## Project Design Phase-II
## Technology Stack (Architecture & Stack)

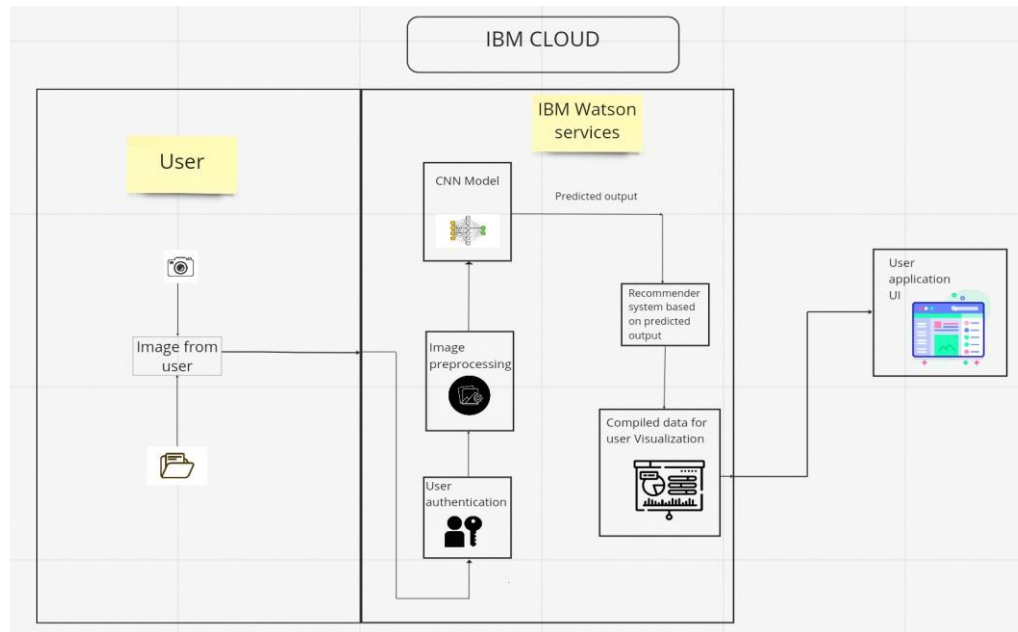| Date | 2 November 2022 |
|------|-----------------|
| Team ID | PNT2022TMID42833 |
| Project Name | AI-powered Nutrition Analyzer for Fitness Enthusiasts |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

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

| S.No | Component | Description | Technology |
|------|-----------|-------------|------------|
| 1. | User Interface | How user interacts with application e.g. Web UI, Mobile App, Chatbot etc. | HTML, CSS, JavaScript |
| 2. | Backend | Server to run the application 24x7 in the IBM cloud | Python (django) |
| 3. | Authentication | Authentication type and usage | Session authentication in django |
| 4. | PAAS | Platform As A Service | ML services in IBM Cloud and Watson Studio |
| 5. | Database | Data Type, Configurations etc. | PostgreSQL |
| 6. | Cloud Database | Database Service on Cloud | IBM DB2, IBM Cloudant etc. |
| 7. | File Storage | File storage system | IBM Block Storage or Other Storage Service or Local Filesystem |
| 8. | Camera Accessing | To access the camera of user | MediaStream Recording API |
| 9. | Machine Learning Model | CNN model for identification and classification of data from users. | Object Recognition and image classification Model, suggestion and recommendation. [CNN, Open CV] |
| 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:**

| S.No | Characteristics | Description | Technology |
|------|-----------------|-------------|------------|
| 1. | Open-Source Frameworks | List the open-source frameworks used | NEXT, DJANGO, TENSORFLOW, OPENCV |
| 2. | Security Implementations | List all the security / access controls implemented, use of firewalls etc. | SHA-256, Encryptions, IAM Controls, OWASP etc. <br><br> Django's default security management |
| 3. | Scalable Architecture | Scalability of architecture (3 – tier, Micro-services) | IBM Cloud |
| 4. | Availability | Justify the availability of applications (e.g. use of load balancers, distributed servers etc.) | IBM Cloud |
| 5. | Performance | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc. | IBM Cloud |