Project Design Phase -II

Technology Stack(Architecture & Stack)

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| Date | 03oct2022 |
| Team ID | PNT2022TMID49040 |
| Project Name | AI-Powered Nutrition Analyzer for Fitness Enthusiasts |
| Maximum Marks | 4 Marks |

Technical Architecture

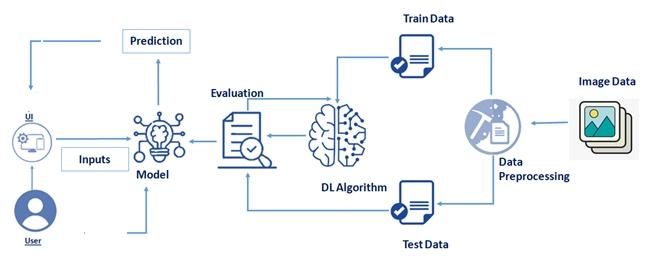


Table 1-components and technologies

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| --- | --- | --- | --- |
| S.No | Component | Description | Technology |
| 1. | Application | User interacts with application for the prediction of  Nutrition | Python, Java, HTML,SQL,Android  Studio,JavaScript,ReactJS,tailwindCSS |
| 2. | Database | Data Type, Configurations and data will be stored | MySQL, JavaScript |
| 3. | Cloud Database | Database Service on Cloud | IBM DB2, IBM Cloudland, etc |
| 4. | File Storage | File storage requirements | The storage will be based on Cloud |
| 5. | Machine Learning | Purpose of Machine Learning Model | ANN, CNN, RNN |
| 6. | Notification | Notification will be sent from the server | SendGrid |
| 7. | File Storage | File storage requirements | IBM Block Storage or Other Storage  Service or Local Filesystem |
| 8. | External API | Purpose of External API used in the application | Aadhar API, Stripe |
| 9. | Machine learning model | Purpose of Machine Learning Model | OpenCV, MATLAP |
| 10. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud  Local Server Configuration:  Cloud Server Configuration : | Local, Cloud Foundry, Kubernetes, etc. |

Table-2: Application Characteristics:

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| --- | --- | --- | --- |
| S No | Characteristics | Description | Technology |
| 1. | Open-Source Frameworks | open-source frameworks used | SendGrid, Python, jQuery |
| 2. | Security Implementations | Request authentication using encryption | Encryptions, SSL certs |
| 3. | Scalable Architecture | The scalability of architecture consists of 3 tiers | Web Server – HTML, CSS, JavaScript  Application Server – Python Flask  Database Server – IBM Cloud |
| 4. | Availability | Availability is increased by loads balancers in cloud  VPS | IBM Cloud hosting |
| 5. | Performance | The application is expected to handle up to 4000 predictions per second | IBM Load Balance |