Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	22 October 2022
Team ID	PNT2022TMID32825
Project Name	Nutrition Assistant Application
Maximum Marks	4 Marks

Technical Architecture:

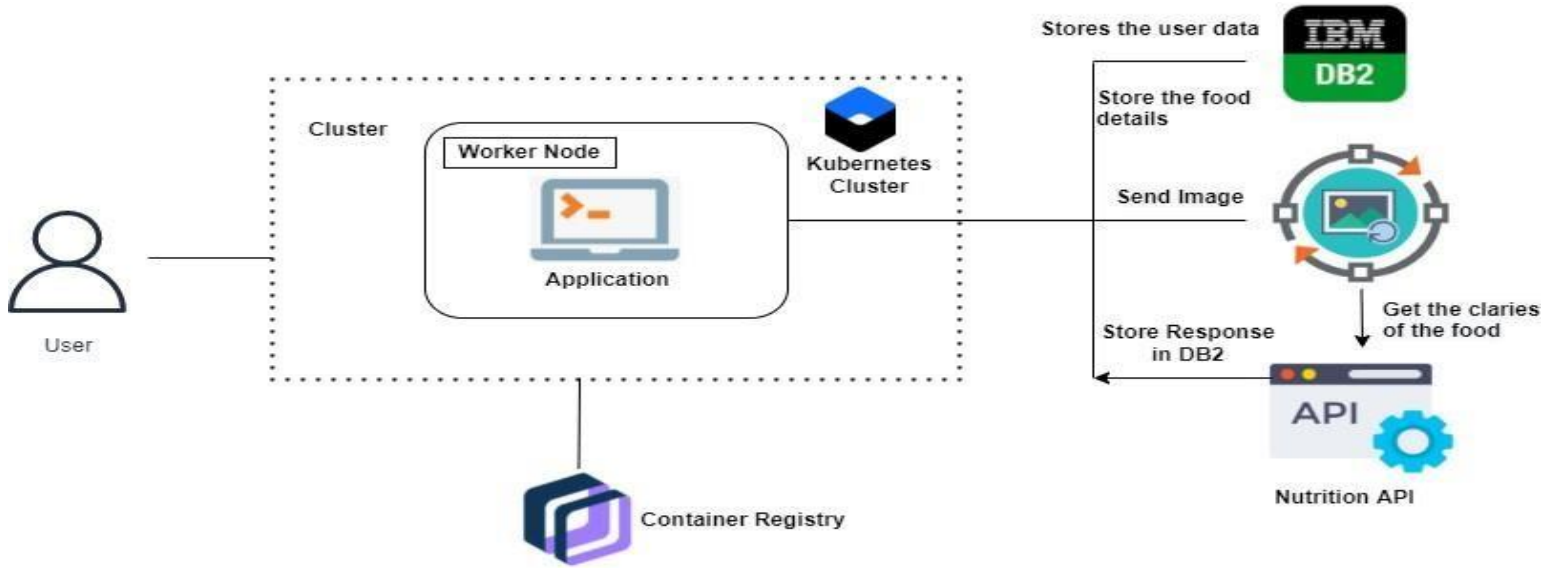

Table-1: Components & Technologies:

S.no	Component	Description	Technology
1.	User Interface	User interacts with application	HTML, CSS, JavaScript etc.
2.	Database	Data Type, Configurations etc.	MySQL, JavaScript, Python, Python Flask.
3.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud etc.
4.	File Storage	File storage requirements	IBM Block Storage,Local Filesystem
5.	External API-1	To predict the image that user will upload in the upload image page	Clarifai's AI-Driven Food Detection Model.
6	External API-2	Food API's to the nutritional value for the identified food.	Food API
7	Infrastructure (Server / Cloud)	Application Deployment on Local System / Local server configuration. Cloud server Configuration	Local, Cloud Foundry, Kubernetes, Docker…

Table-2: Application Characteristics:

S.no	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used.	SendGrid, Python
2.	Security Implementations	Request authentication using encryption.	Encryptions
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.	Working to reduce the severity and likelihood of problems, closely monitoring applications and infrastructure, keeping technical debt in check, automating recovering mechanisms, and regularly putting those recovery mechanisms to the test.

5.	Performance	The application is expected to handle up to 4000 predictions per second	Optimize image sizes, use a content delivery network, use website caching and adopt cloud based website monitoring