**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| --- | --- |
| Date | 7 November 2022 |
| Team ID | PNT2022TMID07592 |
| Project Name | AI-Powered Nutrition Analyzer For Fitness Enthusiasts |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

Prediction Train Data

UI

Evaluation

Image Data

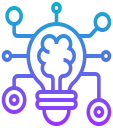
Input

Model

DL Algorithm

Data

Preprocessing



User Test Data

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

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Component | Description | Technology |
| 1. | User Interface | How the user interacts with the application .To depict the human-computer interaction and communication | HTML, CSS,  JavaScript ,React Js |
| 2. | Application Logic-1 | A page to upload images as input | Python |
| 3. | Application Logic-2 | To use the Deep Learning model and predicting the result | Python |
| 4. | Deep Learning Model | Deep learning model used to classifying the images using neural networks | CNN |
| 5. | Database | Structured data-images | MySQL |
| 6. | Cloud Database | Database that typically runs on a cloud computing platform and access to the database is provided as-a service | IBM Cloud  Databases for MySQL |
| 7. | File Storage | File storage requirements | Local Filesystem |
| 8. | API | Used to Collecting heart beat rate data | Google fit API |

**Table-2: Application Characteristics:**

|  |  |  |  |
| --- | --- | --- | --- |
| 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 predications per second | IBM Load Balance |