**Project Design Phase - II**

**Technology Stack (Architecture & Stack)**

|  |  |
| --- | --- |
| Date | 16 October 2022 |
| Team Id | PNT2022TMID40555 |
| Project Name | AI-powered Nutrition Analyzer for Fitness Enthusiasts |
| Maximum Marks | 4 Marks |

**Technical Architecture:**



WATSON

Services

Train

Data

Prediction

Evaluation

IBM

Cloudant

Data

Processing

Model

DL

Algorithm

Administrator

User UI

Test

Data

Admin

IBM

Cloud

User

**Table-1 : Components & Technologies:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
| 1. | User Interface | How user interacts with application e.g.  Web UI, Mobile App, etc. | HTML, CSS, JavaScript. |
| 2. | Application Logic-1 | Logic for a process in the application | Python |
| 3. | Application Logic-2 | Logic for a process in the application | IBM Watson STT service |
| 4. | Application Logic-3 | Logic for a process in the application | IBM Watson Assistant |
| 5. | Database | Data Type, Configurations etc. | MySQL, NoSQL, etc. |
| 6. | Cloud Database | Database Service on Cloud | IBM Cloudant. |
| 7. | File Storage | File storage requirements | IBM Block Storage or Other  Storage Service or Local Filesystem |
| 8. | External API-1 | Purpose of External API used in the application | Rapid API, etc. |
| 9. | External API-2 | Purpose of External API used in the application | Rapid API, etc. |
| 10. | Machine Learning Model | Purpose of Machine Learning Model | Object Recognition Model, etc. |
| 11. | Infrastructure  (Server / Cloud) | Application Deployment on  Local System / Cloud Local Server Configuration:  Cloud Server Configuration : | Local, Cloud Foundry, Kubernetes, etc. |

Table-2: Application Characteristics:

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