
- We propose a mobile application that:
- Assesses user Prakriti (Vata, Pitta, Kapha)
- Generates Dosha-based meal plans
- Uses AI-powered image recognition for food tracking
- Tracks calories & nutrients automatically
- Provides real-time dietary suggestions
- Maintains historical health data

Flow Of Solution

Step 1: User Registration

→ Enter health details (age, weight, lifestyle)

Step 2: Prakriti Assessment

→ Questionnaire-based scoring

→ Rule-based Dosha calculation

Step 3: Personalized Meal Plan

→ Dosha-specific food recommendations

Step 4: Food Image Upload

→ User clicks food picture

→ AI model classifies food

Step 5: Nutrition Mapping

→ Calories + nutrients extracted

Step 6: Real-Time Suggestions

→ Suggest balance if Dosha imbalance detected

Step 7: Historical Tracking

→ Dashboard with analytics & progress

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Tech Stack And Approach

📱 Frontend
- Flutter / React Native
- Clean intuitive UI
- Dashboard & camera integration

🧠 Backend
- Node.js / Django
- REST APIs

🤖 AI / ML
- CNN (Convolutional Neural Network)
- TensorFlow / PyTorch
- Food image classification model

🗄 Database
- MySQL / Firebase
- Ayurvedic nutrition dataset

🔐 Security
- JWT Authentication
- Encrypted health data
- Secure cloud hosting

Uniqueness And Innovation Factor

- ✔ Combines **Ancient Ayurveda + Modern AI**
- ✔ Personalized Dosha-based recommendations
- ✔ AI-powered Indian food recognition
- ✔ Image-based calorie tracking
- ✔ Preventive healthcare focus
- ✔ Scalable for clinics & wellness centers
- ✔ Digital transformation of Ayurveda

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Feasibility And Challenges

Feasibility
- Growing digital health market
- Ayurveda globally recognized
- AI-based image recognition already proven
- Cloud scalability available

Challenges
- Food recognition accuracy
- Complex Dosha combinations
- Regional food diversity
- Large dataset requirement
- Data privacy risks

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Research And References

- Ayurvedic classical principles
- CNN-based food recognition research
- Digital health & nutrition studies
- Preventive healthcare reports
- AI in healthcare journals