Project report

IBM

Nutrition Assistant

[Modern Web Application]

Project by,

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INTRODUCTION

1. INTRODUCTION

1.1 Project Overview

With the variety of healthy eating options suggested by nutrition experts and fitness models, people are persuaded to adopt diets that promise interesting benefits and great change. However, despite the difficulty of strictly adhering to one's dietary choices, it is difficult to find the best diet among all promising options. There are many mobile apps that allow people to track their calories, food, and exercise so they can maintain their diet, but these apps complicate the food entry process. Nutrition Assistant Application helps you track the food you consume and identify unhealthy eating habits. Using image recognition trained to recognize different types of food, it recognizes each food entry by recognizing pictures of food taken and filling in the appropriate nutritional information which make it much easier.

1.2 Purpose

The main objective of this project is to track the calories of the food which we intake everyday. We consume food everyday without even knowing about its nutritional values.

Proper nutrition has also become more important as interest in fitness is on the rise these days. But good foodies and easy access challenge people's ability to stick to their diets. While there are many ways to track food and calories, maintaining a consistent record can be difficult without solving problems. Despite the many food logging applications, tracking meals can still be difficult for many people. Using our application people can easily identify

the calories and nutritional values of food.

LITERATURE SURVEY

2. LITERATURE SURVEY

2.1 Existing Problem

In the existing application, only calories of the food will be identified. In our application calories of the food along with its nutritional values and its ingredients can be identified. Apart from the nutritional values BMI can also be calculated in our application. Using Rapid API, correct nutritional values can be predicted. This makes our application better than the already existing applications.

2.2 Survey Work

1. Ingredient-Guided Region Discovery and Relationship Modelling for Food CategoryIngredient Prediction [Wang Z, Min W, Li Z, Kang L, Wei X, Wei X, Jiang S,2022]

Automatic nutrition estimation is facilitated by recognizing categories and their composition from food images. This is important for various health-related applications such as food intake management and healthy eating recommendations. Since food comprises ingredients, discovering the visual regions associated with ingredients helps us identify the appropriate category and ingredients. In addition, relationships of various components such as co-occurrence and exclusion are also important for this task. To this end, we propose an ingredient-oriented multitasking framework for joint learning of food categories and ingredients for simultaneous food recognition and ingredient prediction. This framework mainly involves learning an ingredient dictionary to discover visual regions related to ingredients and creating ingredient-based semantic visual diagrams to model ingredient relationships. Construct a component dictionary to capture multiple component regions and get corresponding mapping maps to push component-related visual regions. Then, we combine the features of regions belonging to the same component to improve classification performance while identifying components more accurately. Component relation modeling uses visual component representations as nodes and semantic similarities between component embeddings as edges to build a component graph and learn their relationships via graph convolutional networks to generate labels. Form embeddings and visual features interact with each other to improve performance. Finally, the fused traits are used by both componentoriented domain traits and component-relational traits in subsequent joint multitasking category-component learning. An extensive evaluation of three popular benchmark data sets (ETH Food-101, Vireo Food-172, and ISIA Food-200) demonstrates the effectiveness of this technique. Another visualization of the component assignment map and spotlight map also shows the spread of our method.

2. Effectiveness of the Nutritional App "MyNutriCart" on Food Choices Related to Purchase and Dietary Behaviour: A Pilot Randomized Controlled Trial [Cristina Palacios, Michelle Torres, Desiree López, Maria A. Trak-Fellermeier, Catherine Coccia and Cynthia M. Pérez,2018]

We will verify the effects of the smartphone app "MyNutriCart" for creating a healthy shopping list on diet and weight. METHODS: A randomized pilot study was conducted to test the efficacy of using the MyNutriCart app and face-to-face counseling sessions (traditional group) in Hispanic overweight and obese adults. Home grocery shopping behavior, three of his 24-hour grocery recalls, Tucker's semiquantitative food frequency questionnaire (FFQ), and body weight was assessed at baseline and at his 8 weeks. Statistical analyses included t-tests, Poisson regression models, and analysis of covariance (ANCOVA) using STATA. RESULTS:

His 24 participants in the conventional group and 27 participants in the app group completed the study. Most participants were female (>88%), had a mean age of 35.3 years, had a higher education degree (>80%), had a family size of 3 or more, and had a mean baseline body mass index (BMI) of 34. .5kg/m2. Home purchases of vegetables and whole grains, individual intake of refined grains, healthy proteins, whole dairy products, legumes, 100% fruit juices, and sweets and snacks improved significantly. Also, individual consumption frequencies of fruit and cold cut/cured products within the intervention group ($p < 0.05$). However, no significant difference was found between the groups. No weight change was observed. Using the "MyNutriCart" App there was a significant improvement in eatingrelated behaviors compared to baseline and no significant difference compared to the conventional group. Compared to face-to-face counseling, using an app can save costs and

resources, making it a good option for interventionists.

3. Do Image-Assisted Mobile Applications Improve Dietary Habits, Knowledge, and Behaviours in Elite Athletes? A Pilot Study [Anne Simpson, Luke Gemming, Dane Baker, and Andrea Braakhuis,2017]

To date, there is little research on the best ways to educate and encourage dietary changes in athletes. Basic. MealLogger® is a smartphone application that incorporates the use of image-based nutrition tracking and social media features to provide a platform for delivering personalized in-app feedback, peer support, and nutrition education materials to individuals or groups. This study measured the feasibility of MealLogger®. New Zealand elite men's field hockey players (n = 17) aged 18–20 years were included to improve athlete knowledge and nutritional behavior. During the 6-week intervention period, participants were instructed to record pictures of their meals three days a week and were given individualized dietary feedback on the recorded meals. Weekly nutrition education fact sheets and videos are now available through the app. Nutritional knowledge increased moderately from baseline (%Pre 54.7 ± 14.3; %Post 61.1 ± 11.45, p = 0.01). Participants reported having a very positive experience using the app (8/10), with 82.3% intending to make positive dietary changes based on in-app training. All participants preferred this method to traditional nutritional analysis methods. Image-based use Applications like MealLogger® are an effective approach to monitoring food intake and providing training to optimize nutritional behavior in elite athletes.

4. Online Behavioural Screener with Tailored Obesity Prevention Messages: Application to a Paediatric Clinical Setting – [Sarah Chau, Samantha Oldman, Sharon R. Smith, Carolyn A. Lin, Saba Ali, and Valerie B. Duffy,2021]

Obesity prevention includes promoting healthy eating and physical activity in all children. Can this technology be used to study children's health behaviors and deliver theorybased, user-tailored messages to short clinical encounters? Acceptance of Paediatric-Tailored Online Surveys (PALS) We assessed the effectiveness and usefulness and tailored the messages among children who did not require urgent care in the pediatric emergency department (PED). 245 children (mean age = 10 years, racial/ethnic diversity, 34% overweight/obese by measurement index, 25% of families reporting food insecurity) and their parents/carers participated Did. Each reported on their child's activity and behavior using online PALS, sending 2-3 messages tailored to their responses to motivate improved behavior or reinforce healthy behavior. Received (for the purpose of elaboration and possibility of hyper theoretical models). Most children and parents (>90%) agreed that PALS was easy to complete and made them think about themselves and their child's behavior. Her PALS responses in children appeared reasonable (moderate to good intraclass parent-child correlations). Most children and parents (over 75%) reported that customized messages were helpful in improving or maintaining desired behaviors. Neither the type of message (motivation/reinforcement) nor the positive response varied significantly with the child's weight or family food safety status. In summary, children and parents found PALS to be acceptable and useful with customized messages. Message types and replies help focus on short clinical encounters.

5. A Scientific Overview of Smartphone Applications and Electronic Devices for Weight Management in Adults – [Sophie Laura Holzmann and Christina Holzapfel,2019

Overweight and obesity are rising worldwide. Therefore, we describe new digital tools for improving health-related behaviors. The use of smartphone applications (apps) and wearables (such as activity trackers) for self-monitoring diet and physical activity can affect weight. Scientific evaluation of weight management apps and wearables is currently limited. Several intervention studies have already investigated the effectiveness of the aforementioned digital weight management tools, but no clear recommendations for clinical and therapeutic use are available. In addition to the lack of long-term randomized controlled trials, there are also concerns about the scientific quality of apps and wearables (such as the lack of standards for development and evaluation). Therefore, the current work aims to (1) address the challenges and concerns associated with the current digital healthcare market and (2) select intervention studies using apps and activity trackers for weight-related outcomes. and for a good overview. Based on the cited literature, the effectiveness of apps and wearables for weight management is evaluated. Finally, we need to derive recommendations for practical action.

6. Feasibility of Reviewing Digital Food Images for Dietary Assessment among Nutrition Professionals [Ayob Ainaa Fatehah, Bee Koon Poh, Safii Nik Shanita, and Jyh Eiin Wong.2018]

The effectiveness of image-aided and image-based nutritional assessment methods depends on the accuracy of portion size estimation based on food images. However, little is known about the ability of nutritionists to assess food intake based on digital food images. This study aimed to examine the performance of nutritionists in reviewing food images for food identification and portion size estimation. Thirty-eight nutritionists, nutritionists, and nutritional researchers participated in this study. Through an online questionnaire, the accuracy of participants' food identification and portion size estimation was tested from two sets of digital food images presenting meals in plates (image PL) and bowls (image BW). Participants compared the food identification accuracy (75.3 ± 17.6 vs 68.9 ± 17.1%) and the percentage difference in portion size estimation (44.3 ± 16.6 vs 47.6 ± 21.2%). Raw vegetable weight was significantly underestimated (-45.1 ± 22.8% vs -21.2 ± 37.4%) and beverage weight was significantly overestimated (40.1 ± 45.8% vs -21.2 ± 37.4%). 26.1 ±
32.2) in both images. Fewer than one-third of her participants estimated portion sizes within 10% of their actual weight for Image PL (23.7%) and Image BW (32.3%). The accuracy of nutritionists when reviewing food images could be further improved by training them to better recognize portion sizes through images.

7. Use of mobile applications to improve nutrition behavior: A systematic review – [Rathi Paramastri, Satwika Arya Pratama, Dang Khanh Ngan Ho, Sintha Dewi Purnamasari, Afrah Zaki Mohammed, Cooper J Galvin, Yi-Hsin Elsa Hsu, Afifa Tanweer, Ayesha Humayun, Mowafa Househ, Usman Iqbal, 2020]

Mobile applications can be effectively used for food intake assessment, physical activity monitoring, behavior modification, and nutrition education. The purpose of this review is to determine the effectiveness of mobile applications in improving eating behavior through a systematic literature review. The validation protocol was registered with PROSPERO: registration number CRD42018118809 and followed PRISMA guidelines. This review included original articles involving mobile electronic devices for improving food intake, physical activity, and weight management in adults. We obtained data from January 2010 to December 2018 using PubMed, Web of Science, Excerpta Medica Database (Embase), and Cumulative Index to Nursing and Allied Health Literature (CINAHL) as data sources. Authors screened titles and abstracts separately and then full articles to obtain articles meeting the inclusion criteria. A database search yielded 2962 records. After removing duplicates and analyzing the full text of articles, a total of 8 original articles were displayed. Two articles showed clear bias and were not included in the findings or discussion. The remaining six articles with low to moderate risk of bias were included in this systematic review. The three included studies were randomized controlled trials (RCTs) and each included more than 180 participants. His other three studies were a nested study, a casecontrol study, and a pilot RCT with 36, 162, and 24 participants, respectively. All major RCTs and small case-control trials found significant improvements in some of the nutritional health outcomes measured. Two other studies found modest improvements in outcomes measured between groups. This study highlights the potentially significant health benefits that can be achieved through nutritional interventions supported by mobile health applications. Some of these studies required vendors to spend significant money and time to use the applications. Further studies, possibly using multiple intervention arms, are needed to compare the components essential to health benefits observed across programs.

2.3 Problem Statement Definition

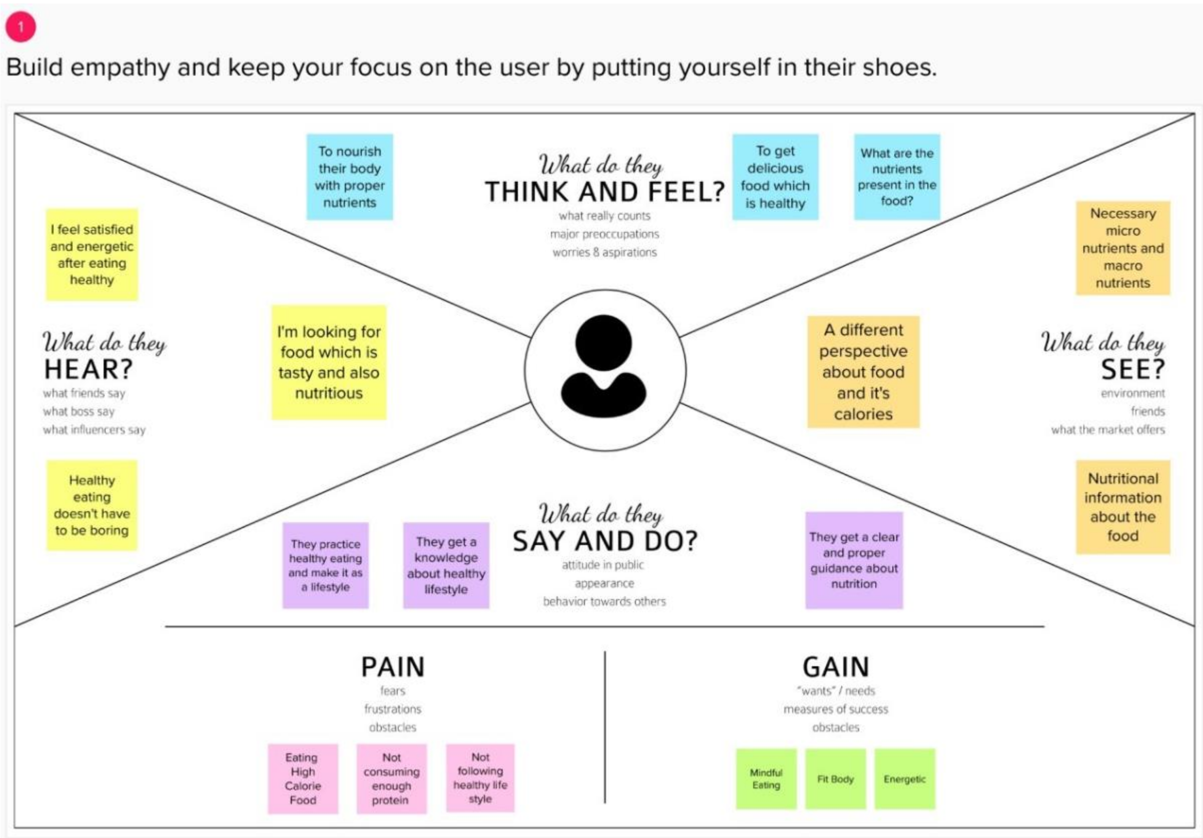
Due to the ignorance of healthy food habits, obesity rates are increasing at an alarming speed, and this is reflective of the risks to people’s health. People need to control their daily calorie intake by eating healthier foods, which is the most basic method to avoid obesity. However, although food 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 analyze real-time images of a meal and analyze it for nutritional content which can be very handy and improves the dietary habits, and therefore, helps in maintaining a healthy lifestyle.

This project aims at building a web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food. 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.

IDEATION & PROPOSED SOLUTION

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



1 Build empathy and keep your focus on the user by putting yourself in their shoes.

What do they THINK AND FEEL?
what really counts
major preoccupations
worries 8 aspirations

- To nourish their body with proper nutrients
- I'm looking for food which is tasty and also nutritious
- To get delicious food which is healthy
- What are the nutrients present in the food?

What do they HEAR?
what friends say
what boss say
what influencers say

- I feel satisfied and energetic after eating healthy
- Healthy eating doesn't have to be boring

What do they SEE?
environment
friends
what the market offers

- Necessary micro nutrients and macro nutrients
- A different perspective about food and it's calories
- Nutritional information about the food

What do they SAY AND DO?
attitude in public
appearance
behavior towards others

- They practice healthy eating and make it as a lifestyle
- They get a knowledge about healthy lifestyle
- They get a clear and proper guidance about nutrition

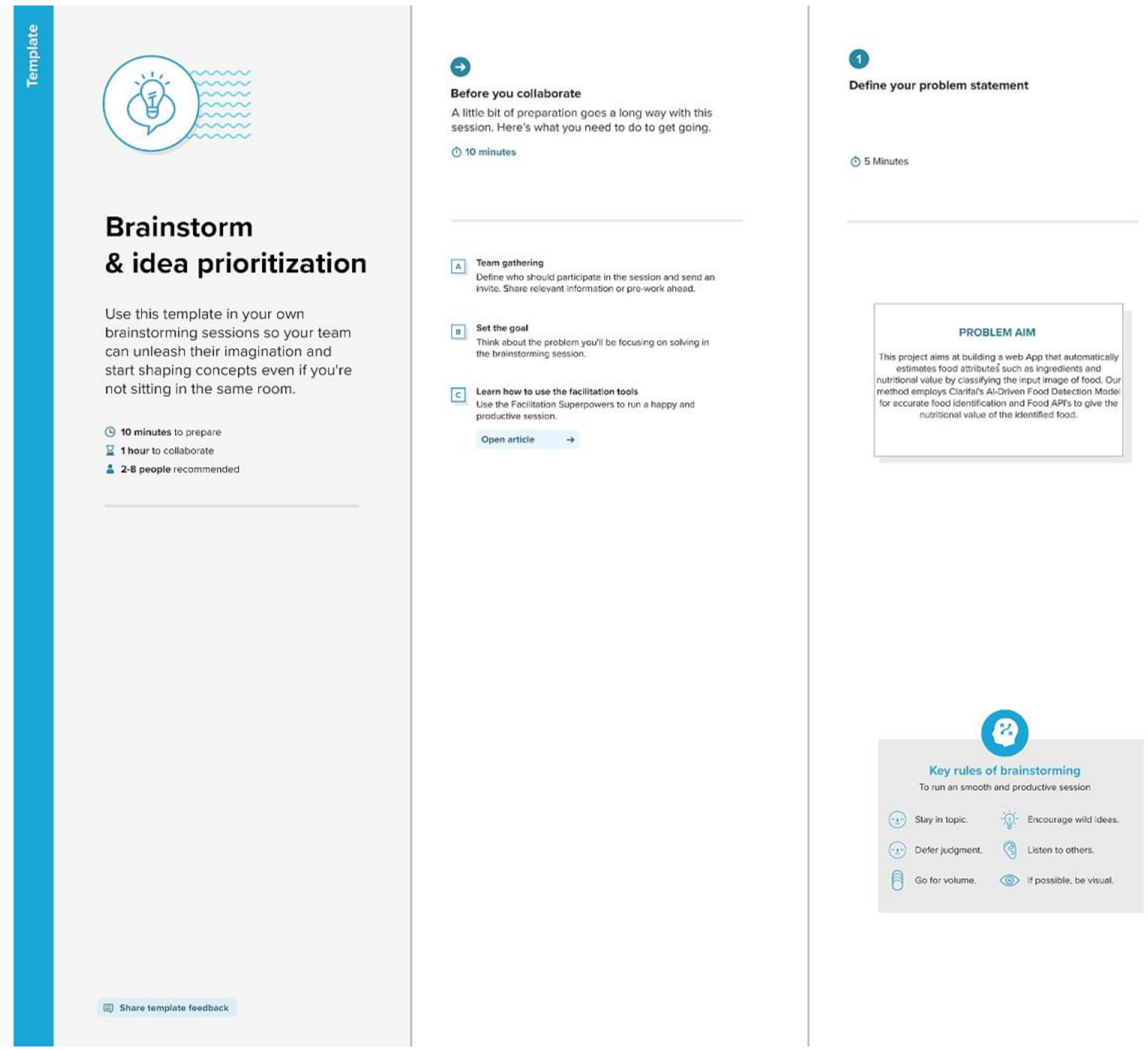
PAIN
fears
frustrations
obstacles

- Eating High Calorie Food
- Not consuming enough protein
- Not following healthy life style

GAIN
"wants" / needs
measures of success
obstacles

- Mindful Eating
- Fit Body
- Energetic

3.2 Ideation & Brainstorming



Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- **10 minutes** to prepare
- **1 hour** to collaborate
- **2-8 people** recommended

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

A **Team gathering**
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

B **Set the goal**
Think about the problem you'll be focusing on solving in the brainstorming session.

C **Learn how to use the facilitation tools**
Use the Facilitation Superpowers to run a happy and productive session.

1 **Define your problem statement**

5 Minutes

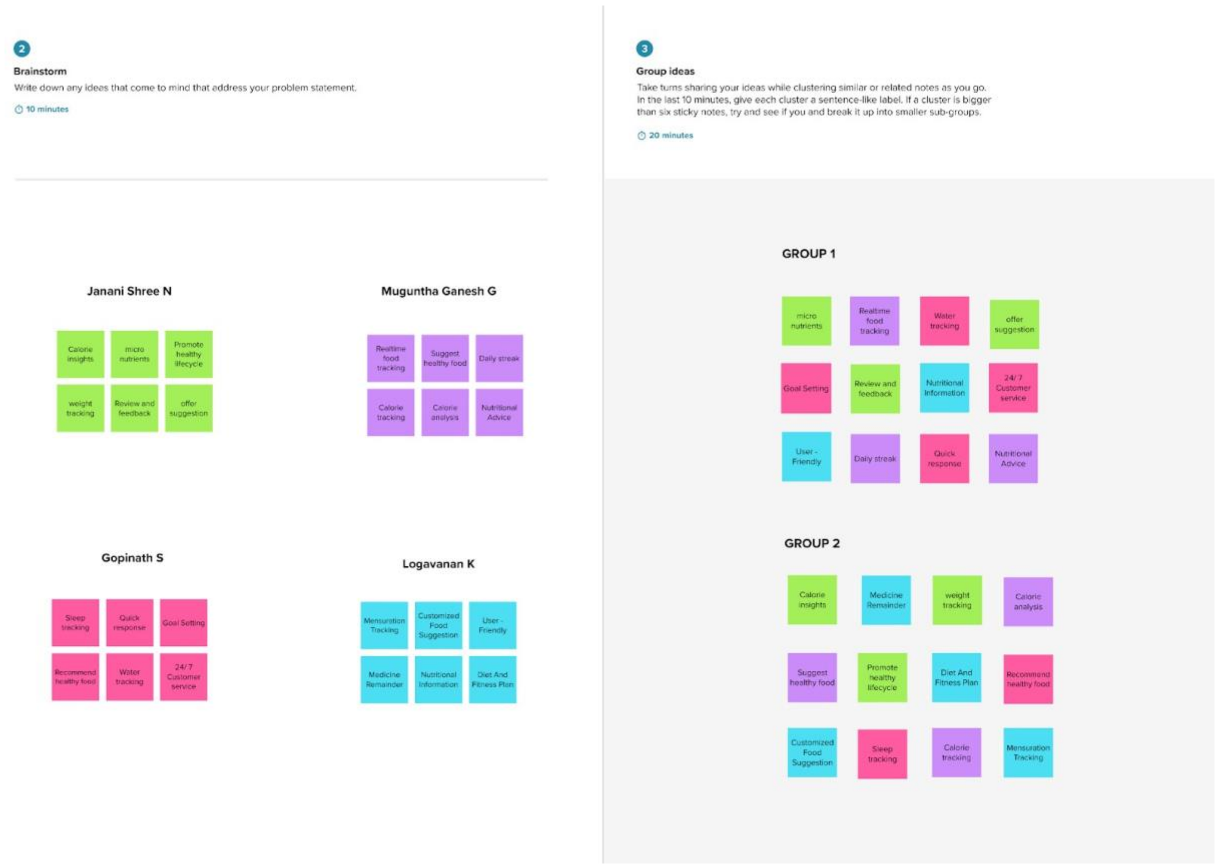
PROBLEM AIM

This project aims at building a web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food. 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.

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.



2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

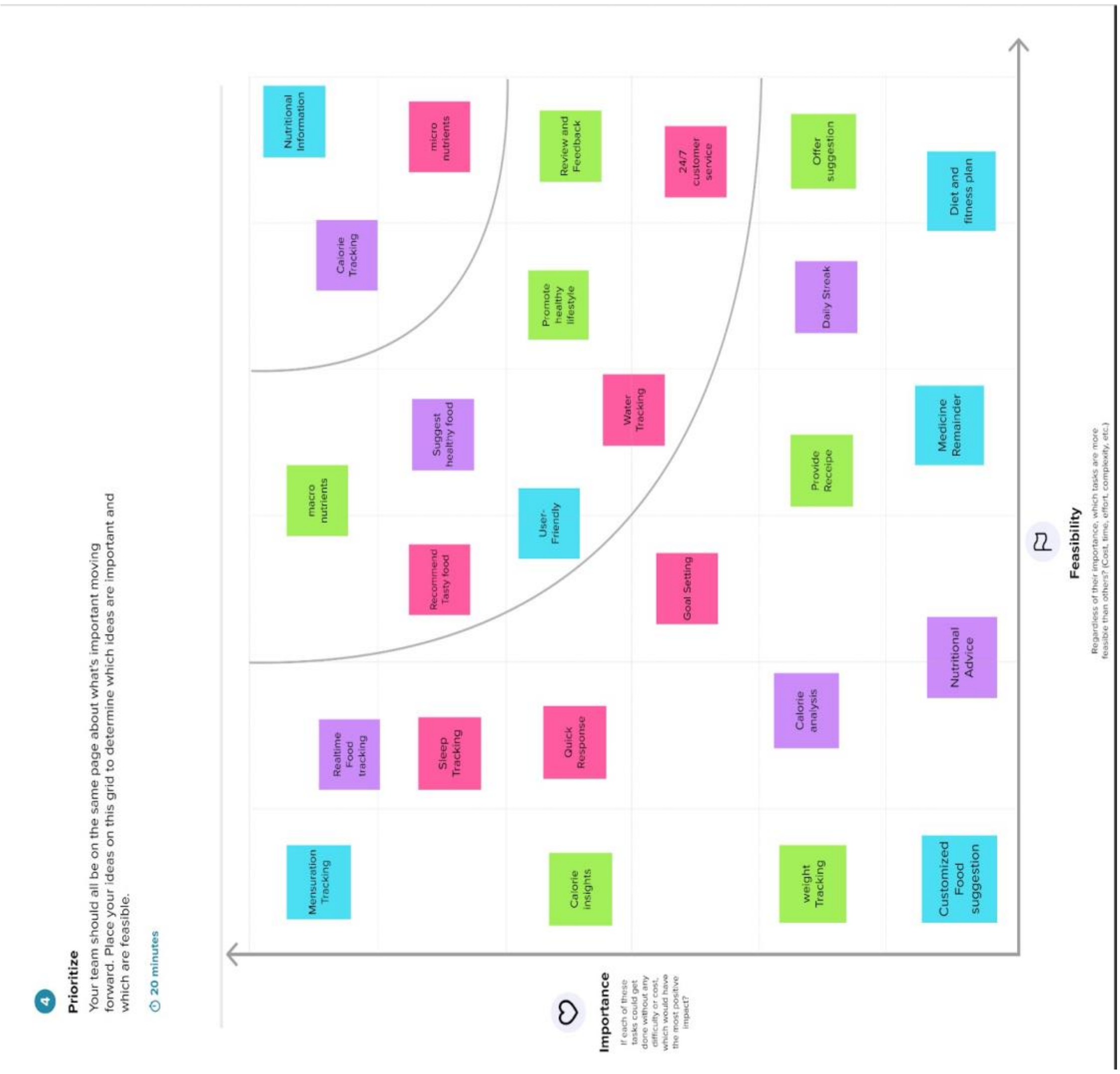
⏱ 10 minutes

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

⏱ 20 minutes



4 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

Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

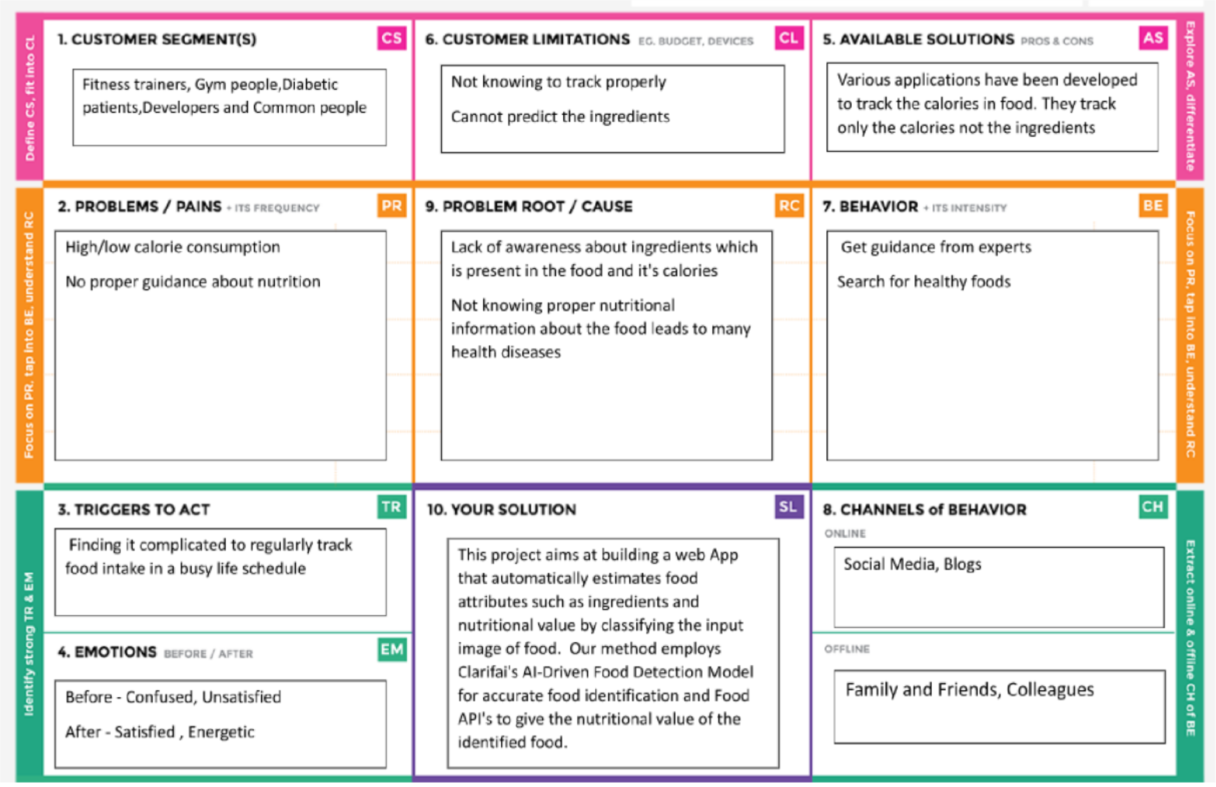
3.3 Proposed Solution

S.No.	Parameter	Description

1.	Problem Statement (Problem to be solved)	This project aims at building a web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food. 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
2.	Idea / Solution description	The solution is a responsive web page that can be used in both mobile and computers. Cumulative results of pictures of food as input and provide nutritional information of food are used to achieve accurate prediction. The website provides a userfriendly interface and accepts multiple samples predicting them simultaneously. A detailed report of the concerned person's health will be generated.
3.	Novelty / Uniqueness	● Our method uses Clarifai's AI-driven food recognition model to accurately identify foods. ● A food API that reports the nutritional value of identified foods. ● Frequent checking of nutritional value and Customized food suggestions.

		● Water and medicine monitoring ● Menstruation tracking and reminder.
4.	Social Impact / Customer Satisfaction	While regularly tracking calories overconsumption of food can be avoided which will result in healthy weight and healthy lifestyle.
5.	Business Model (Revenue Model)	Revenue is generated on a subscription basis, with big data processing and targeted in-depth reporting reviews that paid subscriptions the best.
6.	Scalability of the Solution	Furthermore, features can be extended in our application. Additional features such as sleep tracking, water tracking, menstruation tracking can be done.

3.4 Problem Solution fit



Define CS, fit into CL

1. CUSTOMER SEGMENT(S) CS

Fitness trainers, Gym people,Diabetic patients,Developers and Common people

6. CUSTOMER LIMITATIONS EG. BUDGET, DEVICES CL

Not knowing to track properly

Cannot predict the ingredients

5. AVAILABLE SOLUTIONS PROS & CONS AS

Various applications have been developed to track the calories in food. They track only the calories not the ingredients

Explore AS, differentiate

Focus on PR, tap into BE, understand RC

2. PROBLEMS / PAINS + ITS FREQUENCY PR

High/low calorie consumption

No proper guidance about nutrition

9. PROBLEM ROOT / CAUSE RC

Lack of awareness about ingredients which is present in the food and it's calories

Not knowing proper nutritional information about the food leads to many health diseases

7. BEHAVIOR + ITS INTENSITY BE

Get guidance from experts

Search for healthy foods

Focus on PR, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS TO ACT TR

Finding it complicated to regularly track food intake in a busy life schedule

4. EMOTIONS BEFORE / AFTER EM

Before - Confused, Unsatisfied

After - Satisfied , Energetic

10. YOUR SOLUTION SL

This project aims at building a web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food. 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.

8. CHANNELS of BEHAVIOR CH

ONLINE

Social Media, Blogs

OFFLINE

Family and Friends, Colleagues

Extract online & offline CH of BE

REQUIREMENT ANALYSIS

4. REQUIREMENT ANALYSIS

4.1 Functional requirement

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Phone Number & Email

FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Customer Support	● Customer support will be provided 24/7 and it will be very convenient for the users to use it on a regular basis. ● Some additional trackers such as water tracking,menstruation tracking,sleep tracking are also provided for users which helps them to lead a healthy lifestyle.
FR-4	Updates	The Virtual Assistant will display new updates so the client can easily familiarize themselves with the new services and policies.

4.2 Non-Functional requirements

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

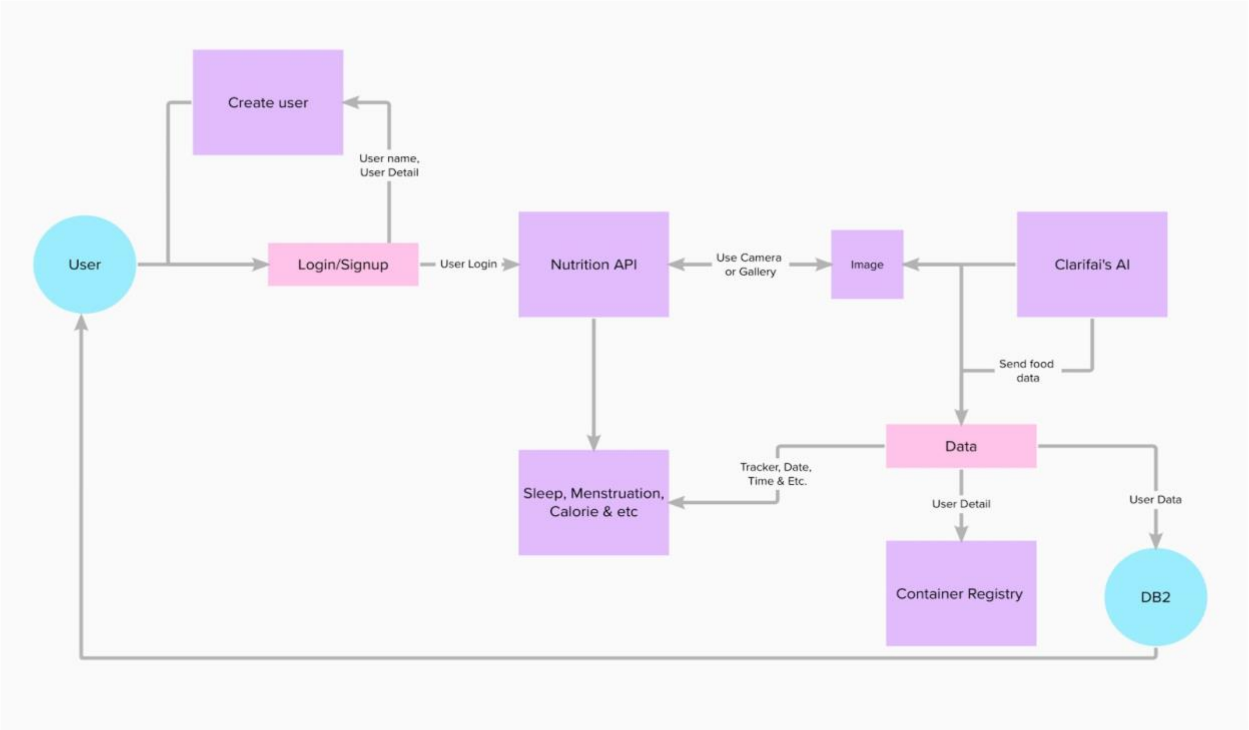
FR No.	**Non-Functional Requirement**	**Description**

NFR-1	**Usability**	● It is a user-friendly interface which tracks calories and also the ingredients of the food from the image of the food. ● Nutritional information of the analyzed image is returned to the app for display
NFR-2	**Security**	Site will be secured by IBM security metrics and can be authenticated only by the registered users and privacy for each and every user will be the first priority.
NFR-3	**Reliability**	This site is a quality one and consistent updates will be provided as per the customers feedback..
NFR-4	**Performance**	It is easy and convenient for anyone to use.. Customers will enjoy using this site by appreciating quotes and day-to-day faster experience.
NFR-5	**Availability**	● These apps offer diet and fitness tracking and may provide additional assistance from other users. ● Only basic configuration is required to run on any device.
NFR-6	**Scalability**	It can be updated furthermore in the future as per the customers requirements and feedback.

PROJECT DESIGN

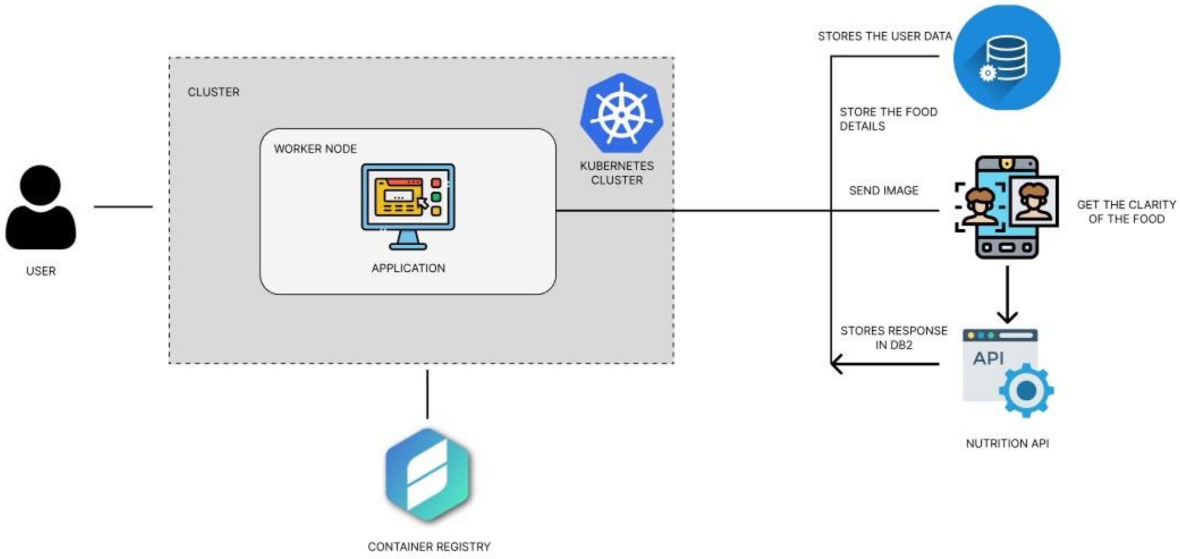
5. PROJECT DESIGN

5.1 Data Flow Diagram



5.2 Solution and Technical Architecture

Solution architecture



Technical architecture

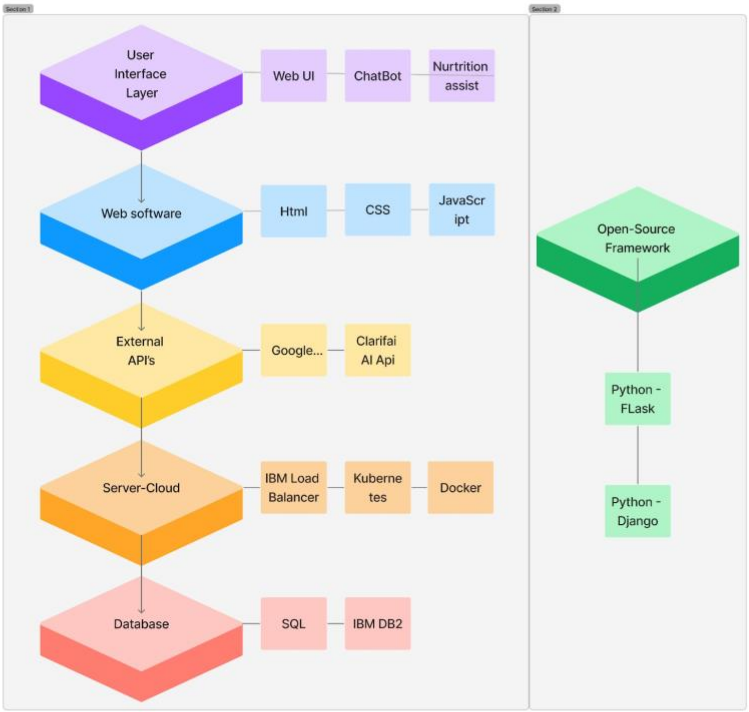


Table-1 : Components & Technologies:

S.No	Component	Description	Technology

1.	User Interface	Web UI, Chat Bot	HTML, CSS, JavaScript
2.	Application Logic	Logic for a process in the application	Python - Flask
3.	Database	Data Type, Configurations etc.	SQL, MySQL
4.	Cloud Database	Database Service on Cloud	IBM DB2
5.	External API	Purpose of External API used in the application	Google search API, Clarifai AI API, RapidApi
6.	Machine Learning Model	Purpose of Machine Learning Model	Clarifai's AI-Driven Food Detection
7.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Cloud Server Configuration : IBM_DB2	Kubernetes, Docker Hub

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask framework is used to frame background process	Python Flask
2.	Security Implementations	Mandatory Access Control (MAC) and Preventative Security Control is used	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.

3.	Scalable Architecture	3 – tier architecture	Web Server – HTML,CSS, JavaScript Application Server – Python Flask Database Server – IBM DB2
4.	Availability	Use of Load Balancing to distribute network traffic across servers	IBM Load Balancer
5.	Performance	number of requests per sec, use of Cache, use of CDN's	IBM Content Delivery Network

5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Client user)	Registration	USN-1	As a user,I can register for the application by entering my email, password, and confirmation.	I can access my account / dashboard.	High	Sprint-1

	Registration	USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm.	Medium	Sprint-2
	Feedback	USN-3	As a user, I can view the Frequently Asked Questions (FAQ).	I get access to the Frequently Asked Questions (FAQ).	Low	Sprint-2
	Dashboard	USN-4	As a user, I can easily track my calories	I quickly get responses.	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can access the dashboard.	High	Sprint-1
	Bot Connected	USN-6	As a user, It is very convenient to use with the help of a	I get clear details with the help of a chatbot.	Low	Sprint-1
			chatbot.			
	Dashboard	USN-7	As a user, I can identify the nutritional information about the food.	I get appropriate information about the food.	High	Sprint-2

	Security	USN-8	As a user, I feel the site is very secure.	I can access my account with my login credentials.	High	Sprint-1
Admin	Send Confirmation	USN-9	As an admin, Confirmation mail is sent from the respected company	Confirmation received by user	High	Sprint-2

PROJECT PLANNING & SCHEDULING

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	5	High	Jothika. B Anu Priya. J
		USN-2	As a user, I will receive confirmation email once I have registered for the application	3	Medium	Hema priya. K Pavithra. B
Sprint-1	Login	USN-3	As a user, I can log into the application by entering email & password	5	High	Anu Priya. J Hema Priya. K
Sprint-2	Dashboard	USN-4	As a user, Chatbot can route where they want to go	2	Medium	Pavithra. B Anu Priya. J

			and gives tips for health.			
		USN-5	As a user, I can upload photos and identify the food.	5	Medium	Jothika. B Anu Priya. J
Sprint-3	Dashboard (Accessory)	USN-6	As a user, I can take photos and identify the food.	5	High	Jothika. B Pavithra.B
		USN-7	As a user I can get the nutritional details of taken food images.	3	Medium	Jothika. B
	Dashboard (Health)	USN-8	As a user, I can easily track my calories View history of items	5	High	Jothika. B Pavithra. B
Sprint-4	Dashboard	USN-9	As a user, System shows the prediction and Body health detail.	3	Medium	Jothika.B Anu Priya.J Hema Priya.k Pavithra.B
	User control	USN-12	As a admin, I can control user create, update and delete.	5	High	Jothika. B Hema priya. K Anu Priya. J Pavithra. B

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6.2 Sprint Delivery schedule

Project Tracker, Velocity & Burndown Chart:

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	13	6 Days	24 Oct 2022	29 Oct 2022		

Sprint-2	10	6 Days	31 Oct 2022	05 Nov 2022		
Sprint-3	13	6 Days	07 Nov 2022	12 Nov 2022		
Sprint-4	10	6 Days	14 Nov 2022	19 Nov 2022		

Velocity:

Total Average Velocity

$$\frac{7.67}{4} = 1.92$$

Sprint-1 and Sprint-3

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

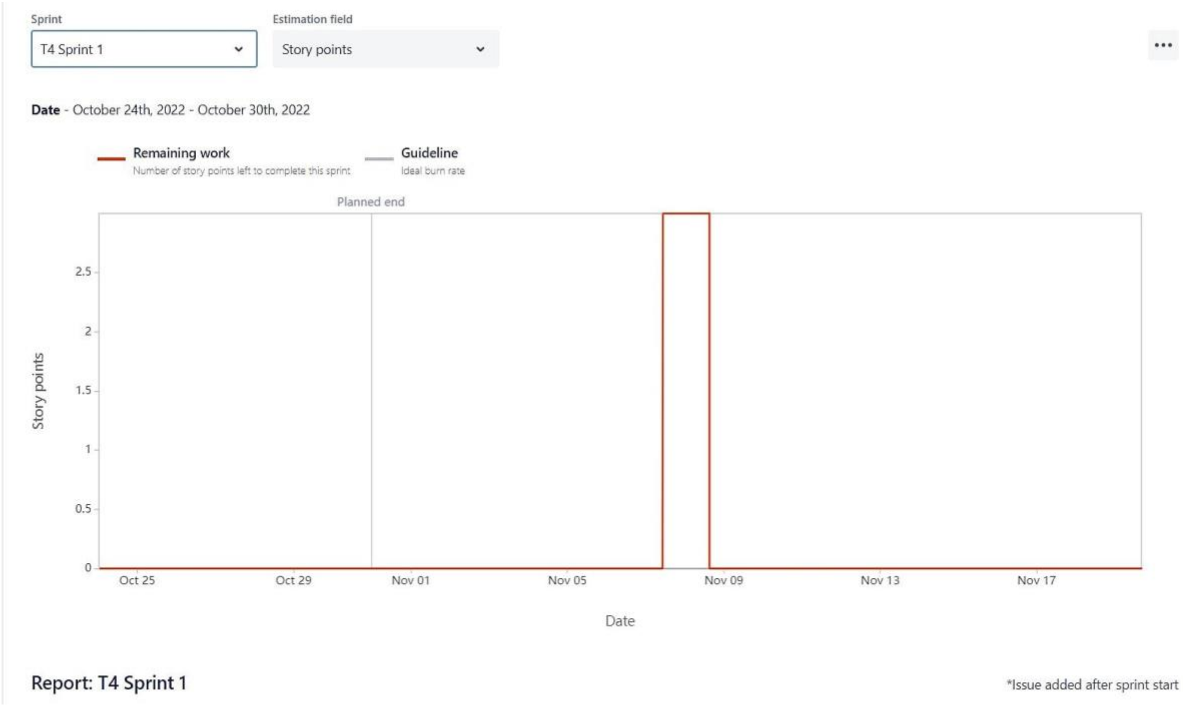
$$\frac{13}{6} = 2.17$$

Sprint-2 and Sprint-4

$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2 \qquad \frac{10}{6} = 1.67$$

6.3 Reports from JIRA

BurndownChart - Sprint 1



Sprint: T4 Sprint 1

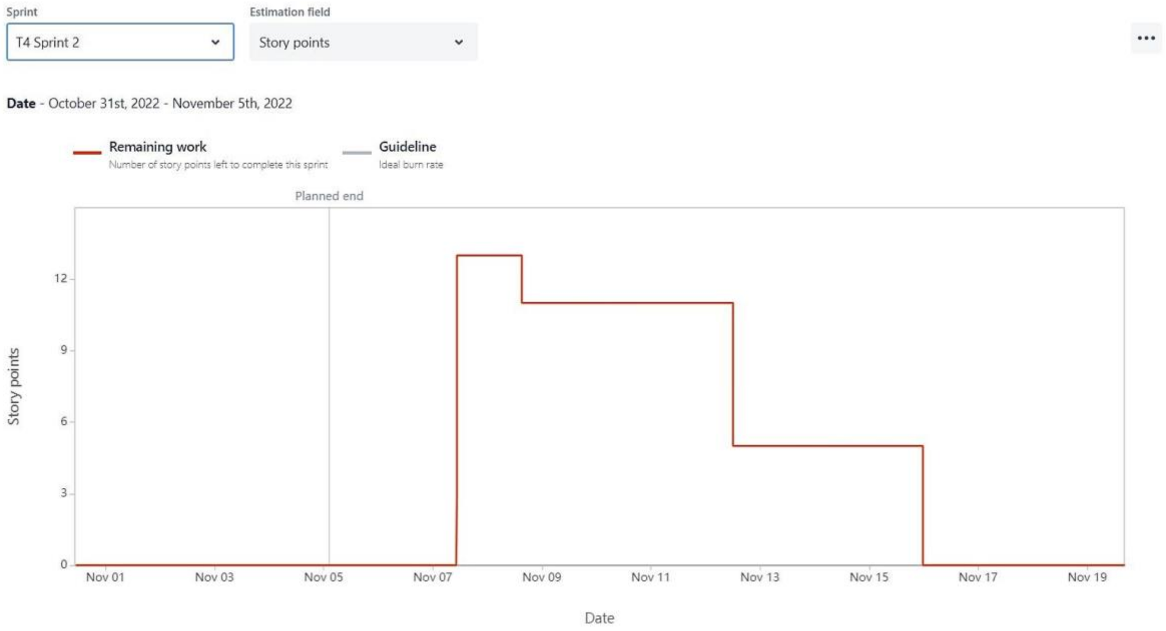
Estimation field: Story points

Date - October 24th, 2022 - October 30th, 2022

Report: T4 Sprint 1

*Issue added after sprint start

BurndownChart - Sprint 2

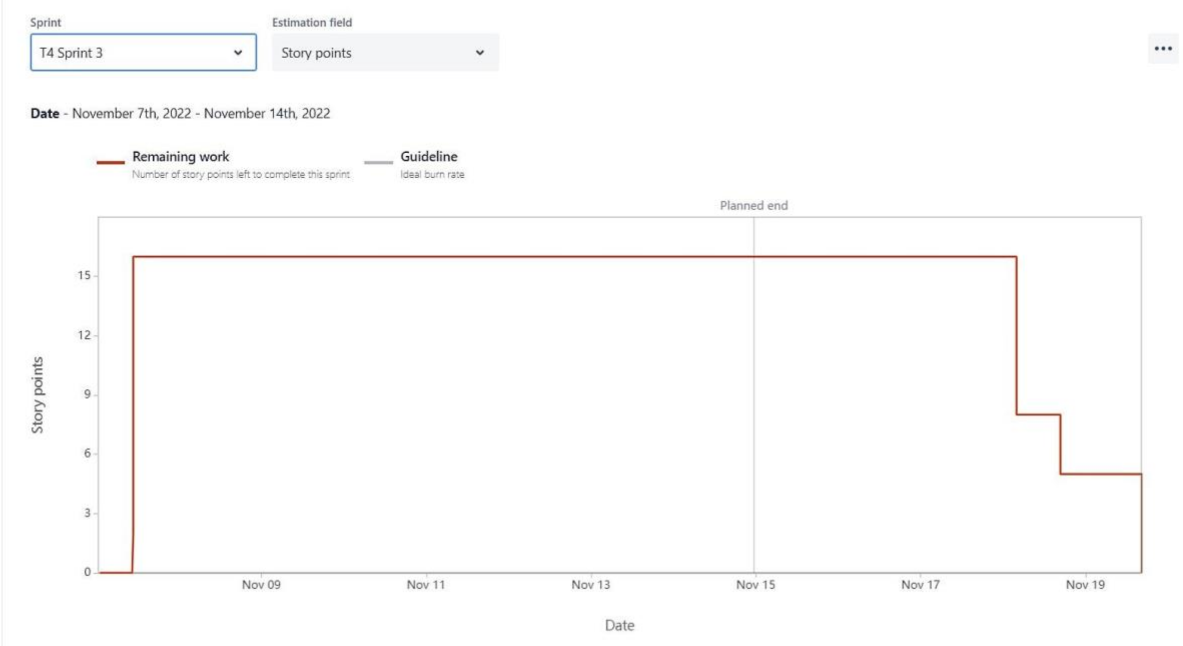


Sprint: T4 Sprint 2

Estimation field: Story points

Date - October 31st, 2022 - November 5th, 2022

BurndownChart - Sprint 3

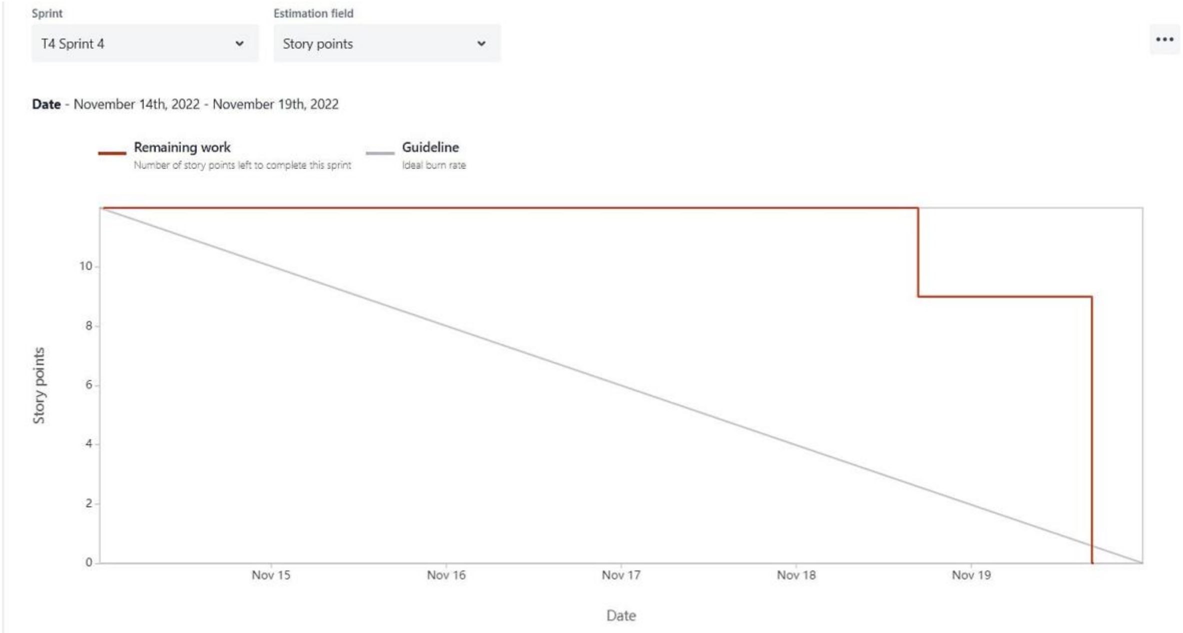


Sprint: T4 Sprint 3

Estimation field: Story points

Date - November 7th, 2022 - November 14th, 2022

BurndownChart - Sprint 4

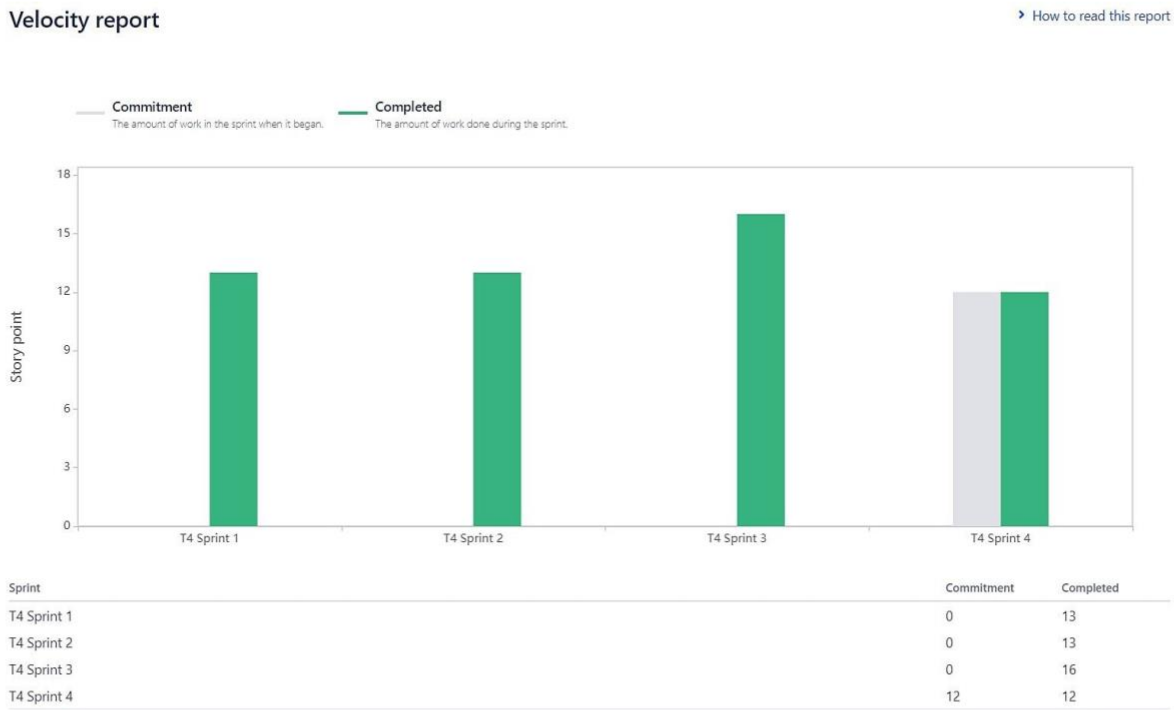


Sprint: T4 Sprint 4

Estimation field: Story points

Date - November 14th, 2022 - November 19th, 2022

Velocity Report



Velocity report

Sprint	Commitment	Completed
T4 Sprint 1	0	13
T4 Sprint 2	0	13
T4 Sprint 3	0	16
T4 Sprint 4	12	12

CODING & SOLUTIONING

7. CODING & SOLUTIONING

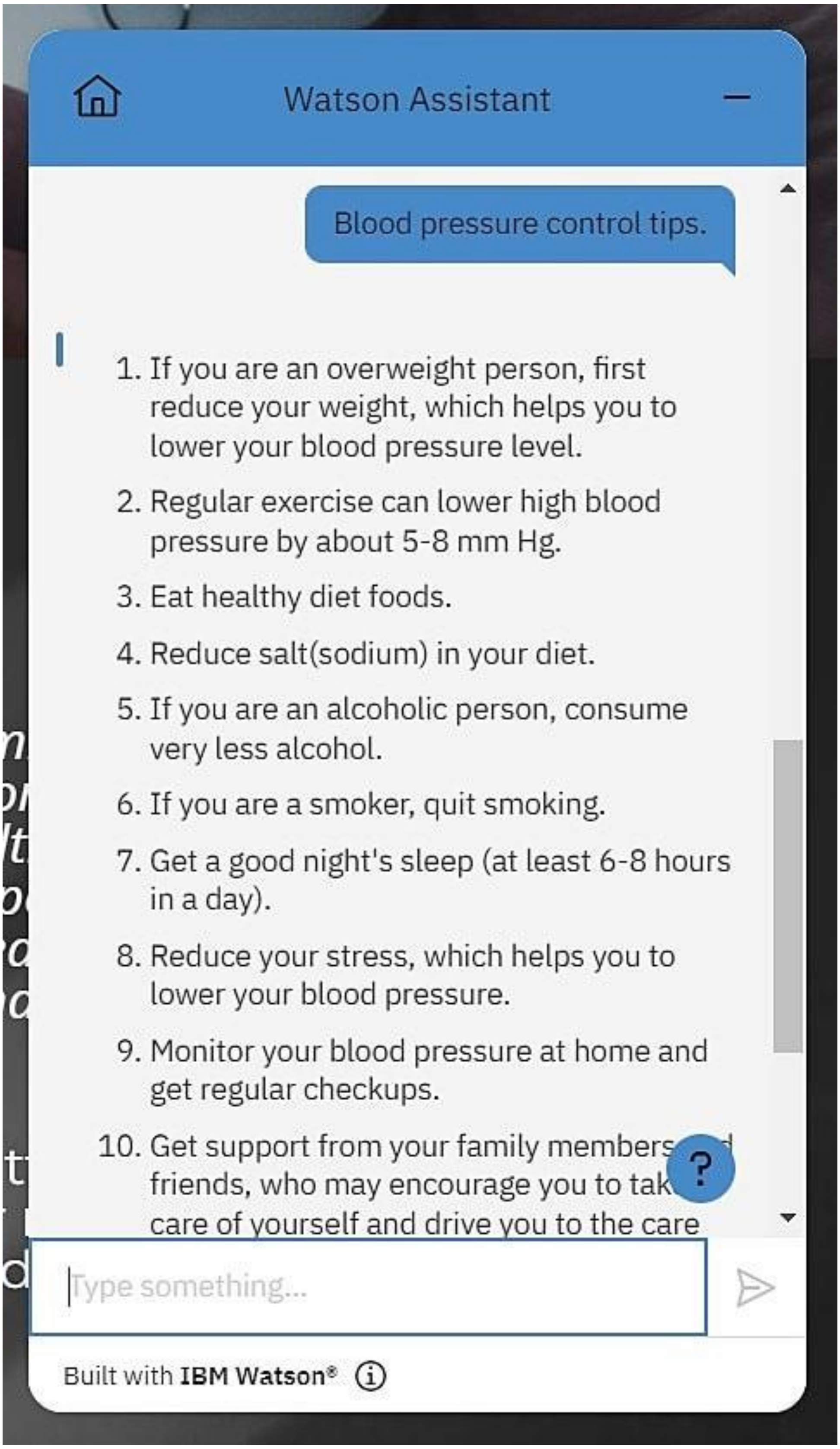
7.1 Feature 1

Chatbot

Our Chatbot will give health tips, nutrition tips, Micro and macro nutrients details.

```
<!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">
  <title>Document</title>
</head>
<body>
  <script>
    window.watsonAssistantChatOptions = {
      integrationID: "5cbfd29f-5d8c-4973-8b5e-cef550a5b739", // The ID of this integration.
      region: "eu-de", // The region your integration is hosted in.
      serviceInstanceID: "fce78189-e70c-48dc-8839-6a79896b5721", // The ID of your service
instance.
      onLoad: function(instance) { instance.render(); }
    };
    setTimeout(function(){
      const t=document.createElement('script');
      t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/" +
(window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";
      document.head.appendChild(t);
    });
   </script>
```



Blood pressure control tips.

1. If you are an overweight person, first reduce your weight, which helps you to lower your blood pressure level.
2. Regular exercise can lower high blood pressure by about 5-8 mm Hg.
3. Eat healthy diet foods.
4. Reduce salt(sodium) in your diet.
5. If you are an alcoholic person, consume very less alcohol.
6. If you are a smoker, quit smoking.
7. Get a good night's sleep (at least 6-8 hours in a day).
8. Reduce your stress, which helps you to lower your blood pressure.
9. Monitor your blood pressure at home and get regular checkups.
10. Get support from your family members friends, who may encourage you to tak care of yourself and drive you to the care

7.2 Feature 2

BMI, BFP, WHR

- BMI stands for Body Mass Index. Our application calculates the body mass index using the height and weight of the user.
- BFP stands for Body Fat Percentage. Body fat percentage will be calculated.
- WHR stands for Waist Height Ratio. Using the waist measurement weight height ratio will be calculated.

```
#BMI calcula gender = int(input("If you are an MALE enter '0' \nIf you are an FEMALE
enter '1'\n")) age = int(input("Enter your age: ")) height = float(input("Enter your
height in cm: ")) weight = float(input("Enter your weight in kg: "))
waist=float(input("Enter your waist size in cm: ")) BMI = weight / (height/100)**2
print(f"You BMI is {round(BMI,2)}") if BMI <= 18.4:
   print("You are underweight.") elif
BMI <= 24.9:
   print("You are healthy.") elif
BMI <= 29.9:
   print("You are over weight.") elif
BMI <= 34.9:
   print("You are severely over weight.")
elif BMI <= 39.9:    print("You are
obese.") else:
   print("You are severely obese.") #Weight to height
ratio calculation wthr=waist/height print(f"Your waist
to height ratio is {round(wthr,2)}"); if gender==1:
   if wthr <= 0.34:
      print("Yor are extremely slim and you need to consult the doctor.")
   elif wthr <= 0.41:
      print("You are slim.")
   elif wthr <= 0.48:
      print("You are healthy.")
   elif wthr <= 0.53:
      print("You are over weight.")
   else:
      print("You are severely obese.") if
gender==0:
   if wthr <= 0.34:
      print("Yor are extremely slim and you need to consult the doctor.")
   elif wthr <= 0.42:
      print("You are slim.")
   elif wthr <= 0.52:
      print("You are healthy.")
   elif wthr <= 0.57:
      print("You are over weight.")
   else:
      print("You are severely obese.")
#Body calori calculator [Basal Metabolic Rate (BMR)] if
gender==0:
   bmr=((10*weight)+(6.25*height)-(5*age)+5)   if
gender==1:
      bmr=((10*weight)+(6.25*height)-(5*age)-161)
#Body fat calculator
print(f"You need to have {round(bmr)} calories/day.")
if age<18 and gender==1:     bfp=(1.15*BMI)-
```

(0.70*age)-2.2 if age<18 and gender==0:

bfp=(1.15*BMI)-(0.70*age)+1.4

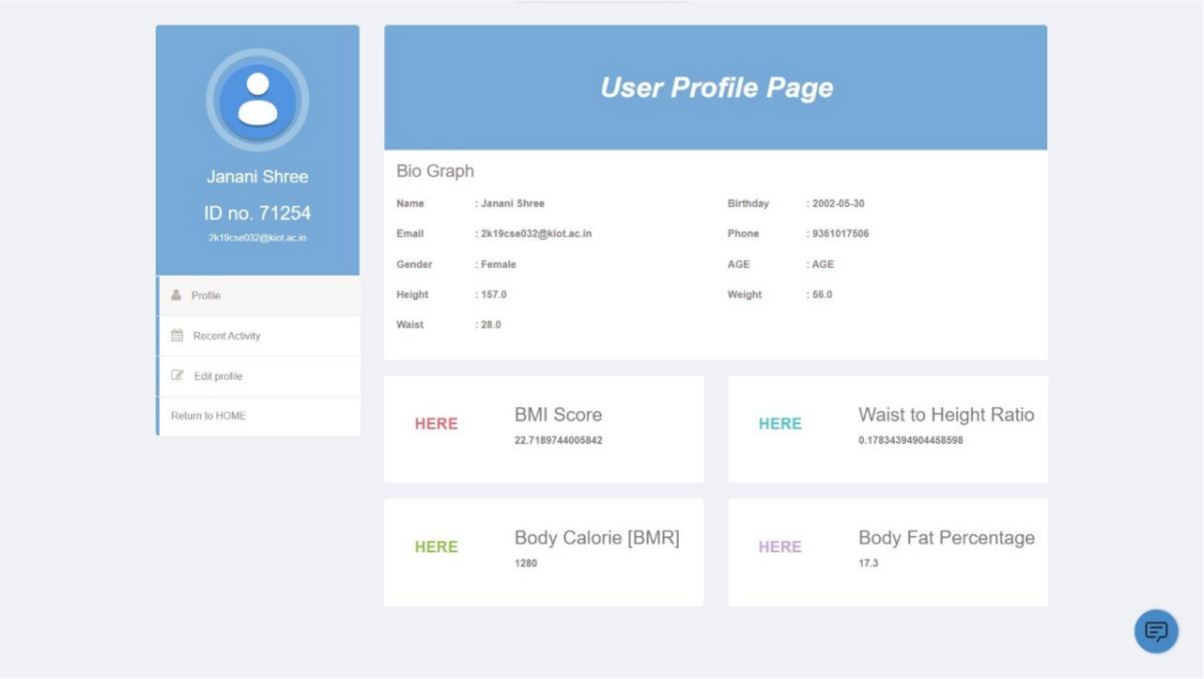
if age>=18 and gender==1:   bfp=(1.20*BMI)-

(0.23*age)-5.4 if age>=18 and gender==0:

bfp=(1.20*BMI)-(0.23*age)-16.2 print(f"Your body fat

percentage is {round(bfp,1)}%")

Output:



Janani Shree

ID no. 71254

2k19cse032@kiot.ac.in

User Profile Page

Bio Graph

Name	: Janani Shree	Birthday	: 2002-05-30
Email	: 2k19cse032@kiot.ac.in	Phone	: 9361017506
Gender	: Female	AGE	: AGE
Height	: 157.0	Weight	: 56.0
Waist	: 28.0		

HERE BMI Score
22.7189744005842

HERE Waist to Height Ratio
0.17834394904458598

HERE Body Calorie [BMR]
1280

HERE Body Fat Percentage
17.3

TESTING

8. TESTING

8.1 Test Cases

TEST CASE REPORT

Test case ID	Feature Type	Component	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Comments	TC for Automation (Y/N)	BUG ID	Executed By

NutriAssist_TC_001	UI	Home Page	Verify that the user can access the bot.	-	1.Enter URL and click go 2.Click on Chatbot Icon 3.Verify chatbot preview is displayed or not.	URL Link	Bot preview should be displayed.	Working as expected	Pass	Steps are clear to follow	N	-	Jothika.B
NutriAssist_TC_002	Functional	Home Page	Verify the user and the bot can communicate.	-	1.Click on the Chatbot icon 2.Type Query in the message bar.	User Query	User should interact with the chatbot easily.	Working as expected	Pass	Steps are clear to follow	N	-	Anu Priya.J
NutriAssist_TC_003	Functional	Home Page and Signup page	Verify the UI elements in the signup popup	-	1. Enter URL 2. Click on the signup button. 3.Verify signup elements	User Query	User should be able to signup.	Working as expected	Pass	Steps are clear to follow	N	-	Hema Priya.K

NutriAssist_TC_004	Functional	Upload page	Verify whether the images of the food can be uploaded	-	1. Click on the upload image icon 2. Select an image 3.Press Enter. 4. The nutritional values of the food will be displayed.	User Query	Image should be uploaded and nutritional value will be displayed.	Working as expected	Pass	Steps are clear to follow	N	-	Pavithra.B
NutriAssist_TC_005	Functional	User profile page	Verify the user can able to enter their personal details.	-	1. Click on the profile icon 2. Type the information. 3.Press Enter. 4. Select the desired actions.	User Query	Users details should be collected.	Working as expected	Pass	Steps are clear to follow	N	-	Jothika.B

NutriAssist_TC_006	Functional	Nutritional value page	Verify whether similar recipes are provided below	-	1. Click on the nutrition al values. 2.Scroll down 3.Simil ar recipes will be displayed.	User Query	New recipes should be displayed.	Working as expected	Pass	Steps are clear to follow	N	-	Hema Priya. K

8.2 User Acceptance Testing

1. Purpose of Document

The purpose of this document is to discuss briefly the test coverage and unresolved issues of the Nutrition Assistant Application project at the time of the release of User Acceptance Testing (UAT).

2. Defect Analysis

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	0	0	0	1	1
Duplicate	0	0	0	0	0
External	0	0	0	0	0

Fixed	0	0	2	0	3
Not Reproduced	0	0	0	0	0
Skipped	0	0	0	0	0
Won't Fix	0	0	0	0	0
Totals	0	0	2	1	4

3. Test Case Analysis

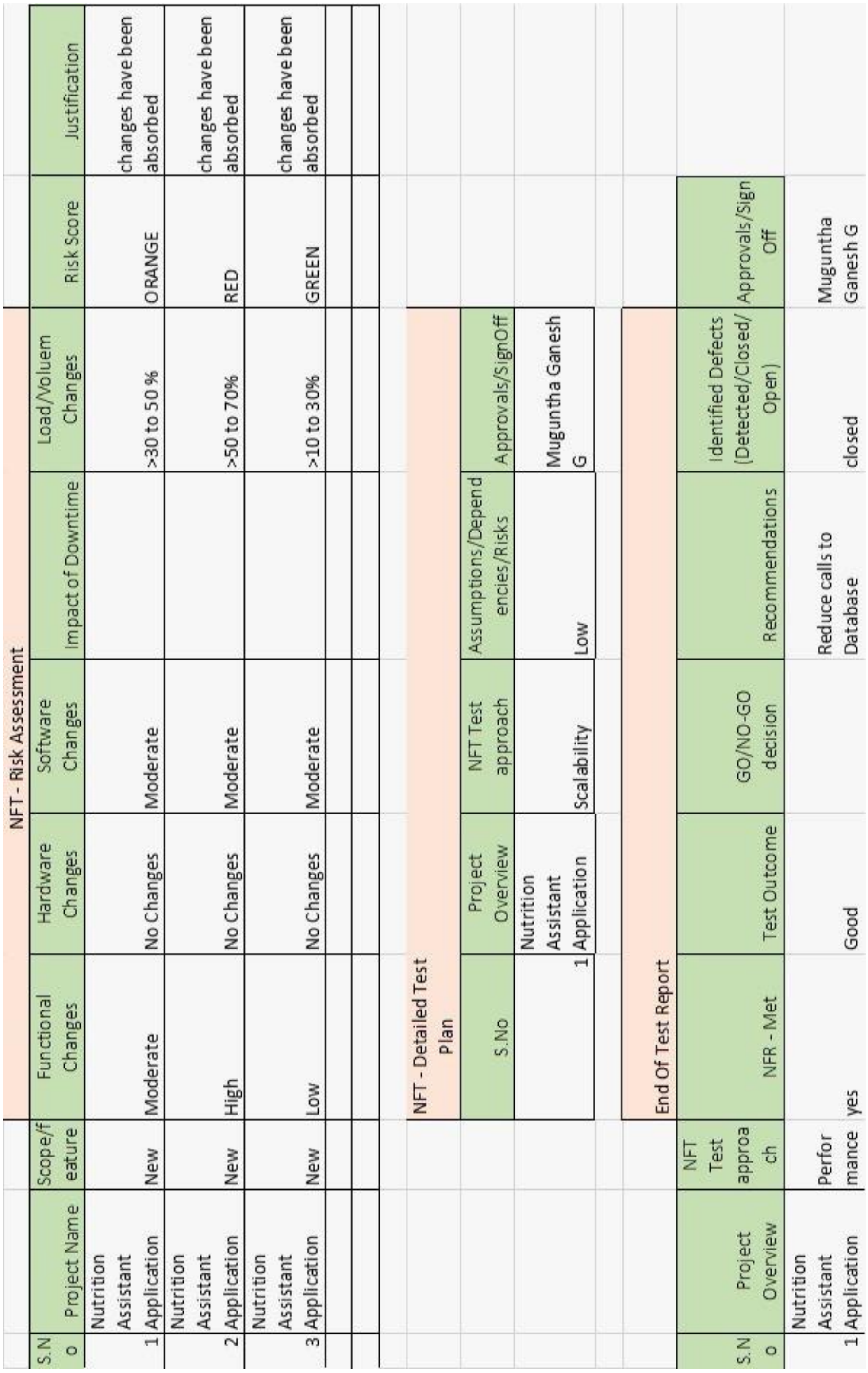
Section	Total Cases	Not Tested	Fail	Pass
Print Engine	0	0	0	0
Client Application	5	0	0	5
Security	0	0	0	0
Outsource Shipping	0	0	0	0
Exception Reporting	0	0	0	0

Final Report Output	5	0	0	5
Version Control	0	0	0	0

RESULTS

9. RESULTS

9.1 Performance Metrics



NFT - Risk Assessment

S.No	Project Name	Scope/feature	Functional Changes	Hardware Changes	Software Changes	Impact of Downtime	Load/Voluem Changes	Risk Score	Justification
1	Nutrition Assistant Application	New	Moderate	No Changes	Moderate		>30 to 50 %	ORANGE	changes have been absorbed
2	Nutrition Assistant Application	New	High	No Changes	Moderate		>50 to 70%	RED	changes have been absorbed
3	Nutrition Assistant Application	New	Low	No Changes	Moderate		>10 to 30%	GREEN	changes have been absorbed

NFT - Detailed Test Plan

S.No	Project Overview	NFT Test approach	Assumptions/Dependencies/Risks	Approvals/SignOff
1	Nutrition Assistant Application	Scalability	Low	Muguntha Ganesh G

End Of Test Report

S.No	Project Overview	NFT Test approach	NFR - Met	Test Outcome	GO/NO-GO decision	Recommendations	Identified Defects (Detected/Closed/Open)	Approvals/Sign Off
1	Nutrition Assistant Application	Performance	yes	Good		Reduce calls to Database	closed	Muguntha Ganesh G

ADVANTAGES & DISADVANTANGES

10. ADVANTAGES & DISADVANTANGES

Advantages:

- User friendly website with proper nutritional values.
- User can track their calories easily.
- BMI, WHR, BFP can be easily identified.
- New recipes can be obtained.

Disadvantages:

- Camera implementation detection of food is not available.

CONCLUSION

11. CONCLUSION

Thus we made a project which tracks the calories as well as provides the nutritional value of the food. Also BMI,BFP,WHR can also be calculated which is very convenient for the users.

FUTURE SCOPE

12. FUTURE SCOPE

Camera detection:

Our project will have camera detection of food in the future. The camera image will identify the nutritional values of the food.

Feedback:

Feedback will be collected from the users in the future. Also ratings option will be enabled to know about the experience of the user.

13. APPENDIX

13.1 Source Code

app.py

```
from flask import Flask, render_template,
request,session,redirect,url_for,g,flash import ibm_db from
flask_mail import Mail, Message from random import
randint import requests from werkzeug.utils import
secure_filename from datetime import datetime as dt


connectionstring="DATABASE=bludb;HOSTNAME=55fbc997-9266-4331-afd3-
888b05e734c0.bs2io90l08kqb1od8lcg.databases.appdomain.cloud;PORT=31929;PRO
TOCOL=TCPIP;UID=tgv79601;PWD=hedIlL8ICZwxQhwP;SECURITY=SSL;" connection =
ibm_db.connect(connectionstring, '', '')


print(ibm_db.active(connection))


global account


class user:
  def __init__(self,id,name,password):
    self.id=id
    self.name=name
    self.password=password


app = Flask(__name__) app.secret_key="123456789"
app.config['IMAGE_FOLDER'] = 'static/userfoodimage/' global otp


app.config["MAIL_SERVER"] = 'smtp.gmail.com' app.config["MAIL_PORT"] = 465
app.config["MAIL_USERNAME"] = '2k19cse060@kiot.ac.in' app.config['MAIL_PASSWORD'] =
'uxcvcgxchojpwtfd' app.config['MAIL_USE_TLS'] = False app.config['MAIL_USE_SSL'] = True mail =
Mail(app)


@app.before_request def
before_request():     global
account
    if 'id' in session:
        sql = "SELECT * FROM user WHERE UserID =?"
        stmt = ibm_db.prepare(connection, sql)
        ibm_db.bind_param(stmt, 1, session['id'])
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        if account:
            g.user = account
             def calculate():
age=g.user['AGE']
    weight=g.user['WEIGHT']
    height=g.user['HEIGHT']
    waist=g.user['WAIST']
    bmi=0
    whr=0
    bmr=0
    bfp=0
    gender=1
    if(str(g.user['GENDER']) == "Male"):
        gender=0
    print(g.user['GENDER'])
    bmi = weight / (height/100)**2
    whr = waist/height
    if gender==0: bmr=((10*weight)+(6.25*height)-(5*age)+5)
    if gender==1: bmr=((10*weight)+(6.25*height)-(5*age)-161)
    bmr=round(bmr)
    if age<18 and gender==1:
        bfp=(1.15*bmi)-(0.70*age)-2.2
    if age<18 and gender==0:
        bfp=(1.15*bmi)-(0.70*age)+1.4
    if age>=18 and gender==1:
        bfp=(1.20*bmi)-(0.23*age)-5.4
    if age>=18 and gender==0:
        bfp=(1.20*bmi)-(0.23*age)-16.2
    bfp=round(bfp,1)
    g.bmi=bmi
    g.whr=whr
    g.bmr=bmr
    g.bfp=bfp
    g.gender=gender

#index & homepage
@app.route('/')
@app.route('/index') def
root():     global account
    if 'id' in session:
        sql = "SELECT * FROM user WHERE UserID =?"
        stmt = ibm_db.prepare(connection, sql)
        ibm_db.bind_param(stmt, 1, session['id'])
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        if account:
            g.user = account
            calculate()
            return render_template('home.html')
    return render_template('Index.html')

@app.route('/home') def
home():     global account
    if 'id' in session:
        sql = "SELECT * FROM user WHERE UserID =?"
        stmt = ibm_db.prepare(connection, sql)
        ibm_db.bind_param(stmt, 1, session['id'])
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        if account:
            g.user = account
    try:
        calculate()
        return render_template('Home.html')
    except:
        return render_template('Home.html')

#signup module work
@app.route('/signup') def
signup():
    return render_template("autent/Signup.html")
@app.route('/validation') def validation():
    return render_template("autent/Validation.html")

@app.route("/adduser", methods=["POST", "GET"]) def adduser():
global name
    global email
    global password
    global phone
    global otp
    if request.method == 'POST':
        name = request.form.get('name')
        email = request.form.get('email')
        password = request.form.get('password')
        phone = request.form.get('phone')
        sql = "SELECT * FROM user WHERE email =? AND phone=?"
        stmt = ibm_db.prepare(connection, sql)
        ibm_db.bind_param(stmt, 1, email)        ibm_db.bind_param(stmt, 2, phone)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)

        if account:
            return render_template('autent/Signup.html', msg="Email or Phone Number already exist, Unique
detail.")
        else:
            session['regmail'] = email
            otp = randint(000000, 999999)
            vemail = email
            msg = Message(subject='Verfication Code For NutriAssist',
sender='2k19cse060@kiot.ac.in',recipients=[vemail])
            msg.body = "You have succesfully registered on Nutritional Assist!\n\nUse the OTP given below to verify
your email ID.\n\t\n\t" + str(otp)
            mail.send(msg)
            return render_template("autent/Validation.html", resendmsg="OTP has been sent", msg="OTP has
been sent")
    elif ("regmail" in session):
        if request.method == 'GET':
            otp = randint(000000, 999999)           msg = Message(subject='OTP',
sender='2k19cse060@kiot.ac.in',recipients=[session['regmail']])           msg.body = "You have succesfully
registered on Nutritional Assist!\nUse the OTP given below to verify your email ID.\n\t\t" + str(otp)
            mail.send(msg)
            return render_template("autent/Validation.html", resendmsg="OTP has been resent")
    else:
        return redirect('/')
@app.route("/validate", methods=["POST", "GET"]) def validate():
    if request.method == 'POST':
        global name
        global email
        global password
        global phone
        global otp
        ID = 0
        newuser=0
        fotp=int(request.form.get('password'))
        if(fotp == otp):
            while True:
                ID = randint(00000, 99999)
                sql = "SELECT * FROM user WHERE UserID =?"
                stmt = ibm_db.prepare(connection, sql)
                ibm_db.bind_param(stmt, 1, ID)
                ibm_db.execute(stmt)
                account = ibm_db.fetch_assoc(stmt)
                if account: continue
                else: break
            insert_sql = "INSERT INTO
```

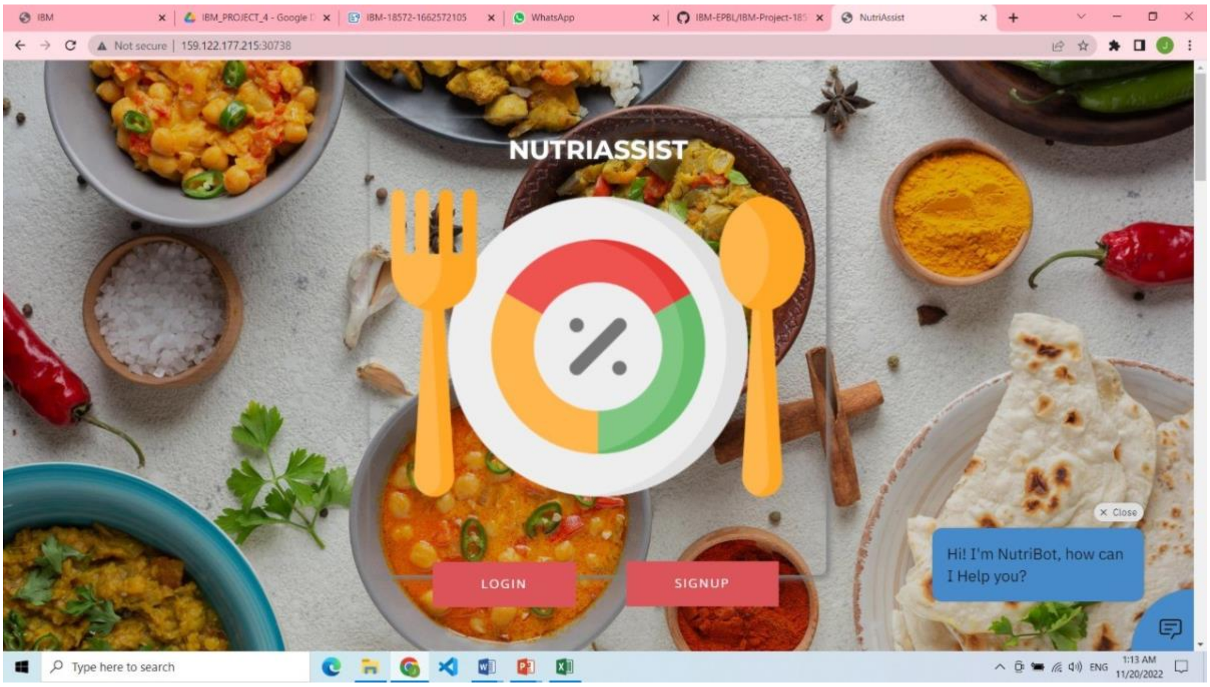
```
USER(UserID,NAME,PHONE,EMAIL,PASSWORD,NEWUSER) VALUES (?,?,?,?,?,?)"
      prep_stmt = ibm_db.prepare(connection, insert_sql)
      ibm_db.bind_param(prep_stmt, 1, ID)
      ibm_db.bind_param(prep_stmt, 2, name)
      ibm_db.bind_param(prep_stmt, 3, phone)
      ibm_db.bind_param(prep_stmt, 4, email)
      ibm_db.bind_param(prep_stmt, 5, password)
      ibm_db.bind_param(prep_stmt, 6, newuser)
      ibm_db.execute(prep_stmt)
      msg = Message(subject='Welcome to NutriAssist',
sender='2k19cse060@kiot.ac.in',recipients=[email])          msg.body = "You have
succesfully registered on
NutriAssist!\n\nYour NutriAssist ID is:"+ str(ID) +"\n\nKindly fill up the profile page to for more informational
details.\n\t\n\t"          mail.send(msg)
      return render_template("autent/Login.html")
    else:
      return render_template("autent/Validation.html", resendmsg="OTP not match")
  else:
    return render_template("autent/Signup.html", resendmsg="POST is not working")


#login module work
@app.route('/signin') def
signin():
  return render_template('autent/Login.html')
@app.route("/checkuser", methods=['GET', 'POST'])
def login():
  if request.method == 'POST':
    email = request.form.get('email')
    password = request.form.get('password')
    sql = "SELECT * FROM user WHERE email =?"
    stmt = ibm_db.prepare(connection, sql)
    ibm_db.bind_param(stmt, 1, email)
    ibm_db.execute(stmt)
    global account
    account = ibm_db.fetch_assoc(stmt)
    if account:
      if (email == str(account['EMAIL']).strip() and password == str(account['PASSWORD']).strip()):
        session['id'] = account['USERID']
        g.record=1
        return redirect(url_for('home'))
      else:
        g.record=0
      if g.record!=1:
        flash("Username or Password Mismatch...!!!",'danger')            return
render_template('autent/Login.html', msg="Email is invalid")       else:
      flash("Account doesn't exist...!!!",'danger')
      return render_template('autent/Login.html', msg="Enter detail again or signup for new account")
  else:
    return render_template('autent/Login.html',msg="Retry")
@app.route('/user') def
user():    if not g.user:
    return render_template('autent/Login.html')
  return redirect(url_for('home'))



#profile module work
@app.route('/profile') def
profile():
  try:
    calculate()
    return render_template("Profile.html")
  except:
    return render_template("Profile.html")
@app.route('/profileinfo') def info():
  return render_template('autent/profileInfo.html')
@app.route('/profileupdate',methods=['GET', 'POST']) def profileupdate():
  if request.method == 'POST':
    userid=g.user['USERID']
    phone = request.form.get('phone')
    gender = str(request.form.get('gender'))
    dob = request.form.get('dob')
    age = request.form.get('age')
    height = request.form.get('height')
    weight = request.form.get('weight')
    waist = request.form.get('waist')

g.gender,g.age,g.height,g.weight,g.waist=gender,age,height,weight,waist
    newuser=1
    sql = "UPDATE user
SET(phone,gender,dob,age,height,weight,waist,newuser)=(?,?,?,?,?,?,?,?) where userid =?"
    stmt = ibm_db.prepare(connection, sql)
    ibm_db.bind_param(stmt, 1, phone)
    ibm_db.bind_param(stmt, 2, gender)
    ibm_db.bind_param(stmt, 3, dob)
    ibm_db.bind_param(stmt, 4, age)
    ibm_db.bind_param(stmt, 5, height)
    ibm_db.bind_param(stmt, 6, weight)
    ibm_db.bind_param(stmt, 7, waist)
    ibm_db.bind_param(stmt, 8, newuser)
    ibm_db.bind_param(stmt, 9, userid)
    ibm_db.execute(stmt)
    sql = "SELECT * FROM user WHERE userid =?"
    stmt = ibm_db.prepare(connection, sql)
    ibm_db.bind_param(stmt, 1, userid)
    ibm_db.execute(stmt)
    global account
    account = ibm_db.fetch_assoc(stmt)
    g.user= account
    calculate()
    return redirect(url_for('profile'))
  # else:
  #     return redirect(url_for('profileinfo'))


#food detection page
@app.route('/fdp') def fdp():
  return render_template('fdp.html') @app.route('/work',
methods=['POST', 'GET']) def work():
  image = request.files['file']
  image1 = request.files['file']
```

```
 if (bool(request.files)):
     url = "https://spoonacular-recipe-food-nutritionv1.p.rapidapi.com/food/images/analyze"
     headers = {
         "X-RapidAPI-Key":
"4910966cf9msh95e8f19b1e26643p14be06jsn1c7184794096",
         "X-RapidAPI-Host": "spoonacular-recipe-food-nutritionv1.p.rapidapi.com"
     }
     files = {'file': ('Image.png', image, 'image/*', {'Expires': '10'})
}
     response = requests.request("POST", url, files=files, headers=headers)
     data=response.json()
     print(data)
     now = dt.now()
     dtstring = dt.isoformat(now)
     image1.save(app.config['IMAGE_FOLDER']+secure_filename(dtstring+"_"+image1.fi lename))
     image_path =
app.config['IMAGE_FOLDER']+secure_filename(dtstring+"_"+image1.filename)
     image_place = "/"+image_path

     if ((data['category']['probability']) > 0.8): probabilityText= 'Im almost certain!'
     elif (data['category']['probability'] > 0.6): probabilityText= 'I am rather confident in that.'
     elif (data['category']['probability'] > 0.4): probabilityText=
'Not really sure but looks like it.'
     elif (data['category']['probability'] > 0.2): probabilityText=
'Maybe - maybe not though.'
     else: probabilityText= 'I am really unsure about that!'

calories=float((float(data['nutrition']['calories']['value'])*float(630.0))/fl oat(800.0))
protein=float((float(data['nutrition']['protein']['value'])*float(630))/float( 30))
carbs=float((float(data['nutrition']['carbs']['value'])*float(630))/float(40))

fat=float((float(data['nutrition']['fat']['value'])*float(630))/float(30))
     print(image_path)
     print(image_place)
     return
```

```
render_template("fdp.html",data=data,probabilityText=probabilityText,calor
ies=calories,fat=fat,protein=protein,carbs=carbs,image=image_place)
  else:
    return render_template("fdp.html",msg="NO file has uploaded")


#history module work


#logout work
@app.route('/logout')
@app.route('/signout') def signout():
session.clear()

  g.record=0
  return render_template("Index.html")


#main & docker if __name__ ==
'__main__':
  app.run(host="0.0.0.0", port=5000, debug=True)
```

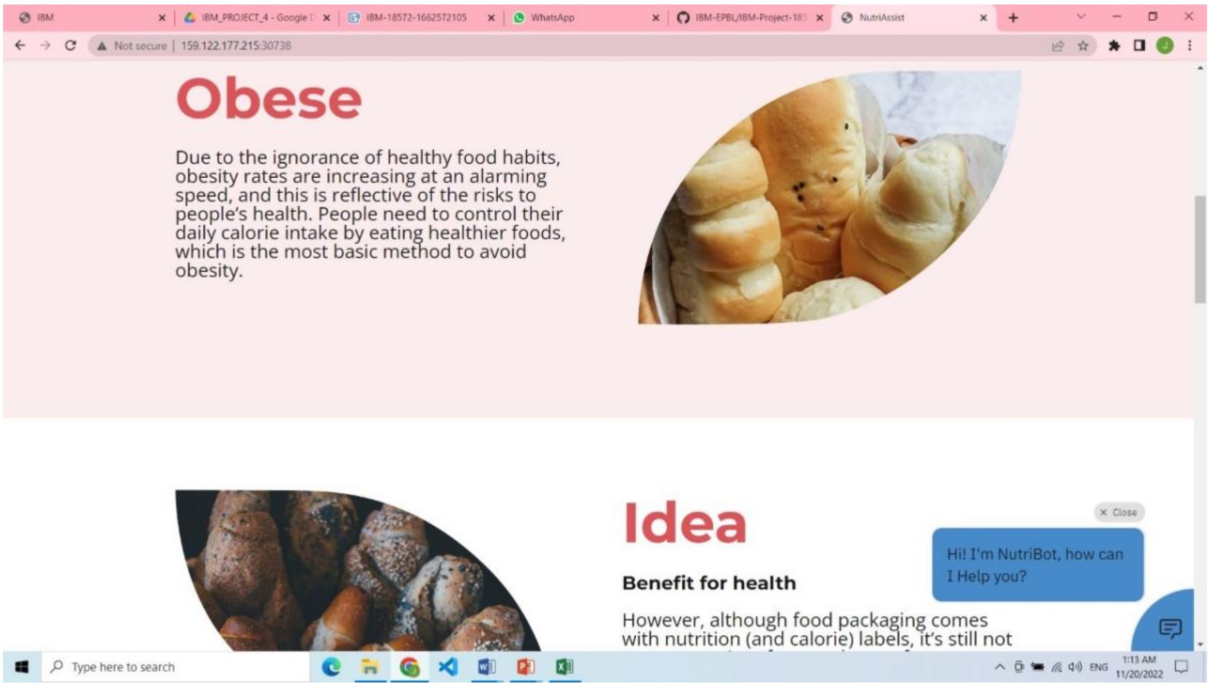
13.2 Screenshots

Home Page



Hi! I'm NutriBot, how can I Help you?

Index Page



Obese

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.

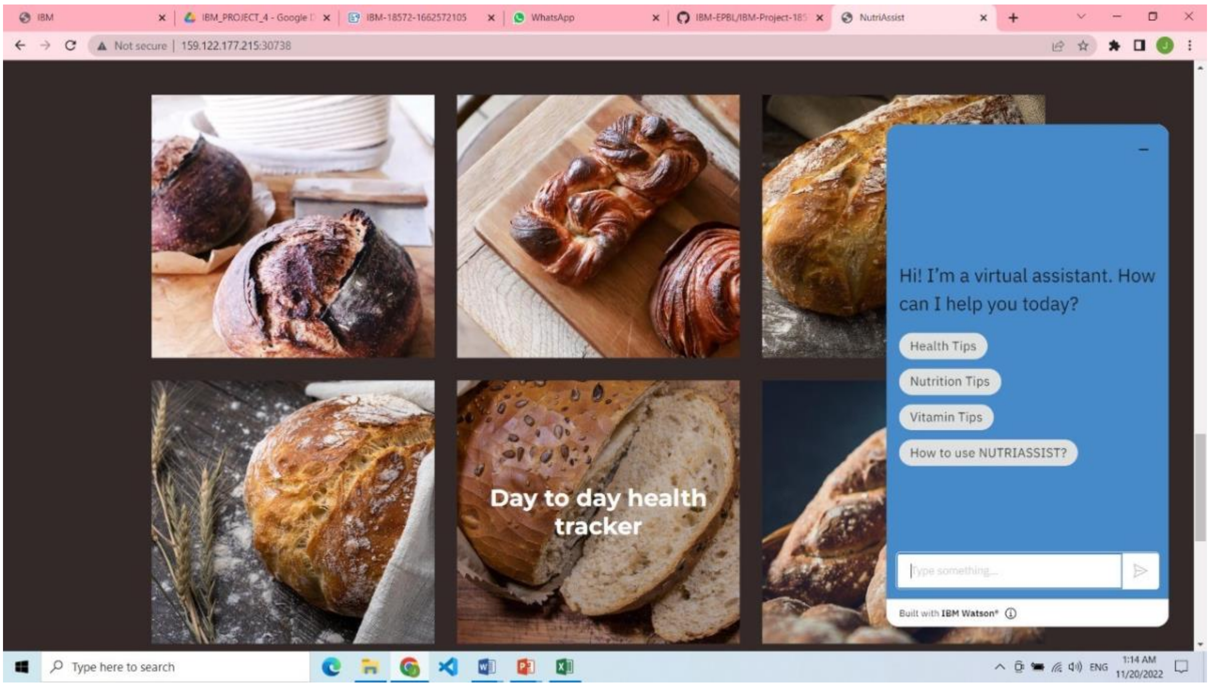
Idea

Benefit for health

However, although food packaging comes with nutrition (and calorie) labels, it's still not

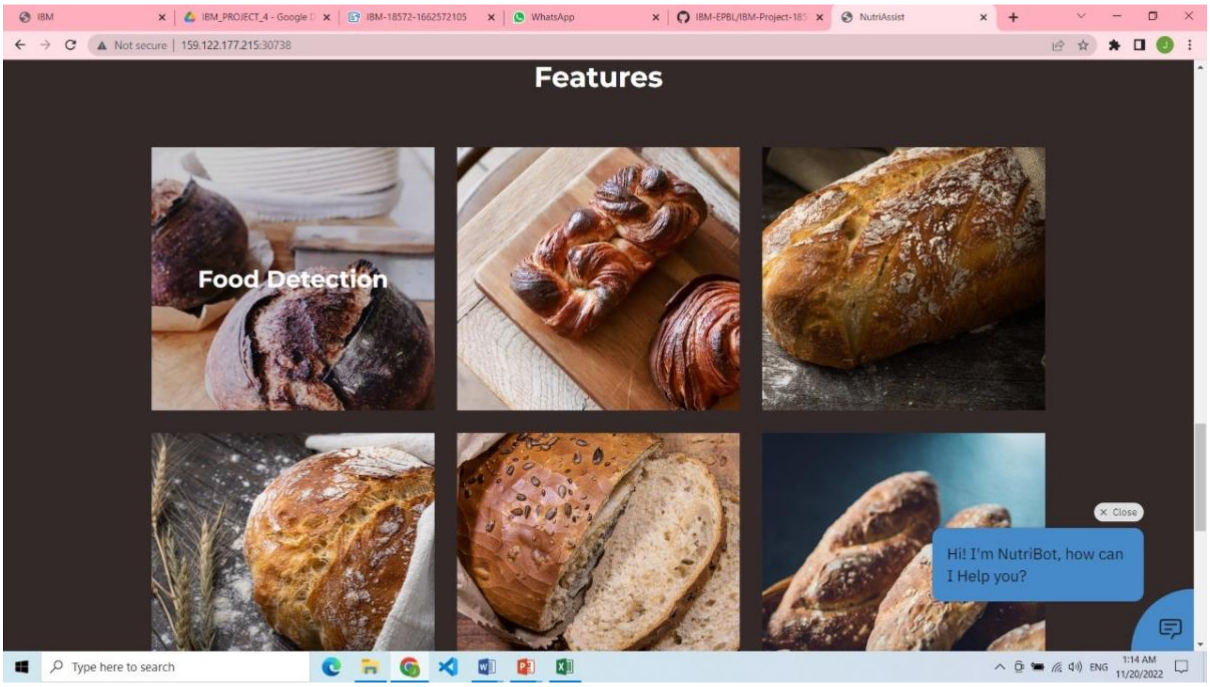
Hi! I'm NutriBot, how can I Help you?

ChatBot Page



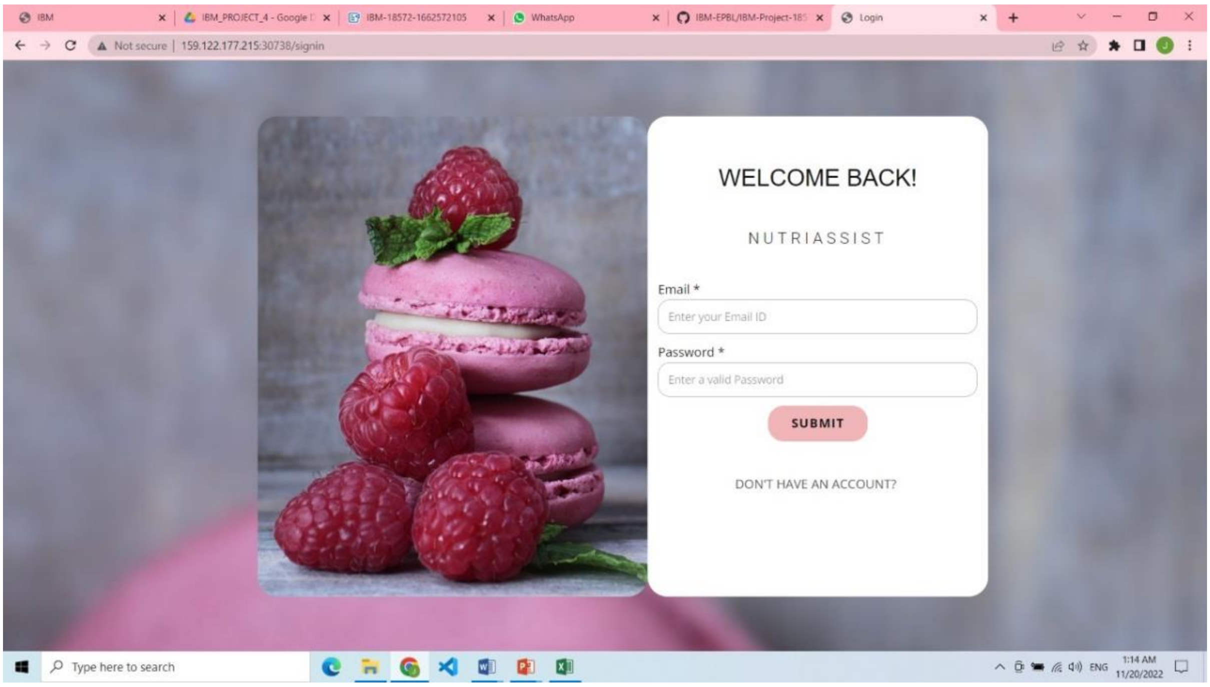
Hi! I'm a virtual assistant. How can I help you today?

Feature



Hi! I'm NutriBot, how can I Help you?

Login, Signup and OTP Verification Page



WELCOME BACK!

NUTRIASSIST

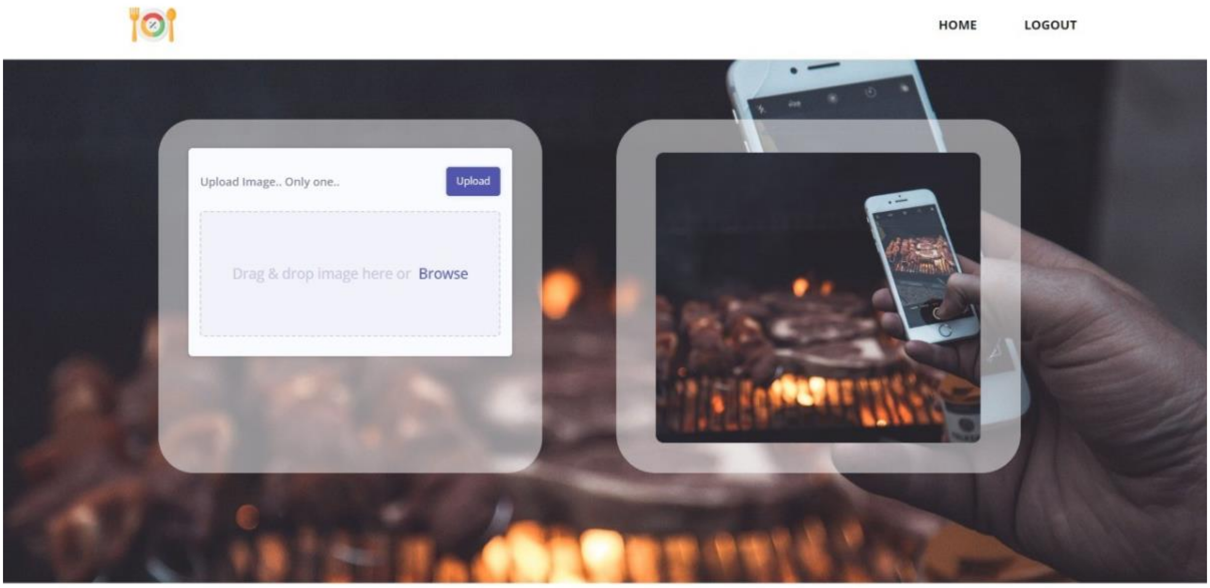
Email *

Enter your Email ID

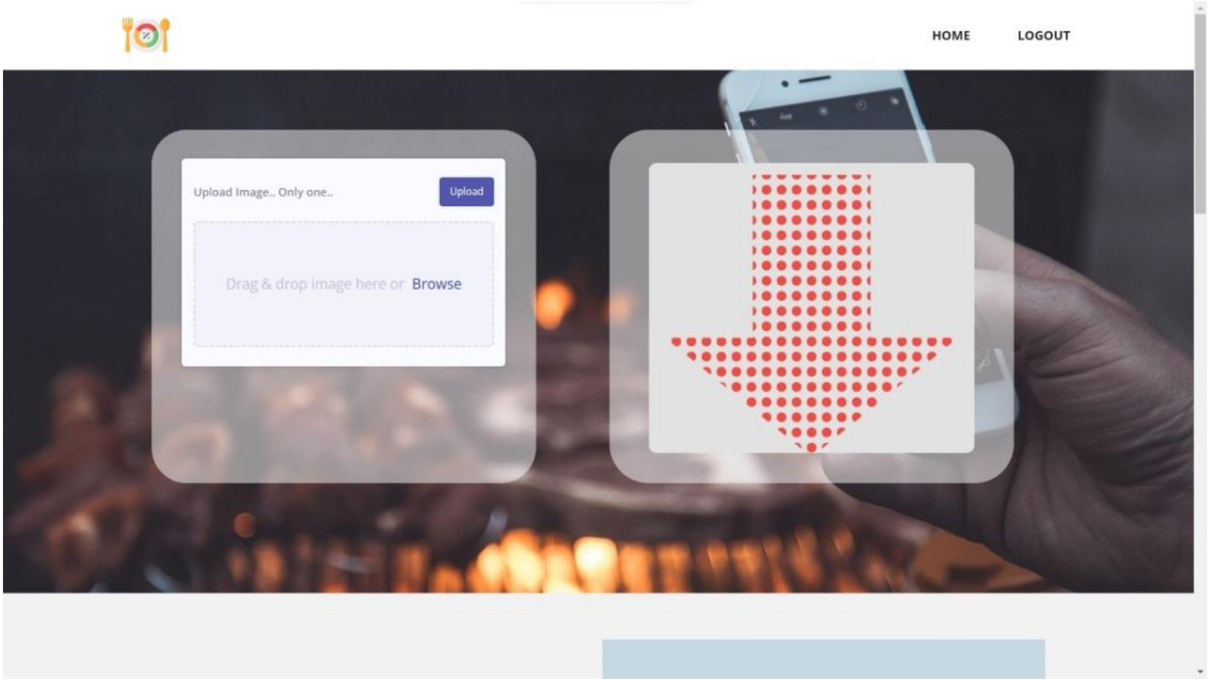
Password *

Enter a valid Password

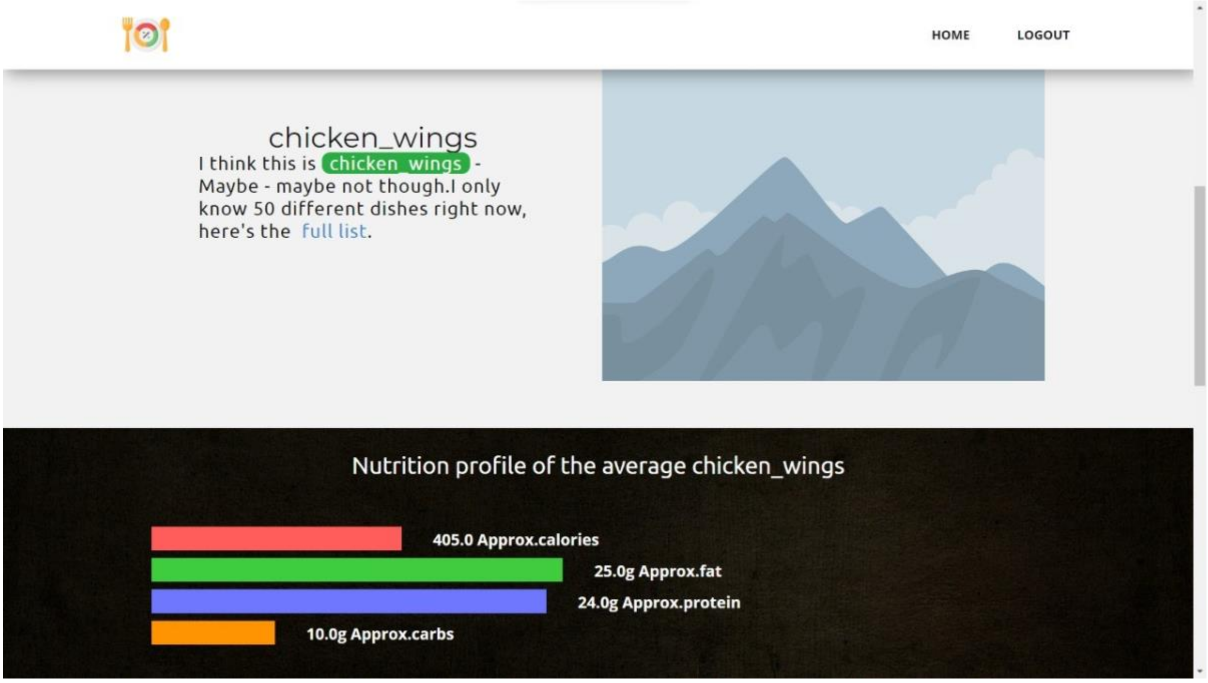
Upload Page



Home Page



Nutritional Value Page



chicken_wings

I think this is chicken_wings - Maybe - maybe not though.I only know 50 different dishes right now, here's the full list.

Nutrition profile of the average chicken_wings

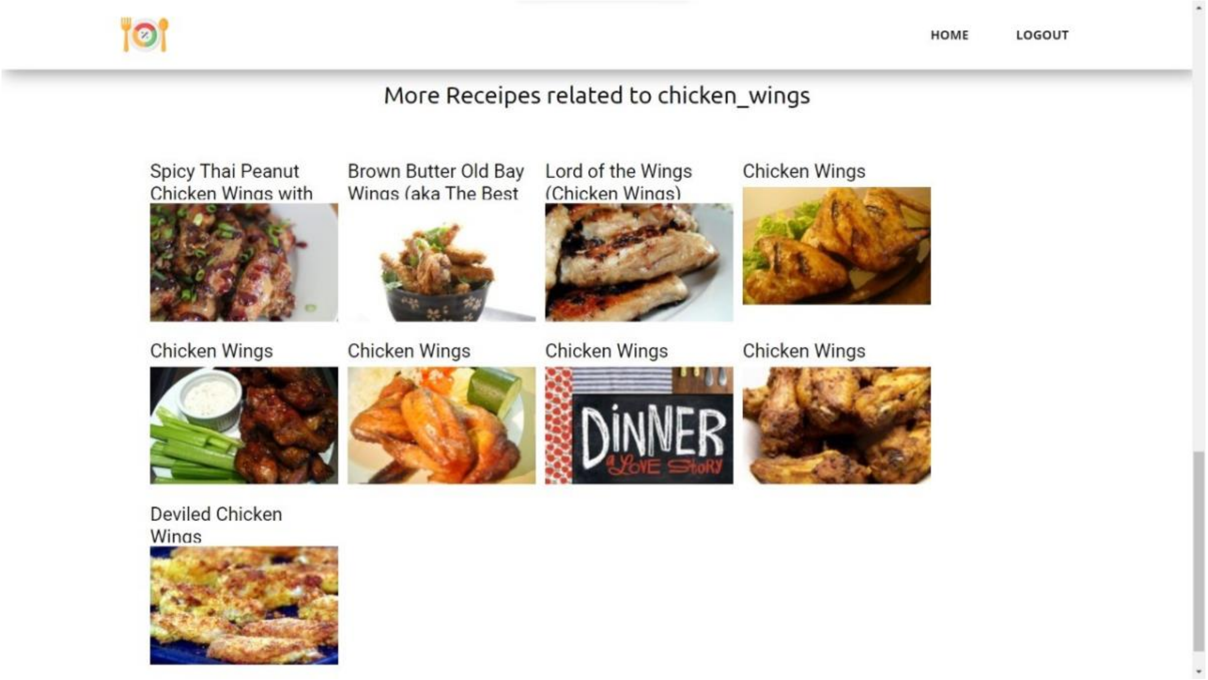
405.0 Approx.calories

25.0g Approx.fat

24.0g Approx.protein

10.0g Approx.carbs

Recipes


HOME
LOGOUT
More Receipes related to chicken_wings
Spicy Thai Peanut Chicken Wings with
Brown Butter Old Bay Wings (aka The Best
Lord of the Wings (Chicken Wings)
Chicken Wings
Chicken Wings
Chicken Wings
Chicken Wings
Chicken Wings
DINNER a LOVE STORY
Deviled Chicken Wings

13.3 GitHub & Project Demo Link

13.3.1 GitHub Link https://github.com/IBM-EPBL/IBM-Project-51354-1660978381

13.3.2 Project Demo Link **https://youtu.be/56cue-k84B8**

[illegible]