MediFlow

Problem Statement: A Healthcare System Overburdened and Disconnected

India's healthcare system remains deeply paper-based, with over 70% of records handwritten. Doctors are burdened by manual prescriptions and patients struggle to follow verbal instructions—especially in rural or low-literacy areas. This leads to treatment errors, poor adherence, and avoidable complications. A GenAI-powered, multilingual platform is urgently needed to streamline doctor workflows and ensure patients receive clear, personalized, and timely care.

Core MVP Use Case

MediFlow's MVP tackles two pain points:

1. *Doctor's AI Assistant (Voice-Powered & Auto-Summarizing)*

- Doctors dictate patient notes, diagnosis, and prescriptions by voice
- MediFlow's GenAI transcribes and summarizes the entire interaction, including verbal guidance and treatment instructions that are usually missed in traditional prescriptions
- Doctors approve the auto-generated prescription, which is then shared with the patient instantly

2. *Patient Companion App (Multilingual + Smart Adherence System)*

- Receives the full prescription and doctor's spoken advice as a visual + voice summary in local language
- Shows exact medicine names, dosage, and prices—aggregated from different e-pharmacies like NetMeds, Tata 1mg, PharmEasy
- Sets automatic alarms on the patient's phone for every dose
- Sends reminders if the medicine stock is running low
- Patients log medicine intake (on-time or delayed); AI gives nudges if doses are skipped or late

GenAI-Powered Features

Feature	How GenAI Is Used
• Voice-to-Prescription Generation	Doctors speak; Whisper + NLP convert to structured Rx
• Verbal-to-Written Summarizer	Captures doctor's advice not in the formal prescription

Feature	How GenAI Is Used
• Multilingual Translation	Converts prescription + advice into regional languages
• Pharmacy Price Aggregator	Shows comparative prices of medicines across vendors
• Medication Adherence Tracker	Smart reminders, alarm integration, missed dose logging
• Stock-Level Alerts	Warns patients before medicines run out

Tech Stack

- Whisper (OpenAI) – Multilingual speech recognition
- Tesseract OCR + HuggingFace Transformers – Note digitization and medical NLP
- Firebase / GCP – Real-time sync, authentication
- E-Pharmacy APIs – For price comparison and stock data
- Android Intents / iOS Shortcuts – Alarm integration for meds
- Custom Prompts + RAG Pipelines – For advice summarization and multilingual explanation

Timeframe	Focus Area	Key Tasks
0–2 hrs	Planning & Setup	Define MVP, split into doctor & patient tracks, prepare UI mockups
2–10 hrs	Core Dev – Doctor Tool	Voice-to-prescription (Whisper), advice summarizer (LLM), structure formatting
2–10 hrs	Core Dev – Patient App	Prescription viewer, multilingual translation, price aggregator (mock/API)
10–20 hrs	Adherence Engine	Alarm integration, med intake logging, smart nudges
20–28 hrs	Offline & Rural Support	Voice-first module for health workers, Firebase sync
28–36 hrs	Polish & Testing	UI refinement, error handling, responsiveness
36–42 hrs	Demo Video	Record doctor-patient flow, voiceover, edit 60s pitch
42–48 hrs	Final Submission	GitHub, pitch deck, demo upload, documentation