Project Development Phase

Team ID	PNT2022TMID33113
Project Name	AI - powered Nutrition Analyzer for Fitness Enthusiasts

Create HTML pages:

home.html:

```
<!DOCTYPE html>
<html lang="en" id="home">
<head >
   <meta charset="UTF-8">
   <title>Home_page</title>
<link rel="stylesheet" href="{{ url_for('static',filename='css/home.css')}}">
</head>
<body >
   <img src="{{ url_for('static',filename='image/home.jpg')}}">
   <div class="topnav">
      <a class="active" href="/" >Home</a>
      <a href="/image">Classify</a>
        <h1>AI-powered Nutrition Analyzer for Fitness Enthusiasts</h1>
   </div>
   <div id="div_cont">
      <div class="content">
         <p>Food is essential for human life and <br>has been the concern of many
            healthcare <br>conventions. Nowadays new dietary assessment<br> and
            nutrition analysis tools enable more opportunities to help people
```

understand their daily eating habits, exploring nutrition patterns and maintain a healthy diet. Nutritional analysis is the process of determining the nutritional content of food. It is a vital part of analytical chemistry that provides information about the chemical composition, processing, quality control and contamination of food. It ensures compliance with trade and food laws.

```
        </p>
      </div>
      <a href="/image"><button>Click To Start</button></a>
   </div>


</body>
</html>
```

image.html

```
<!DOCTYPE html>
<html lang="en" >
<head>
   <meta charset="UTF-8">
   <title>nutrition_analyzer</title>
   <link rel="stylesheet" href="{{ url_for('static',filename='css/image.css')}}">
<script src="{{url_for('static', filename='js/image.js')}}"></script>
</head>
<body>
   <img id="image_bc" src="{{ url_for('static',filename='image/image.jpg')}}">
   <div class="topnav">
```

```
        <a class="active" href="/" >Home</a>
        <a href="/image">Classify</a>
          <h1>AI-powered Nutrition Analyzer for Fitness Enthusiasts</h1>
    </div>

    <h1>Upload image to classify</h1>
    <div id="cont">

        <form action="/predict" id="upload-file" method="post"
enctype="multipart/form-data">
            <div class="label_div">
                <label for="imageUpload" class="upload-label" style="cursor:
pointer">choose...
                </label></div>
            <input type="file" name="image" id="imageUpload" accept="image/*"
style="display:none"  onchange="loadFile(event)">
            <img id="output" width="300">
            <button type="submit" id="submit" disabled>classify</button>
        </form>
    </div>

</body>
</html>
```

Image_prediction.html:

```
<!DOCTYPE html>
```

```
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>prediction</title>
    <link rel="stylesheet" href="{{
url_for('static',filename='css/imagepredition.css')}}">


</head>
<body>
    <img id="image_bc" src="{{ url_for('static',filename='image/predict.jpg')}}">
    <div class="topnav">
        <a class="active" href="/" >Home</a>
        <a href="/image">Classify</a>
          <h1>AI-powered Nutrition Analyzer for Fitness Enthusiasts</h1>
    </div>
    <h1>Food classified as <span>{{x}}</span></h1>
    <div class="content">
        {{y}}
    </div>
</body>
</html>
```

CSS & JS CODE:

home.css

```
body{
    margin:0;
    font-family:Arial,Helvetica,sans-serif;
    overflow-x: hidden;
}
img{
    pointer-events:none;
    position:absolute;
    width:100vw;
    height:100vh;
    z-index: -1;
}
.topnav{
    overflow:hidden;
    background-color:#333;
    position:relative;
}

.topnav a {
    float:left;
    color: #f2f2f2;
    text-align:center;
    padding: 16.5px 16px;
```

```
    text-decoration:none;
    font-size: 17px;
}

.topnav a:hover{
    background-color: #ddd;
    color:black;
}

.topnav a.active {
    background-color: #04AA6D;
    color:white;
}
.topnav h1 {
    font-size:1.5em;
    margin-left:30%;
    color:#0fca0f;
    margin-top:10px;
}
.content{
    width:800px;
    padding: 10px;
    font-size:1.6em;
    color:#00ff40;
}
```

```
#div_cont{
    margin-top:3%;
    margin-left:2%;
    display: inline-block;
    overflow:hidden;
    position:absolute;
    width:100%
}


button{
    font-size:4em;
    background:#0fca0f;
    color: #fff;
    padding: 10px 30px;
    border: none;
    border-radius: 3em;
    cursor: pointer;
}
```

image.css

```
body{
    margin:0;
    font-family:Arial,Helvetica,sans-serif;
    overflow-x: hidden;
```

```
}

.topnav{
    overflow:hidden;
    background-color:#333;
}

.topnav a {
    float:left;
    color: #f2f2f2;
    text-align:center;
    padding: 16.5px 16px;
    text-decoration:none;
    font-size: 17px;
}

.topnav a:hover{
    background-color: #ddd;
    color:black;
}

.topnav a.active {
    background-color: #ff4d4d;
    color:white;
}
```

```
.topnav h1 {
    font-size:1.5em;
    margin-left:30%;
    color:#ff4d4d;
    margin-top:10px;
}
input, label ,button{
    display:block;
}


.label_div{
    background:#ff1a1a     ;
    padding: 10px 30px;
    border-radius: 3em;
    width:200px;
    margin-left:-30%;
}
.upload-label{
    font-size:3em;
}

#output{
    margin-top:20px;
}
```

```
button{
    font-size:2em;
    cursor:pointer;
}


#image_bc{
    pointer-events:none;
    position:absolute;
    width:100vw;
    height:100%;
    z-index: -1;
}

#cont{
    margin-top:5%;
    margin-left:55%;
}

h1{
    margin-left:40%;
}

button{
```

```
    border-radius: 3em;
    font-size:2em;
    padding: 10px 30px;
}
```

Image_prediction.css

```
body{
    margin:0;
    font-family:Arial,Helvetica,sans-serif;
}

.topnav{
    overflow:hidden;
    background-color:#333;
}

.topnav a {
    float:left;
    color: #f2f2f2;
    text-align:center;
    padding: 16.5px 16px;
    text-decoration:none;
    font-size: 17px;
}

.topnav a:hover{
```

```
    background-color: #ddd;
    color:black;
}

.topnav a.active {
    background-color: #a633cc;
    color:white;
}
.topnav h1 {
    font-size:1.5em;
    margin-left:30%;
    color:#a633cc;
    margin-top:10px;
}
h1{
    margin-top:40px;
    margin-left:10%;
    font-size:2em;
}
span{
    color:#a633cc;
    font-size:2em;
}

.content{
```

```
    margin-top:10%;
    margin-left:1%;
    width:800px;
    border: 3px solid #a633cc;
    padding: 10px;
    font-size:2em;
}



img{
    pointer-events:none;
    position:absolute;
    width:100vw;
    height:100vh;
    z-index: -1;
}
```

image.js

```
var loadFile = function(event) {
    document.getElementById('submit').disabled = false;
    document.getElementById('submit').style.backgroundColor='#ff0000';
    var image = document.getElementById('output');
    image.src = URL.createObjectURL(event.target.files[0]);
};
```

Build Python Code:

```
from flask import Flask, render_template, request
# Flask-It is our framework which we are going to use to run/serve our application.
# request-for accessing file which was uploaded by the user on our application.
import os
import numpy as np  # used for numerical analysis
from tensorflow.keras.models import load_model  # to load our trained model
from tensorflow.keras.preprocessing import image
import requests
```

Creating Our Flask Application And Loading Our Model By Using Load_model Method:

```
app = Flask(__name__, template_folder="template")  # initializing a flask app
# Loading the model
model = load_model('nutrition.h5')
```

Routing To The Html Page:

```
@app.route('/')  # route to display the home page
def home():
    return render_template('home.html')  # rendering the home page


@app.route('/image')
def image1():
    return render_template("image.html")
@app.route('/predict', methods=['GET', 'POST']) # route to show the predictions in a web UI
```

```
def launch():
    if request.method == 'POST':
        f = request.files['image']
        basepath = os.path.dirname('__file__')
        filepath = os.path.join(basepath, "uploads", f.filename)
        f.save(filepath)


        img = image.load_img(filepath, grayscale=False,target_size=(64, 64))  # Loading of the image
        x = image.img_to_array(img)  # image to array
        x = np.expand_dims(x, axis=0)  # changing the shape
        pred = np.argmax(model.predict(x))
        print(pred, model.predict(x))


       op = ['APPLES', 'BANANA', 'ORANGE', 'PINEAPPLE', 'WATERMELON'] # Creating list of output categories
        result = op[pred]
        print(result)
        x = result
        result = nutrition(result)
        print(result)
        return render_template("imageprediction.html", y=(result), x=(x))
def nutrition(index):
    url = "https://calorieninjas.p.rapidapi.com/v1/nutrition"
    querystring = {"query": index}
```

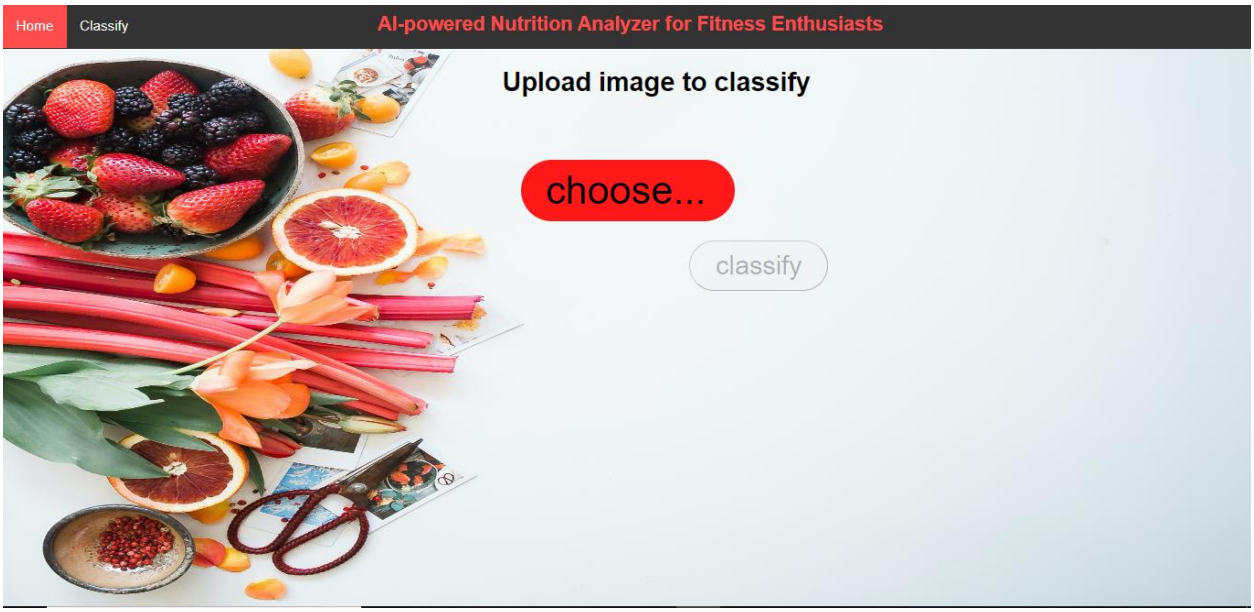
```
    headers = {
        'x-rapidapi-key':
"5d797ab107mshe668f26bd044e64p1ffd34jsnf47bfa9a8ee4",
        'x-rapidapi-host': "calorieninjas.p.rapidapi.com"
    }
    response = requests.request("GET", url, headers=headers, params=querystring)
    print(response.text)
    return response.json()['items']


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

Run The Application:

home.html

image.html


Home
Classify
AI-powered Nutrition Analyzer for Fitness Enthusiasts
Upload image to classify
choose...
classify


Home
Classify
AI-powered Nutrition Analyzer for Fitness Enthusiasts
Upload image to classify
choose...
classify

image_prediction.html