IBM NALAYATHIRAN

Project Report

NUTRITION ASSISTANT APPLICATION

TEAM ID: PNT2022TMID15881

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Project Overview

Currently, we see how on TV, on social networks, in the press, on blogs, etc., famous people and advertising that promote a healthy lifestyle and proper nutrition. These things have become especially prevalent in the pandemic when everyone has been isolated at home and because of stress and sedentary lifestyle people have either gained unwanted pounds or lost too much weight. The current paper describes the Appetite application starting with the motivation and similar applications, continuingwith the architecture and details about the main functionalities.

1.2 Purpose

Nutrition assistants ***help dieticians with providing proper nutrition at healthcare facilities.*** They determine patients' nutritional needs, assess risk factors, and plan meals and menus. They also ensure proper sterilization of plates and utensils.

2. LITERATURE SURVEY

2.1 Existing Problem

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 employees ***Clarifai's AI-Driven Food Detection Model*** for accurate food identification and Food APIs to give the nutritional value of the identified food.

2.2 References

1. NAME OF THE PAPER: Measuring and influencing physical activity with smartphone technology

PUBLISHED YEAR: 2014

AUTHOR: Judit Bort Roig et al. Sports Med

2.NAME OF THE PAPER: Primary Nutrition Health care.

PUBLISHED YEAR: 2020

AUTHOR: Christian Kraef et al. Bull World Health Organ.

3. NAME OF THE PAPER: Rapid Developments Technology Have Encouraged the use of Smartphone in Health Promotion Research and Practice.

PUBLISHED YEAR: 2015

AUTHOR: Steven S Coughlin et al. Jacobs J Food Nutr

4. NAME OF THE PAPER: Effect of nutrition care provided byprimary health professionals on adult's dietary behaviors a systematic review.

PUBLISHED YEAR: 2015

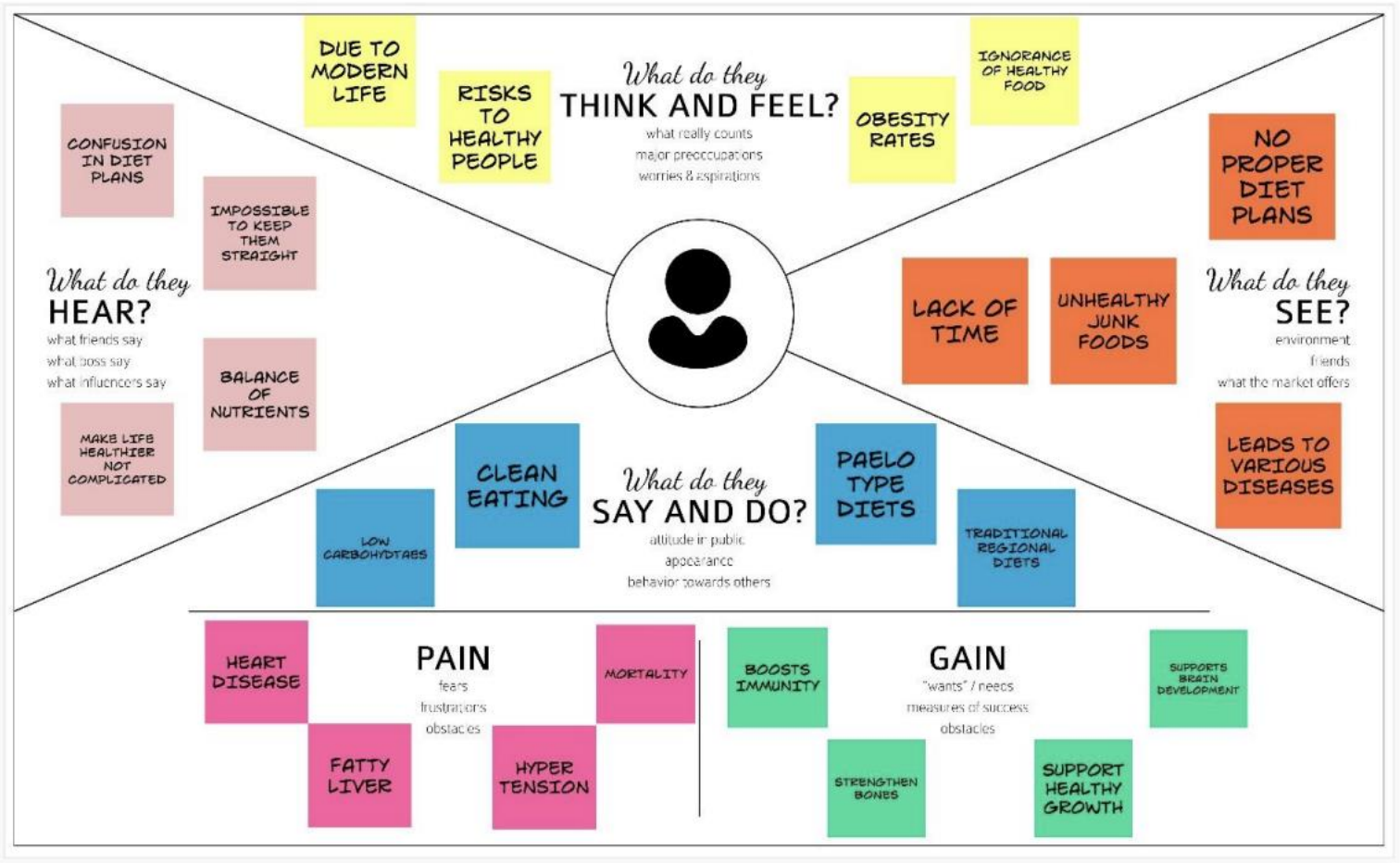
AUTHOR: Lauren Ball et al. Fam Pract.

2.3 Problem Statement Definition

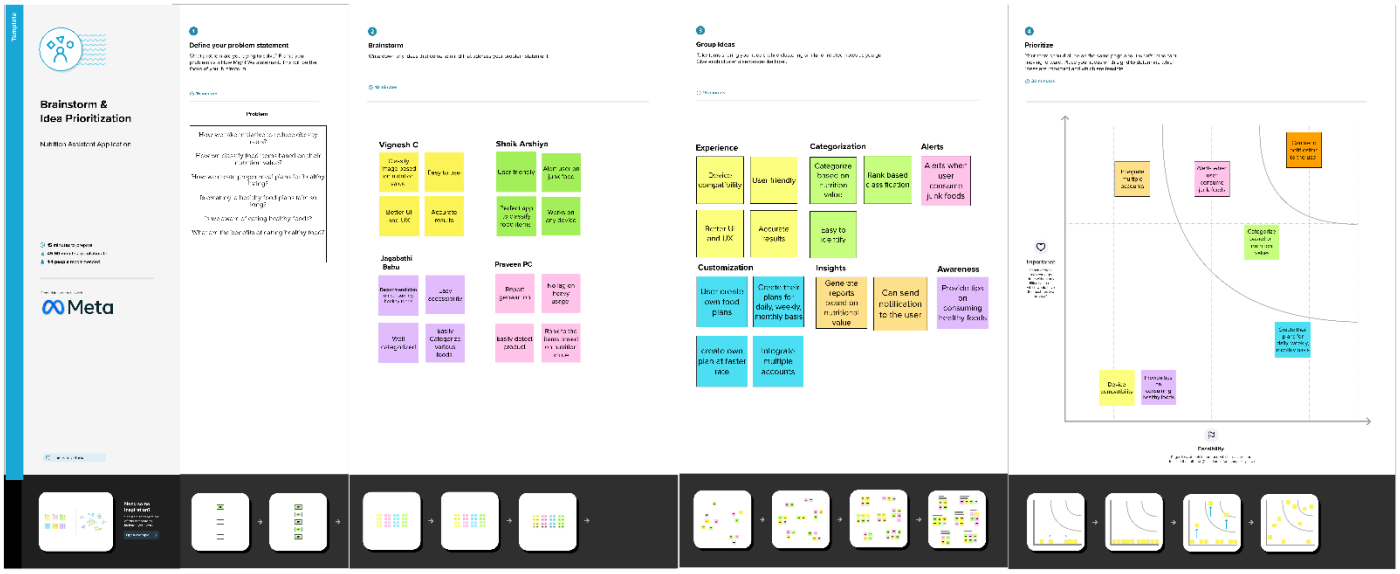
This Nutrition assistant app is based on nutrients and calories of the food will help people with providing proper nutrition and helps in maintaining a healthy lifestyle. Instead of using many different apps to keep touch with people, this one software handle everything, such as meal planning, diet analysis, communication between client and nutritionists, workout plans, questionnaires, and nutrition coaching for clients Further this will help you to track their progress, keep a food journal, track their water intake.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map



3.2 Ideation & Brainstorming



3.3 Proposed Solution

S.No	Parameter	Description
1.	Problem Statement (Problem to be solved)	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.
2.	Idea / Solution description	The proposed solution helps the user to create their own meal/diet plan according to their healthy intake activities. It can give the accurate value of the calories of the food which helps the user to know the nutrition value. It also stores the data or images that user upload and can easily fetch the data next time.
3.	Novelty / Uniqueness	This nutrition assistant application is an web based application so we can use it on any device like mobile phones, laptop etc. It can also recommend some of the healthy diet plans that can help the user with no knowledge about the diet. The application also generates reports on their diet plans on weekly/monthly basis so user can know about his / her health details.

4.	Social Impact / Customer Satisfaction	It will help people with providing proper nutrition and helps in maintaining a healthy lifestyle. App- based nutrient dashboard systems which can analyze real time images of meal and analyze it for nutritional content can be very handy and improve the dietary habit. Those who are having obesity problem with no knowledge about how to overcome obesity they can follow basic diet plan in the application.
5.	Business Model (Revenue Model)	Social media is the best way to spread the word about our application. And with the influencers we can attract the normal people. Clustering and targeting the fitness people with the help of local gyms.
6.	Scalability of the Solution	Malnutrition and stunting impair growth and development in children because of poor nutrition, repeated infection, and inadequate psychosocial stimulation. Affecting 35 percent of Zambian children under age 5, stunting can cause poor cognition and educational performance along with other harmful lifelong effects. This type of application can prevent or the reduce the percentage of the children or teenagers to fall the risk of obesity. Since they can use the application without any assistance. Increasing this type of application can bring a major change in obesity rates.

3.4 Problem Solution fit

Project Title: Nutrition Assistant Application | **Project Design Phase-I - Solution Fit Template** | **Team ID:** PNT2022TMID15581

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

Who is your customer?

- The people with obesity, who wants to track their calories and monitor their progress toward weight management goals.
- The people who want a healthy diet and to track their fitness level with the help of nutrition assistance application.

6. CUSTOMER CONSTRAINTS CC

What constraints prevent your customers from taking action or limit their choices of solutions?

- This application gives accurate information about the food we need and searching the database is simple.
- This app is very easy to use and the interface is pleasant and user friendly.

5. AVAILABLE SOLUTIONS AS

Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past?

- The app will help us to choose healthier foods and suggests some calorie less foods. It also provides tips to control weight management.
- This app will help This will connect users with fitness coaches. They will help user with diet plans and suggests some physical activities.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS J&P

Which jobs-to-be-done (or problems) do you address for your customers?

- It implements meal plans that improve the customers health and also track their daily calorie intake.
- If the user exceeds their limited calorie level suggested by the app, the user will get warning notification from the user.

9. PROBLEM ROOT CAUSE RC

What is the real reason that this problem exists? What is the back story behind the need to do this job?

- The obesity is generally caused by eating unhealthy food and consumes high amount of energy.
- Heavily processed foods are often little more than refined ingredients mixed with high amount of fats.

7. BEHAVIOUR BE

What does your customer do to address the problem and get the job done?

- In search box, the user will able to get the nutrition information of the food they want. And they may track their calorie intake.
- They also have premium option, where the user will get direct appointment with nutritionist and they may control their obesity level with the help of diet plan.

Focus on J&P, tap into BE, understand RC

3. TRIGGERS TR

What triggers customers to act?

- Provides more support around improving our wellness by allowing us to track health and fitness achievements from anywhere.

10. YOUR SOLUTION SL

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.

- Our Nutrition application will help the users with not only providing nutrition information but

8. CHANNELS OF BEHAVIOUR CH

8.1 ONLINE

What kind of actions do customers take online? Extract online channels from #7

ONLINE:

They get reliable information about the food they search for and able to track their fitness level.

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 Form.
FR-2	User Confirmation	Confirmation via OTP.
FR-3	Uploading Image	The system should be able to get the image from the user.
FR-4	Identification of image	The system should be able to identify the image of the food given using model.
FR-5	Obtain the ingredients	The system must be able to obtain the ingredients of the given food image.
FR-6	Display the nutritional value	The system must be able to display the nutritional value of the food with the help of nutritional Application

4.2 . Non-Functional Requirement

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

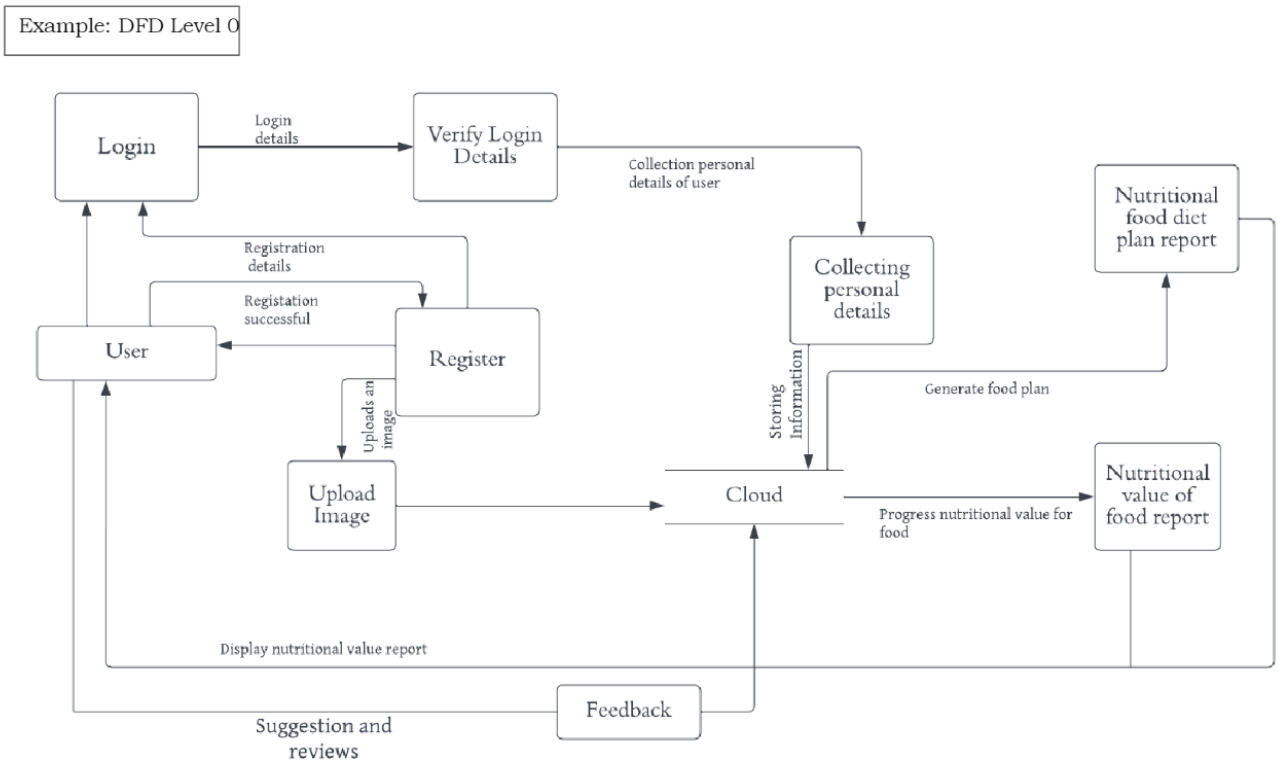
FR.No	Non-Functional Requirement	Description
FR-1	Usability	Only registered user is allowed to use the application.
FR-2	Security	Authentication of user is done for security purpose.
FR-3	Reliability	The user gets the standardized nutritional value of the food items.
FR-4	Performance	User satisfaction is ensured by getting their feedback.

FR-5	Availability	This application can be used by the user when they are in online Mode.
FR-6	Scalability	This application can be used in all operating system, and it can handle quite large Quantity of users too.

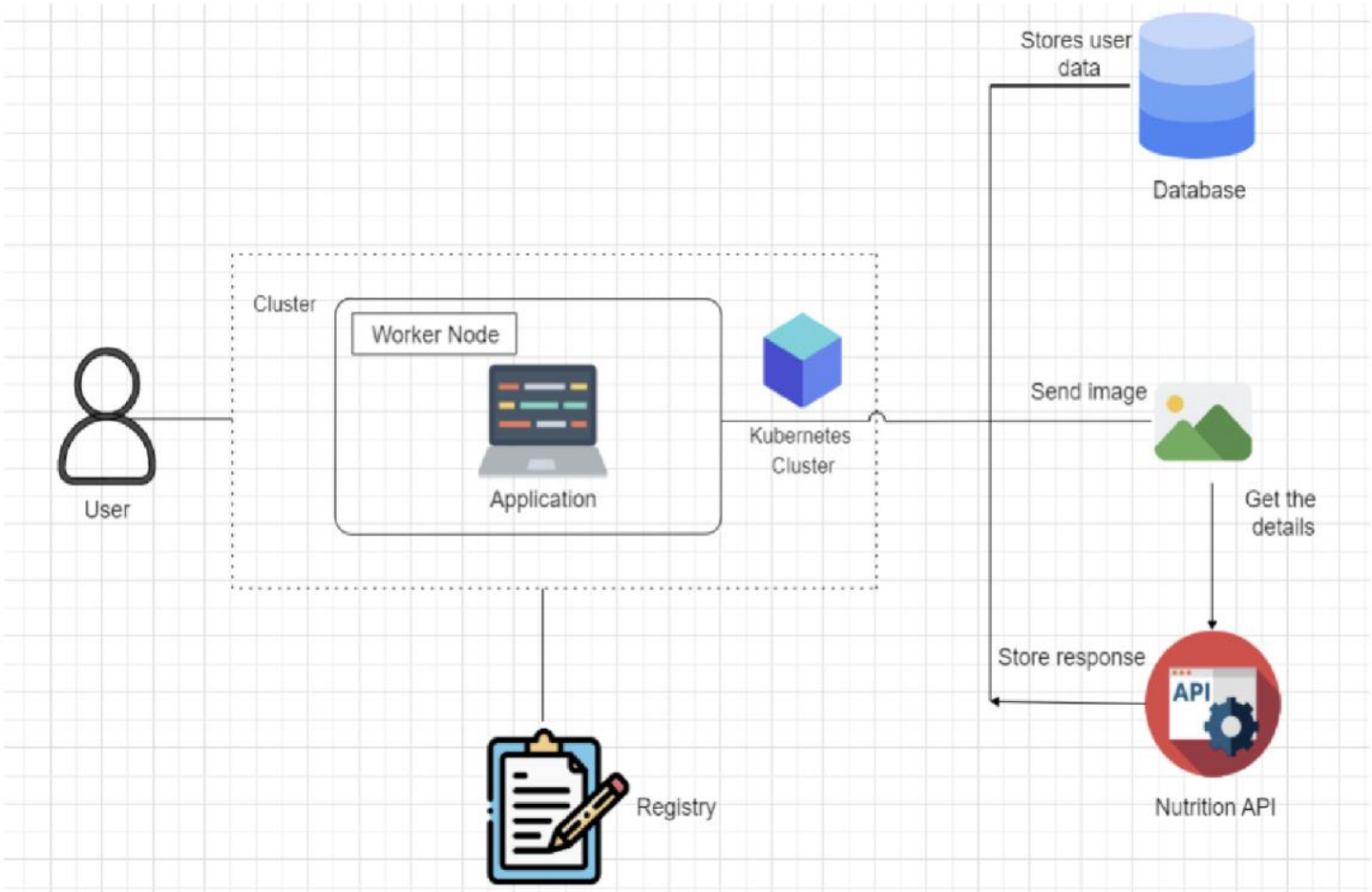
5. PROJECT DESIGN

5.1 Data Flow Diagrams

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



5.2 Solution & Technical Architecture



5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
	Login	USN-3	As a user, I can log into the application by entering email & password	I can login when password and email are correct	High	Sprint-1
	Collecting personal details	USN-4	As a user, I can provide a personal information for processing	I can enter the personal details	Medium	Sprint-1
	Upload image	USN-5	As a user, I can upload an image for the processing of food.	I can upload a food image.	High	Sprint-1
	Feedback	USN-6	As a user, I can give feedback	I can give feedback about the application	Low	Sprint-1
Cloud	Nutritional value of report	USN-7	In cloud the food image is processed and provides the nutritional value of food.	It gives the nutritional value	High	Sprint-2

6. PROJECT PLANNING & SCHEDULING

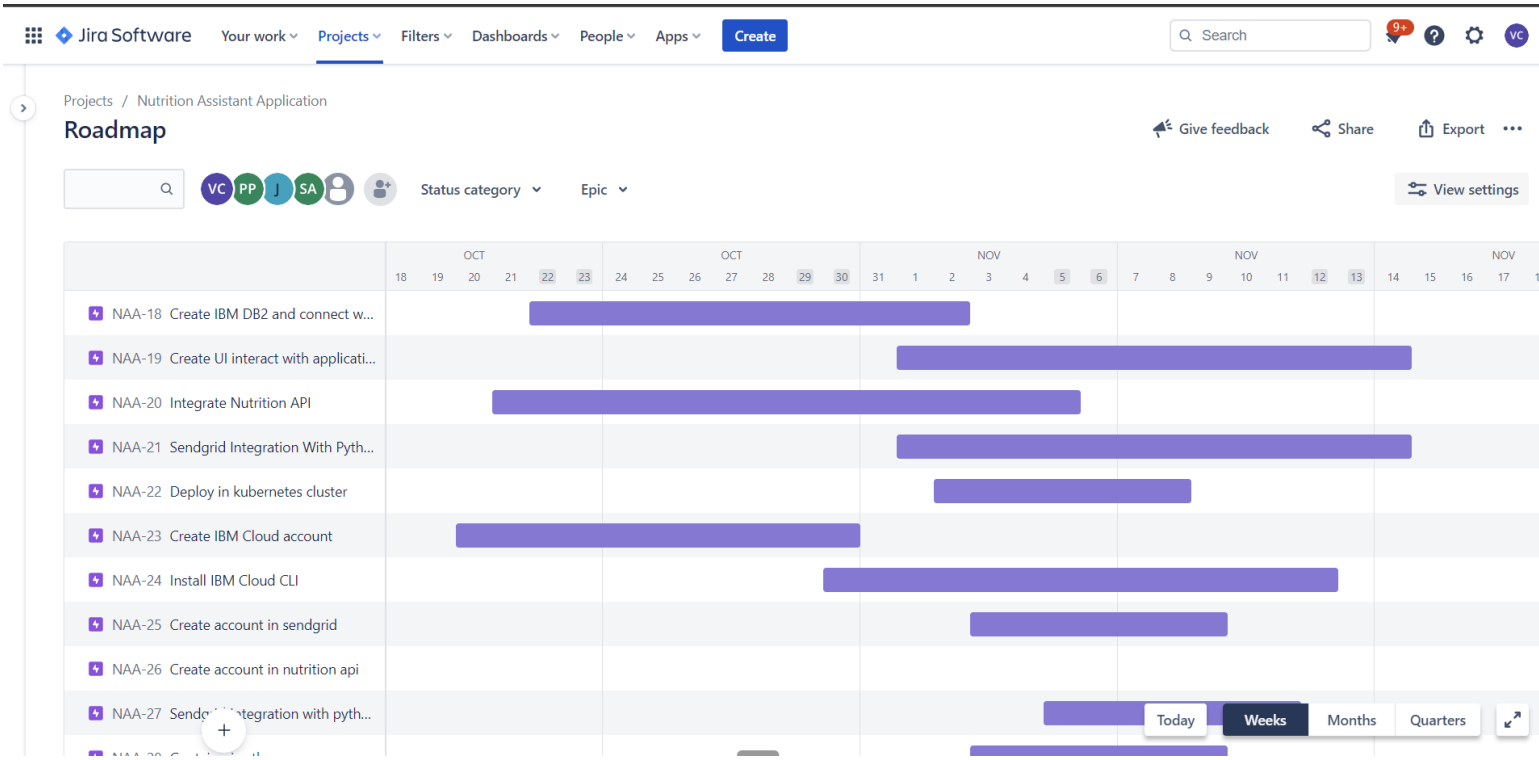
6.1 Sprint Planning & Estimation

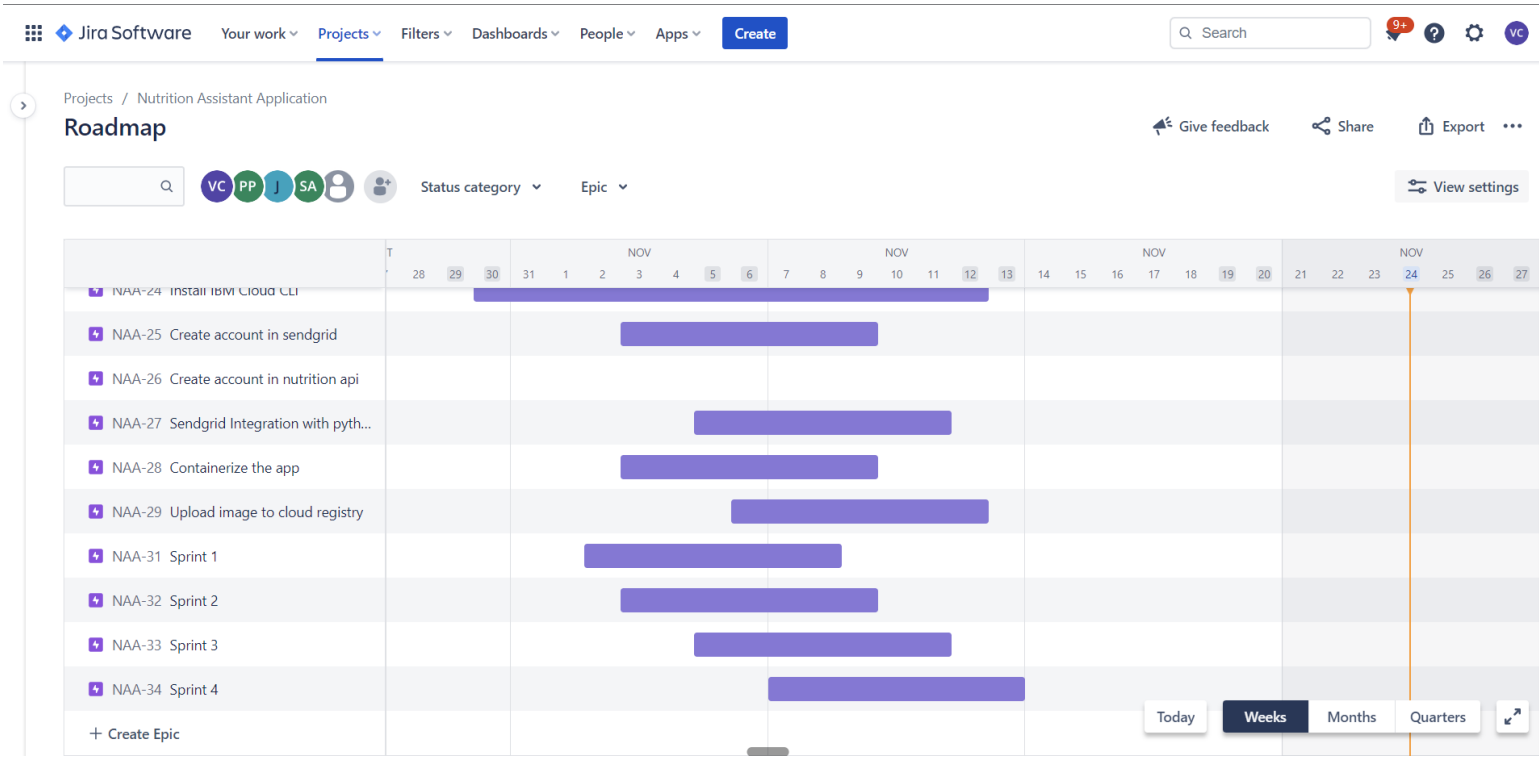
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	prerequisites formodel building	USN-0	As a developer I must collect the different type of data possible and other data supporting the model	2	High	Vignesh C Shaik Arshiya
Sprint-1	Registration	USN-1	As a user, I can register for the application byentering my email, password, and confirming my password.	2	High	Praveen P C Vignesh C
Sprint-1		USN-2	As a user, I will receive confirmation email onceI have registered for the application	1	High	Vignesh C Shaik Arshiya
Sprint-1	Gmail Registration	USN-3	As a user, I can register for the application through Gmail	2	Low	Jagabathi Babu Shaik Arshiya
Sprint-2	Login	USN-4	As a user, I can log into the application by entering email & password	1	High	Vignesh C Jagabathi Babu
Sprint-2	Suggestion	USN-5	As a user now I can make recommendations such as nutrition plans, diet plans etc..	1	Low	Praveen P C Shaik Arshiya
Sprint-2	Model building	USN-6	Development of the model with the Prepared data	2	High	Vignesh C Jagabathi Babu
Sprint-2	Main interface	USN-7	As a user i can view my calories by uploading the photo of the food that I want to eat	2	High	Praveen P C Shaik Arshiya
Sprint-3	Diet plan for freeusers	USN-9	As a dietician I provide a diet plan for the betterment of the user	2	Medium	Vignesh C Praveen P C
Sprint-3	Diet plans for Premium users	USN-10	As a premium user, I can choose to follow thediet plan based on my food habits	1	Medium	Shaik Arshiya Vignesh C
Sprint-3	User image analysis	USN-11	As a user, I can track my calories intake and know about my food in detail	2	High	Vignesh C Jagabathi Babu
Sprint-3	Improve the efficiencyof AI model	USN-12	As a developer, I can give the better model that analyze the food and provide the accurate result	2	Medium	Praveen P C Jagabathi Babu
Sprint-3	User analysis record	USN-13	As a user, I can check the records of the food habits	1	Medium	Jagabathi Babu Vignesh C
Sprint-4	Diet tips and basicplan	USN-14	As a user now I can make recommendationssuch as nutrition plans, diet plans etc..	1	Medium	Shaik Arshiya Jagabathi Babu
Sprint-4	Payment	USN-15	Develop the payment gateway options forpremium users	2	High	Praveen P C Jagabathi

6.2 Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date(Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date(Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	4 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	11 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	18 Nov 2022

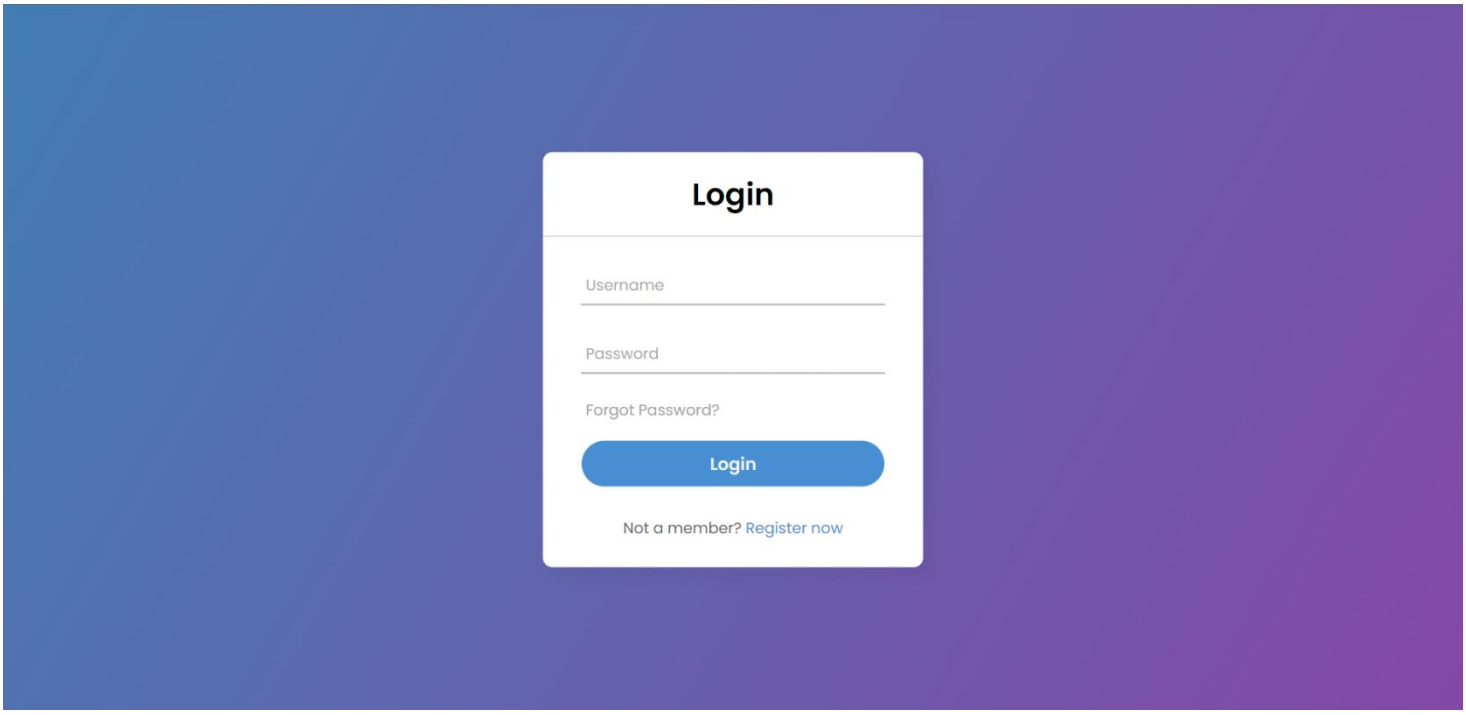
6.3 Reports from JIRA



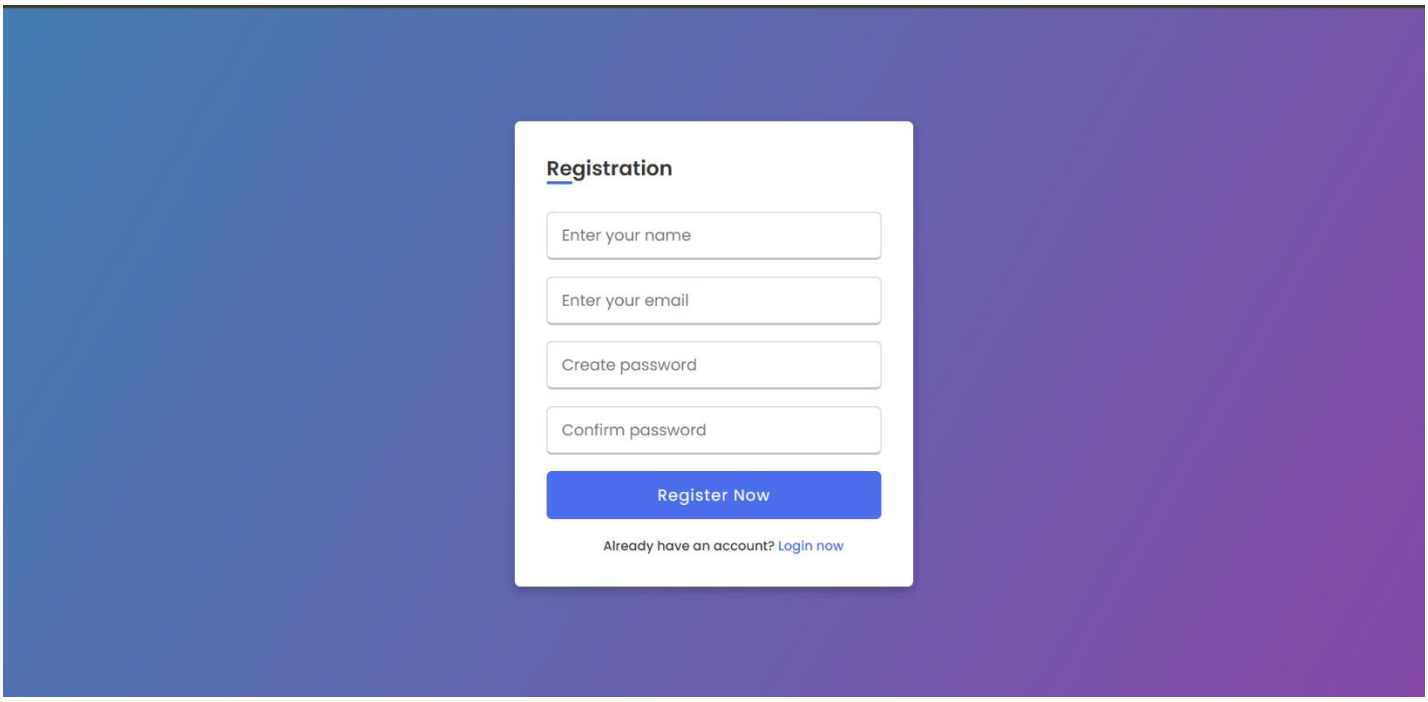

Jira Software
Your work
Projects
Filters
Dashboards
People
Apps
Create
Search
9+
VC
Projects / Nutrition Assistant Application
Roadmap
Give feedback
Share
Export
VC
PP
J
SA
Status category
Epic
View settings
T
NOV
NOV
NOV
NOV
28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
NAA-24 Install IBM Cloud CLI
NAA-25 Create account in sendgrid
NAA-26 Create account in nutrition api
NAA-27 Sendgrid Integration with pyth...
NAA-28 Containerize the app
NAA-29 Upload image to cloud registry
NAA-31 Sprint 1
NAA-32 Sprint 2
NAA-33 Sprint 3
NAA-34 Sprint 4
Create Epic
Today
Weeks
Months
Quarters

7. CODING & SOLUTIONING

7.1 Feature 1



7.2 Feature 2


Registration
Enter your name
Enter your email
Create password
Confirm password
Register Now
Already have an account? Login now

8. TESTING

8.1 Test Cases

This reports how's the number of test cases that have passed, failed, and understand.

Section	Total Test Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	41	0	0	41
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	12	0	0	12
Final Report Output	4	0	0	4
Version Control	2	0	0	2

8.2 User Acceptance Testing

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

All the non-control group users were tracking their nutrition using our application. Therefore, we have measures of any food item being consumed, their portion size, and their nutritional values. Furthermore, we track which of the nutrients were focused on the home- screen on the day an item was consumed. The six nutrients shown on the current day are called "focused" nutrients, while all others are "unfocused" for this day.

9. RESULTS

9.1 Performance Metrics

Cloud performance metrics enable you to effectively monitor your cloud resources, to ensure all components communicate seamlessly. Typically, cloud performance metrics ***measure input/output operations per second (IOPS), filesystem performance, caching, and autoscaling.***

Developers don't have many opportunities to learn how their apps affect people's health due to privacy protection. In some cases, you can invite users to take a survey to better assess the impact your app has had on them. You can also apply common metrics, connecting them to your app's purpose.

10.ADVANTAGES & DISADVANTAGES

Advantages

- It can cause you to think about and consider a food choice before you take a bite.
- It allows you to analyze your own food choices to assess and tweak you're eating plan andpatterns.
- It provides general awareness of nutrients in food.
- It is a targeted way to focus on your health.

Disadvantages

- It can remove a level of mindfulness because the goal is to hit target numbers NOTlisten to your body.
- It's not sustainable long term.
- We might avoid certain healthy foods that are difficult to add into the food tracker.
- We can become hyper-focused on numbers (calories, carbs, fiber, sugar, etc.) overeating awide variety of healthy, whole foods.

11.CONCLUSION

With people becoming conscious about their diets and fitness goals, there is a wide scope of diet and fitness apps thriving in the app world. Therefore, this time is pretty much perfect to create a diet and fitness app of your own and enter the market with a unique idea to lure the audience towards your app. For developing a healthcare app, you must be sure of hiring the best team of experts who have prior experience in the same field and can guide you through the development process.

12.FUTURE SCOPE

In future, Nutrition app plays a vital role in day-to-day life. Everyone is busy with their work and schedules. No one cares about their body condition and health issues. So, this website will be more useful compared to any other websites. This site will provide everyday diet and workouts plans to lead healthy and a peaceful life. This site will help you to be fit by calculating your calories in food when you upload the food picture in the site.

Nowadays, Smart watches helps to calculate your blood pressure, stress level, water content level and mainly it helps you to count your footsteps and makes you fit and healthier. Likewise, this site will help people to eat stay healthy.

13.APPENDIX

13.1. Source Code

Homepage.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Healthchoice</title>
    <link rel="stylesheet" href="style.css" class="rel">
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link
        href="https://fonts.googleapis.com/css2?family=Poppins:ital,wght@0,100;0,200;0,300;0,400;0,5
00;1,100&display=swap"
        rel="stylesheet">
    <link rel="stylesheet"
        href="https://cdn.jsdelivr.net/npm/@fortawesome/fontawesome-
free@6.2.0/css/fontawesome.min.css">
    <!-- CSS only -->
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.2/dist/css/bootstrap.min.css"
rel="stylesheet"
        integrity="sha384-Zenh87qX5JnK2Jl0vWa8Ck2rdkQ2Bzep5IDxbcnCeuOxjzrPF/et3URy9Bv1WTRi"
crossorigin="anonymous">
</head>

<body>
    <nav class="header row container-fluid bg-light">
        <div class="title col-5">
            <h1>NutriChoice</h1>
        </div>
        <div class="nav-links col-5">
            <ul>
                <li>
                    <a href="registration.html">REGISTER</a>
                </li>
                <li>
                    <a href="Login.html">LOGIN</a>
                </li>
                <li>
                    <a href="https://spoonacular.com/food-api/image-analyzer-demo">UPLOAD IMAGE</a>
```

```
                </li>
                <li>
                    <a href="#">HISTORY</a>
                </li>
            </ul>
        </div>

    </nav>

    <div class="text-box p-4 ">
        <h1 class="my-5">
            NUTRITION ASSISTANT APPLICATION
        </h1>
        <p>
            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.
        </p>
    </div>
    <br>
    </section>
    <!-------data-->
    <section class="data ">
        <h1 class="pb-5">
            NUTRITION FOOD
        </h1>
        <div class="row ">

            <div class="data-col">
                <p class=" p-4 ">
                    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.

                </p>

            </div>
            <div class="col">
                <img src="Images/Benefits.jpg" width="300" height="250">
            </div>
        </div>
        <br>
        <div class="row">
            <div class="col">
                <img src="Images/healthy-food.jpg" width="300" height="250">
            </div>
            <div class="data-cols p-4">
                Nutrient-dense foods are rich in vitamins, minerals and other nutrients important
for health, without
                too much saturated fat, added sugars and sodium. We're talking fruits, vegetables,
whole grains, non-fat
                and low-fat dairy, fish and seafood, unprocessed lean meat and skinless poultry,
nuts and legumes.Water
                is the best choice for quenching your thirst. etes, and obesity.
            </div>
        </div>

    </section>
    <section class="upload">
        <h1>
            NUTRITION BENEFITS
        </h1>
        <br>

        <div class="m-auto">
            <div class="upload-col">
                <img src="Images/healthyfood.jpg">
                <div class="layer">
                    <h3><i><b>Food is essential</b></i><br> It provides vital nutrients for
survival, and helps the body
                        function and stay healthy
                        A healthy diet throughout life promotes healthy pregnancy outcomes, supports
normal growth,
                        development and ageing, helps to maintain a healthy body weight, and reduces
the risk of chronic
                        disease leading to overall health and well-being.
                    </h3>
                </div>
            </div>
```

```
        </div>
    </section>
    </section>
    <div class="container-fluid bg-dark footer " data-wow-delay="0.1s">
        <div class="container py-5">
            <center class=" g-5">
                <div class="col-lg-3 col-md-6">
                    <h1 class="fw-bold text-primary mb-4">NutriChoice</h1>
                    <p class="text-white">Healthy food makes you feel good...<br> Put it in the
waste - not on your waist....</p>

                </div>
            </center>
        </div>
    </div>
    </div>
</body>

</html>
```

Registration.html

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="css/registration.css">
   </head>
<body>
  <div class="wrapper">
    <h2>Registration</h2>
    <form action="#">
      <div class="input-box">
        <input type="text" placeholder="Enter your name" required>
      </div>
      <div class="input-box">
        <input type="email" placeholder="Enter your email" required>
      </div>
      <div class="input-box">
        <input type="password" placeholder="Create password" required>
      </div>
      <div class="input-box">
        <input type="password" placeholder="Confirm password" required>
      </div>

      <div class="input-box button">
        <input type="Submit" value="Register Now">
      </div>
      <div class="text">
```

```
        <h3>Already have an account? <a href="Login.html">Login now</a></h3>
      </div>
    </form>
  </div>
</body>
</html>
```

Login.html

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <title>Animated Login Form | CodingNepal</title>
    <link rel="stylesheet" href="css/Login.css">
  </head>
  <body>
    <div class="center">
      <h1>Login</h1>
      <form method="">
        <div class="txt_field">
          <input type="text" required>
          <span></span>
          <label>Username</label>
        </div>
        <div class="txt_field">
          <input type="password" required>
          <span></span>
          <label>Password</label>
        </div>
        <div class="pass">Forgot Password?</div>
        <a class="login-btn" href="./Homepage.html">Login</a>
        <div class="signup_link">
          Not a member? <a href="registration.html">Register now</a>
        </div>
      </form>
    </div>
  </body>
</html>
```

Login.css

```
@import
url('https://fonts.googleapis.com/css2?family=Noto+Sans:wght@700&family=Poppins:wght@400;500;600&dis
play=swap');
*{
  margin: 0;
```

```
  padding: 0;
  box-sizing: border-box;
  font-family: "Poppins", sans-serif;
}
body{
  margin: 0;
  padding: 0;
  background: linear-gradient(120deg,#2980b9, #8e44ad);
  height: 100vh;
  overflow: hidden;
}
.center{
  position: absolute;
  top: 50%;
  left: 50%;
  transform: translate(-50%, -50%);
  width: 400px;
  background: white;
  border-radius: 10px;
  box-shadow: 10px 10px 15px rgba(0,0,0,0.05);
}
.center h1{
  text-align: center;
  padding: 20px 0;
  border-bottom: 1px solid silver;
}
.center form{
  padding: 0 40px;
  box-sizing: border-box;
}
form .txt_field{
  position: relative;
  border-bottom: 2px solid #adadad;
  margin: 30px 0;
}
.txt_field input{
  width: 100%;
  padding: 0 5px;
  height: 40px;
  font-size: 16px;
  border: none;
  background: none;
  outline: none;
}
.txt_field label{
  position: absolute;
  top: 50%;
  left: 5px;
  color: #adadad;
  transform: translateY(-50%);
  font-size: 16px;
  pointer-events: none;
```

```
  transition: .5s;
}
.txt_field span::before{
  content: '';
  position: absolute;
  top: 40px;
  left: 0;
  width: 0%;
  height: 2px;
  background: #2691d9;
  transition: .5s;
}
.txt_field input:focus ~ label,
.txt_field input:valid ~ label{
  top: -5px;
  color: #2691d9;
}
.txt_field input:focus ~ span::before,
.txt_field input:valid ~ span::before{
  width: 100%;
}
.pass{
  margin: -5px 0 20px 5px;
  color: #a6a6a6;
  cursor: pointer;
}
.pass:hover{
  text-decoration: underline;
}

a.login-btn{
  border: 1px solid;
  background: #2691d9;
  border-radius: 25px;
  padding: 12px 138px;
  text-decoration: none;
  font-size: 18px;
  color: #e9f4fb;
  font-weight: 700;
  cursor: pointer;
  transition: .5s;
}
a.login-btn:hover{
  border-color: #2691d9;
}
.signup_link{
  margin: 30px 0;
  text-align: center;
  font-size: 16px;
  color: #666666;
}
.signup_link a{
```

```
  color: #2691d9;
  text-decoration: none;
}
.signup_link a:hover{
  text-decoration: underline;
}
```

Registration.css

```
@import url('https://fonts.googleapis.com/css?family=Poppins:400,500,600,700&display=swap');
*{
  margin: 0;
  padding: 0;
  box-sizing: border-box;
  font-family: 'Poppins', sans-serif;
}
body{
  min-height: 100vh;
  display: flex;
  align-items: center;
  justify-content: center;
  background: linear-gradient(120deg,#2980b9, #8e44ad);
}
.wrapper{
  position: relative;
  max-width: 430px;
  width: 100%;
  background: #fff;
  padding: 34px;
  border-radius: 6px;
  box-shadow: 0 5px 10px rgba(0,0,0,0.2);
}
.wrapper h2{
  position: relative;
  font-size: 22px;
  font-weight: 600;
  color: #333;
}
.wrapper h2::before{
  content: '';
  position: absolute;
  left: 0;
  bottom: 0;
  height: 3px;
  width: 28px;
  border-radius: 12px;
  background: #4070f4;
}
.wrapper form{
```

```css
  margin-top: 30px;
}
.wrapper form .input-box{
  height: 52px;
  margin: 18px 0;
}
form .input-box input{
  height: 100%;
  width: 100%;
  outline: none;
  padding: 0 15px;
  font-size: 17px;
  font-weight: 400;
  color: #333;
  border: 1.5px solid #C7BEBE;
  border-bottom-width: 2.5px;
  border-radius: 6px;
  transition: all 0.3s ease;
}
.input-box input:focus,
.input-box input:valid{
  border-color: #4070f4;
}
form .policy{
  display: flex;
  align-items: center;
}
form h3{
  color: #707070;
  font-size: 14px;
  font-weight: 500;
  margin-left: 10px;
}
.input-box.button input{
  color: #fff;
  letter-spacing: 1px;
  border: none;
  background: #4070f4;
  cursor: pointer;
}
.input-box.button input:hover{
  background: #0e4bf1;
}
form .text h3{
 color: #333;
 width: 100%;
 text-align: center;
}
form .text h3 a{
  color: #4070f4;
  text-decoration: none;
}
```

```
form .text h3 a:hover{
  text-decoration: underline;
}
```

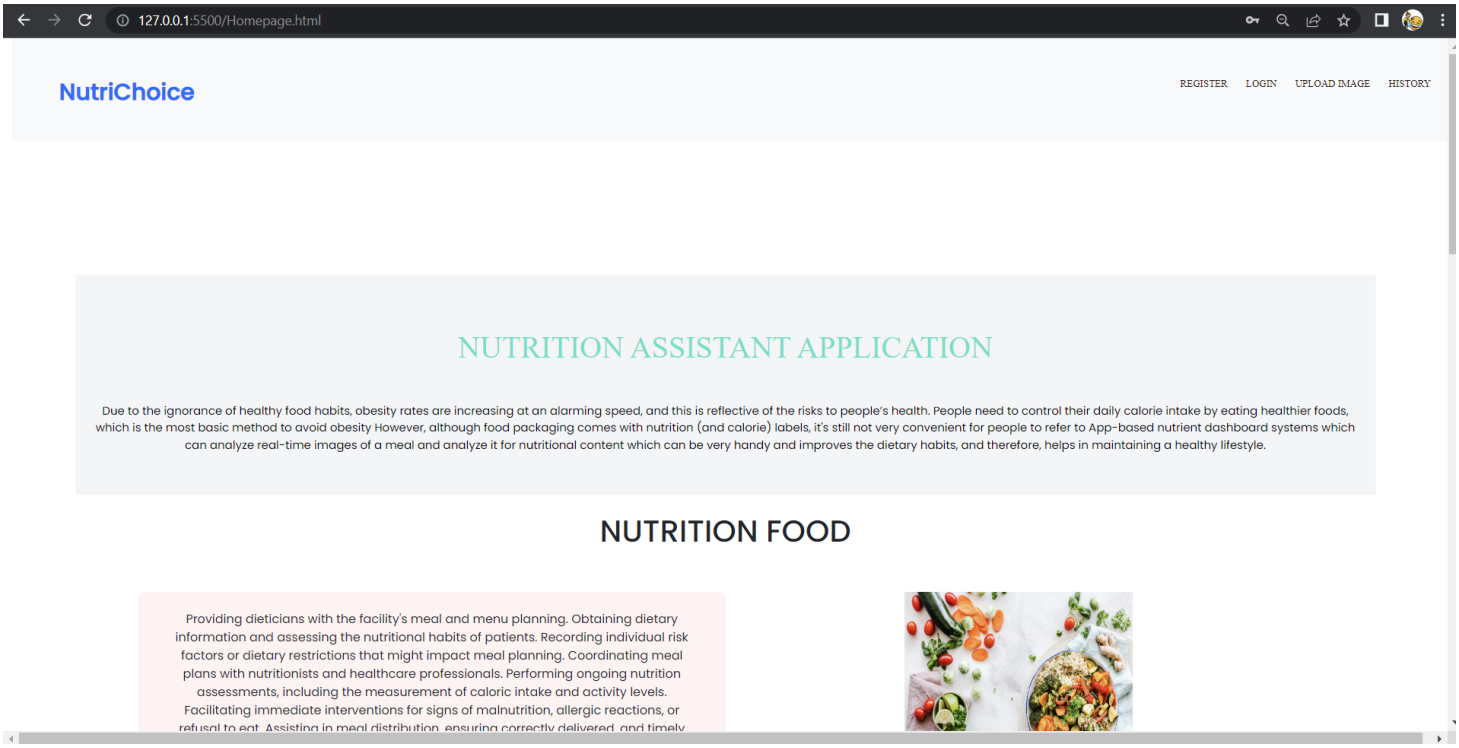
App.py

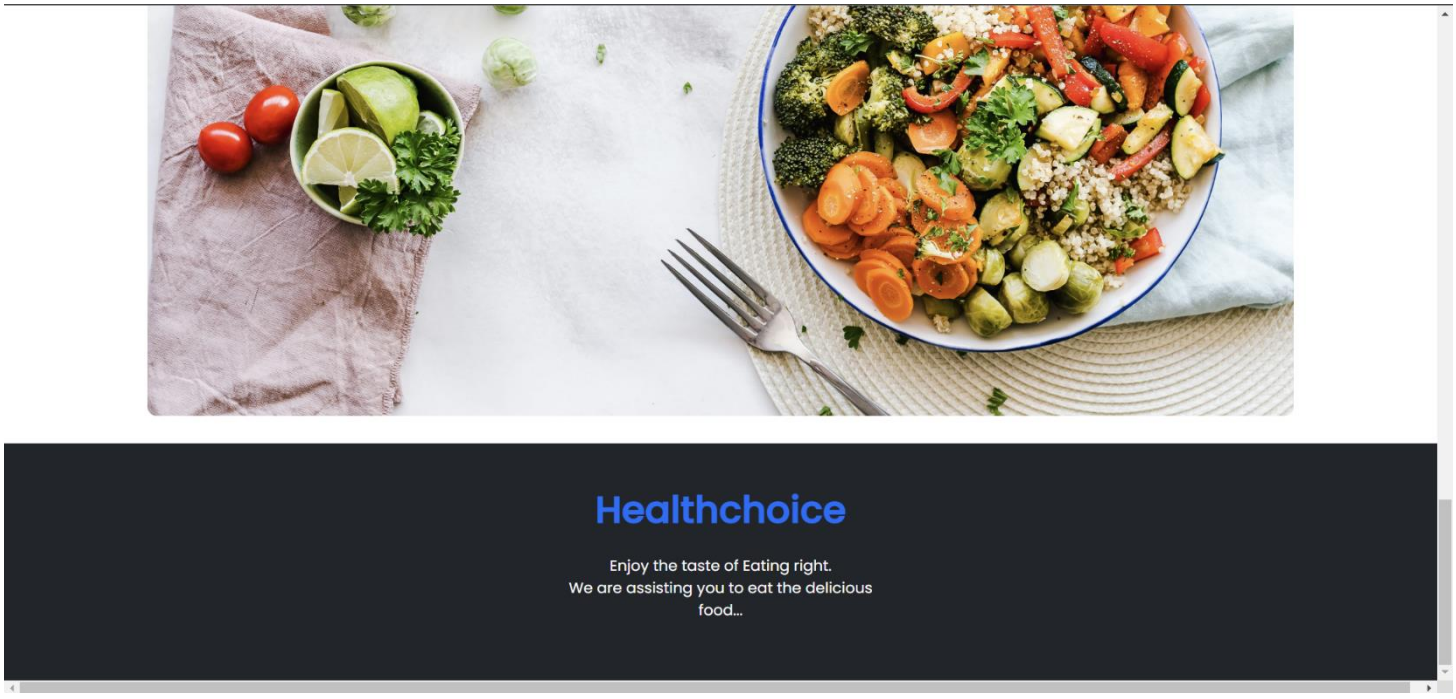
```
from flask import Flask, render_template, request, redirect, url_for, session
import ibm_db
import re

app = Flask(__name__)

app.secret_key = 'a'

conn = ibm_db.connect("","","")

@app.route('/')

def homer():
    return render_template('home.html')


@app.route('/login',methods =['GET', 'POST'])
def login():
    global userid
    msg = ''


    if request.method == 'POST' :
        username = request.form['username']
        password = request.form['password']
        sql = "SELECT * FROM users WHERE username =? AND password=?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.bind_param(stmt,2,password)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        print (account)
        if account:
            session['loggedin'] = True
            session['id'] = account['USERNAME']
            userid=  account['USERNAME']
            session['username'] = account['USERNAME']
            msg = 'Logged in successfully !'

            msg = 'Logged in successfully !'
            return render_template('dashboard.html', msg = msg)
        else:
            msg = 'Incorrect username / password !'
    return render_template('login.html', msg = msg)
```

```python
@app.route('/register', methods =['GET', 'POST'])
def registet():
    msg = ''
    if request.method == 'POST' :
        username = request.form['username']
        email = request.form['email']
        password = request.form['password']
        sql = "SELECT * FROM users WHERE username =?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        print(account)
        if account:
            msg = 'Account already exists !'
        elif not re.match(r'[^@]+@[^@]+\.[^@]+', email):
            msg = 'Invalid email address !'
        elif not re.match(r'[A-Za-z0-9]+', username):
            msg = 'name must contain only characters and numbers !'
        else:
            insert_sql = "INSERT INTO  users VALUES (?, ?, ?)"
            prep_stmt = ibm_db.prepare(conn, insert_sql)
            ibm_db.bind_param(prep_stmt, 1, username)
            ibm_db.bind_param(prep_stmt, 2, email)
            ibm_db.bind_param(prep_stmt, 3, password)
            ibm_db.execute(prep_stmt)
            msg = 'You have successfully registered !'
    elif request.method == 'POST':
        msg = 'Please fill out the form !'
    return render_template('register.html', msg = msg)


@app.route('/logout')

def logout():
   session.pop('loggedin', None)
   session.pop('id', None)
   session.pop('username', None)
   return render_template('home.html')

if __name__ == '__main__':
   app.run(host='0.0.0.0')
```

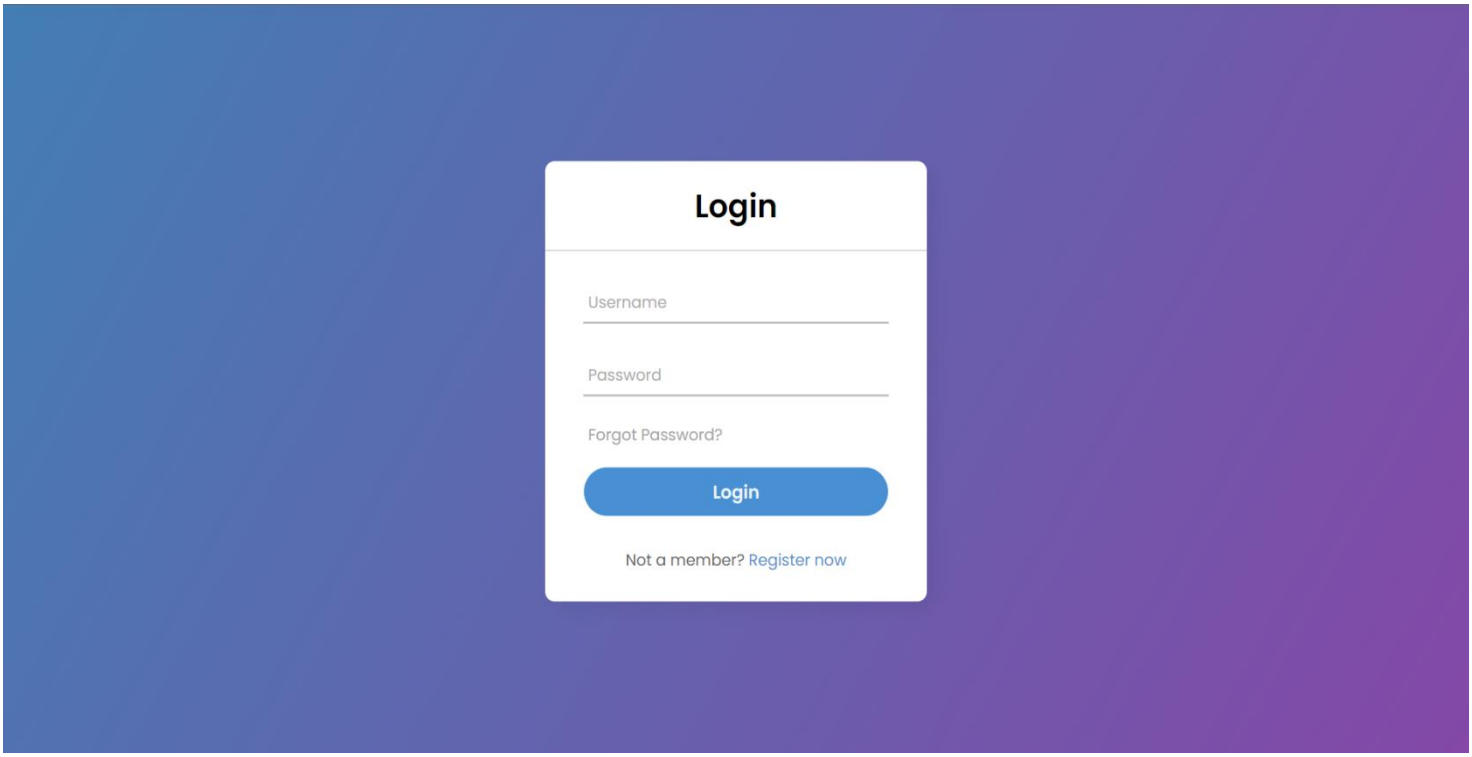
Outputs:

Homepage:

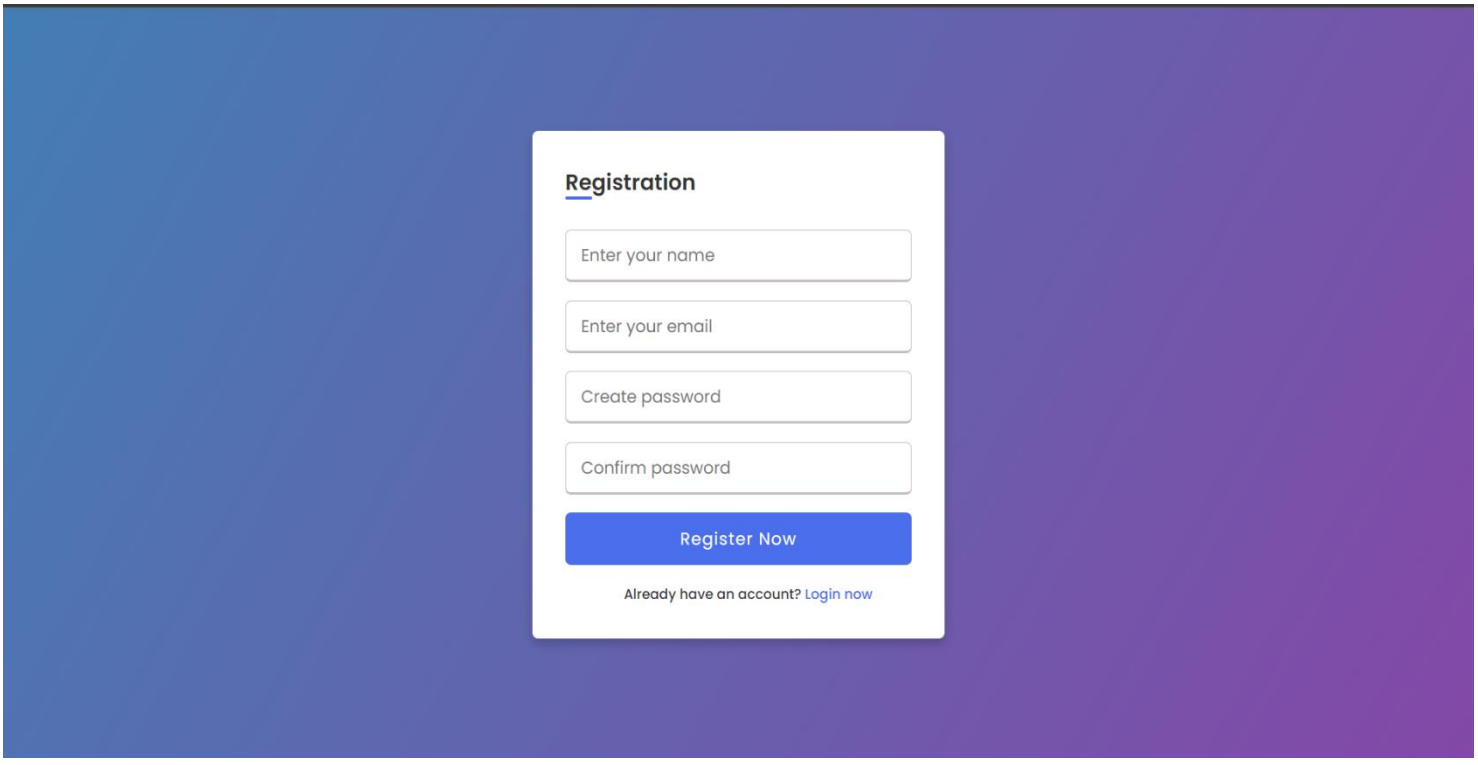




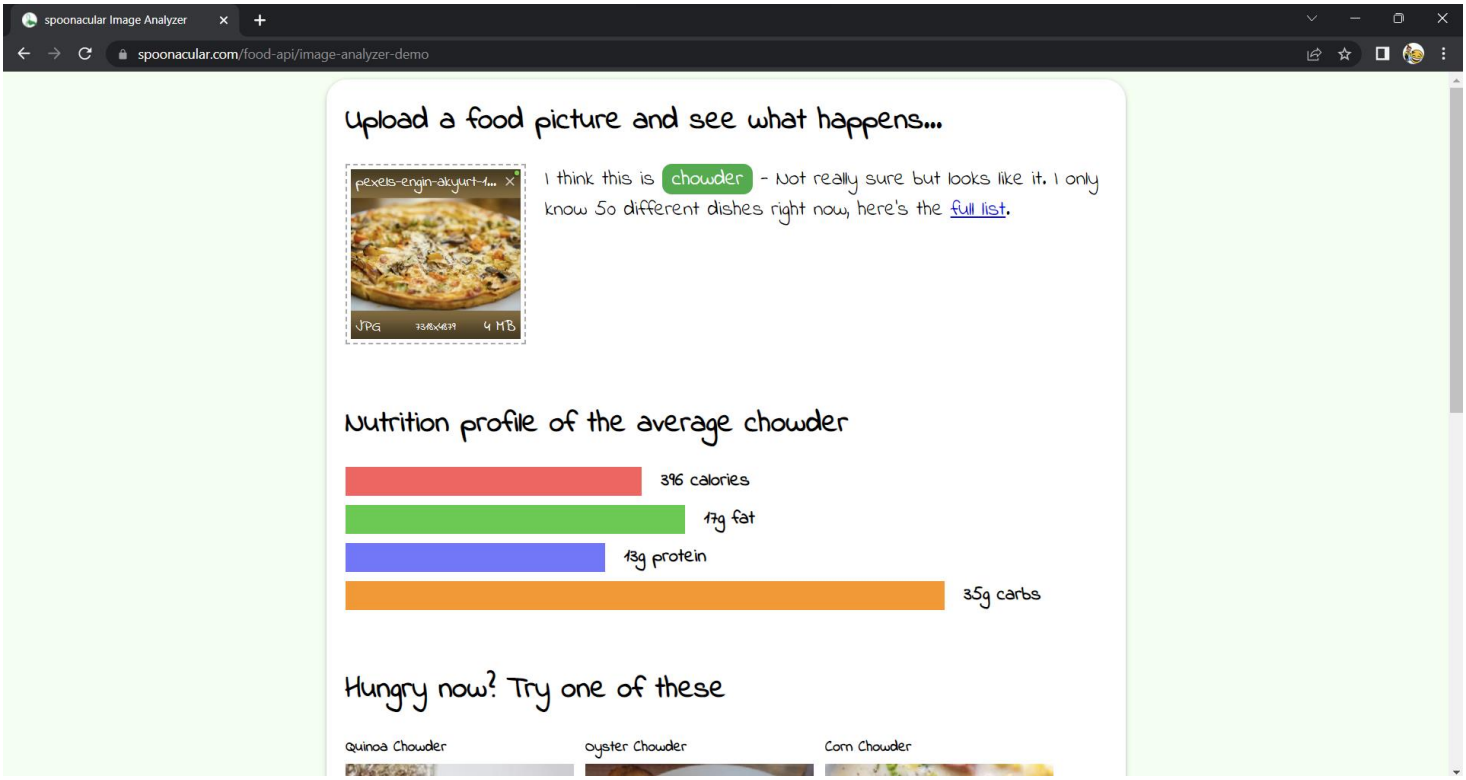
Login Page:



Signup Page:



Nutritional Value of the Uploaded Image:



13.2 GitHub Link:

https://github.com/IBM-EPBL/IBM-Project-34880-1660278894

Project Demo Link:

https://drive.google.com/file/d/1v--J0GtW_HNwaagT-ONw4i2rT-_jzEth/view?usp=share_link