Model Institute of Engineering and Technology (MIET), Jammu

Minor Project Report

MediAid & MediAyur: An AI-Driven Dual Healthcare Recommendation System for Modern Medicine and Ayurveda

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Chapter 1: Introduction

Healthcare accessibility remains one of the most pressing challenges across the world, especially for elderly individuals who often face difficulties in consulting doctors for minor yet frequent health issues. Long waiting times, cost barriers, limited mobility, and lack of medical literacy often prevent them from making timely healthcare decisions.

To address these challenges, this project introduces two integrated platforms:

- **MediAid** – A web-based AI-driven system that recommends over-the-counter (OTC) medicines based on symptoms entered by the user.
- **MediAyur** – A parallel system focused on Ayurveda and natural home remedies, providing elderly-friendly guidance for those who prefer traditional healing practices without side effects.

Unlike existing medical websites that are complex, cluttered, or commercially driven, our system emphasizes simplicity, bilingual accessibility (Hindi/English), and instant actionable guidance. Users can type their symptoms in plain text and receive either modern medicine suggestions (MediAid) or Ayurvedic remedies (MediAyur), depending on their preference.

This dual-system approach not only supports United Nations Sustainable Development Goal (SDG) 3: Good Health & Well-being, but also bridges the gap between modern healthcare and India's traditional knowledge systems.

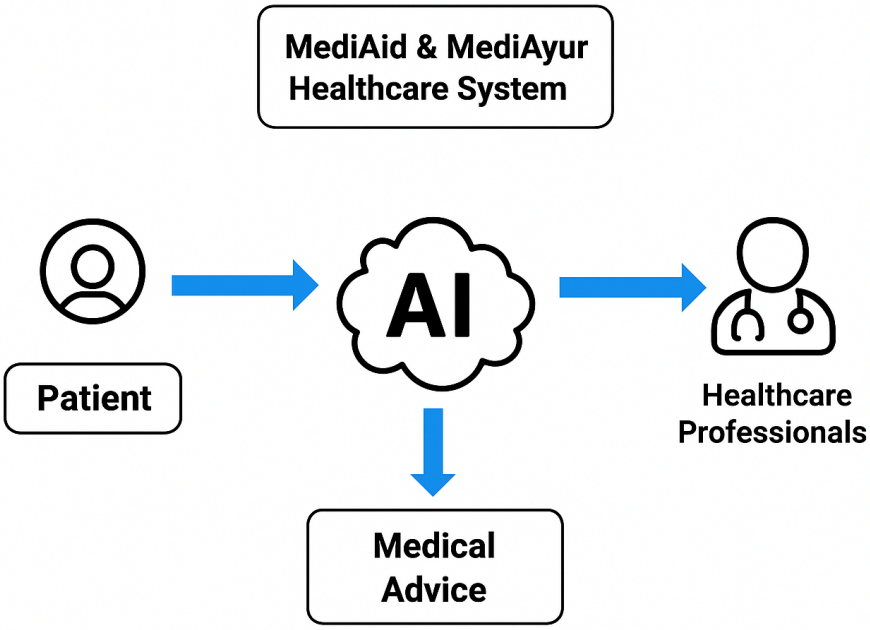

Figure 1.1: High-level view of MediAid & MediAyur healthcare system.

Chapter 2: Problem Statement

Despite rapid digitalization, elderly populations continue to face challenges with healthcare platforms. The key problems identified are:

- **Limited Medical Literacy** – Many elderly users cannot interpret medical terminologies and dosage instructions.
- **Accessibility Barriers** – Small fonts, multiple navigation steps, and English-only platforms create usability issues.
- **Doctor Unavailability** – Consulting doctors for minor illnesses like fever, headache, cough, or indigestion is not always practical or affordable.
- **Commercialized Platforms** – Existing tools like 1mg or Practo often prioritize selling medicines rather than providing quick guidance.
- **Lack of Natural Options** – Elderly individuals often prefer Ayurveda/home remedies, but there is no reliable, user-friendly digital system that provides structured, safe, and personalized natural remedies.

Hence, there is a pressing need for a lightweight, bilingual, dual-mode platform that offers both modern medicine recommendations (**MediAid**) and Ayurvedic home-based remedies (**MediAyur**).

Chapter 3: Objectives

The primary objectives of the project are:

Symptom-to-Medicine Recommendation (MediAid)

- Build a dataset mapping symptoms to safe OTC medicines.
- Include safety precautions and dosage notes.

Symptom-to-Remedy Recommendation (MediAyur)

- Provide trusted Ayurvedic/home remedies for common symptoms.
- Offer step-by-step natural treatment guides using household ingredients.

Elderly-Friendly Web Interface

- Minimal design with large fonts and one-click navigation.
- Support for Hindi + English text input/output.

AI-Powered Chat Assistant

- Responds to health queries in a conversational manner.
- Provides consistent answers in Hindi or English.

Accessibility & Deployment

- Hosted on GitHub Pages (free and globally available).
- Works smoothly across desktop and mobile devices.

Chapter 4: Literature Review

Existing Platforms:

- **WebMD**: Advanced but overloaded with medical jargon; not elderly-friendly.
- **1mg / Tata Health**: Primarily e-commerce focused, requiring account setup and complex navigation.
- **Practo**: Good for doctor consultations but not instant medicine/remedy recommendations.
- **AI Health Chatbots (Ada, Babylon Health)**: Provide diagnostic-like services but require app downloads and high-speed internet.

Gaps Identified:

- No existing system combines instant medicine recommendations + Ayurvedic home remedies + AI chatbot + elderly-friendly interface.

Contribution of this Project:

- Offers dual-platform flexibility (Modern Medicine or Ayurveda).
- Provides bilingual text interaction (English/Hindi).
- Eliminates complexity (no login, no ads, no commercial bias).

Chapter 5: System Design

5.1 System Architecture

- **Frontend:** HTML, CSS, JavaScript.
- **Medicine Suggestion Engine (MediAid):** JSON dataset mapping symptoms → medicines.
- **Ayurvedic Suggestion Engine (MediAyur):** Database mapping symptoms → natural remedies.
- **AI Assistant:** Chatbot powered by APIs (Copilot/ChatGPT/Perplexity).
- **Hosting:** GitHub Pages.

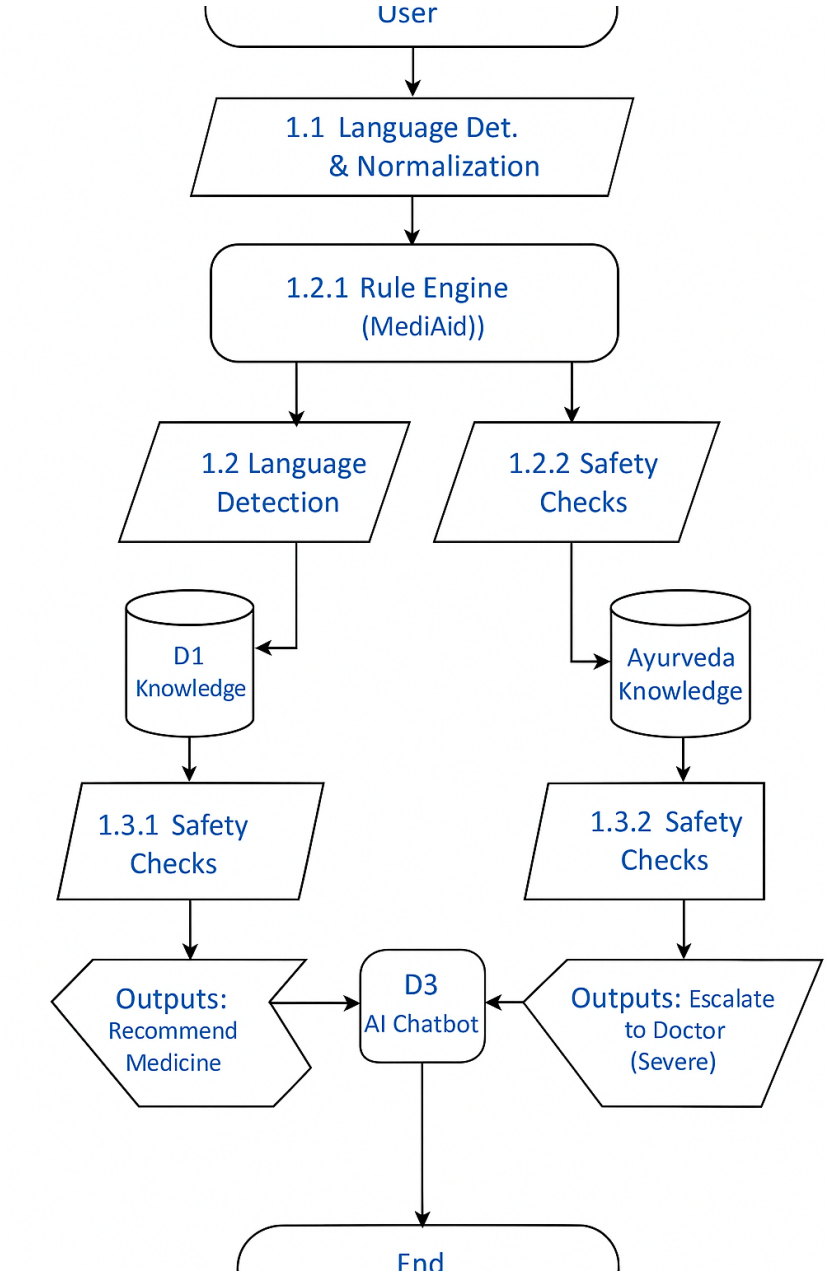

Figure 5.1: Data Flow Diagram (DFD) for MediAid & MediAyur.

5.2 Workflow

1. User opens website and chooses *MediAid* (Modern Medicine) or *MediAyur* (Ayurveda Remedies).

2. User enters symptoms in input box (English/Hindi/Hinglish).

3. System normalizes input and queries the respective knowledge base.

4. Engine returns suggestions (OTC medicines or home remedies) with safety notes.

5. AI chatbot is available for deeper Q&A in Hindi/English.

6. If severe red flags are detected → display "Consult Doctor Immediately" warning.

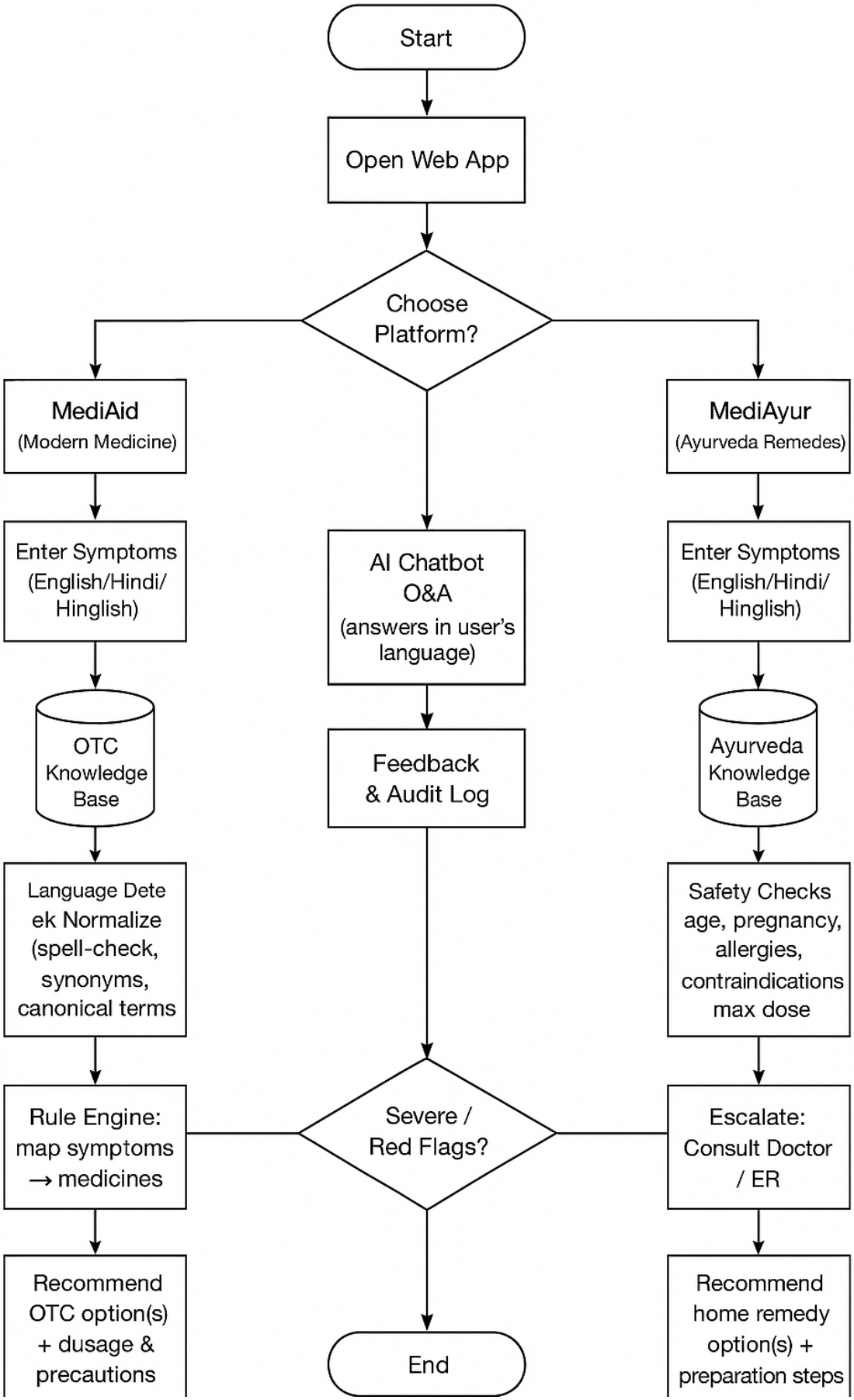

Figure 5.2: Detailed workflow for dual-platform recommendation and safety gating.

5.3 Elderly-Friendly Features

- Large fonts, clean design.
- Dual language (English/Hindi).
- Clear safety notes.
- No account creation needed.

Chapter 6: Implementation Plan

Medicine Suggestion Module (MediAid)

Table 6.1: Sample Symptom-to-Medicine Mapping (MediAid)

Symptom	**Recommended OTC Medicine**	**Precautions / Notes**
Fever (adult)	Paracetamol 500 mg, every 6–8 hours (max 3 g/day)	Avoid in severe liver disease; hydrate well.
Headache (mild)	Ibuprofen 200–400 mg or Aspirin 325 mg	Avoid NSAIDs in gastric ulcers; do not use Aspirin in children.
Dry cough	Dextromethorphan syrup (per label dosing)	Avoid combining with MAOIs; check sugar content in diabetics.
Dehydration	ORS packets as per label	Small sips frequently; seek care if persistent vomiting.
Acidity/Heartburn	Antacid (Aluminium/Magnesium hydroxide)	If symptoms persist >48h, consult a doctor.

Ayurveda Suggestion Module (MediAyur)

Table 6.2: Sample Symptom-to-Remedy Mapping (MediAyur)

Symptom	**Home/Ayurvedic Remedy**	**Preparation / Safety**
Cold & Cough	Tulsi + Ginger + Honey tea	Boil 5–7 Tulsi leaves with ginger; add 1 tsp honey when warm. Avoid honey <1 year age.
Indigestion	Ajwain with warm water	Roast 1 tsp ajwain; steep in warm water; sip slowly.
Joint Pain	Turmeric (Haldi) milk	250 ml milk + 1/2 tsp turmeric; bedtime. Monitor in lactose intolerance.
Headache (tension)	Peppermint oil temple massage	Dilute with carrier oil; avoid eye contact.
Sore throat	Warm saline gargles	1/2 tsp salt in a glass of lukewarm water; 3–4 times/day.

AI Assistant

Integrated via API, capable of understanding Hindi/English input and replying in the same language.

Testing

Elderly user trials for readability and cross-device/browser compatibility.

Chapter 7: Expected Outcomes

- A dual-platform healthcare assistant:
  - MediAid → OTC medicines.
  - MediAyur → Safe home remedies.
- Elderly-friendly, bilingual, and simple interface.
- AI chatbot for extended queries.
- Promotes independence in managing minor ailments.

Chapter 8: Advantages & Limitations

Advantages

- First of its kind dual healthcare recommendation system.
- Combines modern medicine + Ayurveda.
- Bilingual, elderly-friendly, accessible globally.
- AI-powered yet lightweight.

Limitations

- Dataset limited to common illnesses.
- Not a substitute for doctors.
- Requires internet access.

Chapter 9: Future Scope

- Expand datasets with more symptoms, medicines, and remedies.
- Add personalized recommendations based on health history.
- Expand language support to regional Indian languages.
- Introduce mobile app version.
- Partner with pharmacies & Ayurvedic practitioners for advanced integration.

Chapter 10: Conclusion

This project presents a dual-platform healthcare ecosystem – **MediAid** for modern medicine and **MediAyur** for natural remedies. By prioritizing elderly accessibility, bilingual interaction, and AI integration, it goes beyond existing digital health tools.

It is technically challenging due to the integration of two parallel systems, bilingual NLP, and safety-focused datasets, but at the same time, socially impactful as it empowers users to manage common illnesses independently.

By bridging modern healthcare and Ayurveda, this system not only provides practical value but also aligns with SDG 3: Good Health & Well-being, contributing towards accessible and inclusive healthcare for all.