

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

Date	15 October 2022
Team ID	PNT2022TMID40443
Project Name	AI-powered Nutrition Analyzer for Fitness Enthusiasts
Maximum Marks	4 Marks

Technical Architecture:

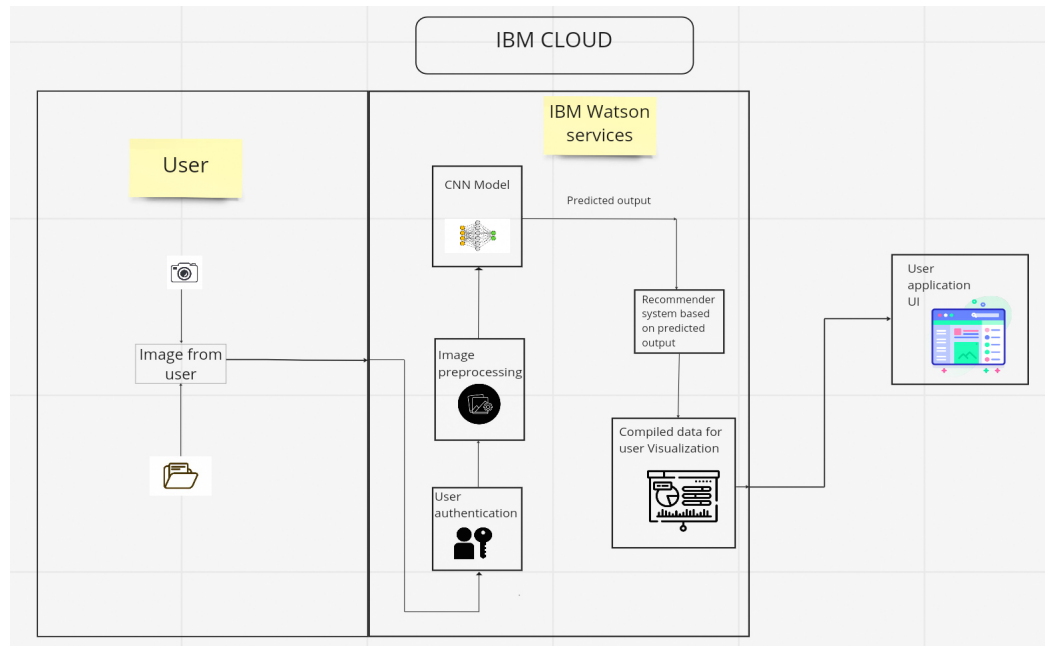


Table-1 : Components & Technologies:

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. 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