NotJb Research Paper: -

Problem Statement:- AI-Driven Public health chatbot for Disease Awareness.

The Whatsapp Solution for the whatsapp users based on the Trust issue: -

1st mentioning that the “chat is encrypted” when the user starts the new conversation relate to the health. And this will helps to hide the sensitive data from the user, instead of storing directly into whatsapp database, actually it stores but that those datas would be in the form of garbage values and the deep sensitive values will be shown only to us.

Explanation; -

“We are aware that WhatsApp passes through Meta servers before reaching us. To overcome this trust issue, we designed our system with privacy-first principles: anonymization, encryption at rest, minimal data storage, and offering non-WhatsApp channels like SMS and IVR. In the future, we will move towards federated learning and edge deployments to ensure that raw health data never leaves the user’s device.”

Privacy-first Design:-

Anonymize at entry: Strip out personal identifiers (name, phone number) once the message enters your backend. Store only anonymized user ID + symptoms. Encrypt at rest: Store all sensitive data (symptoms, profiles) in PostgreSQL with encryption. Minimal storage: Don’t store raw messages unless required — just store structured health info.

### **Use Multiple Channels (not only WhatsApp): -**

### Offer ****SMS, USSD, IVR**** as alternatives → these can be directly integrated with your telecom partner, skipping Meta servers.

### Solution: -

### "Our solution is not just a chatbot — it’s a scalable, inclusive, multilingual public health assistant that works on SMS, WhatsApp, IVR, and USSD, protects user privacy, and provides real-time outbreak intelligence for health authorities."