HuNutrition assistant Application

A NALAIYA THIRAN PROJECT REPORT

SUBMITTED BY

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BACHELOR OF ENGINEERING

In

COMPUTER SCIENCE AND ENGINEERING

MOUNT ZION COLLEGE OF ENGINEERING AND TECHNOLOGY

1. INTRODUCTION

Diet and nutrition app is a type of nutrition tracking app that helps users lose weight, be healthy, and get stronger. There are different nutrition apps, including a calorie counter, diet trackers, nutrition planner apps, and marketplace platforms that connect users and nutrition coaches.The nutrition and diet planner app is becoming popular among users because of its great usability and amazing convenience

1.1 Project Overview:

Nutrition Assistant Application aims at building a web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food. It helps to plan and prepare nutritious meals for people who need them. It may also be responsible for educating patients about healthy eating habits. Our method employs Clarifai's AI-Driven Food Detection Model for accurate food identification and Food API's to give the nutritional value of the identified food. User interacts with the Web App to Load an image.The image is passed to the server application, which uses Clarifai's AI-Driven Food Detection Model Service to analyze the images and Nutrition API to provide nutritional information about the analyzed Image. Nutritional information of the analyzed image is returned to the app for display

A web based tool is being planned for therapeutic nutrition prescriptions in clinical settings. The cloud based system would have

the ability to calculate the nutritional requirements and to guide first line nutritional management to patients and clients automatically. Also, it serves as an electronic medical and dietetic record, and personalized nutrition consultation approach can be client can converse to his/ her personal dietitian at their own convenient setting.

1.2 Purpose:

- Providing dieticians with the facility's meal and menu planning.
- Obtaining dietary information and assessing the nutritional habits of patients.
- Recording individual risk factors or dietary restrictions that might impact meal planning.
- Coordinating meal plans with nutritionists and healthcare professionals.
- Performing ongoing nutrition assessments, including the measurement of caloric intake and activity levels.
- Facilitating immediate interventions for signs of malnutrition, allergic reactions, or refusal to eat.
- Assisting in meal distribution, ensuring correctly delivered, and timely served meals.
- Maintaining proper sterilization protocols in the clearing away and cleaning of plates and utensils.
- Safely discarding leftover portions to prevent the spread of disease.

- Instructing patients and families on nutrition plans and healthy eating habits.

2. LITERATURE SURVEY

Nutrition and clinical dietetic services provide evidence-based support which has become essential for maintaining healthy lifestyle and avoiding malnutrition among population. National health with digital technology integration is gaining importance in the current COVID-19 pandemic scenario. Digital health technologies offer valuable means for community to create and share information about healthcare. This research intended to study the effects of utilizing games in health e-learning network on teaching third graders in elementary schools about nutrition. The studied groups of this research were 2 classes of 33 third graders; the two classes were separated into experimental and control group. The experiment was implemented in a four-week duration. The experimental group learned the knowledge of nutrition based on game playing on a national health e-learning network, whereas the control group was lectured with multi-media slide shows.

2.1 Existing problem:

The*Nutrilize*applicationhasconstraintsregardingusabilityand feature availability. First, our aim at high precision nutritional content has led to using the BLS as a food item database. This has led to issues with non-layman terms and thus low searchabilityforcertainfood items. Furthermore, the restriction to open source data has led to the integration of recipes from the KochWiki database, which covers many basic recipes, but not as many “currently popular" ones. We also see in the effect analysis that the underestimation in daily tracking is

propagating errors to the feedback users are receiving. We try to correct for this in our models by including the daily calorie count. Additionally, the study we conducted only had a limited number of participants which does not allow us to conclude or generalize any results with certainty. Finally, while the duration of the study is uniquely long for mobile applications, it is still relatively short compared to traditional interventions. Despite these limitations, our study reveals some systematic challenges in the long-term usage of food recommender systems that are common to other similar applications.

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mediterranean diet; a literature review. Nutrients **7**(11), 9139–9153

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2.3 Problem Statement Definition:

Due to the ignorance of healthy food habits, obesity rates are increasing at an alarming speed, and this is reflective of the risks to people's health. People need to control their daily calorie intake by eating healthier foods, which is the most basic method to avoid obesity. However, although food packaging comes with nutrition (and calorie) labels, it's still not very convenient for people to refer to App-based nutrient dashboard systems which can analyse real-time images of a meal and analyse it for nutritional content which can be very handy and improves the dietary habits, and therefore, helps in maintaining a healthy lifestyle. The main objective of this project is to building a web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food.

Problem Statement (PS)	I am (Customer)	I am trying to	But	Because	Which makes me feel
PS-1	Fitness freak	Finding a perfect pre workout plan for maintaining fitness	I can't choose a correct plan	It is Confusing	A perfect daily pre workout plan suggestion
PS-2	Student	Find a balanced nutrition diet to loss weight	There is no balanced diet available without workout	I have no time to do workout	A best nutritional based diet plan with less workout
PS-3	Body Builder	Choose a best plan for whole body workout.	It is hard to select a best workout plan	A wrong workout plan will lead to a change in the shape of my body	Perfect diet and workout plan for bodybuilding

3.IDEATION & PROPOSED SOLUTION

3.1Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to helps teams better understand their users.
Creating an effective solution requires understanding the true problem and the person who is experiencing it.

The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

3.2 Ideation & Brainstorming:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-thebox ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Step 1 - Brainstrom & Idea Prioritization

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

PROBLEM

A variety of medical problems can affect appetite. Your illness medicines or surgery can cause these problem.to suggest healthy foods and identify the incredtents and nutritions in their food.

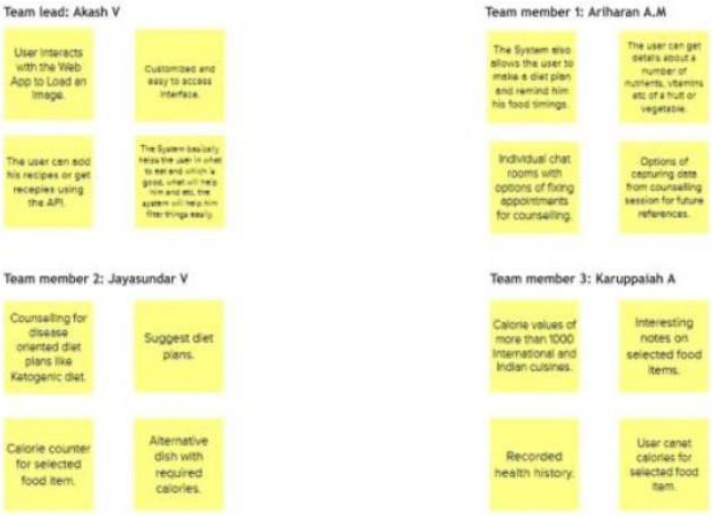
Key rules of brainstorming

To run an smooth and productive session

- Stay in topic.
- Encourage wild ideas.
- Defer judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

Step 2 -

Brainstorm



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Group Ideas

Step 3 -

Healthy nutrition contributes to preventing diet related diseases

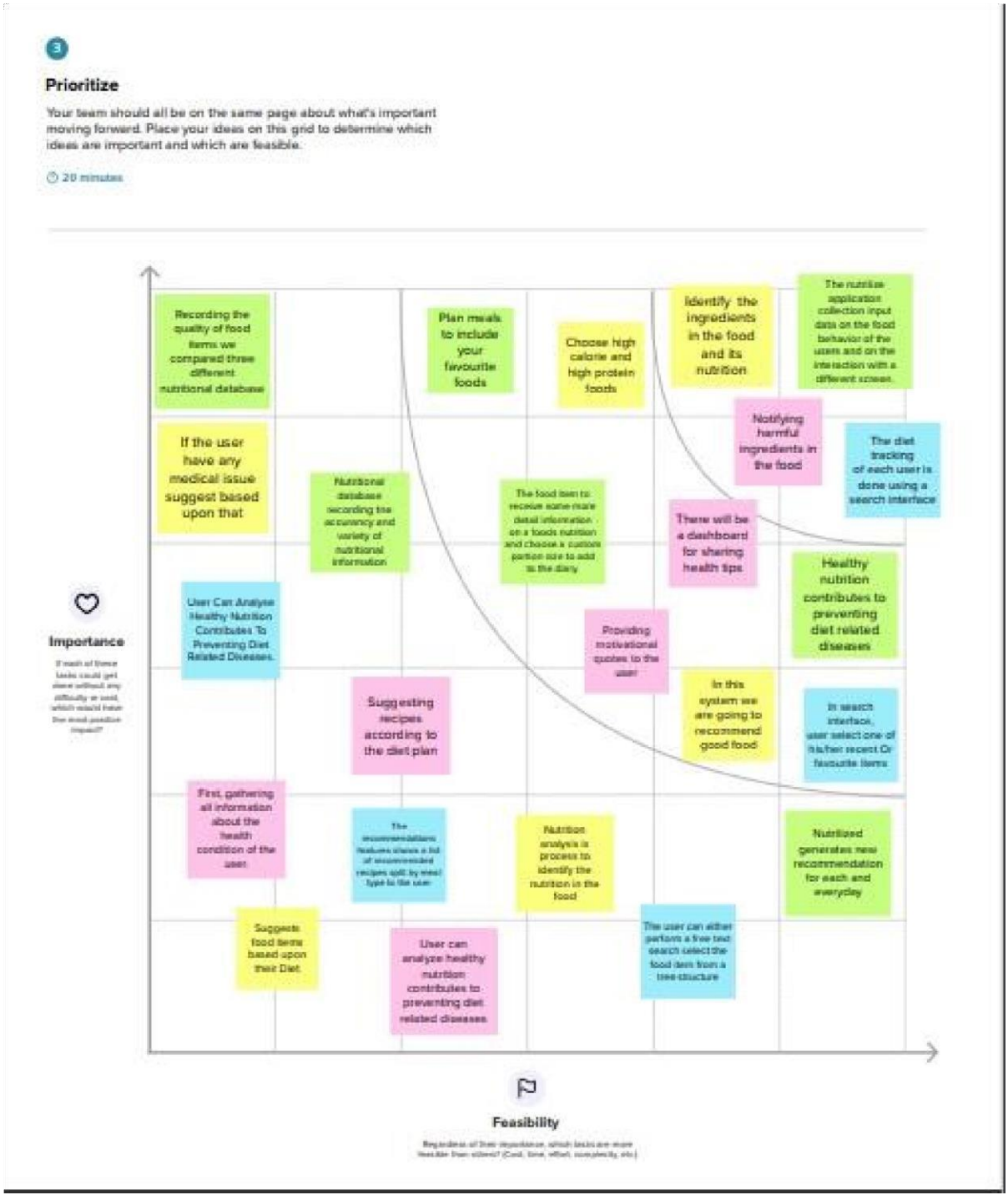
Healthy nutrition contributes to preventing non-communicable diseases.

There will be a dashboard for sharing health tips

The food item to receive some more detail information on a foods nutrition and choose a custom portion size to add to the diary.

Prioritize

Step 4 -

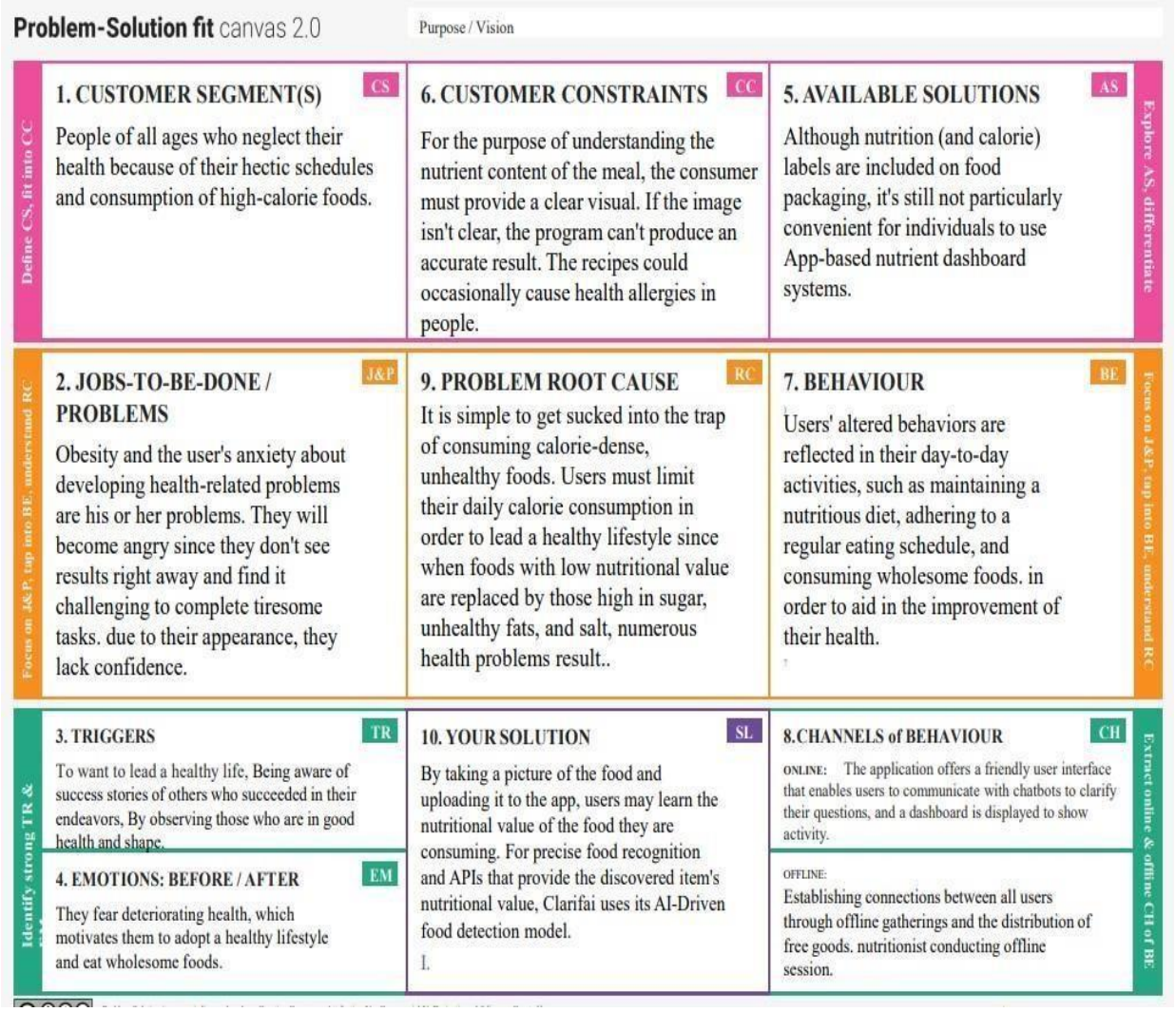

3
Prioritize
Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.
20 minutes
Recording the quality of food items we compared three different nutritional database
Plan meals to include your favourite foods
Choose high calorie and high protein foods
Identify the ingredients in the food and its nutrition
The nutrition application collection input data on the food behavior of the users and on the interaction with a different screen.
If the user have any medical issue suggest based upon that
Nutritional database recording the accurancy and variety of nutritional information
The food item to receive some more detail information on a foods nutrition and choose a custom portion size to add to the diary
Notifying harmful ingredients in the food
The diet tracking of each user is done using a search interface
There will be a dashboard for sharing health tips
Healthy nutrition contributes to preventing diet related diseases
User Can Analyse Healthy Nutrition Contributes To Preventing Diet Related Diseases.
Providing motivational quotes to the user
Suggesting recipes according to the diet plan
In this system we are going to recommend good food
In search interface, user select one of his/her recent Or favourite items
First, gathering all information about the health condition of the user.
The recommendations features shows a list of recommended recipes split by meal type to the user
Nutrition analysis is process to identify the nutrition in the food
Nutrilead generates new recommendation for each and everyday
Suggests food items based upon their Diet
User can analyze healthy nutrition contributes to preventing diet related diseases
The user can either perform a free text search select the food item from a tree-structure
Importance
Feasibility

3.3 Proposed Solution:

Sl. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	• Now a days peoples are not eating healthy foods with respect to their health condition. If it happens continuously means, it will lead to obesity and any other health problems. • To avoid that the system will detect and recognize the food and evaluating the nutrient values present in the food.
2.	Idea / Solution description	• To store the food and details of the nutrients present in it. • Then scan the real time food and retrieve the corresponding food's nutrient values.
3.	Novelty / Uniqueness	• Clustering the peoples based on their BMI value.
4.	Social Impact / Customer Satisfaction	• The application which gives awareness among the people about the obesity and various health problems.
5.	Business Model (Revenue Model)	• In market, this application gives a benefit across the people by health wise and economical wise.
6.	Scalability of the Solution	• The application which creates an impact among the healthy lifestyle

3.4 Problem Solution fit:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why



4. REQUIREMENT ANALYSIS

4.1 Functional requirement:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through E-mail and Phone number
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Profile Completion	Get personal details like height, weight, etc.
FR-4	Gather meal image	Upload photo Take live photo of the meal
FR-5	Display calorie information	Integrate Clarifai API to get name of the food Integrate Nutrition API (rapid API) to collect calorie information

4.2 Non-Functional requirements:

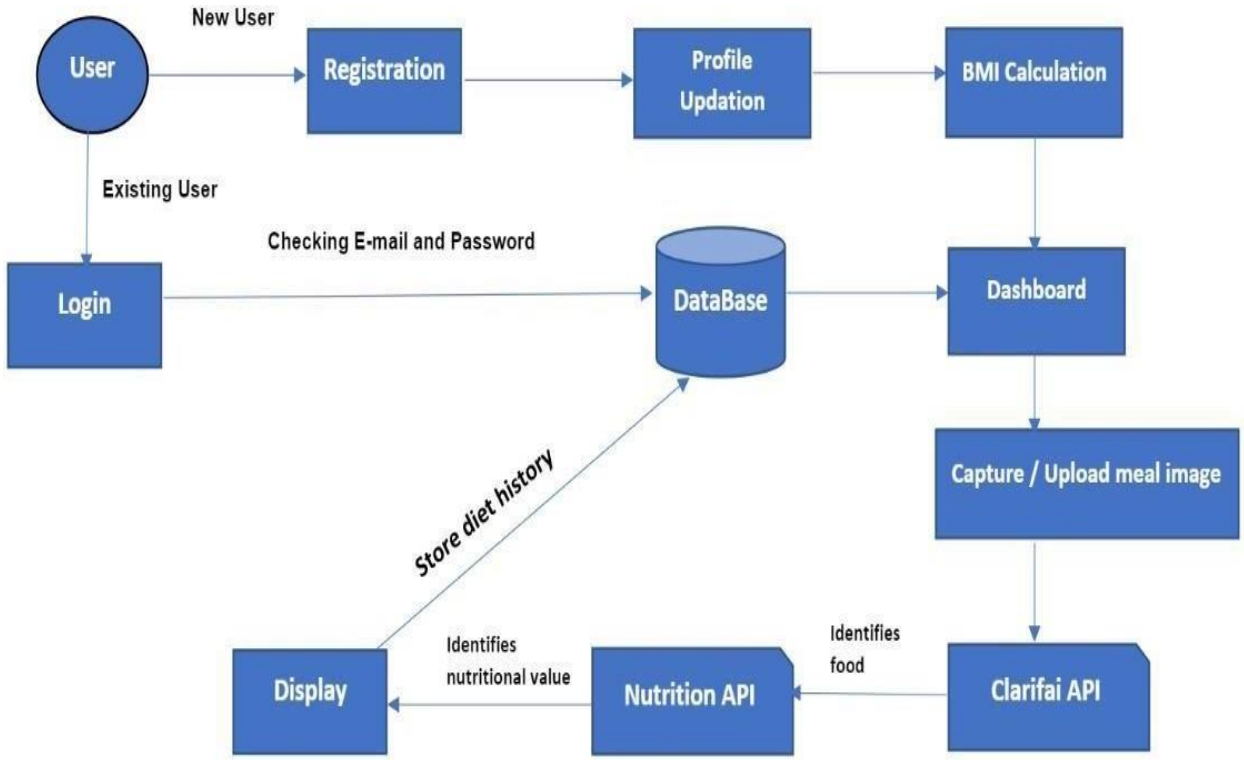
Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Provide user friendly UI Simple and intuitive design
NFR-2	**Security**	Comprehensive authorization and authentication scheme for each system actor
NFR-3	**Reliability**	The system must perform without failure in 95 percent of use cases
NFR-4	**Performance**	The landing page supporting several users must provide 5 seconds or less response time
NFR-5	**Availability**	Uninterrupted services must be available all time except the time of server updation.
NFR-6	**Scalability**	Provide horizontal or vertical scaling for higher workloads

5. PROJECT DESIGN

5.1 Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



5.2 Solution & Technical Architecture:

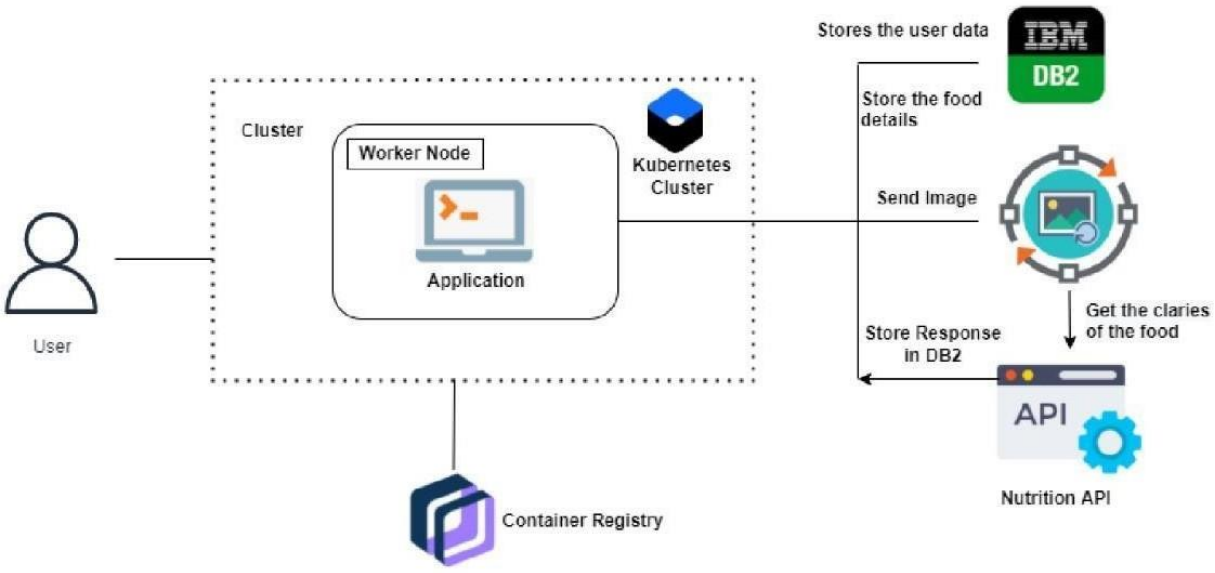


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	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	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used

Solution Architecture:

Solution architecture is a complex process – with many sub-processes -that bridges the gap between business problems and technology solutions. Its goals are to:

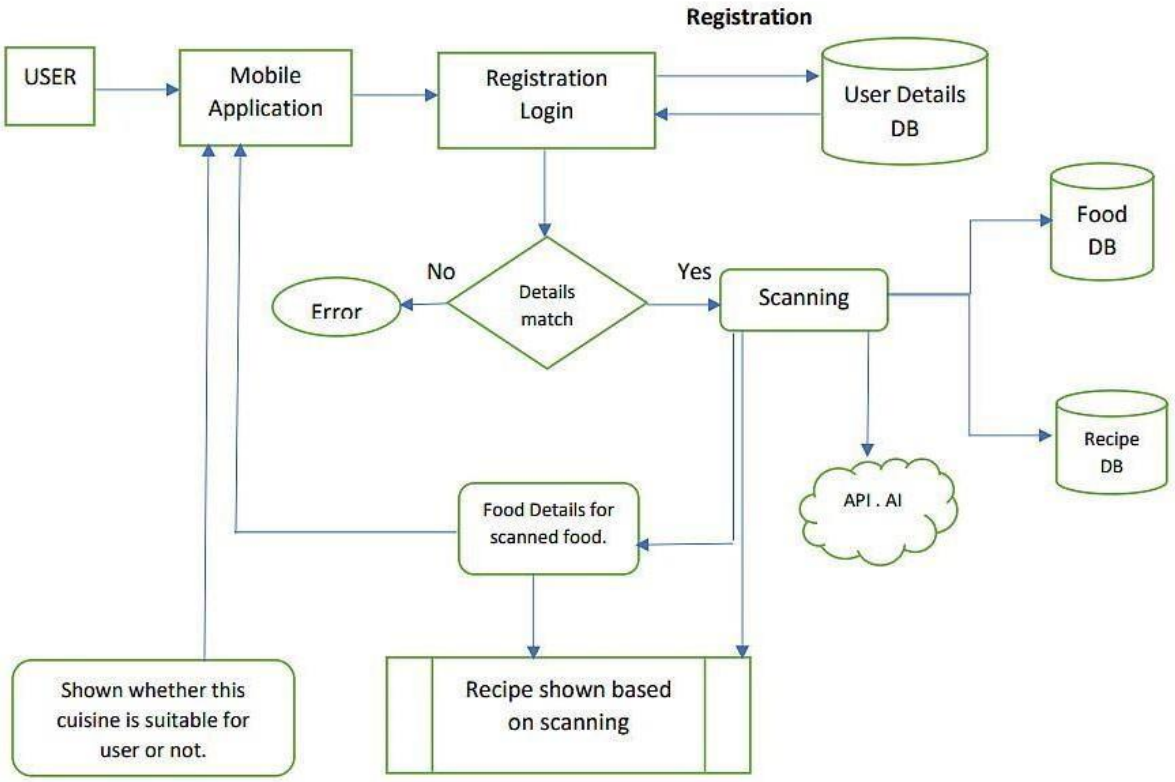
- To establish a smart fashion recommender application to recommend users product based on the user requirements.

- this architecture includes cloud service and collection of data, from which user can decide their desirable product.

- The bot will assist users in receiving product recommendation.

- The user will be able to view the product in their 3D model and decide accordingly.

Solution Architecture Diagram for Nutrition Assistant Application :



5.3 User Stories:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer	Registration	USN-1	As a user, I can register for the application by entering my Name, Age, Gender, E-mail, password, and confirming my password.	I can access my account / dashboard.	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application.	I can receive confirmation email & click confirm.	High	Sprint-1
	Profile updation	USN-3	As a user, I have to enter my height, weight and daily activity details.	I can update these information on Dashboard.	High	Sprint-1
	Login	USN-4	As a user, I can login to the application by entering E-mail and password.	I can access my account/ dashboard.	High	Sprint-1
	Dashboard	USN-5	As a user, I can upload or capture live image of the meal	I can get the nutritional value of that particular meal.	High	Sprint-2
		USN-6	As a user, I can track my daily calorie intake.	I can access my account/ Dashboard.	Medium	Sprint-2
Administrator	Maintain the Application	USN-7	Maintaining details for users.	I can access database.	High	Sprint-3

6 PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation:

Sprint Schedule, and Estimation:

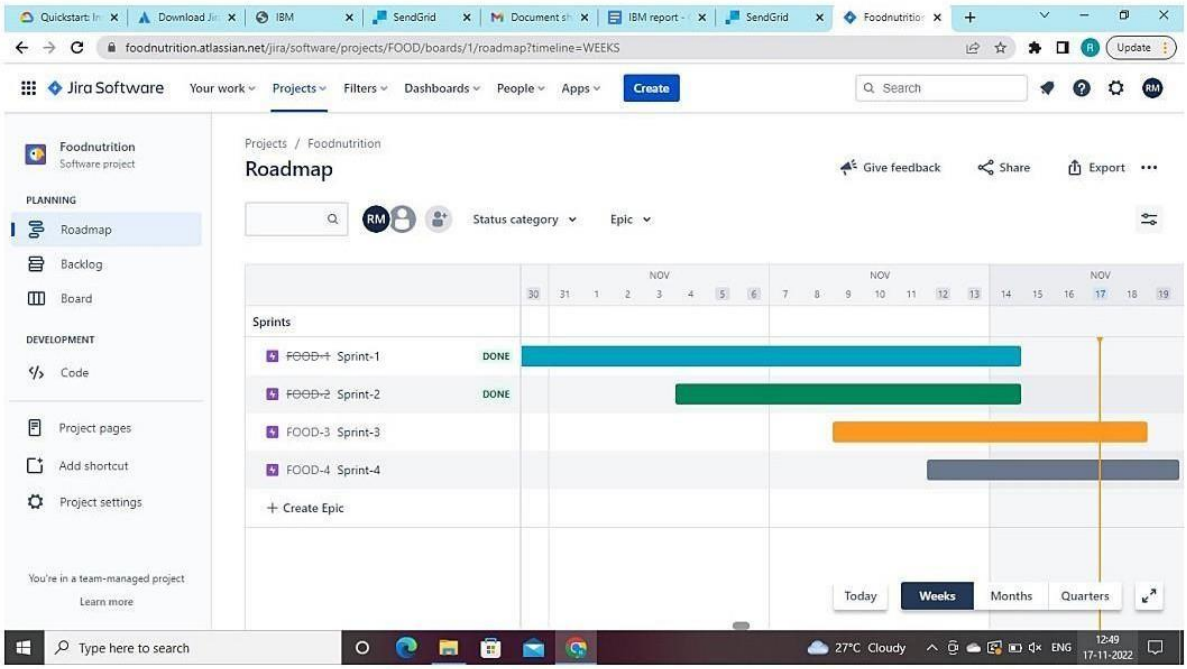
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	User Panel	USN-1	The user will login into the website and go through the products available on the website.	20	High	Akash V Ariharan A.M Jayasundar V Karuppaiah A
Sprint-2	Admin Panel	USN-2	The role of the admin is to check out the database about the stock and have a truck of all the things that the users are purchasing.	20	High	Akash V Ariharan A.M Jayasundar V Karuppaiah A
Sprint-3	Chat Bot	USN-3	The user can directly talk to Chatbot regarding the products. Get the recommendations based on information provided by the user	20	High	Akash V Ariharan A.M Jayasundar V Karuppaiah A
Sprint-4	Final Delivery	USN-4	Container of applications using docker Kubernetes and development the application. Create the documentation and final submit the application	20	High	Akash V Ariharan A.M Jayasundar V Karuppaiah A

6.2 Sprint Delivery Schedule:

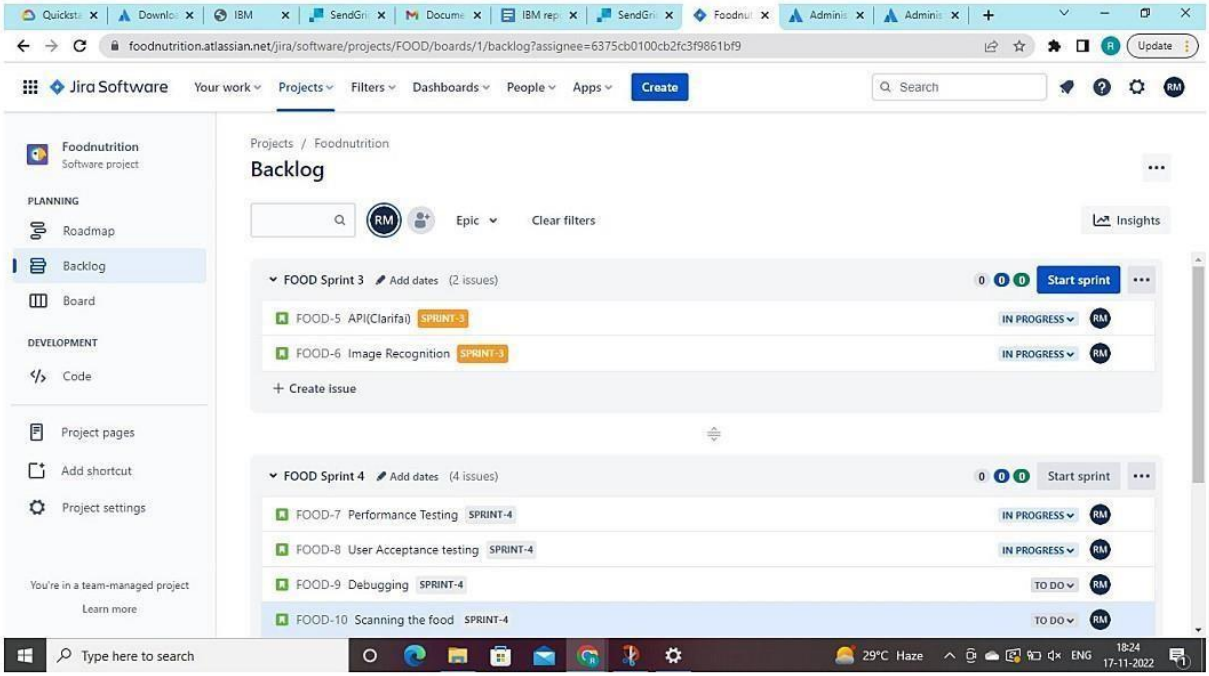
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 NOV 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 NOV 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 NOV 2022

6.3 Reports from JIRA:

JIRA Roadmap

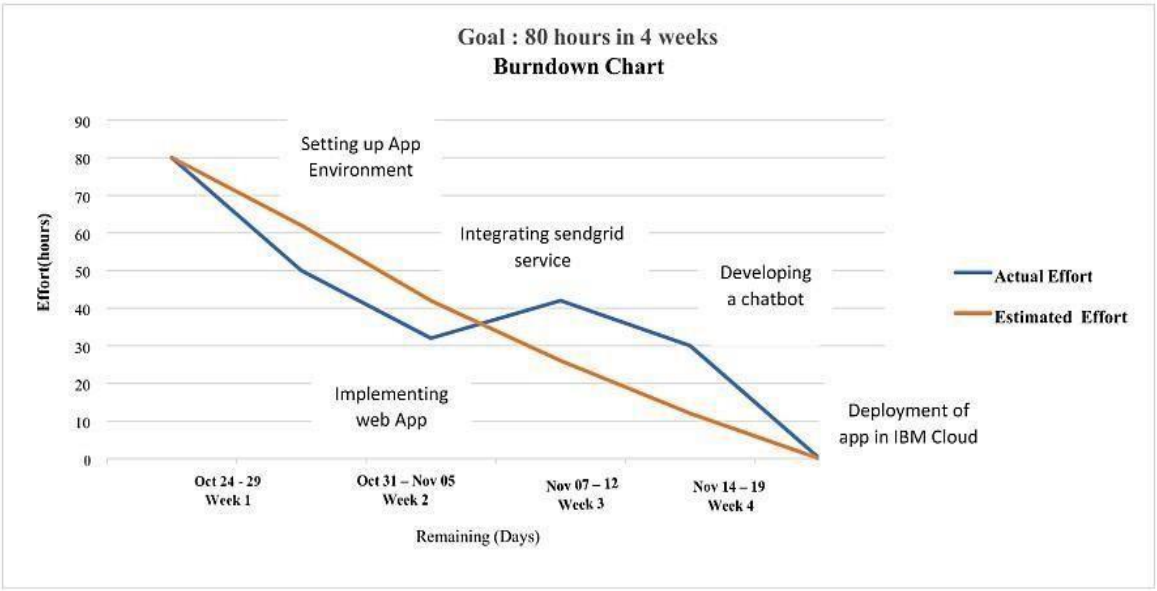


JIRA Backlog



Burndown Chart

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.



7. CODING & SOLUTIONING

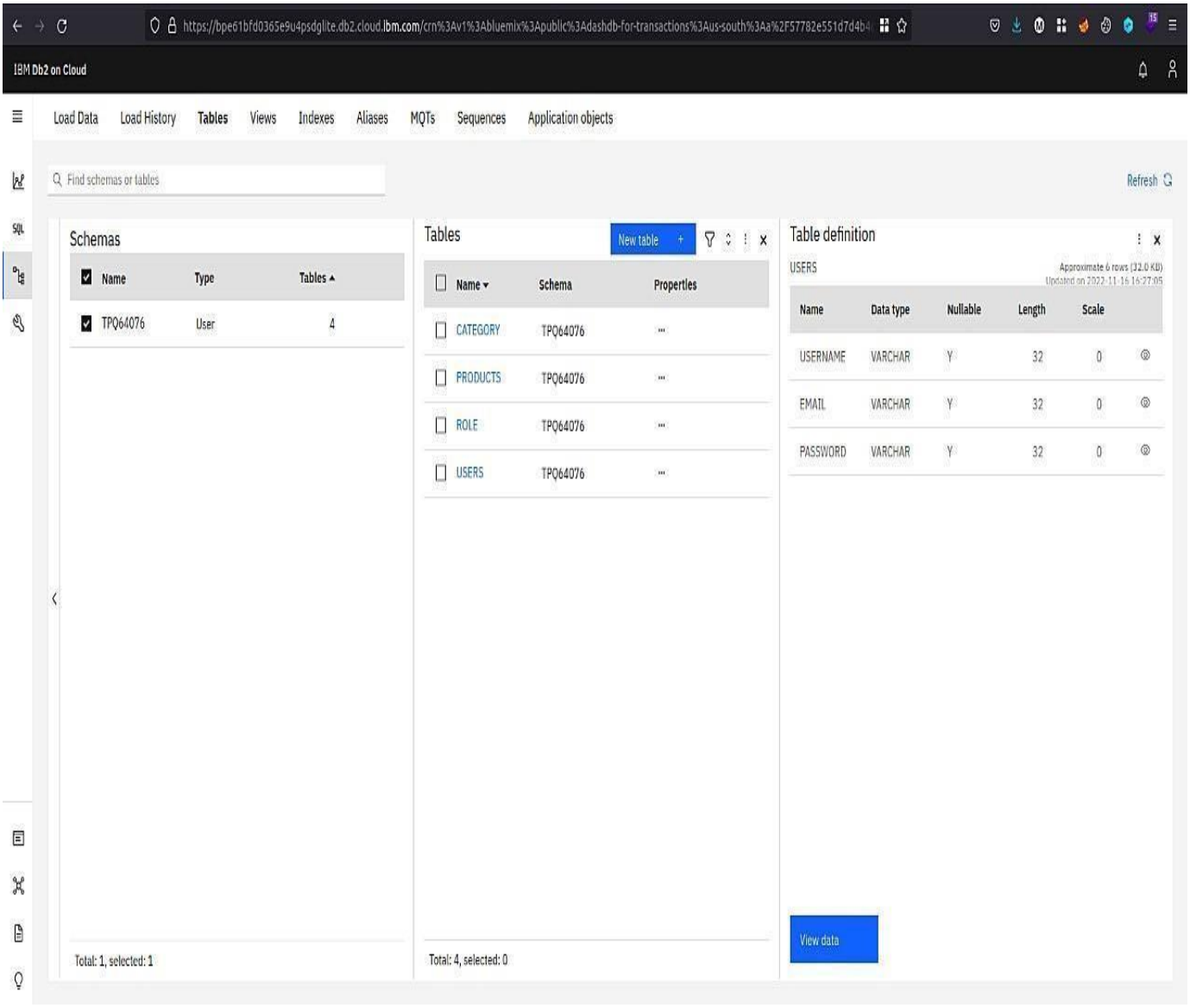
7.1 Feature 1:

```
from flask import Flask, render_template, request, redirect, url_for, session
from markupsafe import escape

import ibm_db
conn = ibm_db.pconnect("DATABASE=bludb;HOSTNAME=764264db-9824-4b7c-82df-40d1b13897c2.bs2io90l08kqb1od8lcg.databa
app = Flask(__name__)

@app.route("/")
@app.route("/sign_in.html")
def index():
    return render_template("sign_in.html")

@app.route('/home.html')
def home():
    return render_template("home.html")

@app.route('/reg_page.html')
def reg_page():
    return render_template("reg_page.html")

@app.route('/bmicalc.html')
def bmicalc():
    return render_template("bmicalc.html")

@app.route('/register',methods=['GET','POST'])
def register():
  if request.method == 'POST':
    name = request.form['name']
    address = request.form['date']
    city = request.form['phone']
    pin = request.form['email']
    password = request.form['password']
```

```
    avail = bool(Register.query.filter_by(email = email).first())
    avail1 = bool(Register.query.filter_by(password=password).first())
    if avail:
            return render_template('reg_page.html', result = "email already exist")
    elif avail1:
            return render_template('reg_page.html', result = "password already exist")

    else:
            query = Register(name = name, dob = dob, phone = phone, email = email, password = password)
            ibm_db.session.add(query)
            ibm_db.session.commit()
            return redirect("/sign_in.html")
  else:
        return redirect("/")
@app.route('/signin',methods=['GET','POST'])

def signin():
    if request.method == 'POST':
        name_v = request.form.get('name')
        password_v = request.form.get('password')
        login = Register.query.filter_by(name = name_v, password = password_v).first()
        # query = Admin(name='ESHWIN',password= "Jeffick")
        # ibm_db.session.add(query)
        # ibm_db.session.commit()

        if login is not None:
            return render_template('home.html', login_data= name_v)
        else:
            return render_template('sign_in.html', login_data="make sure  entered the correct password")
if __name__ == '__main__':
    app.run(debug = True)
```

7.2 Database Schema:

IBM Db2 ON CLOUD:



8. TESTING

8.1 Test Cases:

Test case ID	Feature Type	Component	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Commnets	TC for Automation(Y/N)	BUG ID	Executed By
LoginPage_TC_OO1	Functional	Home Page	Verify user is able to see the Login/Signup popup when user clicked on My account button	Need to open the website and should have an basic knowledge about that website	1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify login/Singup popup displayed or not	Executedlocalhost	Login/Signup popup should display	Working as expected	Pass		Yes		Vijaya R
LoginPage_TC_OO2	UI	Home Page	Verify the UI elements in Login/ Signup popup	Need to register your self with basic details such as email address	1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify login/Singup popup with below UI elements: a.email text box b.password text box c.Login button d.New customer? Create account link e.Last password? Recovery	Executedlocalhost	Application should show below UI elements: a.email text box b.password text box c.Login button with orange colour d.New customer? Create account link e.Last password? Recovery password link	Not Working as expected	Fail	Steps are not clear to follow	NO	BUG-1	Manju P
LoginPage_TC_OO3	Functional	Home page	Verify user is able to log into application with Valid credentials	in order to check for the valid credentials in login page. The user must sign in to the account	1.Enter URL(https://shopenzer.com/) and click go 2.Click on My Account dropdown button 3.Enter Valid username/email in Email text box 4.Enter valid password in		User should navigate to user account homepage	Working as expected	pass		ges		Shemriya X
LoginPage_TC_OO4	Functional	Login page	Verify user is able to log into application with InValid credentials	verify the login details with signin details.	1.Enter URL(https://shopenzer.com/) and click go 2.Click on My Account dropdown button 3.Enter InValid username/email in Email text box	Username: shemri@gmail password: shemri@123	Application should show 'Incorrect email or password ' validation message.	working as expected	pass		Yes		Retna M
LoginPage_TC_OO4	Functional	Login page	Verify user is able to log into application with InValid credentials		1.Enter URL(https://shopenzer.com/) and click go 2.Click on My Account dropdown button 3.Enter Valid username/email in Email text box 4.Enter Invalid password in password	Username: retna@gmail.com password: retna@123	Application should show 'Incorrect email or password ' validation message.HIIHII	Working as expected	pass		Yes		Retna M
LoginPage_TC_OO5	Functional	Login page	Verify user is able to log into application with InValid credentials		1.Enter URL(https://shopenzer.com/) and click go 2.Click on My Account dropdown button 3.Enter InValid username/email in Email text box	Username: Vijaya password: vij@123	Application should show 'Incorrect email or password ' validation message.	Working as expected	pass		Yes		Vijaya R

8.2 User Acceptance Testing:

UAT Execution & Report

Submission

Purpose of Document

The purpose of this document is to briefly explain the test coverage and open issues of the Smart Fashion Recommender Application project at the time of the release to User Acceptance Testing (UAT).

Defect Analysis

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Model	1	2	1	0	3
Duplicate	1	0	0	0	1
External	2	0	0	1	3
Fixed	7	2	3	0	12
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	1	0	0	1
Totals	11	5	6	2	2 3

Test Case Analysis

This report shows the number of test cases that have passed, failed, and untested

Section	Total Cases	Not Tested	Fail	Pass
Hypothesis Condition	2	0	0	2
Train Test Split	5	2	0	3
Hyper Tuning Parameter Test	4	0	0	4
Confusion Matrix	1	0	0	1
Logistic Regression	1	0		1
Final Report Output	6	2	0	4
SVM Model	1	0	0	1

9. RESULTS

9.1 Performance Metrics:

Locust Test Report

During: 11/14/2022, 10:54:06 AM - 11/14/2022, 10:56:49 AM

Target Host: http://127.0.0.1:5000

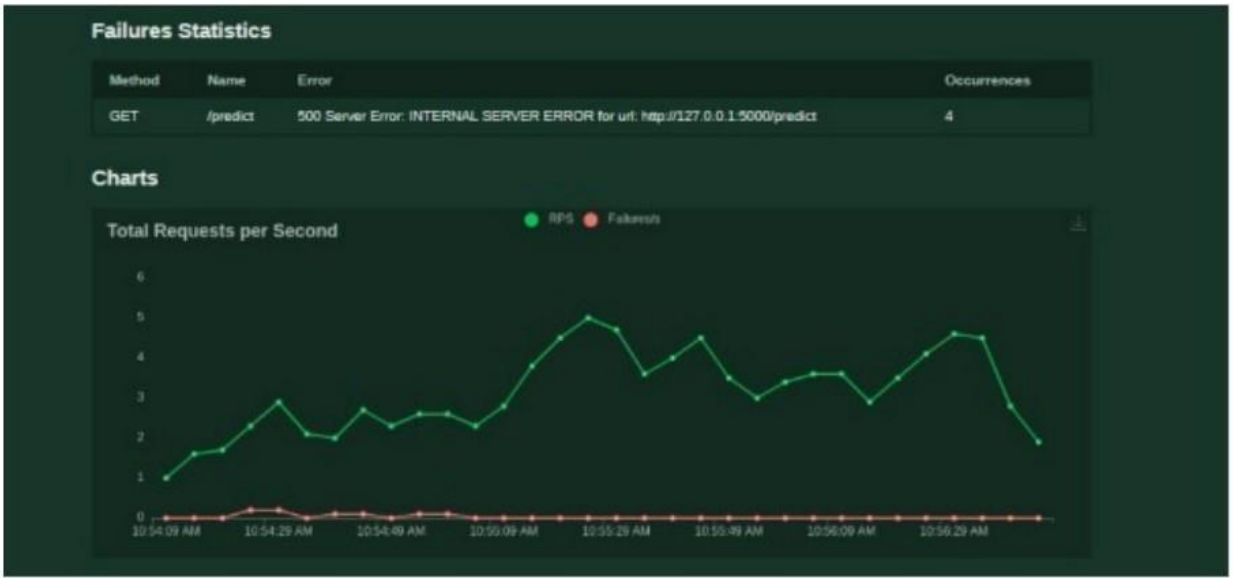
Script: locust.py

Request Statistics

Method	Name	# Requests	# Fails	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	RPS	Failures/s
GET	/	151	0	7	3	18	6975	0.9	0.0
GET	/image1	156	0	6	3	25	7090	1.0	0.0
GET	/intro	159	0	6	3	18	8317	1.0	0.0
GET	/predict	42	4	15431	2982	95299	6335	0.3	0.0
	Aggregated	**508**	**4**	**1281**	**3**	**95299**	**7377**	**3.1**	**0.0**

Response Time Statistics

Method	Name	50%ile (ms)	60%ile (ms)	70%ile (ms)	80%ile (ms)	90%ile (ms)	95%ile (ms)	99%ile (ms)	100%ile (ms)
GET	/	6	7	9	10	11	12	14	18
GET	/image1	5	6	7	8	10	11	16	26
GET	/intro	6	6	7	9	11	11	18	18
GET	/predict	7500	11000	17000	21000	40000	49000	95000	95000
	Aggregated	**6**	**7**	**9**	**10**	**13**	**6300**	**31000**	**95000**



Failures Statistics

Method	Name	Error	Occurrences
GET	/predict	500 Server Error: INTERNAL SERVER ERROR for url: http://127.0.0.1:5000/predict	4

Charts

Total Requests per Second

RPS Failures/s

6
5
4
3
2
1
0

10:54:09 AM 10:54:29 AM 10:54:49 AM 10:55:09 AM 10:55:29 AM 10:55:49 AM 10:56:09 AM 10:56:29 AM

10. ADVANTAGES & DISADVANTAGES

Advantages:

The major advantage of this tool is that they can help us to eat healthier.

- It is also easy to track our progress.
- It provides general awareness of nutrients in food.
- Keep you motivated.

● All in one health tool.

Disadvantages:

The tool can be quite expensive as it requires cameras and other expensive devices to capture images and process it.

● These tool may not always be 100% accurate.

● We might avoid cetain healthy foods that are difficult to add into the food tracker.

11. CONCLUSION

In this project we developed a tool which recognises our health and calorific value.It helps us to eat nutritional food.The diet chart will be provided to individual users based on user's calorific value.It allows the users to upload their food images and give suggestion to that food. It also does not require the user to have any device on them to use it. Further this technology can be extended to other industries like it can be used by presenters, by teachers for show images in the classroom, etc.

12. FUTURE SCOPE

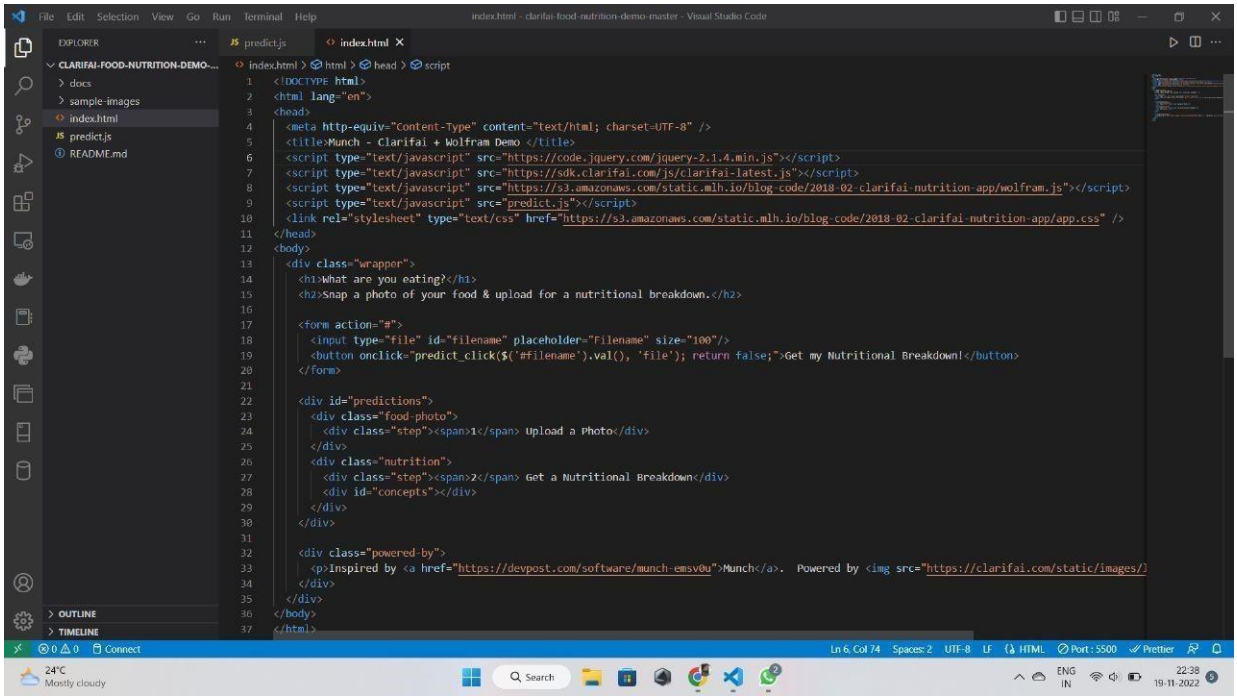
The tool can be made quicker by increasing the recognition speed.

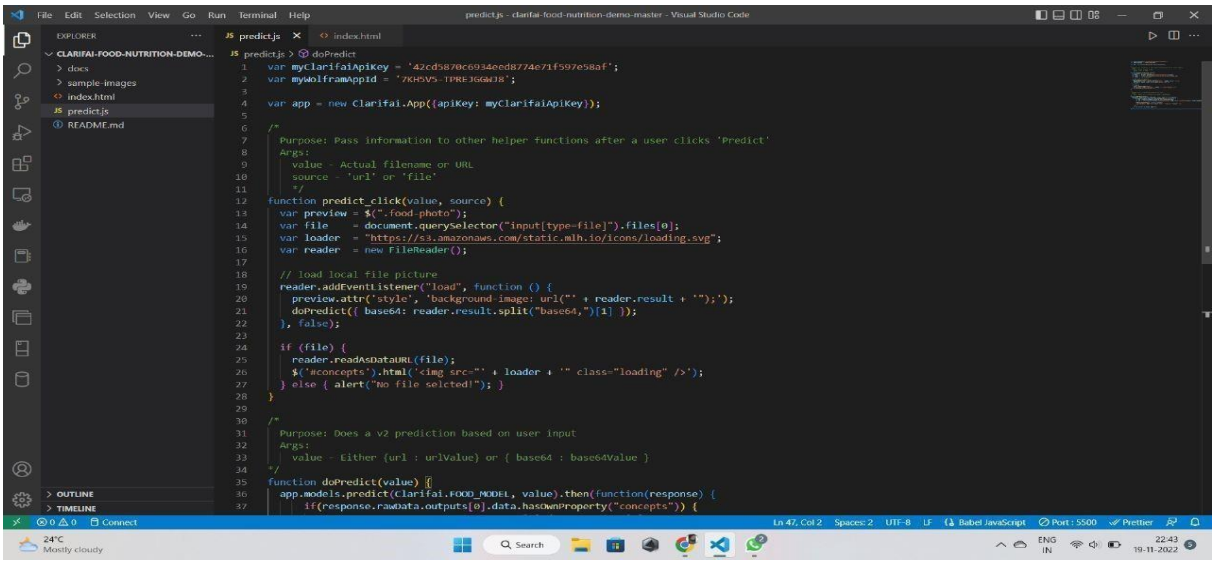
● They can work with a licensed healthcare provider to help individuals with previously diagnosed disease recognize biochemical imbalances and toxicity which lead to poor health. ● Voice commands can also be added to further increase the functionality.

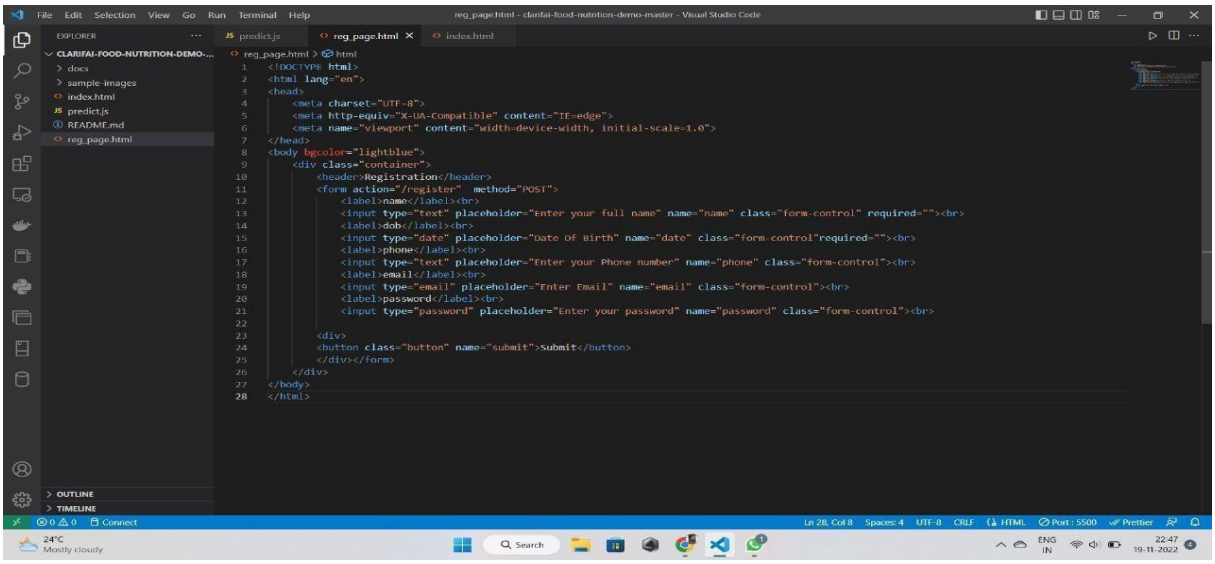
Insummary,ourstudyshowsdifferentchallengesthathealth-focused nutritional assistance systems face when being used in Our findings can be used to improve future system term. impact in thelong regardingtheir the long-term and to postulate more long-term evaluation of recommender approaches.

13. APPENDIX

Source Code:




File Edit Selection View Go Run Terminal Help
predict.js - clarifai-food-nutrition-demo-master - Visual Studio Code
EXPLORER
CLARIFAI-FOOD-NUTRITION-DEMO-...
docs
sample-images
index.html
predict.js
README.md
predict.js
index.html
predict.js > doPredict
var myClarifaiApiKey = '42cd5870c6934eed8774e71f597e58af';
var myWolframAppId = '7KH5V5-TPRE3GGWJ8';
var app = new Clarifai.App({apiKey: myClarifaiApiKey});
/*
Purpose: Pass information to other helper functions after a user clicks 'Predict'
Args:
value - Actual filename or URL
source - 'url' or 'file'
*/
function predict_click(value, source) {
var preview = $(".food-photo");
var file = document.querySelector("input[type=file]").files[0];
var loader = "https://s3.amazonaws.com/static.mlh.io/icons/loading.svg";
var reader = new FileReader();
// load local file picture
reader.addEventListener("load", function () {
preview.attr('style', 'background-image: url("' + reader.result + '");');
doPredict({ base64: reader.result.split("base64,")[1] });
}, false);
if (file) {
reader.readAsDataURL(file);
$('#concepts').html('');
} else { alert("No file selcted!"); }
}
/*
Purpose: Does a v2 prediction based on user input
Args:
value - Either {url : urlValue} or { base64 : base64Value }
*/
function doPredict(value) {
app.models.predict(Clarifai.FOOD_MODEL, value).then(function(response) {
if(response.rawData.outputs[0].data.hasOwnProperty("concepts")) {
OUTLINE
TIMELINE
0 0 Connect
Ln 47, Col 2 Spaces: 2 UTF-8 LF Babel JavaScript Port : 5500 Prettier
24°C
Mostly cloudy
Search
ENG
IN
22:43
19-11-2022

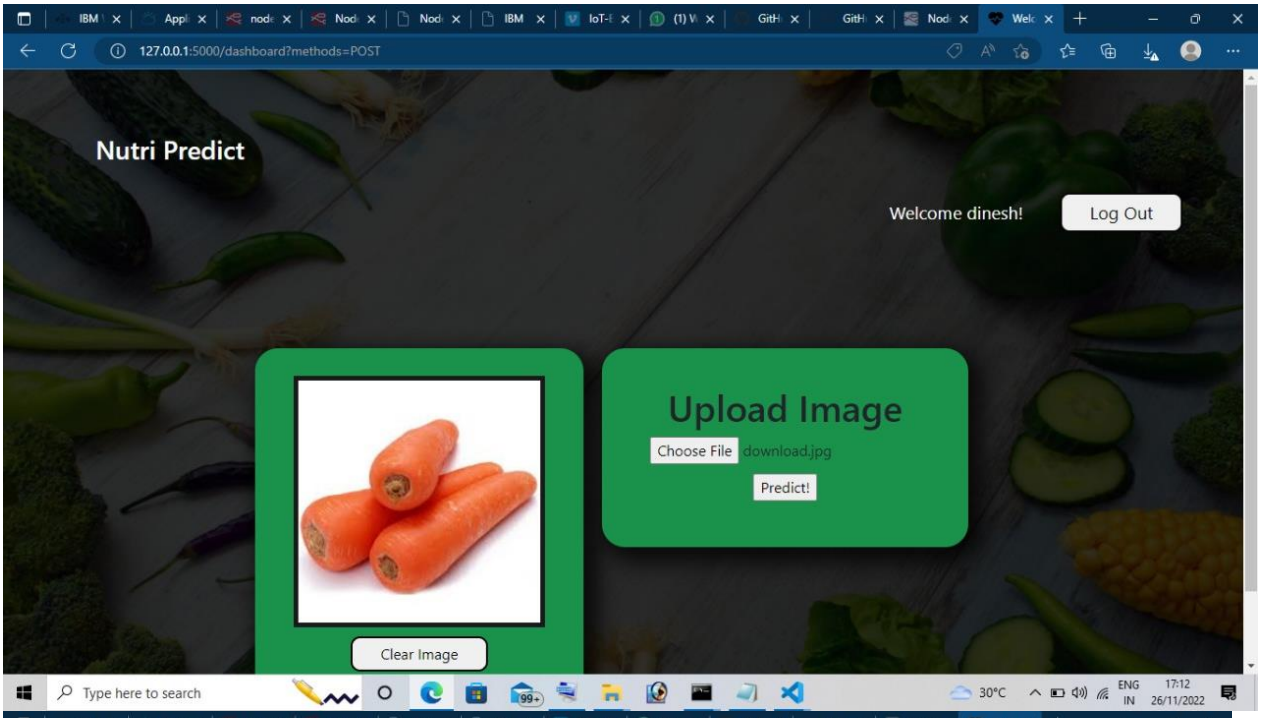

File Edit Selection View Go Run Terminal Help
reg_page.html - clarifai-food-nutrition-demo-master - Visual Studio Code
EXPLORER
CLARIFAI-FOOD-NUTRITION-DEMO-...
docs
sample-images
index.html
predict.js
README.md
reg_page.html
predict.js
reg_page.html
index.html
reg_page.html > html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body bgcolor="lightblue">

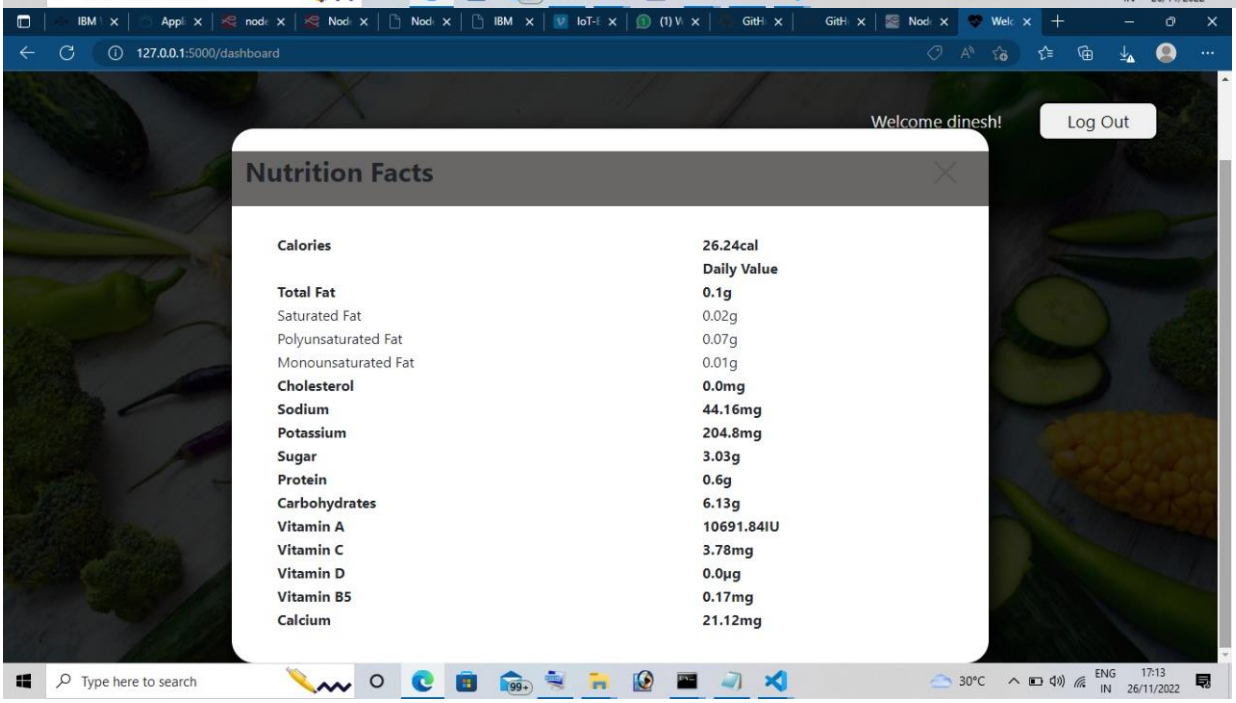
<header>Registration</header>
<form action="/register" method="POST">
<label>name</label>
<input type="text" placeholder="Enter your full name" name="name" class="form-control" required="">
<label>dob</label>
<input type="date" placeholder="Date Of Birth" name="date" class="form-control"required="">
<label>phone</label>
<input type="text" placeholder="Enter your Phone number" name="phone" class="form-control">
<label>email</label>
<input type="email" placeholder="Enter Email" name="email" class="form-control">
<label>password</label>
<input type="password" placeholder="Enter your password" name="password" class="form-control">

<button class="button" name="submit">Submit</button>
</form>

</body>
</html>
OUTLINE
TIMELINE
0 0 Connect
Ln 28, Col 8 Spaces: 4 UTF-8 CRLF HTML Port : 5500 Prettier
24°C
Mostly cloudy
Search
ENG
IN
22:47
19-11-2022

OUTPUT:


127.0.0.1:5000/dashboard?methods=POST
Nutri Predict
Welcome dinesh!
Log Out
Upload Image
Choose File
download.jpg
Predict!
Clear Image
Type here to search
30°C
ENG
IN
17:12
26/11/2022


127.0.0.1:5000/dashboard
Welcome dinesh!
Log Out
Nutrition Facts
Calories 26.24cal
Daily Value
Total Fat 0.1g
Saturated Fat 0.02g
Polyunsaturated Fat 0.07g
Monounsaturated Fat 0.01g
Cholesterol 0.0mg
Sodium 44.16mg
Potassium 204.8mg
Sugar 3.03g
Protein 0.6g
Carbohydrates 6.13g
Vitamin A 10691.84IU
Vitamin C 3.78mg
Vitamin D 0.0µg
Vitamin B5 0.17mg
Calcium 21.12mg
Type here to search
30°C
ENG
IN
17:13
26/11/2022

GitHub & Project Demo Link :

GitHub Link:
https://github.com/IBM-EPBL/IBM-Project-42863-1660710507

DEMO VIDEO LINK:

https://youtu.be/WpIA0AYK8bM