NUTRITION ASSISTANT APPLICATION

A PROJECT REPORT

Submitted by

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1. INTRODUCTION

Project Overview

- 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.

- 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.

Purpose

The Purpose of our Project is

- It helps dieticians with providing proper nutrition at healthcare facilities.They determine patients nutritional needs.
- It assess factors and plans, meals and menus.
- They also ensure proper sterilization of plates and utensils.
- Nutitionists work to help people establish good connections between healthy weights and overall health.

1. LITERATURE SURVEY

Existing Problem :

- Patients who have to maintain diet have to give their body health details.
- They have check their BMI value to predict the food for them.
- Then the image or url of a food have to upload to know the further details of food.
- Finally,the patients have to follow the predicted food and maintain diet with respect to the nutrition details of a doof which is obtained.

References :

https://www.researchgate.net/publication/346411010_DEVELOPMENT_OF_A_CLOUD_BASED_SOLUTION_FOR_EFFECTIVE_NUTRITION_INTERVENTION_IN_THE_MANAGEMENT_OF_LIFESTYLE_DISEASES

https://www.academia.edu/43016077/A_DIET_CONTROL_AND_FITNESS_ASSISTANT_APPLICATION_USING_DEEP_LEARNING_BASED_IMAGE_CLASSIFICATION

S. Fang, Z. Shao, R. Mao, C. Fu, E. J. Delp, F. Zhu, D. A. Kerr, andC. J. Boushey, ‘‘Single- view food portion estimation: Learning Image-to-Energymappings using generative adversarial networks,’’ in Proc. 25thIEEEInt. Conf. Image Process. (ICIP), Oct. 2018, pp. 251–255.

Z. Ge, C. McCool, C. Sanderson, and P. Corke, ‘‘Modelling local deepconvolutional neural network features to improve fine-grainedimageclassification,’’ in Proc. IEEE Int. Conf. Image Process. (ICIP), Sep. 2015, pp. 4112–4116.

https://www.emizentech.com/blog/diet-nutrition-tracking-app-development.html

c. **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.

The main objective of this project is to building a web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food.

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.

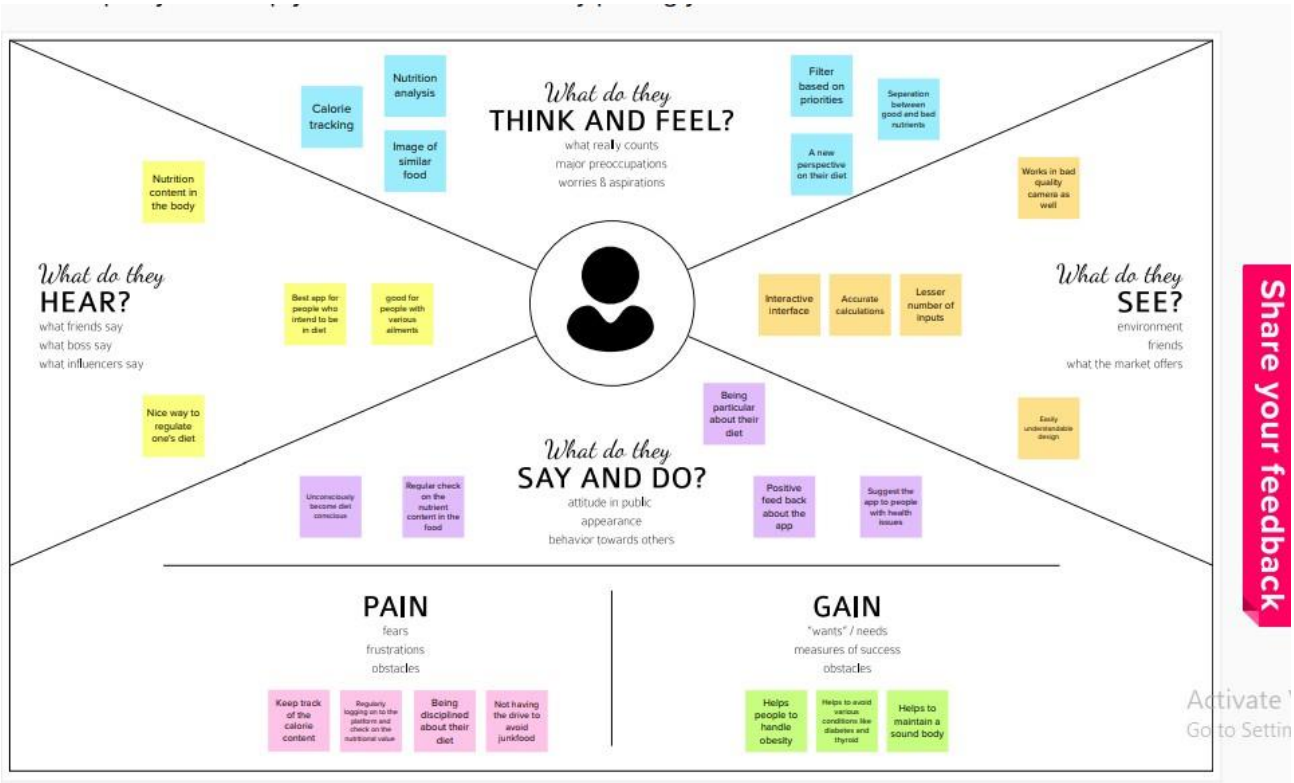
2. What are the boundaries of the problem?

- Based on the information collected from the user, if the user is diagnosed with diabetes/Heart attack/obesity then the application provides informatio n about diet.

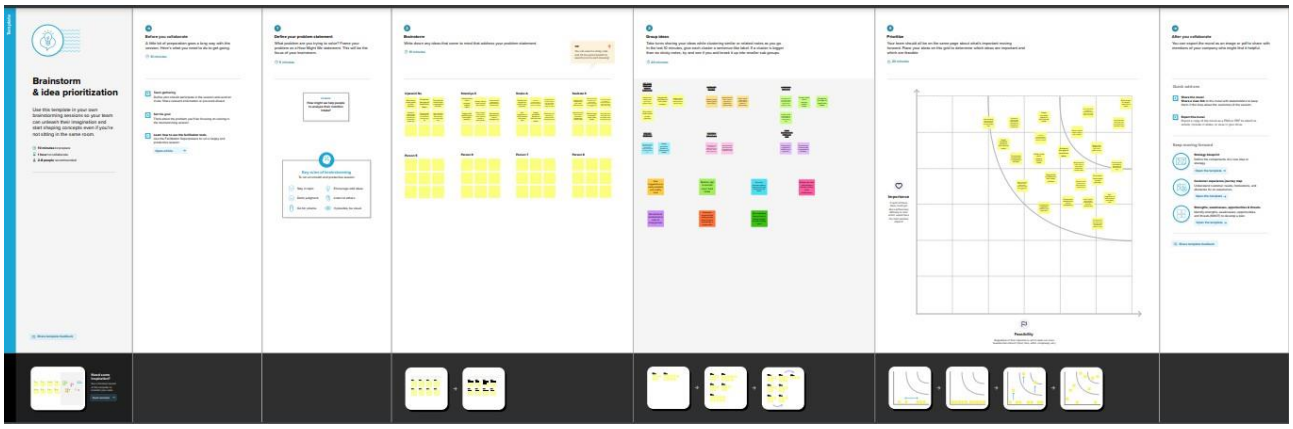
ems with digestion so they will be provided with that information.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy map canvas:



3.2 Ideation & Brainstorming



3.3 Proposed Solution

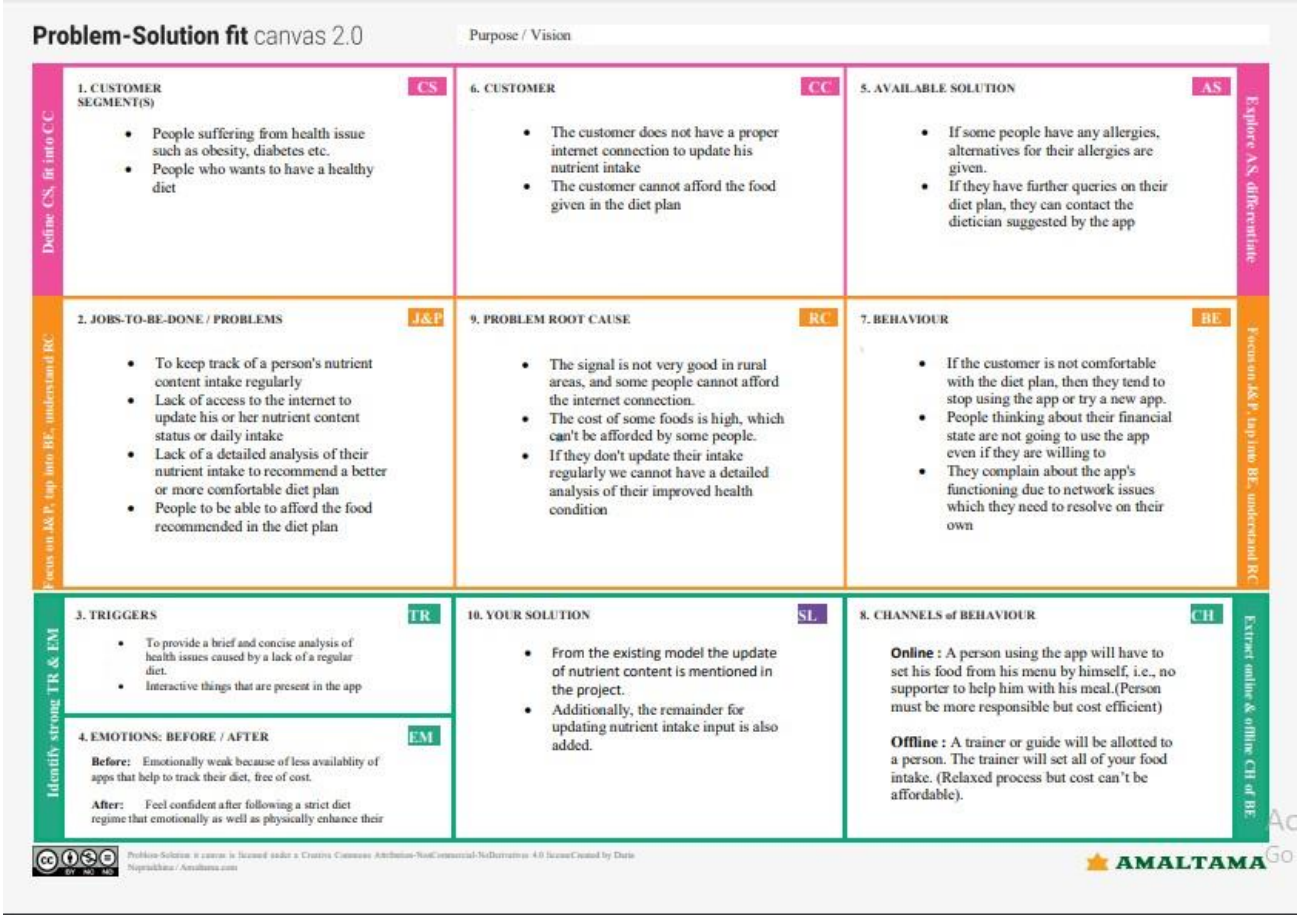
S.No .	Parameter	Description
1	Problem Statement (Problem to be solved)	People need to control their daily calorie intake by eating healthier foods, which is the most basic method to avoid obesity. it's still not very convenient for people to refer to App-based nutrient dashboard systems which can analyze 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 lifestyl
2	Idea / Solution description	Web App that automatically estimates food attributes such as ingredients and nutritional value by classifying the input image of food Food Detection Model for accurate food identification and Food API's to give the nutritional value of the identified food to handy and improves the dietary habits, and therefore, helps in maintaining a healthy lifestyle.
3	Novelty / Uniqueness	It helps user to get nutrition facts with the suggestion of the scanned food is suitable for user or not. The suggestion is based on user's dataand BMI value.
4	Social Impact / Customer Satisfaction	The relationship between an individual's social, psychological, and cultural environment and his/her nutritional status is one of both cause and effect. Cultural patterns, economic stability, and attitudes toward health and disease all affect an individual's eating behaviour . 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. List your nutrition business on professional directories
6	Scalability of the Solution	Its plays a vital role in users life because it shows and give a suggestions to user so they can control their food habits and maintain their health

3.4 Problem Solution fit

The Problem solution 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..

PURPOSE:

- ❑ Solve complex problems in a way that fits the state of your customers.
- ❑ Succeed faster and increase your solution adoption by tapping intoexistingmediumsand channels of behavior.
- ❑ Sharpen your communication and marketing strategy with the right triggersandmessaging.
- ❑ Increase touch-points with your company by finding the right problem-behavior fit andbuilding trust by solving frequent annoyances, or urgent or costly problems.



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 Registration through Gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Food Detection	Scanning by Clarifai's AI-Driven Food Detection Model
FR-4	Nutrients Display	Display nutrients through IBM Cloud
FR-5	User BMI Calculation	Calculating BMI accurately

4.2 Non-Functional requirement :

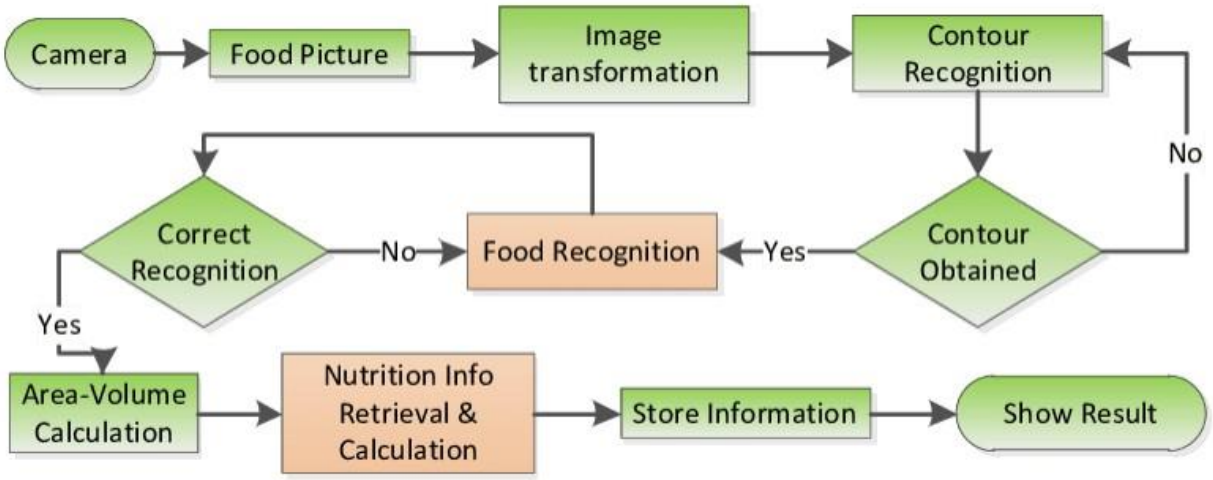
Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Python as a programming language Flask as a Python framework IBM DB2 as a database support IBM Cloud as a cloud storage Docker as a software platform
NFR-2	**Security**	Securely retain user identifiers such as user nameand user details.
NFR-3	**Reliability**	Reliable as it includes accurate BMI computationand effective food display.
NFR-4	**Performance**	Provide a relevant food analysis and the best dietplan, leading the user to follow a healthy diet
NFR-5	**Availability**	It is readily available because the user only needsa smartphone with a good network connection.
NFR-6	**Scalability**	The database can be updated accordingly.Input data can be changed at anytime by authorized users.

5. PROJECT DESIGN

5.1 Data Flow Diagram :

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



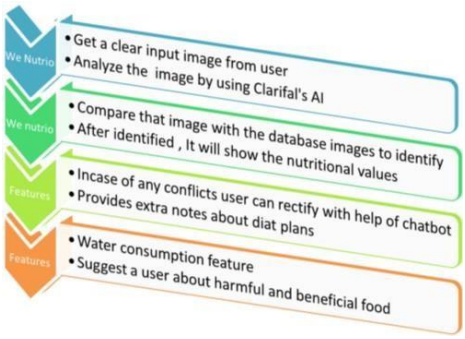
5.2 Solution and Technical Architecture

Solution Architecture:

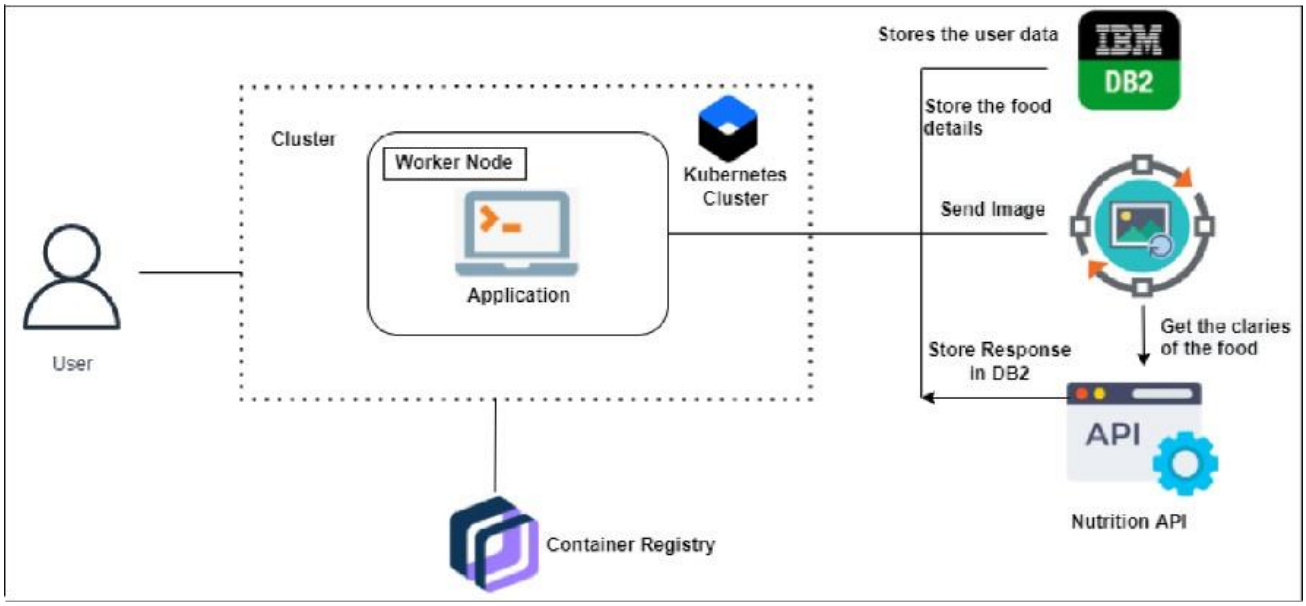
PROJECT DESCRIPTION:

Due to the ignorance of healthy food habits, obesity rates are increasing and 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 foodidentification and Food API's to give thenutritional value of the identified food.



Technical Architecture:



SOLUTION:

- User interacts with the Web App to Load an image.
- The image is passed to the server application, which uses Clarifai's AI-Driven Food Detection.
- Model Service to analyze the images and Nutrition API to provide nutritional information about the analyzed Image

> Nutritional information of the analyzed image is returned to the app for display.

PROCEDURE:

1. IMPLEMENTING WEB APPLICATION

- Registration (Push the registration data into the database)
- Login (Fetch the data upon login)
- Upload the food image and get the prediction
- Get Calories from the food items
- Add food data to the database

2. CREATE UI TO INTERACT WITH THE APPLICATION

- Registration Page
- Login Page
- Upload Image page 15
- Prediction results page for food items
- View history of items

3. CREATE IBM DB2 AND CONNECT WITH PYTHON

- Create the IBM Db2 service in the IBM cloud and connect thepythoncode with DB.

4. INTEGRATE NUTRITION API

- Integrate the Nutrition API to the flask with API call.

APPROACH:

KUBERNETES CLUSTERS - Kubernetes clusters allow containers to run across multiple machines and cloud based application. IBM DB2- Used for Backup & recovery. Comprehensive data resilience for physical and virtual servers. Cloud hosting. Dedicated, virtual private, and bare metal server options

CONTAINER REGISTRY - Container Registry is a single place for your team to manage Docker images, perform vulnerability analysis, and decide who can access what with fine-grained access control

NUTRITION API - A nutrition API acts as a container for information from thousands of products. When an application sends a GET request to the API, it returns the nutrition

information about a given product.

RESULT:

Despite processing, we do not believe that our outcomes are flawless. There is always opportunity for improvement in your procedure becausecloudcomputing is a topic that is constantly developing. Additionally, therewillalways be new approaches that offer better results for the same problems. It hasbeen done, the application. Clarifai's AI-Driven Food Detection Model Service, Nutrition API.

5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer	Registration	USN-1	As a user, I can register for the application by entering my name, age, gender, e-mail, password and confirming my password	I can access my account / dashboard	High	Sprint-1
	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-1
	Profile Updating	USN-3	As a user, I have to enter my height, weight and daily activity details	I can update this information on dashboard	High	Sprint-1
	Login	USN-4	As a user, I can login to the application through Gmail with login credentials	I can access my account / dashboard	Medium	Sprint-2
	Database	USN-5	As a user, I can upload or capture live image of the meal	I can get the nutritional value of that particular meal	High	Sprint-2
	Dashboard	USN-6	As a user, I can track my daily calories intake	I can access my account / dashboard	Medium	Sprint-2
Administrator	Maintaining details for users	USN-7	Maintaining details for users	I can access database	High	Sprint-3
	Security	USN-8	As a user, I feel the site is very secure	I can access my account with my login credentials	High	Sprint-3

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning and Estimation:

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 name, age, gender, email, password, and confirming my password.	2	High	Upassini Na
Sprint-1	Registration	USN-2	As a user, I will receive confirmation email once I have registered for the application	2	Medium	Sneka A
Sprint-1	Profile Updating	USN-3	As a user, I have to enter my height, weight and daily activity details	1	High	Sasikala V
Sprint-2	Login	USN-4	As a user, I can log into the application through Gmail with login credentials	1	Medium	Sowmiya K
Sprint-2	Database	USN-5	As a user, I can upload or capture live image of the meal	1	High	Upassini Na
Sprint-2	Dashboard	USN-6	As a user, I can track my daily calories intake	2	Medium	Sneka A
Sprint-3	Maintaining details of the user	USN-7	Maintaining details for users	1	High	Sasikala V
Sprint-4	Security	USN-8	As a user, I feel the site is very secure	1	High	Sowmiya K

6.2 Sprint Delivery Schedule:

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

VELOCITY:

Imagine we have a 10-day sprint duration, and the velocity of theteam20(points per sprint).Let's calculate the team's average velocity (AV) periteration unit.

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

7. CODING & SOLUTIONING

7.1 Feature 1

Nutrition Assistant Application:

Description:

In this feature I have designed a webpage to analyze the nutritional food and health. The user has register, if they haven't the Id .The user have to login the webpage using username and password. After successful login, the user will be redirected to the home page. In this form, Users are asked to fill the body health details and the food details. After entering the appropriate details the nutritional result will be displayed.

Algorithm:

1. Enter the credentials and hit enter (email and password).
2. If already logged in user is taken to home page
3. Else , check for validity of credentials entered using query to cloudant db.
4. If wrong credentials entered , notification displayed to user and user stays in login page.
5. On correct credentials , user is taken to home page.

LOGIN PAGE

```
<!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>Log In</title>
  <link
   rel="stylesheet"
   href="{{ url_for('static', filename='style.css') }}"
  />
 </head>
 <body>
  <div class="container">
   <div class="title">Login</div>
   <div class="content">
     <form action="/userDetails" method="POST" class="login email">
      <table>
       <div class="user-details">
        <tr>
```

```
          <div class="input-box">
            <td>Username</td>
            <td><input type="text" placeholder="Enter  your username" name="username"></td>
          </div>
          </tr><br><br>
          <tr>
          <div class="input-box">
            <td>Password</td>
            <td><input type="text" placeholder="Enter your password" name="password"></td>
          </div>
        </tr>
        </div>
      </table>
      <div class="button">
        <div  class="col"><a  href="userDetails.html"><button>login</button></a></div>

      </div>
    </form>
      <form action="/signUp">
        <div                    class="col">not                    registered?                    <a
href="signup.html"><button>Register</button></a></div>
      </form>



    </div>
  </div>
 </body>
</html>
```

SIGN UP PAGE

```
<!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>Sign Up</title>
    <link rel="stylesheet" type="text/css" href="style.css" />
    <style>
      body {
          background: yellow;
      }
      .container { width:
          500px; height:
          450px;
          background: #1e1e1e;
          border-radius: 6px;
          margin: 50px auto;
          box-shadow: 0px 0px 50px rgba(0,0,0,.8);
      }
      .container .title { width:
          500px; height: 14px;
```

padding-top: 13px;

```
        padding-bottom: 13px;
        font-size: 14px;
        text-align: center;
        color: #bfbfbf;
        font-weight: bold;
        background: #121212; border:
        #2d2d2d solid 1px; margin-
        bottom: 30px; border-top-
        right-radius: 6px;border-top-
        left-radius: 6px; font-family:
        Arial;
    }
    .container form {
        width: 240px;
        height: auto;
        overflow: hidden;
        margin-left: auto;
        margin-right: auto;
        color: #bfbfbf;
    }

    .container form input[type=text], .login form input[type=password] {width:
        250px;
        font-size: 12px; padding-
        top: 14px; padding-
        bottom: 14px;padding-
        left: 8px; border: none;
        color: #bfbfbf;
        background: #141414;
    }

    .container form input[type=text] {
        border-top-left-radius: 6px;
        border-top-right-radius: 6px;
        border-top: #0b0b0b solid 1px;
        background: #141414 url(http://dev.dhenriquez.com/test-img/icons/111-user.png) 10px centerno-
repeat;
    }

    .login form input[type=password] {
        border-bottom-left-radius: 6px;
        border-bottom-right-radius: 6px;
        border-top: #0b0b0b 1px solid;
        border-bottom: #353535 1px solid;
        background: #141414 url(http://dev.dhenriquez.com/test-img/icons/54-lock.png) 10px centerno-
repeat;
    }

    .container .button {
        width: 240px;
        padding-top: 25px;
        padding-bottom: 25px;
        font-size: 10px;
        text-align: center;
```

```
}
```

```
    .container .button .col {
        width: 50%;
        float: left;
    }
    .container .button .col a {
        color: #fff;
        text-decoration: none;
        font: 12px Arial;
    }

   </style>
  </head>
<body>
  <center>
  <div class="container">
    <div class="title">Registration</div>
    <div class="content">
      <form action="/" method="POST" class="login   email">
        <table>
         <div class="user-details">
            <tr>
              <div class="input-box">
               <td>Full Name</td>
               <td><input type="text" placeholder="Enter your name" name="fullname"></td>
            </div>
          </tr>
          <tr>
              <div class="input-box">
               <td>Username</td>
                  <td><input type="text" placeholder="Enter your username" name="username"></td>
            </div>
          </tr>

          <tr>
            <div class="input-box">
              <td>Email</td>
              <td><input type="text" placeholder="Enter your email" name="email"></td>
            </div>
          </tr>
          <tr>
            <div class="input-box">
              <td>Phone number</td>
               <td><input type="text" placeholder="Enter your number" name="phonenumber"></td>
            </div>
          </tr>
          <tr>
            <div class="input-box">
              <td> <span class="details">Password</span></td>
               <td><input type="text" placeholder="Enter your password" name="password"></td>
            </div>
          </tr>
          <tr>
            <div class="input-box">
              <td> <span class="details">Confirm Password</span></td>
             <td><input type="text" placeholder="Confirm your password" name="cpassword"></td>
```

```
          </tr>
          </div>
          </table>
          <div class="button">
            <div class="col">
             <a  href="login.html"><button>Register</button></a>
            </div>
            <div class="col">
              Already registered?<br>
             <a  href="login.html"><button>Log  In</button></a>
            </div>
           </div>
        </form>
      </div>
   </div>
  </center>
  </body>
</html>
```

HOME PAGE

```
<!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>Sign Up</title>
    <link
      rel="stylesheet"
      href="{{ url_for('static', filename='style.css') }}"
    />
  </head>
  <body>
    <div class="container">
      <div class="title">user details</div>
      <div class="content">
        <form action="/foodDetail" method="POST" class="login   email">
          <table>
          <div class="user-details">
            <tr>
              <div class="input-box">
               <td>Full Name</td>
               <td><input type="text" placeholder="Enter your name" name="fullname"></td>
            </div>
          </tr>
          <tr>
            <div class="input-box">
              <td>Height</td>
              <td><input type="text" placeholder="Enter your height" name="height"></td>
            </div>
          </tr>

          <tr>
```

```
<div class="input-box">
  <td>Weight</td>
```

```
            <td><input type="text" placeholder="Enter your weight" name="weight"></td>
          </div>
        </tr>
        <tr>
          <div class="input-box">
            <td>Blood Pressure</td>
             <td><input type="text" placeholder="Enter your BP mmHg value" name="bp"></td>
          </div>
        </tr>
        <tr>
          <div class="input-box">
            <td> <span class="details">Diabetics</span></td>
             <td><input type="text" placeholder="Enter your diabetics mg/dl value" name="diabetics"></td>
          </div>
        </tr>
        <tr>
          <div class="input-box">
            <td> <span class="details">Age</span></td>
            <td><input type="text" placeholder="Enter your age" name="age"></td>
          </div>
        </tr>
        <tr>
         <div class="input-box">
          <td> <span class="details">Food Image</span></td>
          <td><input type="file" placeholder="Upload your file" name="file"></td>
         </div>
       </tr>
        </div>
        </table>
        <div class="button">
          <div class="col">
           <a  href="foodDetail.html"><button>Submit</button></a>
          </div>
         </div>
       </form>
  </body>
</html>
```

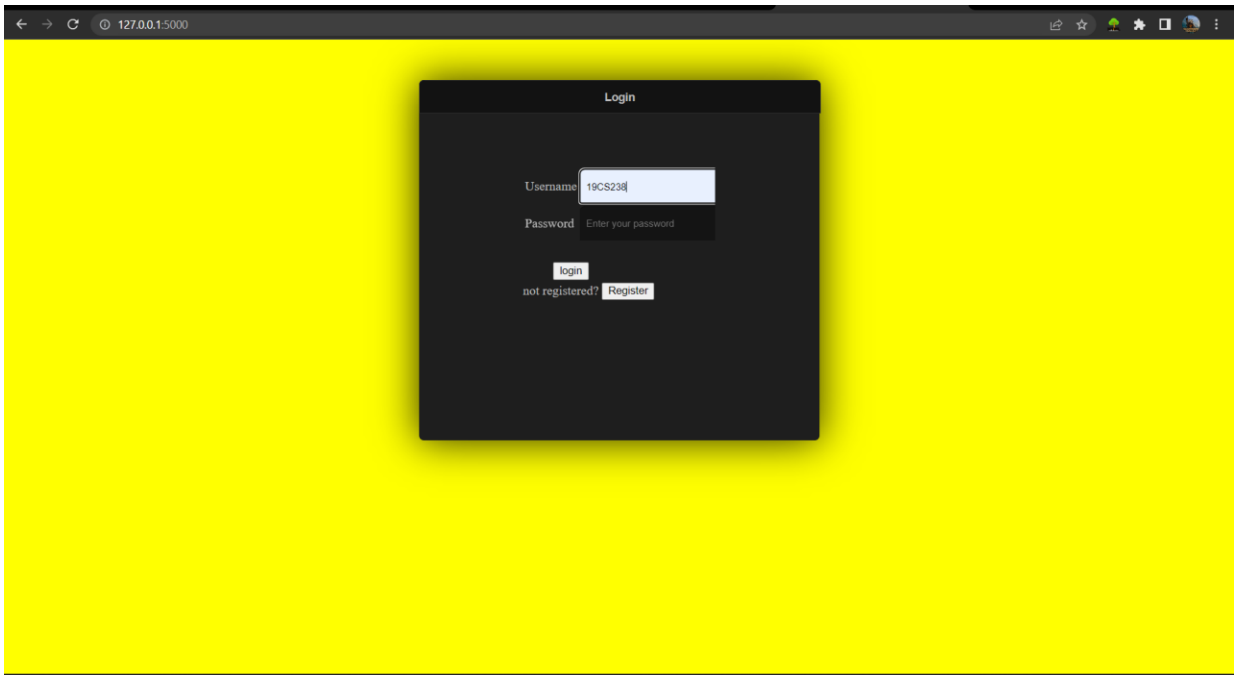
NUTRITION ANALYSIS PAGE

```
<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>Nutrition Assistant</title>

  <style>body
    {
      background-color: yellow;
    }
    h1 {
      text-align: center;
    }
```

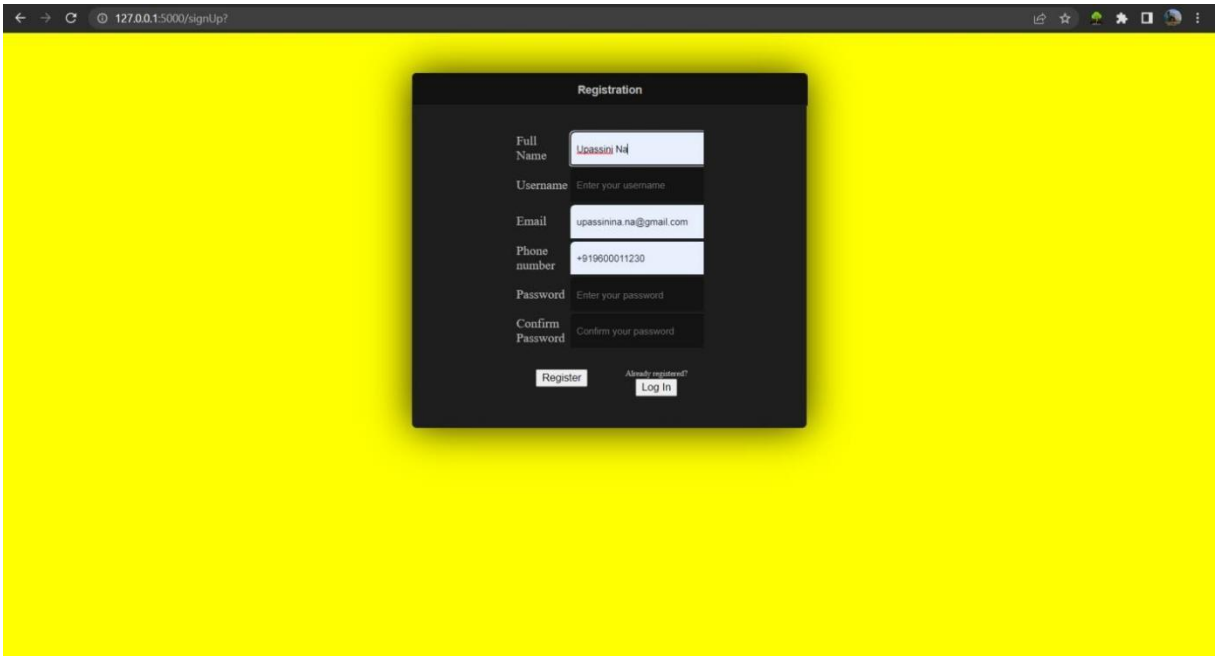
```
img {
```

```
      height: 300px;
      width: 200px;
      margin-left: 50px;
    }
    table {
      margin-left: 50px;
    }
  </style>

</head>
<body>

  <h1>Nutrition Analysis</h1>

  <h2>Food Image</h2>
  <img src="/static/Butter-Chicken-IMAGE-64.jpg" alt="food-img">
  <br><br>

  <h2>Nutritional values</h2>
  <table>
    <tr>
      <td>Fat</td>
      <td>35 %</td>
    </tr>
    <tr>
      <td>Cholestrol</td>
      <td>31 %</td>
    </tr>
    <tr>
      <td>Sodium</td>
      <td>10 %</td>
    </tr>
    <tr>
      <td>Potassium</td>
      <td>17 %</td>
    </tr>
    <tr>
      <td>Carbohydrates</td>
      <td>5 %</td>
    </tr>
    <tr>
      <td>Proteins</td>
      <td>8 %</td>
    </tr>
  </table>

</body>
</html>
```

Login Page


127.0.0.1:5000
Login
Username
19CS238
Password
Enter your password
login
not registered?
Register

Sign Up Page


127.0.0.1:5000/signUp?
Registration
Full Name
Upassini Na
Username
Enter your username
Email
upassinina.na@gmail.com
Phone number
+919600011230
Password
Enter your password
Confirm Password
Confirm your password
Register
Already registered?
Log In

7.2 Feature 2 : Sign up

Algorithm :

1. Enter the signup form fields (name , email , password , re-enter password , date of birth) and hit enter.

2. All credentials are validated at client side.

3. Email is checked if already registered or not in the database.

4. If already registered , notification displayed. Or else, the user is taken to the successful signup page

Query to check if email is registered or not:

```
<!DOCTYPE html>
<html lang="en" >
<head>
 <meta charset="UTF-8">
 <title>We Nutri0 Registration</title>
 <link rel="icon" type="image/png" href="../static/images/icons/logo.ico"/>
 <meta name="viewport" content="width=device-width, initial-scale=1"><link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/normalize/5.0.0/normalize.min.css">
<link rel='stylesheet' href='https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.0.0-alpha/css/bootstrap.min.css'>
<link rel='stylesheet' href='https://fonts.googleapis.com/css?family=Open+Sans:400,600,700,300'>
<link rel='stylesheet' href='https://fonts.googleapis.com/css?family=Roboto:400,700,300'>
<link rel='stylesheet' href='https://maxcdn.bootstrapcdn.com/font-awesome/4.4.0/css/font-awesome.min.css'>
<link rel="stylesheet" href="../static/css/style.css">
```

```
</head>
<body>
  <script>
    window.watsonAssistantChatOptions = {
      integrationID: "2d723f1c-6a3b-41bb-86a8-86eba26b492e", // The ID of this integration. region: "au-
      syd", // The region your integration is hosted in.
      serviceInstanceID: "80fba3ec-33ea-44ac-9c4b-60bc5c51988c", // The ID of your serviceinstance.
      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>
<!-- partial:index.partial.html -->
<div class="signup__ container">
  <div class="container_child signup_thumbnail">
    <div class="thumbnail logo">
      <img src="../static/images/logo.png" alt="logo" style="height: 50px; width:50px;"/>
      <h1 class="logo text">We Nutrio</h1>
    </div>
    <div class="thumbnail__ content text-center">
      <h1 class="heading--primary">Welcome to We Nutrio</h1>
      <h2 class="heading--secondary">Are you ready to join this nutrio journey <!DOCTYPE html></h2>
    </div>
    <div class="signup__overlay">
      <img class="regPic" src="../static/images/registerImage2.png" alt="logo" />
    </div>
  </div>
  <div class="container_child signup_form">
    <form action="{{ url_for('register') }}" method="POST">
      <div class="form-group">
        <label for="username">Name {{ msg }} </label>
        <input class="form-control" type="text" name="username" id="username" required />
      </div>
```

```
    <div class="form-group">
      <label for="email">Email</label>
      <input class="form-control" type="text" name="email" id="email" required />
    </div>
    <div class="form-group">
      <label for="password">Password</label>
      <input class="form-control" type="password" name="password" id="password"
required />
    </div>
    <div class="form-group">
      <label for="passwordRepeat">Repeat Password</label>
      <input class="form-control" type="password" name="passwordRepeat"
id="passwordRepeat"required />
    </div>
    <div class="m-t-lg">
      <ul class="list-inline">
        <li>
          <input class="btn btn--form" type="submit" value="Register" />
        </li>
        <li>
          <a class="signup_ link" href="{{ url_for('login') }}">I am already a member</a>
        </li>
       </ul>
      </div>
    </form>
  </div>
</div>
<!-- partial -->
</body>
</html>
```

FEATURE 3: HOME

Algorithm:

1. If the user is logged out , he/she is taken to the login page.

2. Home page buttons are displayed (Live tracker , Recent emergency notifications , Location history , Change password , Logout)

3. If buttons are clicked , the user is taken to the requested page

TESTING

TEST CASES:

1. Login button click with wrong credentials entered.

2. Signup with already registered mail ID.

3. Signup with wrong form data entered.

4. Entering home page with logged out session.

5. Clicking home page buttons with logged out session.

6. Invalid data entered in change password page and requested for change in password.

8.2 USER ACCEPTANCE TESTING

S.NO	TEST CASE	REQUIRED OUTPUT	RESULT OUTPUT	STATUS
1	Login button click with wrong credentials	Wrong credentials entered notification	Wrong credentials entered notification	ACCEPTED
2	Signup with already registered mail ID.	Email already registered notification	Email already registered notification	ACCEPTED
3	Signup with wrong form data entered.	Wrong credentials entered notification	Wrong credentials entered notification	ACCEPTED
4	Entering home page with logged out session.	Take user to login page	Take user to login page	ACCEPTED
5	Clicking home page buttons with logged out session.	Take user to login page	Take user to login page	ACCEPTED
6	Invalid data entered in change password page and requested for change in password.	Wrong form data entered notification	Wrong form data entered notification	ACCEPTED

RESULTS

PERFORMANCE METRICS:

1. Planned value : Rs.4000
2. Actual value : Rs.1300
3. Hours worked : 50 hours
4. Stick to Timelines : 100%
5. Stay within budget : 100%
6. Consistency of the product : 75%
7. Efficiency of the product : 80%
8. Quality of the product : 80%

ADVANTAGES AND DISADVANTAGES

ADVANTAGES:

1. Low cost.
2. Simple UI
3. Faster response due to single page web page.
4. Capability of adding many features with ease and less cost.

DISADVANTAGES:

1. Lack of efficiency.
2. Efficiency of the product needs to be improved.
3. Consistency of the product is not 100%.
4. Not a compact sized product. Size needs

CONCLUSION :

Dietary tracking is an essential task in chronic disease management and intervention. Food photo taking and image recognition significantly reduce the burden of food entering on personal mobile devices. In this work, we have developed a dietary tracking system that applies the deep-based image recognition to accurately and efficiently log food and nutrition intake. Through real user food photo testing and user study, we found that laboratory models form the foundation of the solution but miss out some of the key challenges. The diversity of real food photos is higher than the lab trained model.

An ingredient-based recognition is a promising way of tracking the free style and homemade food recognition problems in which training data is sparse and not representative.

Moreover, the proposed photo based portion selection method is shown to be more accurate and engages the users better than the existing methods.

FUTURE SCOPE:

In future we'll be adding more features which will benefit the users. The ui/ux of the web application will be improved. Scaling the project for more use cases and customers. Implementing distributed computing for efficient processing.Making encryption standard for cloud storage.

SOURCE CODE LINK :

https://github.com/IBM-EPBL/IBM-Project-10848-1659238789

DEMO VIDEO LINK:

https://drive.google.com/file/d/1BtS4N43Zs2QtppvLNguuo_9EIDZB6RTw/view?usp=share_link