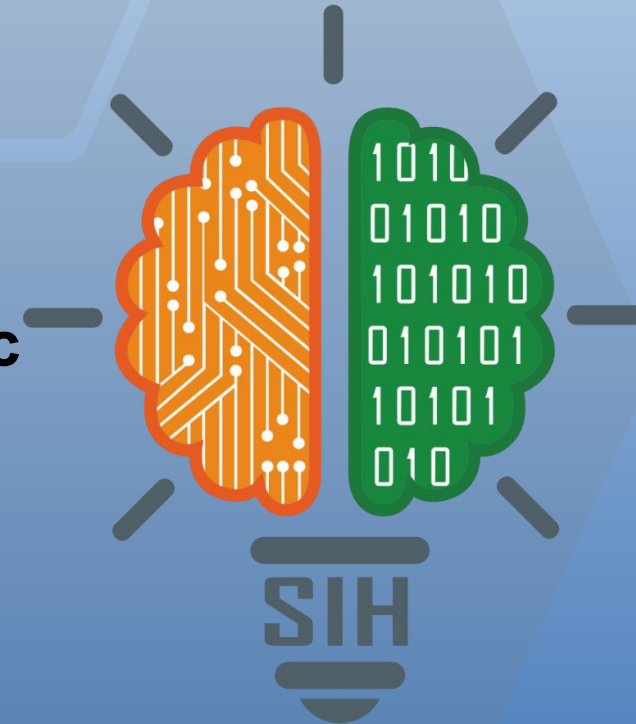


SMART INDIA HACKATHON 2025



Empowering rural and semi-urban communities with real-time health guidance and alerts

- Problem Statement ID – 25049
- Problem Statement Title- AI-Driven Public Health Chatbot for Disease Awareness
- Theme- MedTech/BioTech/Healthtech
- PS Category- Software
- Team ID-
- Team Name- Falcon



The Problem:

- Rural areas lack accurate, timely healthcare info
- Barriers: language, internet access, awareness.

Our Solution - FalconCare:

- AI chatbot for symptoms, prevention, vaccination.
- Multilingual: Hindi, English, regional languages.
- Accessible via WhatsApp & SMS (no apps needed).
- Real-time alerts from govt. health databases.

Innovation & Uniqueness:

- Rural-first chatbot, low bandwidth optimized.
- Trusted data (govt.-verified, not generic).
- Preventive healthcare focus (awareness > treatment).
- Scalable nationwide.

Expected Impact:

- 20% rise in health awareness.
- Reach millions via SMS/WhatsApp.
- Build trustworthy health infrastructure.

FALCONCARE

Tech Stack & Approach

- NLP Engine: Rasa (intent recognition, dialogue mgmt).
- Multilingual Support: Hindi, English + regional languages.
- Integration: APIs for govt. health databases (alerts, vaccination).
- Channels: WhatsApp & SMS (via Twilio / Meta APIs).
- Deployment: Docker + Cloud (AWS/Azure/GCP).
- Testing: Pytest with $\geq 80\%$ code coverage.

Process Flow

- 1 ☐ User sends query →
- 2 ☐ Rasa identifies intent →
- 3 ☐ Fetch info from DB/API →
- 4 ☐ Respond in user's language (SMS/WhatsApp/web).



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Feasibility:

- Uses mature NLP frameworks (Rasa/Dialogflow)
- Health data APIs available (Govt/WHO)
- Deployable on cloud (AWS/GCP/Railway)
- Accessible via WhatsApp & SMS
- Multilingual support achievable

Potential Challenges:

Users may not understand technical terms
Language diversity (regional languages)
Connectivity issues in rural areas

Strategies to Overcome:

Use simple, friendly, easy-to-understand language
Start with English + Hindi; add regional languages gradually
Support SMS for low connectivity areas
Use verified health data and fallback responses for errors

Revolutionary Healthcare Features



Heart Health Monitoring

Real-time cardiovascular health assessment with AI-powered insights



Mental Health Support

Comprehensive mental wellness guidance and stress management



Preventive Care

Proactive health recommendations to prevent illness before it starts



Fitness Tracking

Personalized workout plans and activity monitoring



Symptom Analysis

Advanced symptom checker with medical database integration



Emergency Response

Quick emergency protocols and nearest healthcare facility finder



Impact & Benefits

Potential Impact on Target Audience:

- Educates rural & semi-urban populations about disease prevention and vaccination
- Provides real-time outbreak alerts to keep communities safe
- Increases health awareness and reduces misinformation
- Empowers people to make informed health decisions

Benefits of the Solution:

- Social: Safer communities, healthier families, better awareness
- Economic: Reduces unnecessary healthcare costs by early prevention
- Environmental: Encourages hygiene & disease prevention practices
- Technological: Demonstrates AI, NLP, and multilingual communication for public good

Reference Research Work

1. Multilingual Healthcare Chatbots

AI chatbots for rural healthcare, symptom diagnosis, and multilingual support.

ResearchGate Paper: https://www.researchgate.net/publication/352668726_Multilingual_Healthcare_Chatbot_Using_Machine_Learning

2. AI Chatbots for Health Behavior Change

Systematic review on AI chatbots promoting health awareness and personalized interventions.

PMC Study: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10007007>

3. AI & Telemedicine in Rural Healthcare

Explores AI to improve healthcare delivery in underserved communities.

PMC Article: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11816903/>

4. AI Chatbots in Public Health Emergencies

Role of chatbots in disseminating info and guiding public health responses.

MDPI Review: <https://www.mdpi.com/1999-5903/17/4/145>

5. Jugalbandi Chatbot (Real-World Example)

AI chatbot helping rural citizens access government services in multiple languages; aligns with our theme of public health awareness.

Microsoft News: <https://news.microsoft.com/source/asia/features/with-help-from-next-generation-ai-indian-villagers-gain-easier-access-to-government-services/>