

Technology Stack (Architecture & Stack)

Date: 26 June 2025

Team ID: LTVIP2025TMID32616

Project Name: HealthAI: Intelligent Healthcare Assistant

Maximum Marks: 2 Marks

Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	User interacts via a web-based app	Streamlit (Python framework)
2	Application Logic-1	Logic for patient chat, prediction, treatment plan, and analytics	Python
3	Application Logic-2	Generates responses using AI model	IBM Watson Machine Learning
4	Application Logic-3	Not applicable in your current setup	N/A
5	Database	Sample data stored temporarily for each session	In-memory (session state)
6	Cloud Database	Currently not used; future enhancement suggested	Planned: IBM Cloudant or PostgreSQL
7	File Storage	Local storage for .env and optional static files	Local Filesystem
8	External API-1	IBM Granite model API for generative responses	IBM Watson Machine Learning API
9	External API-2	Not used in current version	N/A
10	Machine Learning Model	Medical query answering, disease prediction, treatment generation	IBM Granite 13B Instruct v2
11	Infrastructure	Streamlit app hosted locally; can be cloud-deployed	Local Server / IBM Cloud Foundry

Table-2: Application Characteristics

S.No	Characteristics	Description / Technology
1	Open-Source Frameworks	Streamlit, Plotly, Python
2	Security Implementations	python-dotenv, .env, API token handling
3	Scalable Architecture	3-Tier Architecture (UI-Logic-AI/Service)
4	Availability	Cloud Foundry (future option)
5	Performance	Streamlit Caching, IBM API optimization