

Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	13 October 2022
Team ID	PNT2022TMID42999
Project Name	AI-powered Nutrition for Fitness Enthusiasts
Maximum mark	4 Marks

Technical Architecture:



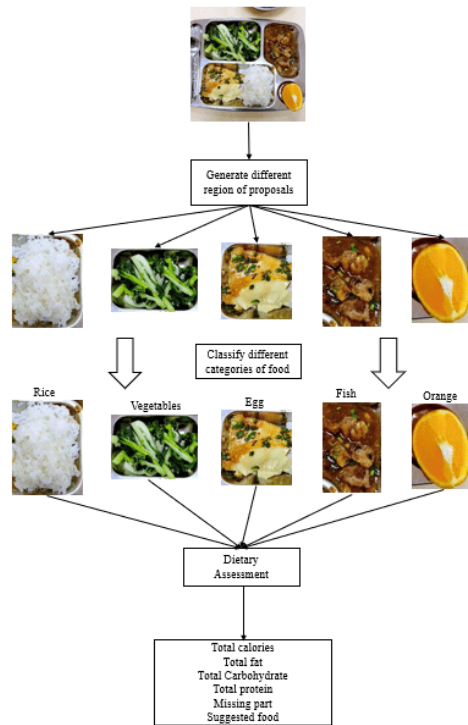


Table 1 : Comonents & technologies

S.No	Components	Description	Technology
1.	User Interface	User interacts with the application using a website	Python Flask
2.	Image Preprocessing	Image of the fruit is uploaded through the website and the image is pre-processed using machine learning algorithms.	Python
3.	image Prediction	Machine learning model to predict the fruit from the images of the leaves uploaded through the website	Python
4.	Database	Images are stored in the database	Google drive
5.	Cloud Database	The above described model is deployed in the IBM cloud.	IBM DB2, IBM Cloudant etc
6.	Machine Learning Model	Machine learning models are used for image pre-processing, disease prediction and fertilizer recommendation	Image pre-processing model, DiseasePrediction model

Table 2 : Application Characteristics:

S.NO	Characteristics	Description	Technology
1.	Open-Source Frameworks	Google Collaboratory, Jupyter Notebook, Googledrive, Python Flask	Python, Data storage in Google drive
2.	Scalable Architecture	The scalability architecture used is 2-tier architecture. The client is the user and the server is the IBM cloud server where the model will be deployed.	Python Flask, IBM Cloud.
3.	Performance	As the models and the web applications are deployed in the IBM cloud remote server the website can handle maximum number of requests and can be scaled at ease.	IBM Cloud
4.	Availability	The website will be deployed in the IBM cloud and will be available for all the users to use irrespective of the organisation or the institution they belong to.	IBM Cloud