# SMART INDIA HACKATHON 2025

## TITLE PAGE

- **Problem Statement ID –** SIH25049
- **Problem Statement Title-** AI-driven public health chat bot for disease awareness
- **Theme-** Med Tech
- **PS Category-** Software.
- **Team ID-** CS-B 03
- **Team Name (Registered on portal):** Impact Ignitors

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# AI DRIVEN PUBLIC HEALTH CHATBOT FOR DISEASE AWARENESS

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## Proposed Solution: -

- AI analyzes the message using smart language processing.
- Shows possible diseases and simple home care advice.
- Displays real-time outbreak map based on user location.
- Corrects health myths with clear, trusted facts.
- Sends health tips and preventive reminders.
- Supports local languages and voice input for easy use.
- User types or speaks their health issue.
- Provides emergency contact.
- Tracks user health over time and give periodic reports.

## Our Solution: -

•**Integrated with govt. health databases** for real-time updates.
•**Cloud-based & scalable**, ensuring 24/7 access.
•**Multilingual + voice support** for inclusivity.
•**Privacy-first**: anonymized and encrypted data.

• **20% rise in awareness** in target areas.
• **80% accuracy** in answering queries.

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# TECHNICAL APPROACH

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## Technologies Used: -

1. Languages: Python, JavaScript (Node.js)
2. Frameworks: Rasa/Dialogflow (NLP), Hugging Face (mBERT/XLM-R), FastAPI/Flask (backend)
3. Databases: PostgreSQL, Redis

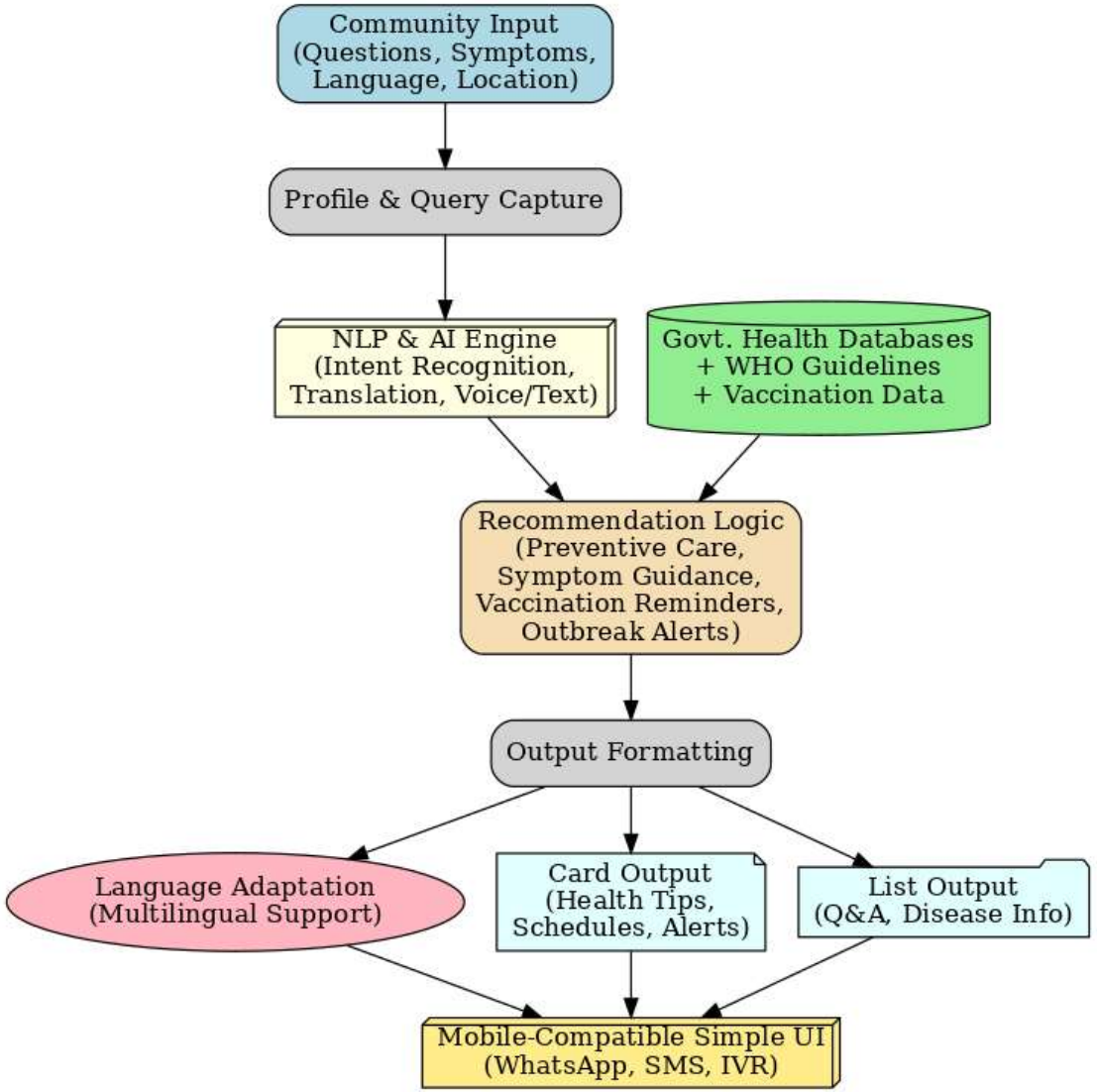
**Methodology and Implementation**: -

Requirement Analysis & Development→ Define intents, entities, languages, build NLP models, backend, databases

Integration & Testing→ connect WhatsApp/SMS APIs & govt. health databases. Accuracy (≥80%), pilot deployment

Deployment → cloud hosting with scaling(Kubernetes/Serverless)

Monitoring & Improvement → analytics, updates, continuous learning



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# FEASIBILITY AND VIABILITY

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## Feasibility:

- Technically achievable (Rasa/Dialog flow,WhatsApp/SMS API's, Hugging Face, cloud).
- Works on smartphones and feature phone.
- Cost-effective and socially impactful.

## Viability:

- Low-cost deployment (open-source + cloud/SMS).
- High social impact (awareness, vaccination, outbreak alerts).
- Scalable & sustainable (new languages/diseases can be added easily).

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# IMPACT AND BENEFITS

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- Reduces the spread of false health information by giving science based facts
- Improves access to health awareness in **rural and remote areas**
- Supports **local languages** and **voice** input for easy use by everyone
- Tracks user health over time and provides useful **periodic health reports**
- Saves **time and cost** by preventing unnecessary hospital visits
- A **smart, fast, and easy** Chat bot that helps people stay safe, informed, and in control of their health

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# RESEARCH AND REFERENCES

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## Research:

- AI chatbots improve health awareness and vaccination rates.
- Multilingual NLP (mBERT/XLM-R) supports local languages.
- Integration with government health data ensures accuracy.
- USSD/IVR or SMS-based alerts reach users without internet.

## References:


- Bibault et al., “Chat bots in healthcare: A review.” NPJ Digital Medicine, 2019
- Miner et al., “Smartphone-based AI interventions for health promotion.” JMIR, 2020
- Devlin et al., “BERT: Pre-training of Deep Bidirectional Transformers.” 2019
- Conneau et al., “XLM-R: Cross-lingual Language Model Pretraining.” 2020