# Solution Architecture – Health AI Project

Date: 26 June 2025

Team ID: LTVIP2025TMID32047

Project Name: HealthAI: Intelligent Healthcare Assistant

## Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

* - Find the best tech solution to solve existing business problems.
* - Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
* - Define features, development phases, and solution requirements.
* - Provide specifications according to which the solution is defined, managed, and delivered.

## Health AI Solution Architecture Overview

The proposed **HealthAI system** is built using a modular, layered architecture that integrates user health input, AI-driven responses, and personalized recommendations. The solution is designed for real-time medical support and interactive insights.

* - Front-end: Web SPA using HTML, CSS, JavaScript (Chart.js for health visualization)
* - Backend: Python- Python-based FastAPI server handling routes and AI integration
* - AI Models: IBM WatsonX Granite 13B for chat, diagnosis, and treatment generation
* - Database: Temporary JSON/session data with future scope for IBM Cloudant
* - External APIs: IBM SDK for WatsonX integration and potential wearable device APIs

## Development Phases

* - Phase 1: Frontend-Backend setup with interactive SPA
* - Phase 2: IBM Granite model integration for predictions and chat
* - Phase 3: Add treatment generation and home remedies modules
* - Phase 4: Health dashboard (Chart.js) and metrics tracking

This architecture ensures scalability, modularity, and real-time response to user queries in a healthcare context.