NUTRITION ASSISTANT APPLICATION

A PROJECT REPORT

SUBMITTED BY

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ABSTRACT

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.

1. INTRODUCTION

1.1 PROJECT OVERVIEW

The purpose of this project is to develop a nutrition assistant application that will provide users with personalized nutrition information and recommendations. The application will use a variety of data sources, including food and nutrient databases, to generate recommendations based on the user's individual needs. The application will also allow users to track their progress over time and share their results with others.

1.2 PURPOSE

To provide adequate knowledge and skills necessary for critical thinking regarding diet and health so the individual can make healthy food choices from an increasingly complex food supply. To assist the individual to identify resources for continuing access to sound food and nutrition information.

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 REVIEW

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1.Byrd-Bredbenner et al.2010 Television played a promising role in increasing nutrition cognizant among young girls.

From findings of the study, major point noticed was content consideration because perception differs for every viewer and very little could be identified about individuals filters and meaning about construction of the visuals. The limitation of this study was that participants were viewers of a single program with no distraction; therefore, the findings cannot be generalized. Further research is needed with prominent nutritious and health messages including characters played in the advertisements to find the potential of television to improve nutrition cognitions and intended behavior.

2.Abdullah & Mal-Allah, 2011 Websites were the most frequently used srce by female athletes for nutrition

Followed by magazines, regional newspaperstelevision, radio than medical doctors and nutritionists. Free acceswas the main reason for the girls to approach traditional and digitalmedia more than human resource. No theory was involved in the study

3.Ali et al., 2012 Elderly people for developed digital nutritional package gave positive responses and preferences.

Incorporating appropriate guidelines with proper design is imperative, as understanding the content by elderly people would educate them, regarding healthy diets and make them experience positive interactive feel with the system. R search should be done with larger samples of different community with different demographic background for more relevant finding to evaluate the impact on wellbeing of community and society. No theory was involved in the study.

4.Duncan et al., 2012 In this study, intervention of online media and nutrition app showed a positive

Influence compared to base line survey result. There were not much improvement in physical activity literacy, nutrition behavior but there is a subsequent increase in nutrition literacy among intervention group. This positive response was an added advantage for further intervention by websites and mobile apps to improve nutrition knowledge among men. Only 90 samples were used that limits the study.

5.Coughlin et al., 2015 Smartphones were accepted as useful and cost-effective interventions for enhancing

Dietary habits and nutrition measurements, and indicating obesity among common people. Further research is needed to know about components of smart phone platforms effectiveness. Appropriate culturally tailored smartphone apps with research test are needed for people lagging in health literacy and non-English speakers

6.DiFilippo et al., 2015 There are many apps available for nutrition information but their focus is more

Weight loss and nutrition behavior than to disseminate in-depth and holistic information on nutrition. A significant number of people are using mobile apps frequently for various purposes. Base of usage of mobile app is increasing exponentially in recent times. However, studies availability in this area is limited. Therefore, further research recommended on mobile apps with intervention of behavioral theories and new strategies.

2.1. EXISTING SYSTEM

Poor eating habits include under- or over-eating, not having enough of the healthy foods we need each day, or consuming too many types of food and drink, which are low in fibre or high in fat, salt and/or sugar.These unhealthy eating habits can affect our nutrient intake, including energy (or kilojoules) protein, carbohydrates, essential fatty acids, vitamins and minerals as well as fibre and fluid.

How Does Poor Nutrition Affect Us?

Poor nutrition can impair our daily health and wellbeing and reduce our ability to lead an enjoyable and active life.In the short term, poor nutrition can contribute to stress, tiredness and our capacity to work, and over time, it can contribute to the risk of developing some illnesses and other health problems such as:

- being overweight or obese
- tooth decay
- high blood pressure
- high cholesterol
- heart disease and stroke
- type-2 diabetes
- osteoporosis
- some cancers
- depression
- eating disorders.

Steps to Good Nutrition - It's Easier Than You Think

A good place to start is to:

- have a good variety of healthy foods from the five food groups each day. For more information see the Healthy eating for different ages and stages and Healthy Eating tips sections
- aim for two serves of fruit and five serves of vegetables each day
- only occasionally eat sugary, fatty or salty food, and then only in small amounts
- drink fresh, clean tap water instead of sugary drinks
- switch over to healthy recipes that look and taste good
- plan your meals ahead and shop for healthy ingredients
- enjoy cooking and eating healthy food with family or friends and without distractions such as the television.

2.2. REFERENCE

1. Scrimshaw NS, Taylor CE, Gordon JE. Interactions of nutrition and infection. Geneva: WHO; 1968.

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(Mimeo) http://www.savethechildren.org.uk/sites/default/files/docs/thin_on_the_ground_1.pdf.

2.3. PROBLEM STATEMENT DEFINITION

1. **Who are all affected by this issue?**
   - ❖ People from all age group who are all careless about their health due to their busy schedule and high calorie diet.
   - ❖ This leads to an unhealthy lifestyle because of their eating habits.
   - ❖ Thus leads to many health issues like obesity, heart attack, diabetics and rise in cholesterol level.

2. **What are the boundaries of the problem?**
   - ❖ Based on the information collected from the user, if the user is diagnosed with diabetes/Heart attack/obesity then the application provides information about diet.
   - ❖ The application sets some boundaries on the user's food habits to maintain their diet and improve their condition.
   - ❖ The boundaries are set on the age group of people like elder persons who have some problems with digestion so they will be provided with that information.

3. **What is the issue?**
   - ❖ Peoples are struggling to find if the packed food is good for their health or not having conflict with themselves.
   - ❖ They don't know about the ingredients used in that dish and calories present in them.

❖ To help them to slove this problem they can take a clear picture of the food and know what are nutritions are present in that food or search for the food recipes which are suitable for them.

4. When does the issue occur?

❖ When people want to try western culture food habits which are not suitable for our country.

❖ This issue will occur when people eat unhealthy food like packed or fast food because they are busy with their work and they are not giving importance to their health and food habits.

❖ Some peoples like food lovers who want to taste different dishes without knowing its effect, this leads to obesity and other health problems.

5. Where does the issue occur?

❖ Mostly this issue is occurs in developed and developing countries.

❖ Packed or fast food is convenient and time saving for the people who work in the IT industry.

❖ Slowly the intake of this food will cause to increase in insulin and cholesterol level which causes diabetes and heart attack.

6. Why is it important that we fix the problem?

❖ This application is used to control the serious health issues before it becomes fatal.

❖ It helps users to improve their health and switch to a healthy lifestyle.

❖ For knowing what are all the ingredients present in the food and their calories present in the food they are consuming is suitable for their body condition.

❖ It reduces the risk of heart disease, stroke, obesity and any other health problems.

❖ By maintaining the balanced diet people can also boost their mood and gain more energy.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas
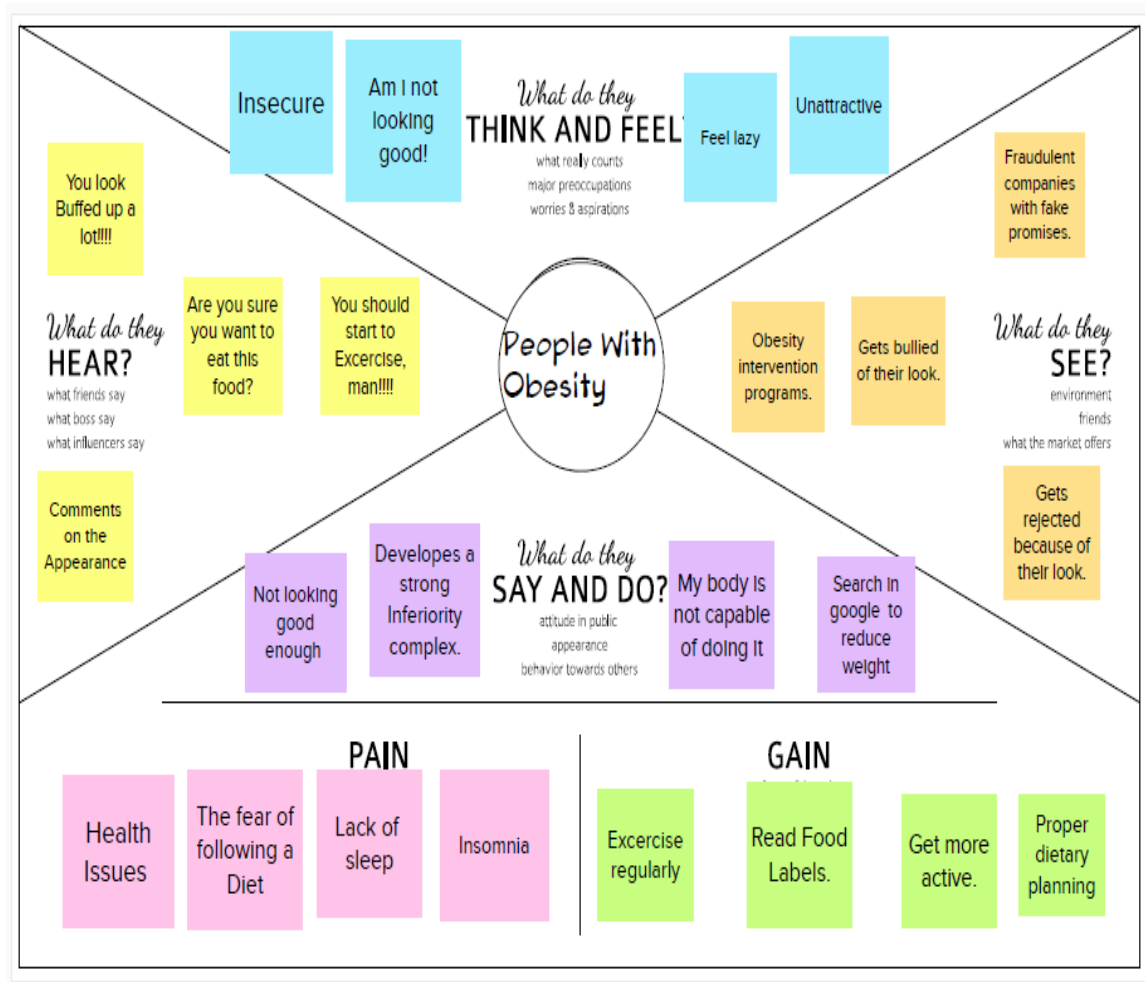
3.2 Ideation & Brainstorming

Step 1

➡

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

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

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

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

Open article →

❶

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.

🕐 5 minutes

PROBLEM

People nowadays doesn't care about their health and becoming unhealthy in lot of ways.

Key rules of brainstorming
To run an smooth and productive session

Stay in topic.   Encourage wild ideas.

Defer judgment.   Listen to others.

Step 2

Brainstorm

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

⏱ 10 minutes

TIP
You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

Vipin raj

Alerts to drink water	Heart beat rate monitor	Calories burned in a day
Distance covered in a day	Step tracker	Target for the day

Varshith

Diet planner	Foods to be avoided	Replace the existing food habits with better and good ones
Consulting nutritionist on regular basis	Cholestrol monitor	Suggest healthy recipes

Surya

Do's and dont's about exercises	Weight and height monitor	BMI and obese check
Who, when, and what type of exercises they can do	Suggesting excersises	Report on previous medications

Balsingh

Balancing mental health	Instructions to avoid steroids and unwanted drugs	Behavioural monitor
Social interactions	Progressing in health	Categorizing into adults, young and children

Step 3

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, 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

| Instructions to avoid steroids and unwanted drugs | Who, when, and what type of exercises they can do | Report on previous medications |

| Target for the day | Advisories | Foods to be avoided |

| Do's and don't about exercises | Suggesting exercises | Suggest healthy recipes |

| Replace the existing food habits with better and good ones | Categorizing into adults, young and children |

| | Social interactions |

| Balancing mental health | General |

| Consulting nutritionist on regular basis |

| Calories burned in a day | Heart beat rate monitor | Step tracker | Progressing in health |

| Alerts to drink water | Tracking | Distance covered in a day | Behavioural monitor |

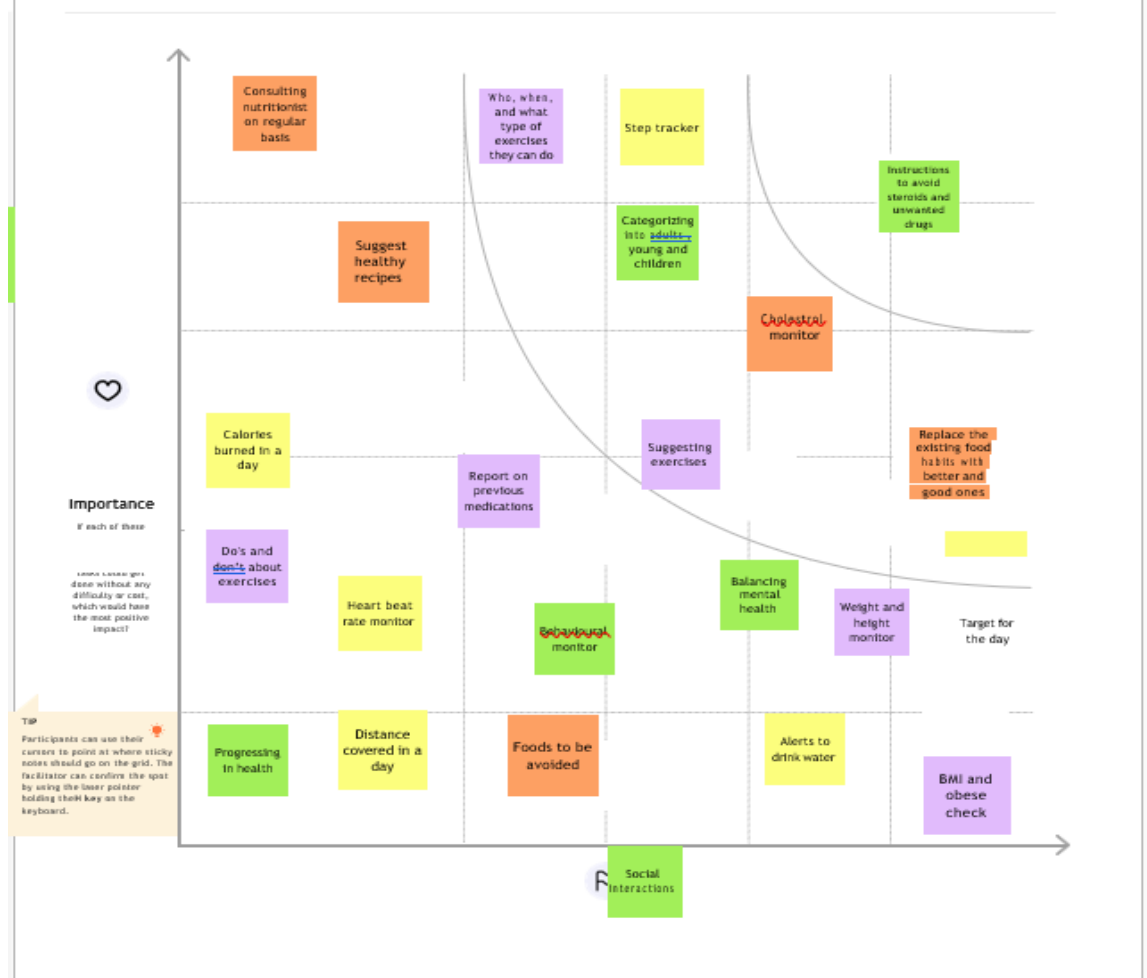| BMI and obese check | Cholestrol monitor | Weight and height monitor | Diet planner |

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Step 4

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

takes could get done without any difficulty or cost, which would have the most positive impact?

TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding their key on the keyboard.

Consulting nutritionist on regular basis

Who, when, and what type of exercises they can do

Step tracker

Instructions to avoid steroids and unwanted drugs

Suggest healthy recipes

Categorizing into adults, young and children

Cholestral monitor

Calories burned in a day

Report on previous medications

Suggesting exercises

Replace the existing food habits with better and good ones

Do's and don't about exercises

Balancing mental health

Weight and height monitor

Target for the day

Heart beat rate monitor

Behavioural monitor

Progressing in health

Distance covered in a day

Foods to be avoided

Alerts to drink water

BMI and obese check

Social interactions

3.3 Proposed Solution

S.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 Descripition	➢ 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

1. CUSTOMER SEGMENT(S) `CS`	6. CUSTOMER CONSTRAINTS `CC`	5. AVAILABLE SOLUTIONS `AS`
All age group people who are careless about their health due to their busy schedule and intake of high-calorie food like fast foods and packed foods.	If the image is not clear, the app doesn't provide accurate result. So the customer should provide a clear image for knowing the nutrition content about the food.	Although the packed food comes with nutrition labels like calorie level and nutrition contents, it's still not very convenient for people to refer to App-based nutrient dashboard systems.

(Left margin: Define CS, fit into CC) *(Right margin: Explore AS, differentiate)*

2. JOBS-TO-BE-DONE / PROBLEMS `PR`	9. PROBLEM ROOT CAUSE `RC`	7. BEHAVIOUR `BE`
The problem of the user are obesity, fear of getting health related issues like heart attack, diabetes, etc... They will get frustrated of not getting immediate result and difficult to do tedious work. Sometimes they feel like lack of confidence due to their appearance.	It is easy to fall into a trap of eating unhealthy foods which is heavy in calories. Once the nutritional value is replaced by foods high in sugar, bad fats and salt it leads to various health issues so users need to control their daily calorie intake to lead a healthy lifestyle.	The behavioral changes in users reflect in their day-to-day life such as they will maintain a proper diet and follow the daily routine in eating and intake of healthy food. So, that it helps them to improve their health.

(Left margin: Focus on J&P, tap into) *(Right margin: Focus on PR, tap into BE, understand RC)*

3. TRIGGERS `TR`	10. YOUR SOLUTION `SL`	8. CHANNELS of BEHAVIOUR `CH`
Desire to live a healthy lifestyle. By knowing the success story of people who achieved their goal. By seeing people who are fit and healthy.	By taking the picture of the food and uploading it in the app, the user can know what are all the nutrients present in the food. Clarifai's AI-Driven Food Detection Model is used for getting accurate identification of food and APIs to give the nutritional value of the identified food.	**ONLINE** The application provides a user friendly environment that enables users to interact through chatbot to clarify their queries and a dashboard is displayed to know the acivities. **OFFLINE** Connecting all the users through offline
4. EMOTIONS: BEFORE / AFTER `EM`		
They scared of declining health, so they get motivated towards eating healthy foods and move to healthy lifestyle		

(Left margin: Identify strong TR & EM) *(Right margin: Extract online & offline CH)*

16

4. REQUIREMENT ANALYSIS

4.1. FUNCTIONAL REQUIREMENT

- Associate's degree in nutrition or a related field
- Certification as a dietetic technician is preferred
- Previous experience in a similar role is preferred
- Ability to provide high-quality dietary advice to patients
- Willingness to customize dietary advice to meet the unique needs of patients
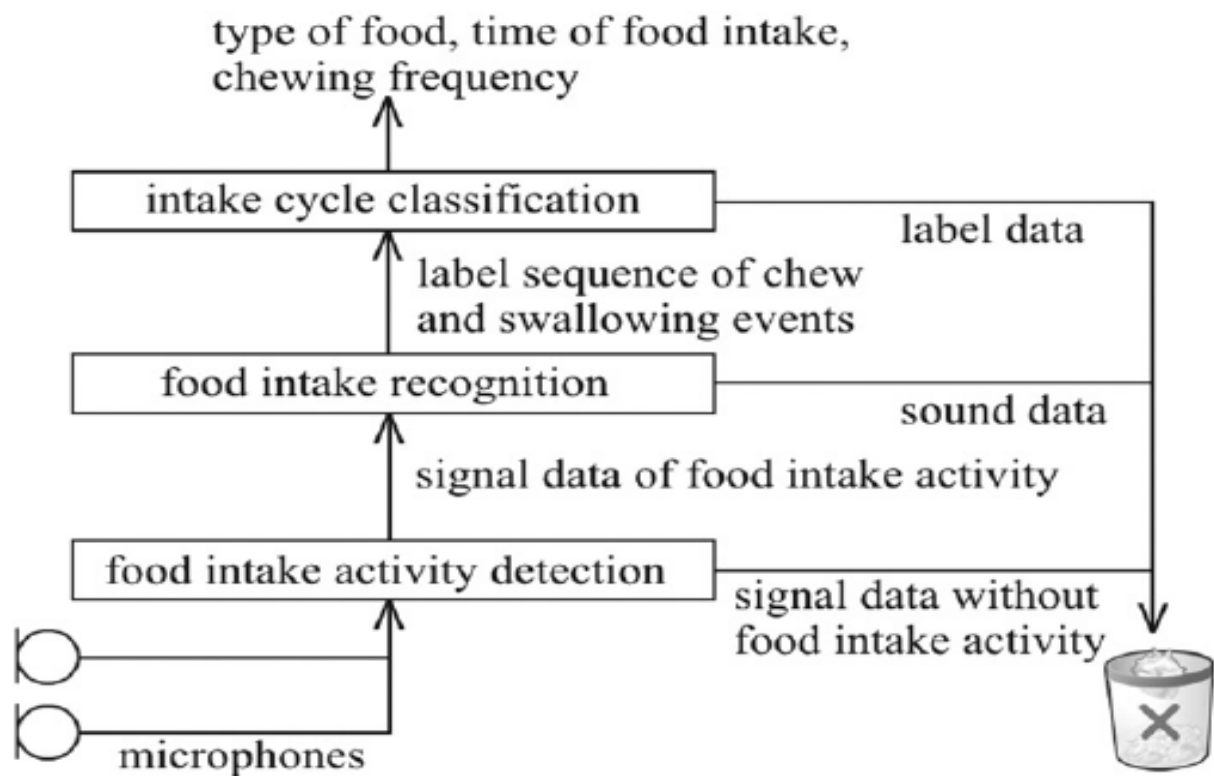- Excellent interpersonal skills

4.2. NON-FUNCTIONAL REQUIREMENT

Non-functional requirements are attributes that either the system or the environment must have [4]. IEEE (1993) defines non-functional requirements in software system engineering, "a software requirement that describes not what the software will do, but how the software will do it, for example, software performance requirements, software external interface requirements, design constraints, and software quality attributes".

A number of research initiatives identified the non-functional requirements Some of these are requirements that many stakeholders gravitate to, and some are requirements few if any end users recognize are needed. Non-functional requirements and their descriptions for the Cometech Project (adapted from are presented in the following

5. PROJECT DESIGN

5.1 Data Flow Diagrams

type of food, time of food intake,
chewing frequency

↑

| intake cycle classification |

label data

label sequence of chew
and swallowing events

| food intake recognition |

sound data

signal data of food intake activity

| food intake activity detection |

signal data without
food intake activity

microphones

5.2 Solution & Technical Architecture
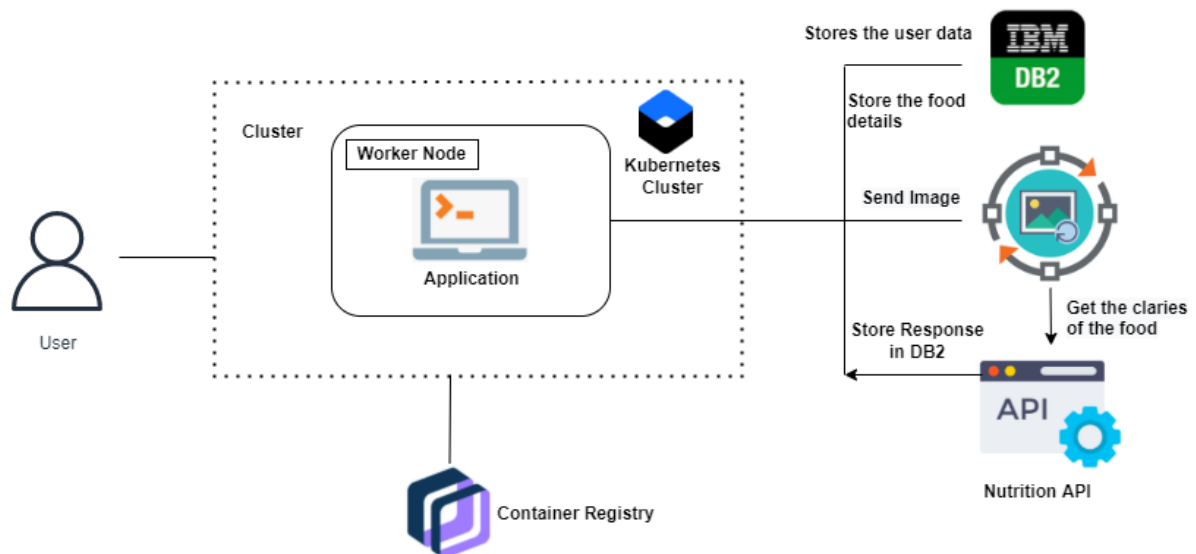
5.3 User Stories

- As an initian visitor, I want to see what the application is about, what it does, and see if I am interested in creating an account to use the application.
- As a visitor I would like a link to a demo page of what the application looks like and does.
- As a visitor who has made an account I would like to sign in to access my account.
- As a interested user, I want a simple sign up page.

As a logged in user

- As a user, I want be able to add meals and have a over all view of what I am eating.

- As a user I want to see the macro and micro nutrient totals each day
- As a user I want a link to a weekly summary

When I add meals:

- As a user, I want to be able to add ingrediants in name and quantity
- As a user, I want to save my recipes
- As a user, I want to be able to upload a picture of the recipe
- As a user, I want to be able to view the nutrition profile of the meal in my   saved recipes
- As a user, when i click on the nutrition profile i want a it easily readible with most relevant information at the top.

4.4 SYSTEM ARCHITECTURE
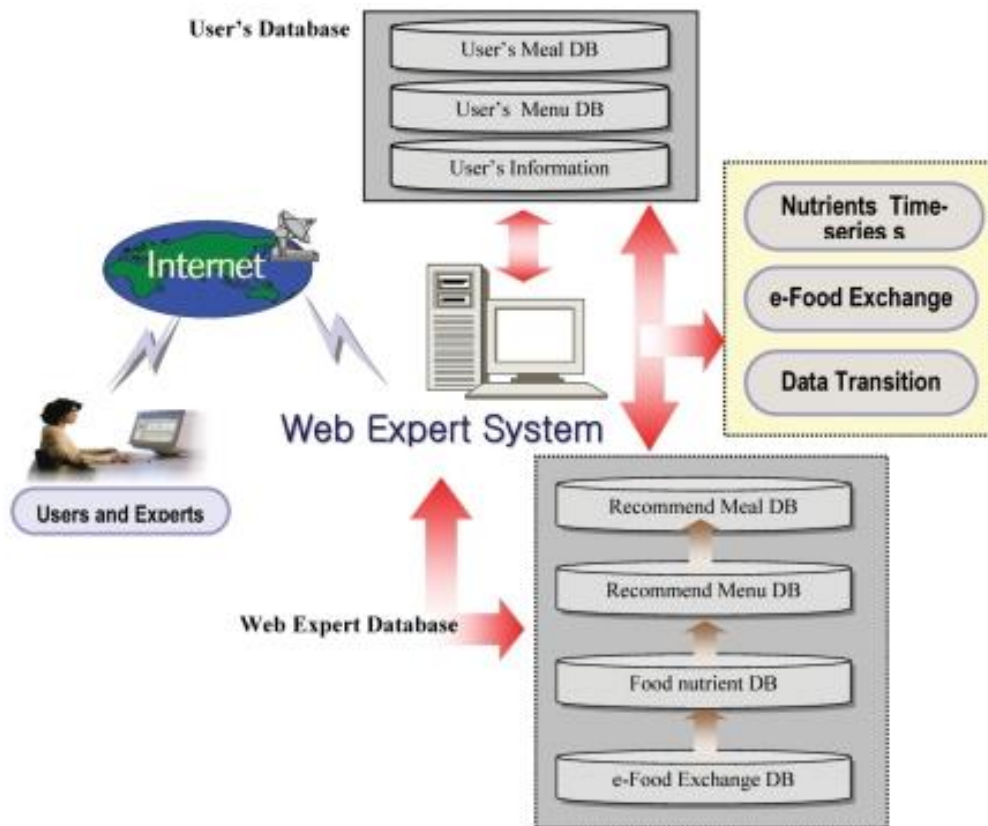
6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

- What are the team's goals for the sprint?
- What tasks need to be completed in order to achieve these goals?
- Who is responsible for each task?
- What is the deadline for each task?
- What are the team's priorities for the sprint?

Estimation

This application will estimate the number of calories a person needs to consume in a day.

6.2 Sprint Delivery Schedule

Sprint	Functional Requirement (Epic)	User story number	User story /task	Story points	Priority	Team members
Sprint-1	Home page	USN-1	As a user, I can register for the application by entering my email,password, and confirming my password.	5	High	K.S.Vars hith V.Vipin Raj
Sprint-1	Notify	USN-2	As a user, I will receive confirmation email once I haveregistered for the application.	5	Medium	R.P.Surya H.Balsingh
Sprint-1	Login page	USN-3	As a user, I can log into the application by entering email &password.	5	Medium	K.S.Vars hith V.Vipin Raj

Sprint-1	Registra-tionpage	USN -4	A new user have to register and loginto access the web app	5	High	R.P.Surya H.Balsingh
Sprint-2	Database manage-ment & connec-tivity	USN-5	As a user, I can fill the De-tails.	20	High	K.S.Varsh ith V.Vipin Raj R.P.Surya H.Balsingh
Sprint-3	API (Clarifai)	USN-6	The connection b/w the web app andthe clarifai api	10	High	K.S.Varsh ith V.Vipin Raj
Sprint-3	Chatbot	USN-7	The user can also directly talk to thewebpage and ask question using chatbot	10	High	R.P.Surya H.Balsingh
Sprint-4	Shown the nutrition Recipe for scanned food	USN-8	As a user, I can scan the food an getthe nutrition de-tails and recipe for related scanned	10	High	K.S.Varsh ith V.Vipin Raj R.P.Surya H.Balsingh
Sprint-4	Final Deliv-ery	USN-9	Integrate the application to Cloud usingDocker and Ku-bernetes. Submit the report of the final application	10	High	K.S.Varsh ith V.Vipin Raj R.P.Surya H.Balsingh

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		29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022		05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022		12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022		19 Nov 2022

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

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let'scalculate the team's average velocity (AV) per iteration unit (story points per day)

6.3 Reports from JIRA
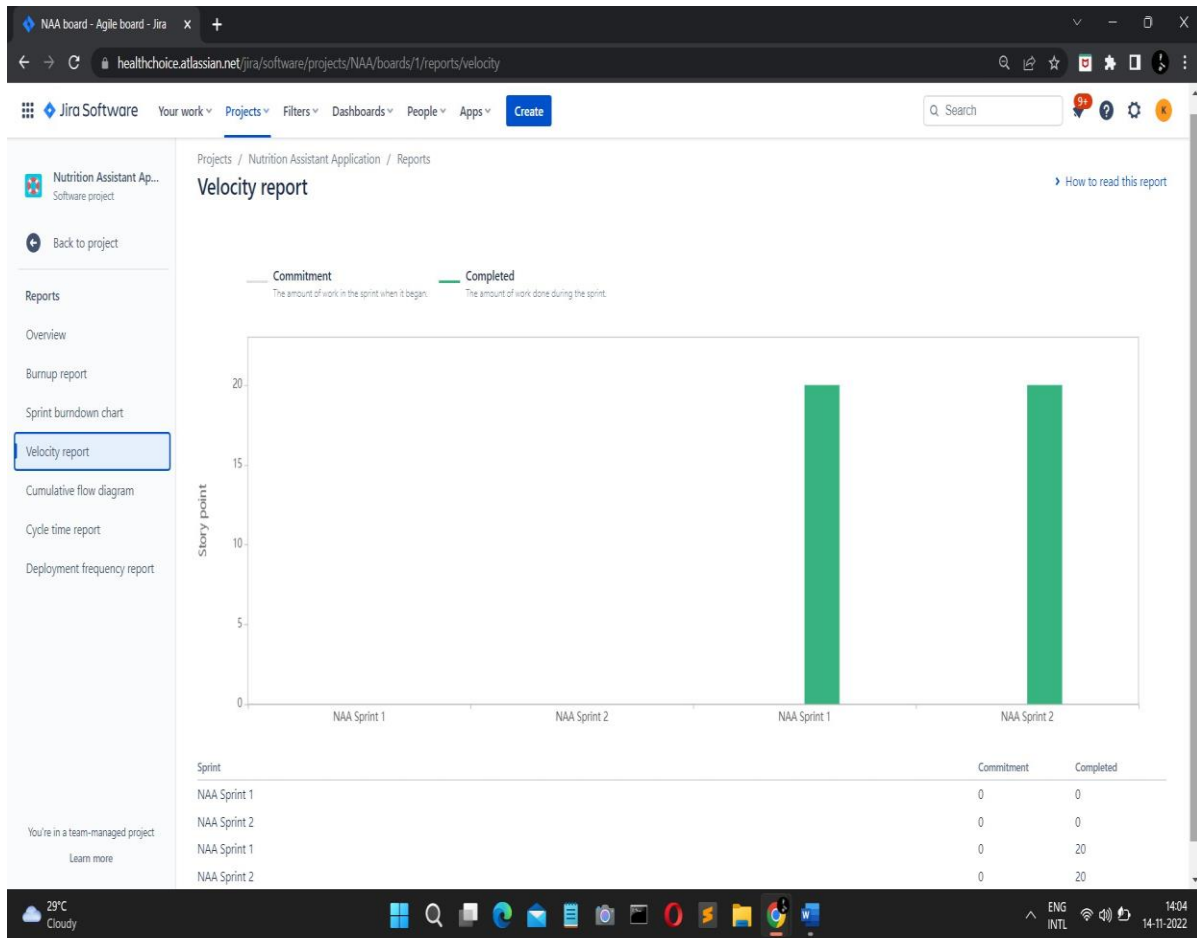
JIRA Roadmap:
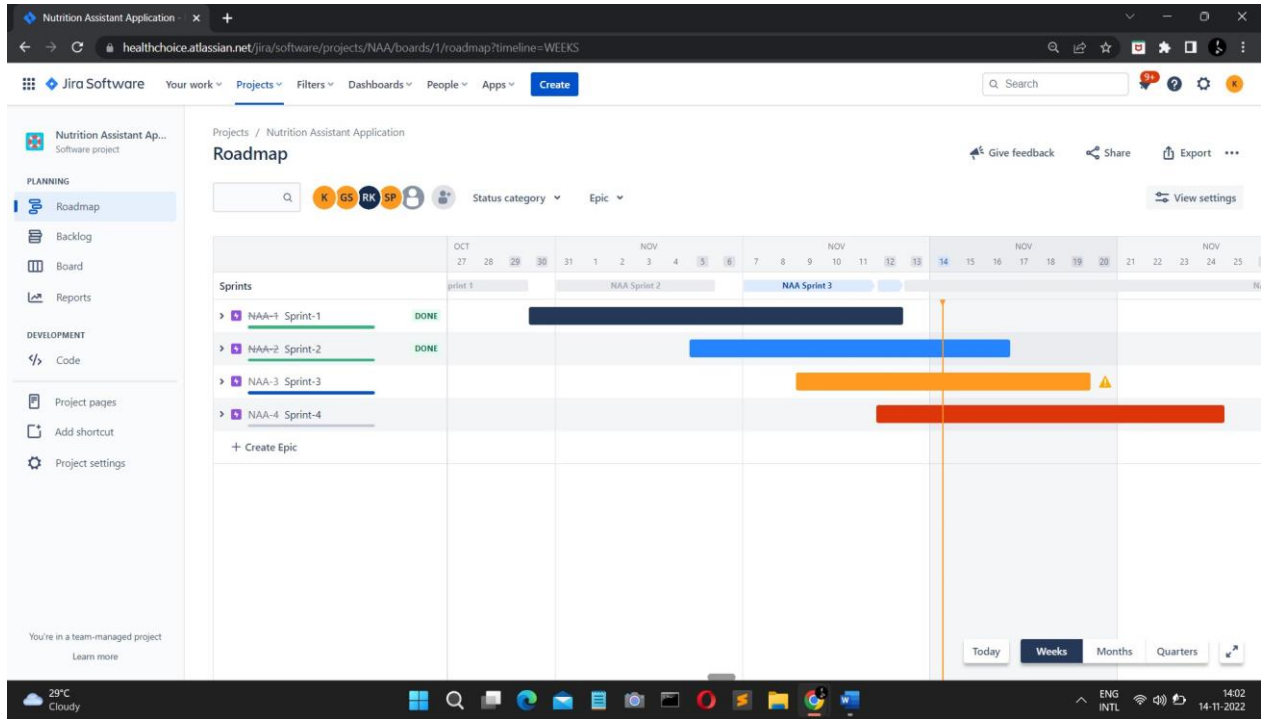
JIRA Backlog:
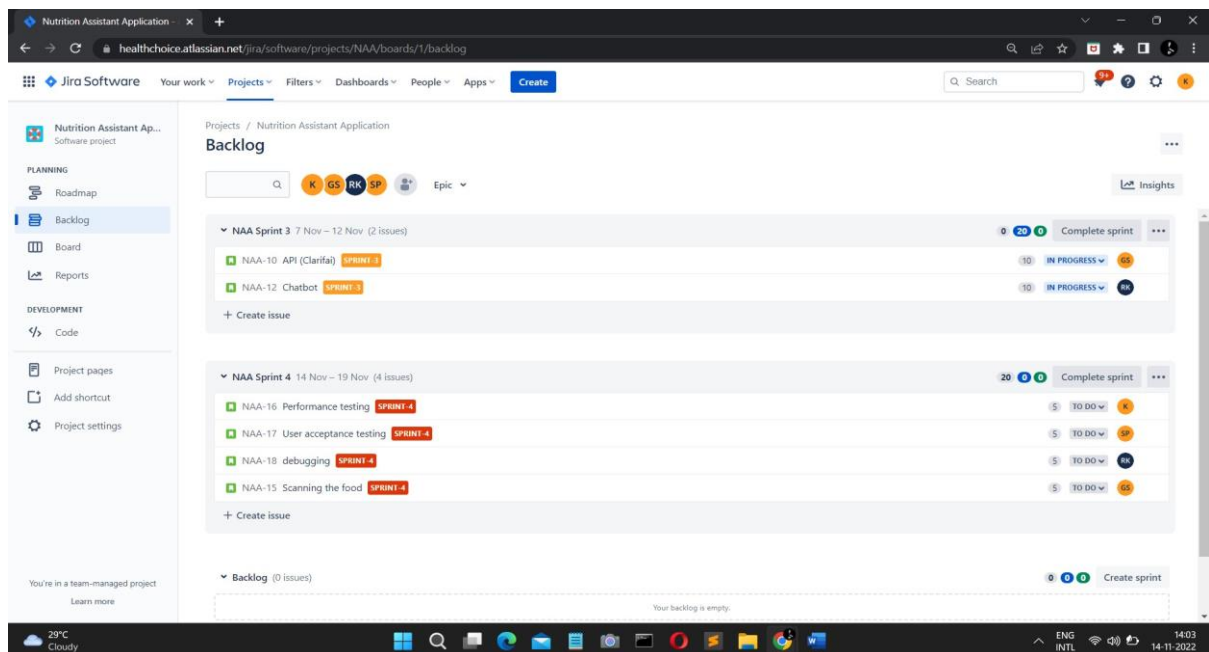
JIRA Board:
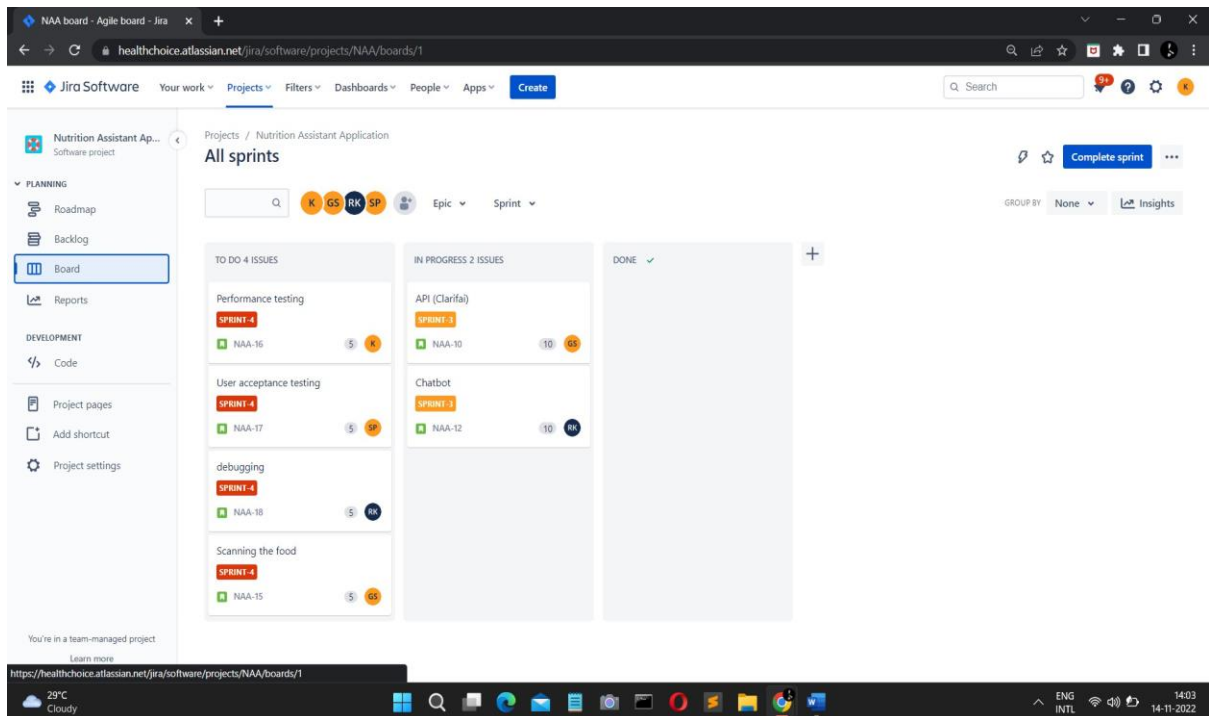
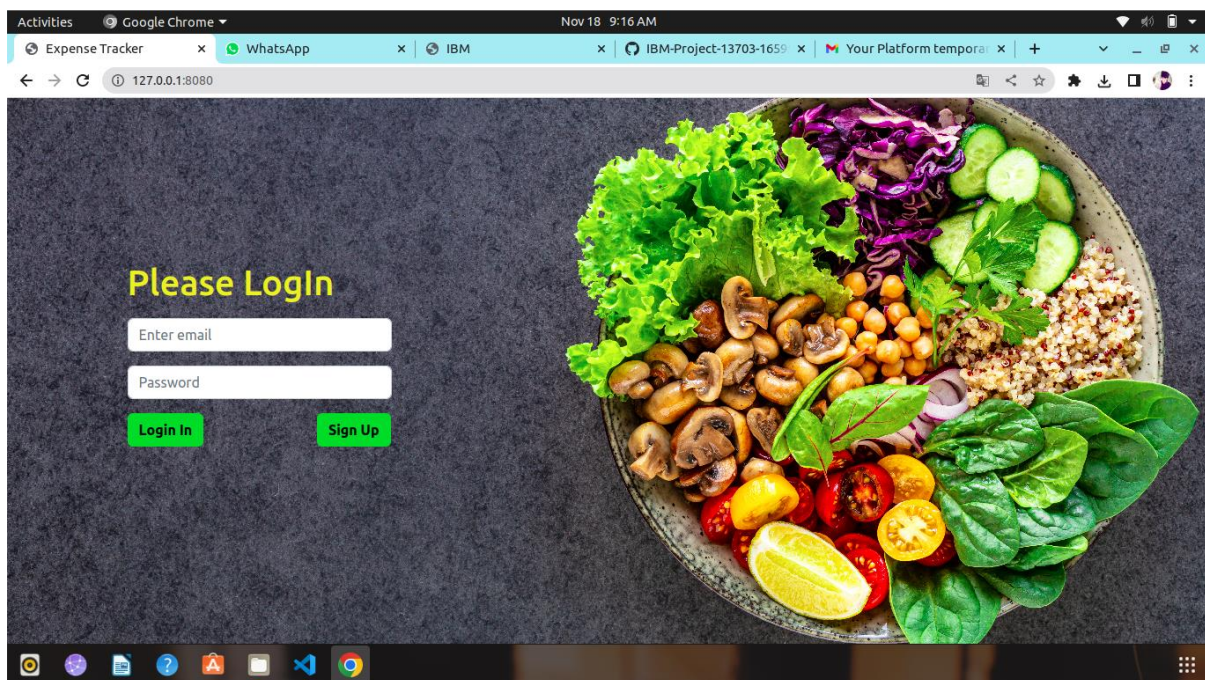## JIRA Burndown Chart:
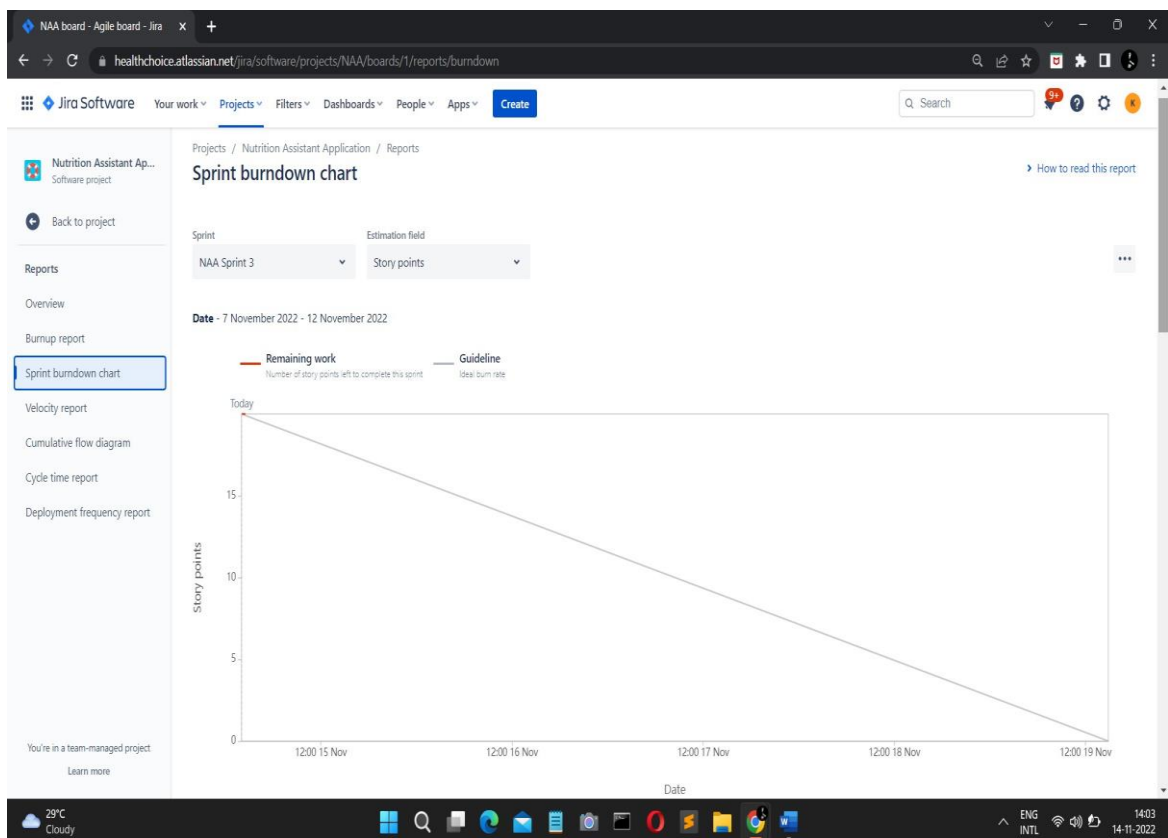
JIRA Velocity Report:

7. CODING AND SOLUTIONING
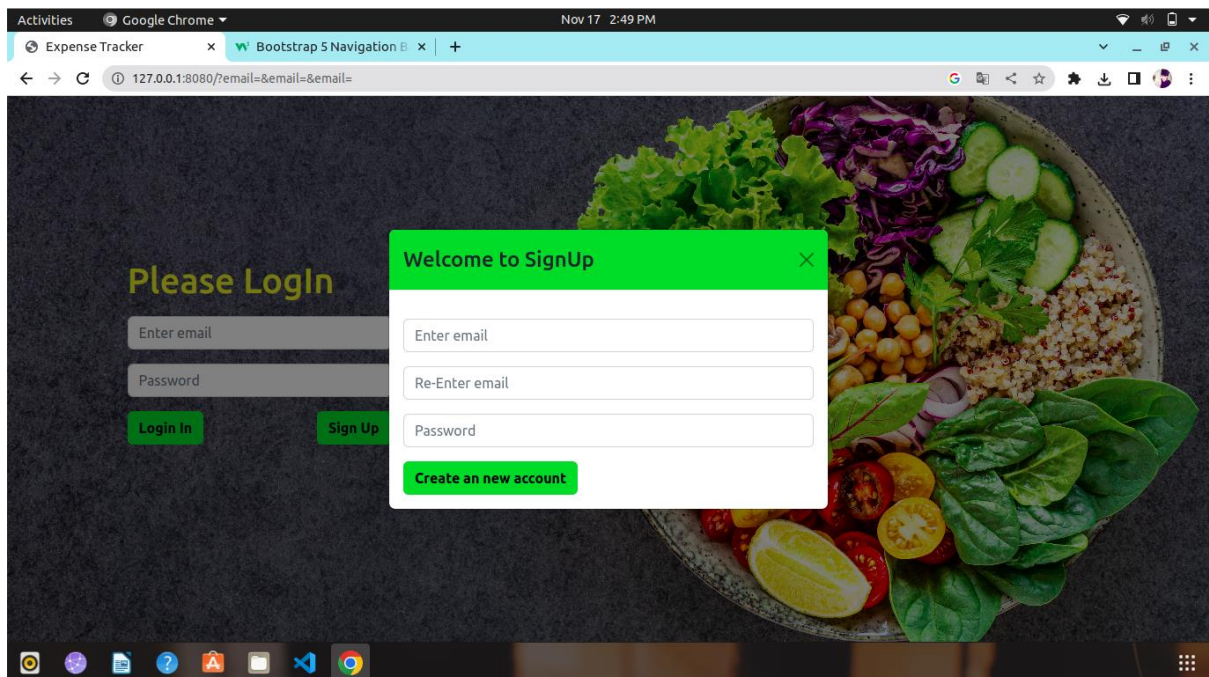
7.1 Feature 1

Description:

User can register for the application by entering my email or uname,password, and confirming the password.And user will reieve confirmation email once they have registered for the application. They have enter the biometrics details that are asked in the application. And they can make some recommendations such as weight loss needs, food control, nutritive plan etc.

Login page

Registration Page

Index Code

<!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>Expense Tracker</title>

<!-- Styles -->

<link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}">

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/boot-strap.min.css"

rel="stylesheet">

<script

```
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.bun-
dle.min.js"></script>
<style>
.content {
background-image: url("{{ url_for('static', filename='media/bg1.jpg') }}");
}
</style>
</head>
<body>
<div class="content">
<div class="content_box">
<h1 class="head">Please LogIn</h1>
<form>
<div class="mb-3 mt-3">
<input type="email" class="form-control" id="email" placeholder="Enter
email"
name="email">
</div>
<div class="mb-3 mt-3">
<input type="password" class="form-control" id="password"
placeholder="Password" name="email">
</div>
<input type="submit" class="btn" style="color: black;font-weight: bold;back-
groundcolor:
rgb(27, 196, 21);" value="Login In">
<button type="button" class="btn modal_button" style="color: black;font-
weight:
bold;background-color: rgb(27, 196, 21);" data-bs-toggle="modal" data-bstar-
get="#
```

```
myModal">Sign Up</button>
</form>
</div>
</div>
<!-- The Modal -->
<div class="modal fade" id="myModal">
<div class="modal-dialog modal-dialog-centered">
<div class="modal-content">
<div class="modal-header">
<h4 class="modal-title">Welcome to SignUp</h4>
<button type="button" class="btn-close" data-bs-dismiss="modal"></button>
</div>
<!-- Modal body -->
<div class="modal-body">
<form>
<div class="mb-3 mt-3">
<input type="email" class="form-control" id="email" placeholder="Enter
email"
name="email">
</div>
<div class="mb-3 mt-3">
<input type="email" class="form-control" id="re-email" placeholder="Re-Enter
email" name="email">
</div>
<div class="mb-3 mt-3">
<input type="password" class="form-control" id="password"
placeholder="Password" name="email">
</div>
```
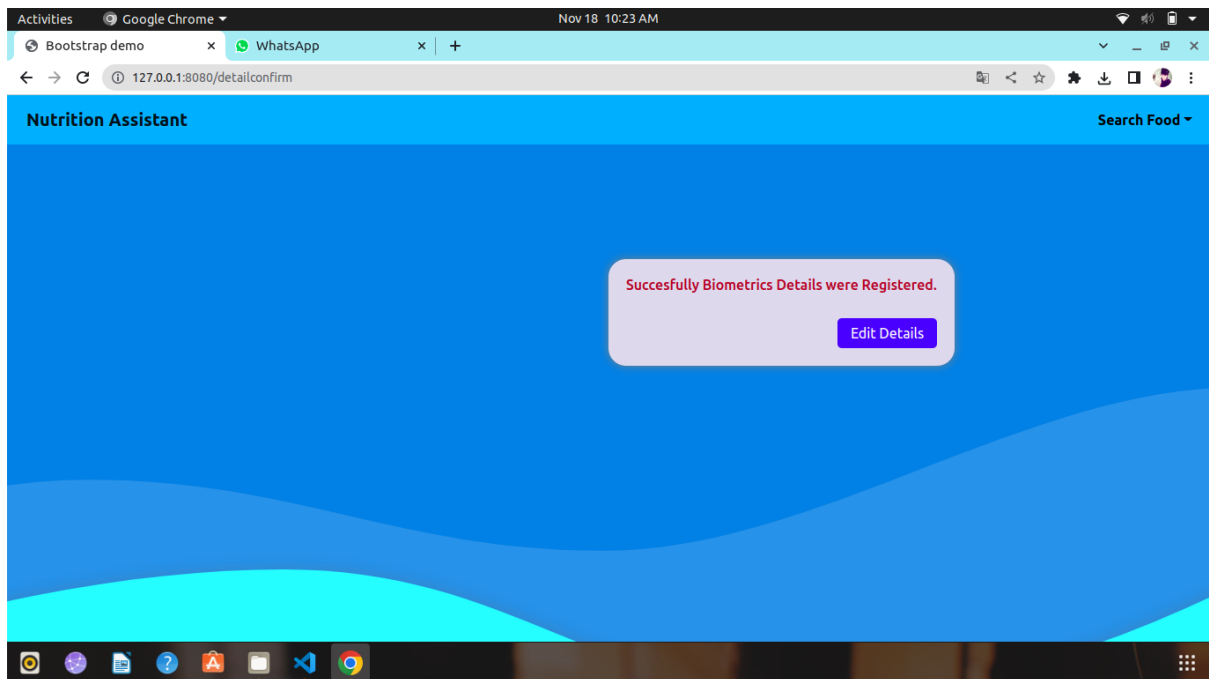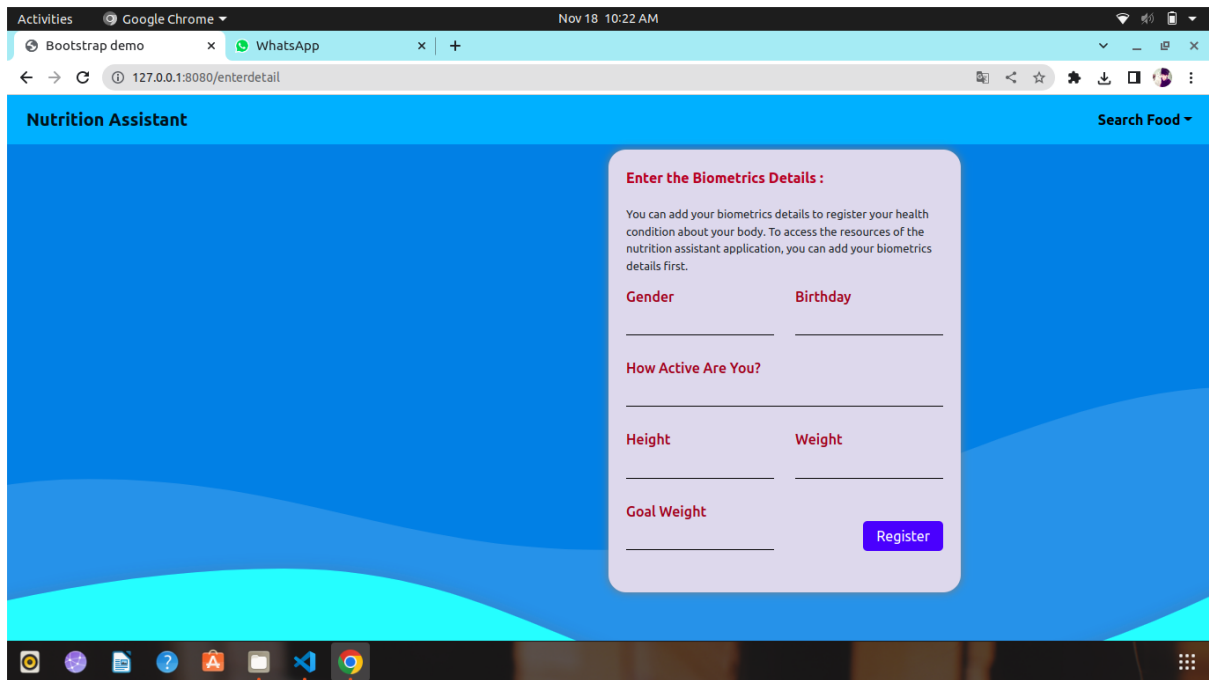
```html
<input type="submit" class="btn" style="color: black;font-weight: bold;back-
groundcolor:
rgb(27, 196, 21); " value="Create an new account">
</form>
</div>
</div>
</div>
</div>
</html>
```
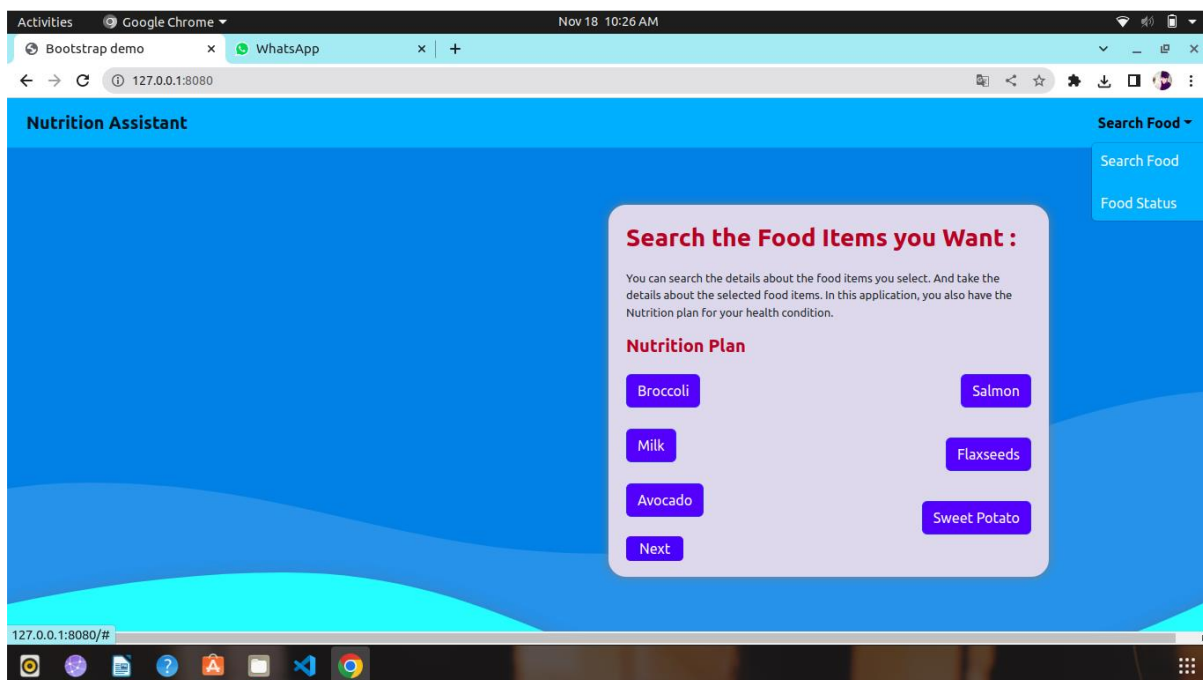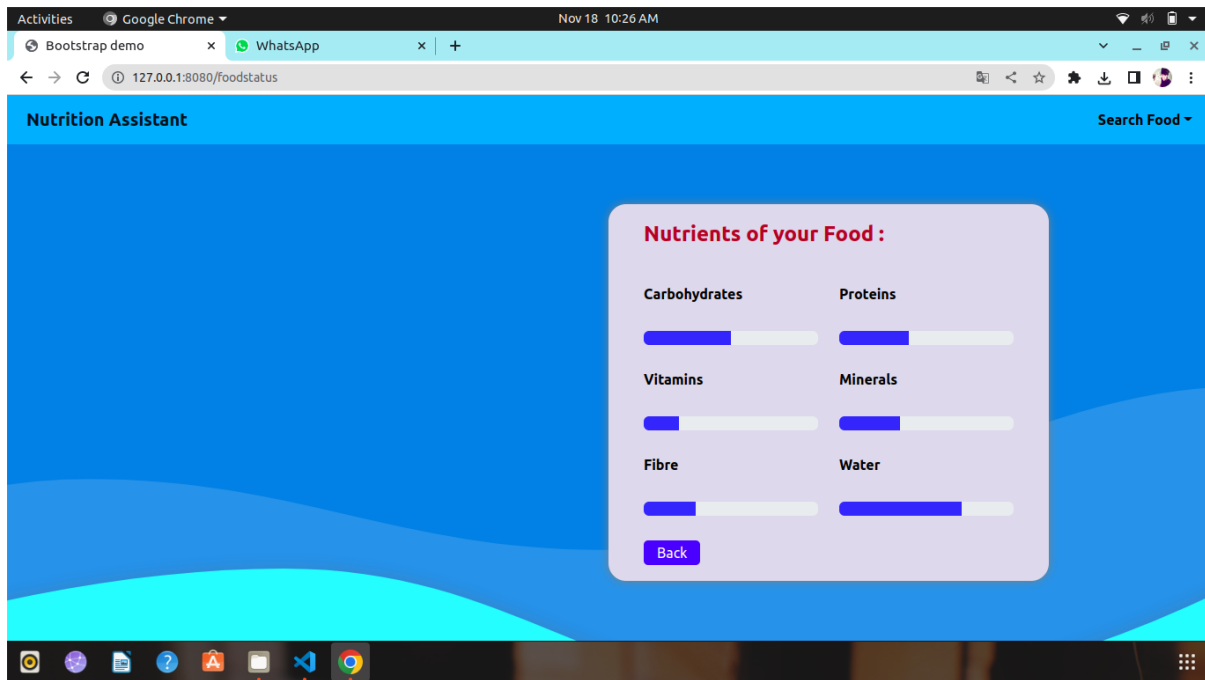
Biometric Details
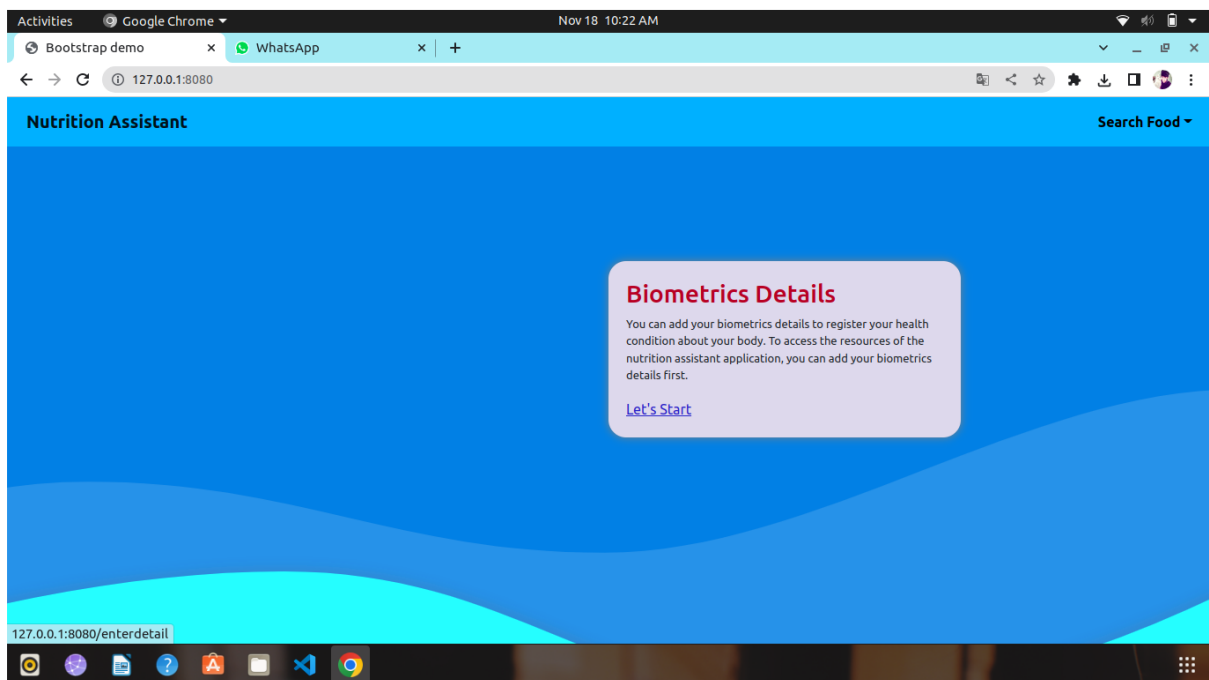
7.2 Feature 2

Description

User will search the foodin the application.They can have some suggestion about choosen food to have a healthy lifestyle. Also they can add daily, how much calories I have per day. It gives custom alert, if they crossed the calorie limit. I can access the application anywhere by using net.

Python code

```python
from flask import Flask, render_template, redirect, request, url_for, flash

app = Flask(_name_)

@app.route('/')

def addcalorie():

return render_template('index.html')

if _name_ == '_main_':

app.run(host='0.0.0.0',port=8080,debug=True)
```

Base Code

```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}">
<title>Bootstrap demo</title>
```

```html
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/boot-
strap.min.css"
rel="stylesheet">
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/js/bootstrap.bun-
dle.min.js"></script>
<script src="{{ url_for('static', filename='script/script.js') }}"></script>
<style>
.base_content {
height: 100vh;
background-image: url("{{ url_for('static', filename='media/bg3.svg') }}");
background-position: center;
background-repeat: no-repeat;
background-size: cover;
background-color: aqua;
}
</style>
{% block head %}{% endblock %}
</head>
<body>
<div class="base_content">
<nav class="navbar navbar-expand-sm">
<div class="container-fluid">
<a class="navbar-brand" id="navbar-head" href="/">Nutrition Assistant</a>
<button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-
bstarget="#
collapsibleNavbar">
<span class="navbar-toggler-icon"></span>
</button>
```

```html
<div class="collapse navbar-collapse justify-content-end" id="collapsible-Navbar">
<ul class="navbar-nav">
<li class="nav-item dropdown">
<a href="/" class="pagelink">Add Calorie Level</a>
</li>
</ul>
</div>
</div>
</nav>
</div>
{% block body %}{% endblock %}
</body>
</html>
```

Index Code

```html
{% extends 'base.html' %}
{% block head %}
{% endblock %}
{% block body %}
<div class="addcalorie_content">
<h5 class="addcaloriehead">Add and Check your Daily Calorie Level</h5>
<div class="addcaloriedescription">You can select the food material and check the Calorie
level of that selected food. It helps you to know the detail about the selected
food.</div><br>
<input type="text" id="addcalorieform"><br><br>
<button id="Checkalertbtn" onclick="alertCalorie()">Check</button>
</div>
<script>
```

```
function alertCalorie() {

window.alert("One cup (186g) of cooked short-grain white rice has 242 calo-
ries.")

}
</script>
{% endblock %}
```

8. TESTING

8.1 Test Cases

1. As a user, I want to be able to create a new account so that I can use the application.

2. As a user, I want to be able to login to my account so that I can access my data.

3. As a user, I want to be able to view my nutrient intake for the day.

4. As a user, I want to be able to add new foods to my account.

5. As a user, I want to be able to edit the foods in my account.

6. As a user, I want to be able to delete foods from my account.

7. As a user, I want to be able to view my nutrient intake for the week.

8. As a user, I want to be able to view my nutrient intake for the month.

9. As a user, I want to be able to view my nutrient intake for the year.

10. As a user, I want to be able to log out of my account

8.2 User Acceptance Testing

1. The application should allow the user to input their daily caloric intake goal.

2. The application should allow the user to input the number of calories they have consumed in a day.

3. The application should allow the user to input the number of calories they have burned in a day.

4. The application should allow the user to input the number of steps they have taken in a day.

5. The application should allow the user to see how many calories they have remaining for the day.

6. The application should allow the user to see how many steps they have remaining to reach their goal.

7. The application should allow the user to see their progress towards their goal for the day.

8. The application should allow the user to see their progress towards their goal for the week.

9. The application should allow the user to see their progress towards their goal for the month.

10. The application should allow the user to set a new goal.

8. RESULTS

8.1 Performance Metrics

The nutrition assistant application is designed to help users track their daily nutrient intake and eating habits. The app provides users with a daily nutrient intake goal, and users can track their progress towards this goal by logging their daily food intake and activity level. The app also provides users with tips on how to improve their diet and eating habits.

The app's performance is generally good, but there are some areas that could be improved. The app's nutrient tracking feature is accurate and helpful, but the app does not provide users with enough information about the nutrients in their food. The app's diet and eating habit tips are generally good, but the app could provide more specific and tailored tips. Overall, the app is a helpful tool for users looking to improve their diet and eating habits.

ADVANTAGES

- It include early identification and treatment, can help alleviate malnutrition, growth retardation, frequent infections, dehydration, and other medical consequences .

- useful to Keeps skin, teeth, and eyes healthy.

- Supports muscles.

- Boosts immunity.

- Strengthens bones.

DISADVANTADES

There is no significant disadvantage to using a nutrition assistant application. However, some people may find it difficult to use the application if they are not familiar with computers or mobile devices. Additionally, some people may prefer to receive nutrition information from a registered dietitian or other health professional.

9. CONCLUSION

The application comes in response to a current problem that is increasingly common - physical appearance. Control over our diet makes an important contribution to our physical and mental state By saying this we mean avoiding certain food intolerances, frequent mood swings, or storing energy in larger quantities [14]. The application has an interface that can be easily interacted with. It has combined the features that are most popular and used in the process of weight loss or weight gain. It is based on a database large enough to demonstrate its purpose and workflow. We have described in the previous chapters what options it offers.

10. FUTURE SCOPE

The future of the Nutrition assistant application is to continue to help people make healthier choices when it comes to food. The app will continue to provide users with information about the nutritional value of food, as well as tips on how to eat healthy. The app will also continue to be a resource for people who are looking to lose weight or maintain a healthy weight.

11. APPENDIX

Source Code

```python
from flask import Flask, render_template
app = Flask(_name_)
@app.route('/')
def index():
return render_template('index.html')
@app.route('/biometricdetail')
def biometricdetail():
return render_template('biometricdetail.html')
@app.route('/enterdetail')
def enterdetail():
return render_template('enterdetail.html')
@app.route('/detailconfirm')
def detailconfirm():
return render_template('detailconfirm.html')
@app.route('/searchfood')
def searchfood():
return render_template('searchfood.html')
@app.route('/foodstatus')
def foodstatus():
return render_template('foodstatus.html')
@app.route('/addcalorie')
def addcalorie():
```

return render_template('addcalorie.html')

if _name_ == '_main_':

app.run(host='0.0.0.0',port=8080,debug=True)

GITHUB LINK ： https://github.com/IBM-EPBL/IBM-Project-41055-1660638970

DEMO LINK :