

## Project Design Phase

### Solution Architecture

Date	25 June 2025
Team ID	LTVIP2025TMID59371
Project Name	HealthAI-Intelligent-Healthcare-Assistant-Using-IBM-Granite
Maximum Marks	4 Marks

#### Solution Architecture:

Component	Technology	Purpose
Frontend UI	Streamlit	Provides user interface for chat, predictions, treatment plans, and analytics
AI Integration	IBM Watson Granite 13B, Google Gemini	Enables natural language understanding, condition prediction, and treatment generation
Data Visualization	Plotly, Altair, Matplotlib	Renders heart rate, blood pressure, glucose trends, and symptom distribution
Backend	Python	Processes user inputs, communicates with AI, and serves predictions
Database	SQLite / PostgreSQL	Stores user inputs, predictions, and historical data
Authentication	Firebase Auth	Secures access and supports user sessions (if needed)
Environment Config	.env via dotenv	Manages API credentials securely
Logging & Monitoring	Streamlit logs	Tracks usage and debug information for performance tracking
Deployment Options	Streamlit Cloud	For public hosting or scalable cloud deployment

#### Architecture Diagram:

