

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

Date	19 October 2022
Team ID	PNT2022TMID23530
Project Name	Project – Nutrition Assistant Application
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: <https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/>

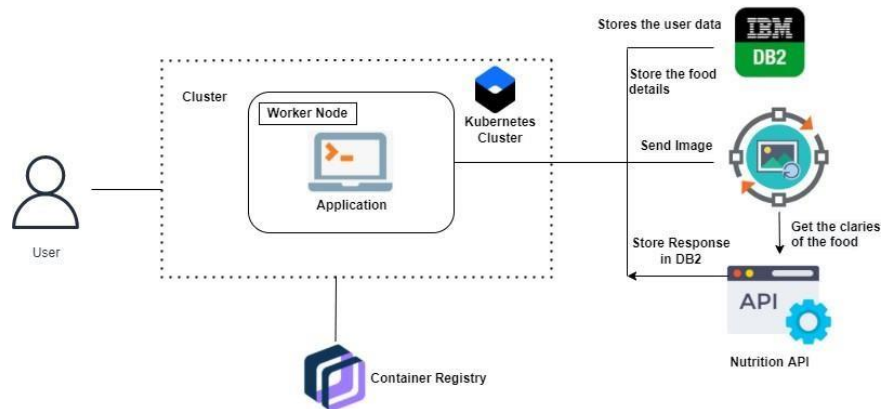


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI,Mobile Application,SMS service and Wearable device.	HTML, CSS, JavaScript / Angular Js ,Flask ,Flutter.
2.	Application Logic-1	Getting input through image recognition.	Python , Algorithms
3.	Application Logic-2	Process data in Cloud	IBM DB2, IBM Cloudant , IBM Watson assistant.
4.	Application Logic-3	Display data to the user	Web UI,Mobile Application,SMS service.
5.	Database	Real time database	Cloudant DB
6.	Cloud database	Database service on cloud.	IBM cloudant
7.	Image recognition	To Capture the images and matching the images.	HD camera, Node MCU,
8.	External API-1	To send SMS to user	Fast SMS API
9.	External API-2	Language for the website is written to be dynamic.	Google translate API
10.	External API-3	To access time	World time API
11.	Infrastructure (Server / Cloud)	Application Deployment on Cloud	IBM Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The Node-RED open-source frameworks are used to build the web application as well as to communicate with the mobile application and to handle alert SMS. Open source computer visionary library (Open CV) is used for image processing services.	Python flask , Node-RED
2.	Security Implementations	Process the images and display the calories to only the user end-to-end encryption will be implemented.	SHA-256, Encryptions, IAM Controls
3.	Scalable Architecture	The 3 – tier architecture used with a separate user interface, application tier and data tier makes it easily scalable.	IBM cloud, IBM database
4.	Availability	The web application is highly available as it is deployed in cloud	IBM cloud
5.	Performance	The performance of the website is improved with caching and security	IBM cloud

References:

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture> <https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>