Project Design Phase-III

Date: 8th JULY 2025

Team ID: **LTVIP2025TMID38371**

Project Name: Health AI – IBM Granite-Powered Medical Assistant

Technical Architecture

Below is the revised architecture for the Health AI system built using Streamlit. It includes the app logic, ML model, and no external database as per implementation.

Note: This is a lightweight single-page application architecture.

Table-1: Components & Technologies

Component	Description	Technology
User Interface	Web UI using Python	Streamlit
Application Logic-1	Form input and validation	Python
Application Logic-2	API integration logic	Hugging face API
File Storage	Temporary in-memory or local	No DB used
External API-1	ML interface	Hugging face interface endpoint
Machine Learning Model	Deployed externally	Hugging Face-hosted custom model
Infrastructure	Deployed setup	Localhost / Streamlit Cloud
External API-1	NLP or ana;ytics services	IBM watson API

Table-2: Application Characteristics

Characteristics	Description	Technology / Justification
Open-Source Frameworks	Streamlit, Python libraries	Fully OSS ecosystem
Security	Auth control via APIs scale automaically	Hugging Face Auth Token,IBM API key
Scalable Architecture	External APIs scale automatically	Hugging Face +IBM handle backend scaling
Availability	Reliable due to managed cloud endpoints	IBM cloud/HF API uptime
Performance	Fast as model run remotly	Optimized interface APIs, no local compute