**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| --- | --- |
| Date | 28 june 2025 |
| Team ID | LTVIP2025TMID32085 |
| Project Name | HealthAI-Intelligent-Healthcare-Assistant-Using-IBM-Granite- |
| Maximum Marks | 4 Marks |

**Technical Architecture**

**The deliverable shall include the architectural diagram as below and the information as per Table 1 & Table 2.**

**Example: Intelligent healthcare assistant for patient management and support.**

**Reference: IBM Healthcare Solutions**

**Table 1: Components & Technologies**

| **S.No** | **Component** | **Description** | **Technology** |
| --- | --- | --- | --- |
| **1** | **User Interface** | **How users interact with the application (e.g., Web UI, Mobile App, Chatbot)** | **HTML, CSS, JavaScript / Angular JS / React JS** |
| **2** | **Application Logic-1** | **Logic for patient data management** | **Java / Python** |
| **3** | **Application Logic-2** | **Logic for speech-to-text conversion** | **IBM Watson STT service** |
| **4** | **Application Logic-3** | **Logic for patient interaction and support** | **IBM Watson Assistant** |
| **5** | **Database** | **Data type, configurations, patient records, etc.** | **MySQL, NoSQL** |
| **6** | **Cloud Database** | **Database service on cloud for scalability** | **IBM DB2, IBM Cloudant** |
| **7** | **File Storage** | **File storage requirements for patient documents** | **IBM Block Storage or Other Storage Service or Local Filesystem** |
| **8** | **External API-1** | **Purpose of external API for health data** | **IBM Health API** |
| **9** | **External API-2** | **Purpose of external API for patient identification** | **Aadhar API** |
| **10** | **Machine Learning Model** | **Purpose of machine learning model for diagnosis** | **Disease Prediction Model** |
| **11** | **Infrastructure** | **Application deployment on local system / cloud** | **Local Server Configuration, Cloud Foundry, Kubernetes** |

**Table 2: Application Characteristics**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
| **1** | **Open-Source Frameworks** | **List the open-source frameworks used** | **Technology of Open-source framework** |
| **2** | **Security Implementations** | **List all security/access controls implemented (e.g., firewalls)** | **SHA-256, Encryptions, IAM Controls, OWASP** |
| **3** | **Scalable Architecture** | **Justify the scalability of architecture (3-tier, Micro-services)** | **Technology used** |
| **4** | **Availability** | **Justify the availability of application (e.g., load balancers, distributed servers)** | **Technology used** |
| **5** | **Performance** | **Design consideration for performance (number of requests per sec, use of Cache, use of CDNs)** | **Technology used** |

**References**

* **C4 Model**
* **IBM Online Healthcare Solutions**
* **IBM Cloud Architecture**
* **AWS Architecture**
* **How to Draw Useful Technical Architecture Diagrams**