

NUTRITION ASSISTANT APPLICATION

Project Report

Submitted by

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INTRODUCTION

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.

1.1 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. Our method employs Clarifies AI-Driven Food Detection Model for Accurate food identification and Food API's to give the nutritional value of the Identified food.

1.2 PURPOSE

The users continue to demand to know the nutritional value that is in their Food. The users learn about the effect of different foods on human health.

Evidently, the ultimate aim of this application is to provide the ways in Which one can lead a healthy life by maintaining his/her diet? The user can Access the nutritional information by taking a photo of the food, uploading Photo from the gallery, or by entering manually.

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.

2.2 REFERENCES

<https://ieeexplore.ieee.org/document/4782671>

<https://ieeexplore.ieee.org/document/8118575>

2.3 PROBLEM STATEMENT DEFINITION

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

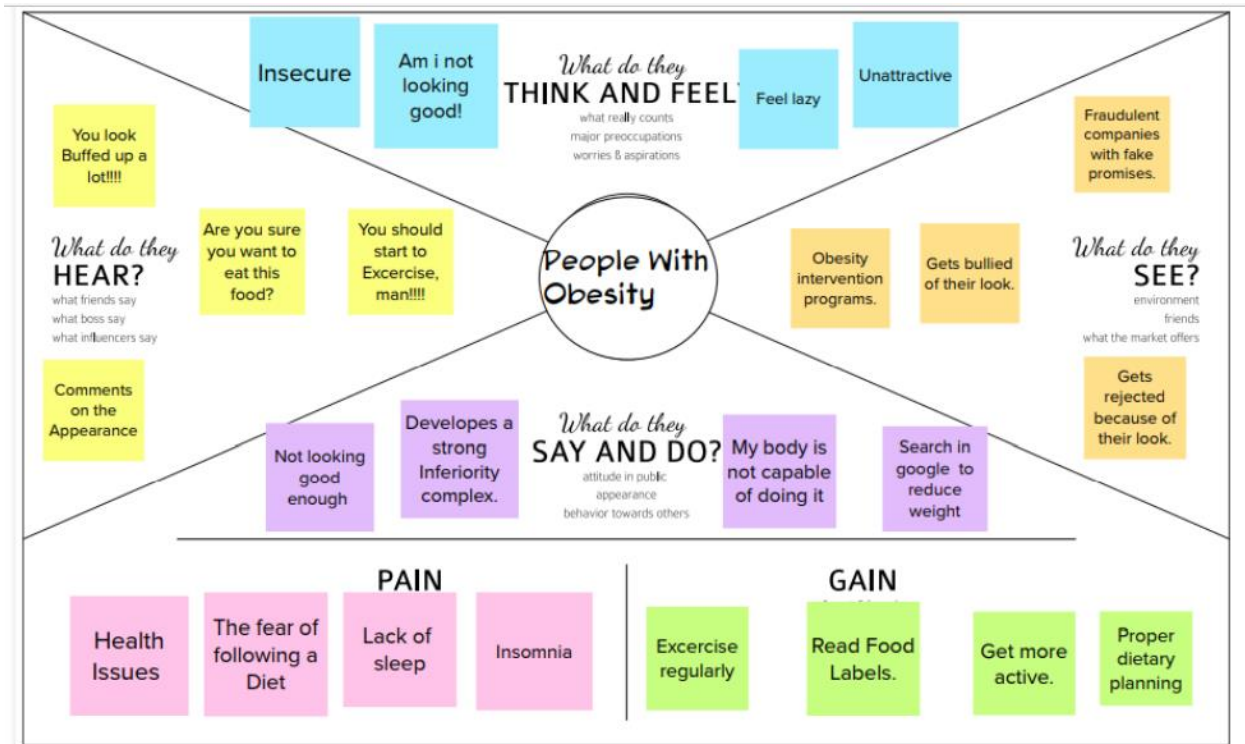
TITLE AND AUTHOR(S)	YEAR	TECHNIQUE (S)	FINDINGS	PROS AND CONS
Enhancing Cloud and healthy Food Nutrition Information Systems Practice Paul, PK and Withal, PS and Bhuimali, A	2017	Cloud Computing, Mobile Computing	Among the common mass food information systems are not yet popularized as a domain and thus there are huge potentialities to work on this.	P: Regarding manpower development there are a lot of things are pending and possible to work with. Hence cloud will do an attention on skill and manpower development for sophisticated development of food information systems.
Mobile cloud based system recognizing nutrition and freshness of food image Kumara, Diptee and Patil, Sarita	2017	Cloud Computing, Image Segmentation	Mobile cloud computing (MCC) has been introduced to be a potential paradigm for mobile health services to overcome the interoperability issues over distinctive information formats. In this, we propose a mobile	P: Multiple Platform Support. Cost-Efficient C: Connectivity and Performance Issue

			cloud based food calorie measurement framework.	
Predicting calorific value for mixed food using image processing Kohila, R and Meenakumari, R	2017	Cloud Computing, Image Segmentation	The objective of this paper is to predict and to fix diet control for various diseases by measuring the calorific value to help the patients and nutritionists. The image captured through a mobile phone/tablet camera will provide information concerning the calorie rate of the food.	P: Increased security Reduced cost C: Limited control. Lacks Support
Use of artificial intelligence in precision nutrition and fitness de Moraes Lopes, Maria Helena Baena and Ferreira, Danton Diego and Ferreira, Ana Claudia Barbosa Honorio and da Silva, Giuliano Roberto and	2020	Artificial Intelligence, Nutritional surveillance	Among the available computational tools, artificial intelligence (AI) has gained more and more attention recently, since it is able to learn and model linear	P: A large amount of data is collected by these technologies C: AI is not yet widely used in the areas of nutrition and fitness

Caetano, Aletha Silva and Braz			and nonlinear relationships between variables by constructing an input-output mapping such that hidden and extremely useful information for decision-making is revealed and interpret.	
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IDEATION & PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS



3.2 IDEATION & BRAINSTORMING



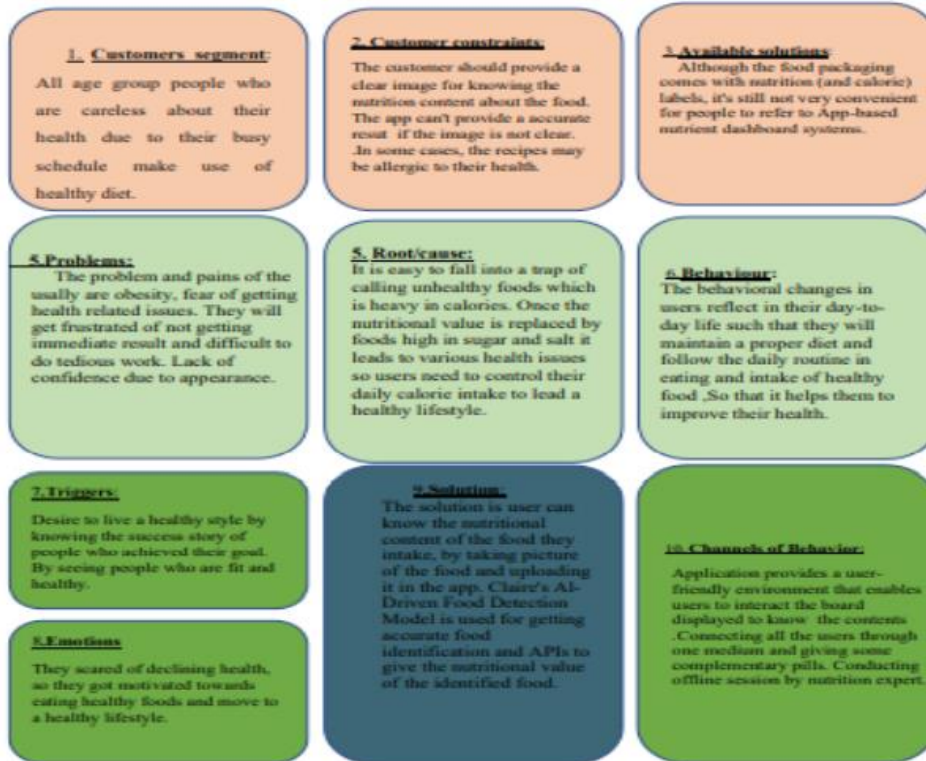
3.3 PROPOSED SOLUTION

S.No.	Parameter	Description
1	Problem Statement (Problem to be solved)	Rate of Obesity are increasing at a high speed, due to the ignorance of the proper Nutrition foods, and this leads to risks in 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, some food packaging has an added nutrition and calorie values, but it's not very comfortable to refer.
2	Idea / Solution description	People can easily track the Nutrition and calories by scanning real-time images of a food and examine its nutritional content which will improve the dietary habits. Smart nutrition and foods can prevent diseases. This app will provide proper nutrition, helps in maintaining a healthy lifestyle and also recommended diet plans for users.
3	Novelty / Uniqueness	This solution has the uniqueness that we can realize real time

		images of meal and can easily analyze its nutritional content. A web app that can automatically estimates food attributes such as ingredients and nutrition value by classifying the input image
4	Social Impact / Customer Satisfaction	The Obesity rate will get reduced and people can able to lead a healthy life. It helps achieve and maintain a healthy weight.
5	Business Model (Revenue Model)	Social media is the best way to develop this application. This application will increase the confidence among the people. It is great to use, amazing convenience and also have subscription once user hit certain services.
6	Scalability of the Solution	People can access from anywhere at any time to track the calories and nutrition value that will improve a healthy eating pattern. This App wills improves the dietary habits and helps in maintaining a healthy weight and healthy lifestyle.

3.4 PROBLEM SOLUTION FIT

PROBLEM-FIT



REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENT

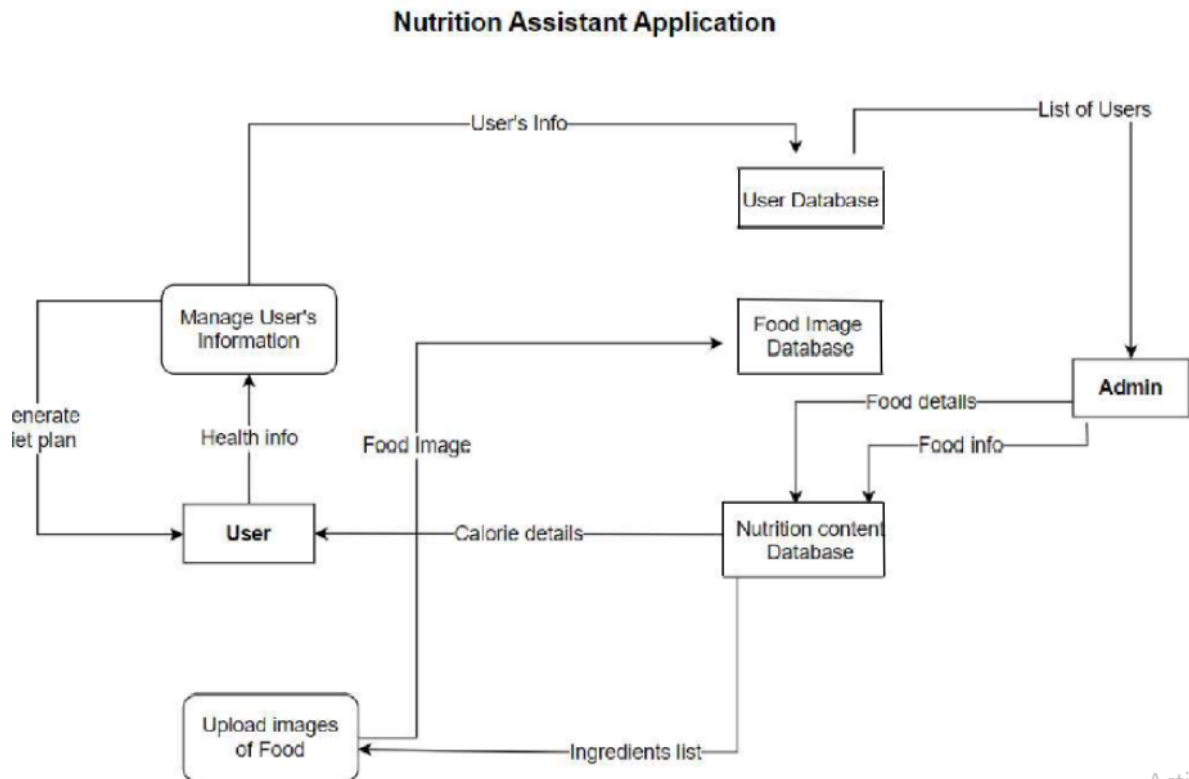
IDENTIFIER	REQUIREMENTS
1. Add health information	This application will allow adding health related information of the user.
2. Delete health information	This application will allow deleting the unwanted details about their health.
3. CATEGORIES OF NUTRITION FOOD	The categories of food.
4. View of Dashboard	Application will allow user to view the dashboard containing nutrition details
5. Identifying the high calorie food	The high calorie ingredients will be shown via this application.
6. Identifying the low calorie food	The high calorie ingredients will be shown via this application.

4.2 NON-FUNCTIONAL REQUIREMENTS

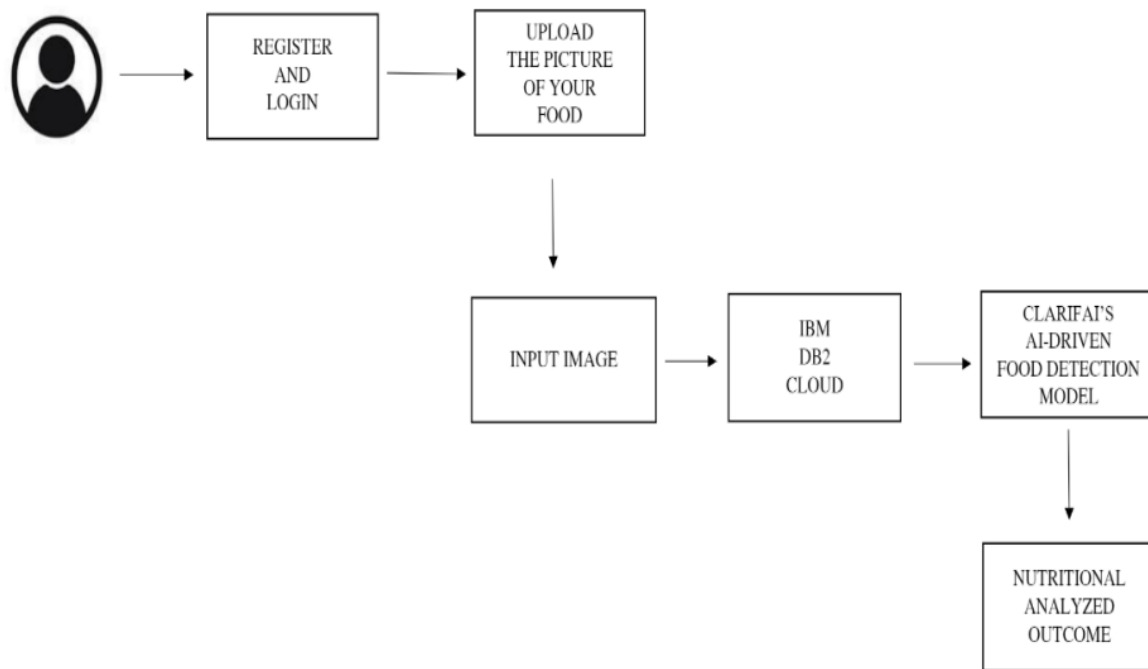
1. Usability
2. Security
3. Reliability
4. Performance
5. Availability
6. Scalability

PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS



5.2 SOLUTION & TECHNICAL ARCHITECTURE



5.3 USER STORIES

1. As a user, I can register for the application by entering my email,

Password, and Confirm my password

2. As a user, I will receive confirmation email once I have

Registered forte application

3. As a user, I can log into the application by entering email & password

4. As a user, I can fill the details.

5. As a user, I can register for the application by entering my email,

Password, and Confirm my password

6. As a user, I will receive confirmation email once I have

Registered forte application

7. As a user, I can log into the application by entering email & password

8. As a user, I can fill the details.

9. As a user, I will search the food items.

10. As a user, I can scan the food and get the nutrition details and recipe for

Related scanned food.

PROJECT PLANNING & SCHEDULING

6.1 SPRINT PLANNING & ESTIMATION

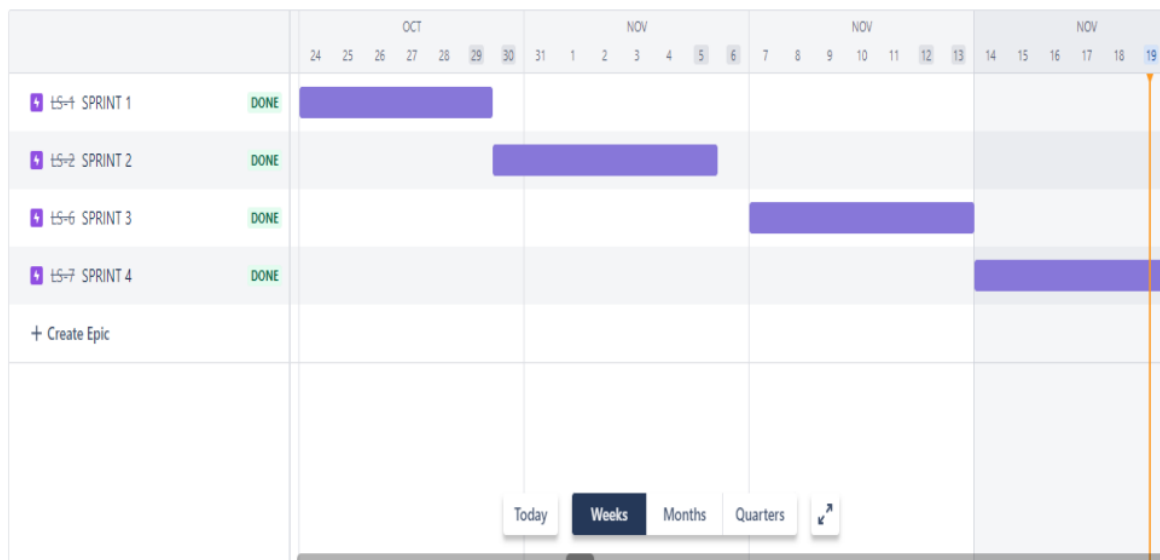
SPRNT	FUNCTINAL REQUIREMENT	USER STORY NUMBER	User Story / Task	STORY POINTS	PRIORITY	TEAM MEMBERS
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering	2	High	Sharing Bringo jone

			my email, password, and confirming my bring password.			
Sprint-1		USN-2	As a user, I will receive confirmation email once have registered for the application	1	high	Sharjin Bringojone
Sprint-1	Login	USN-3	As a user, I can log into the application by entering email & password	1	high	Sharjin Bringojone
Sprint-2	User details	USN-4	As a user , I can fill the Details.	2	high	Sajan bose raj bringo
Sprint-3	Push notification	USN-5	As a user, I will search the food items.	2	medium	Siva prakash bringo
Sprint-4	Shown the nutrition details and recipe for scanned food	USN-6	As a user, I can scan the food and get the details and Recipe for nutrition details and recipe for related scanned food.	1	high	Sajanbose raj Sharjin Siva prakash bringo

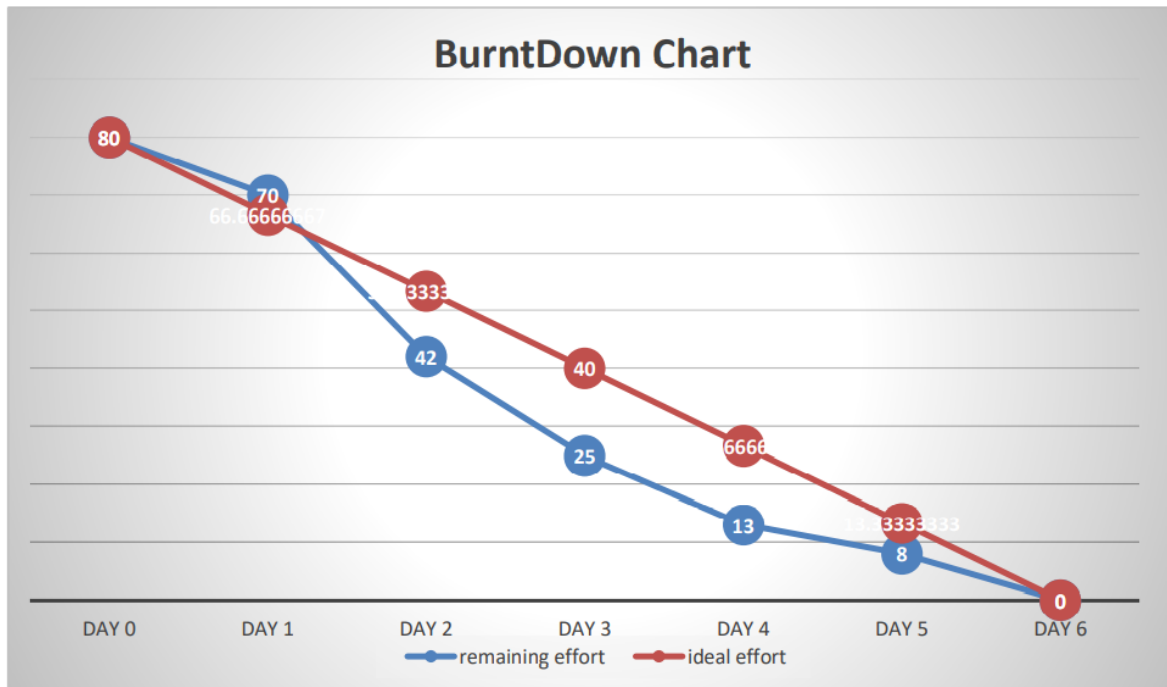
6.2 SPRINT DELIVERY SCHEDULE

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint1	20	6days	24 Oct 2022	29 Oct 2022	20	12 Nov 2022
Sprint1	20	6days	31 Oct 2022	05 Nov 2022	20	5nov2022
Sprint1	20	6days	07 Nov 2022	12 Nov 2022	20	12nov2022
Sprint1	20	6days	07 Nov 2022	12 Nov 2022	20	19nov2022

6.3JIRA REPORT



BURNT DOWN CHART

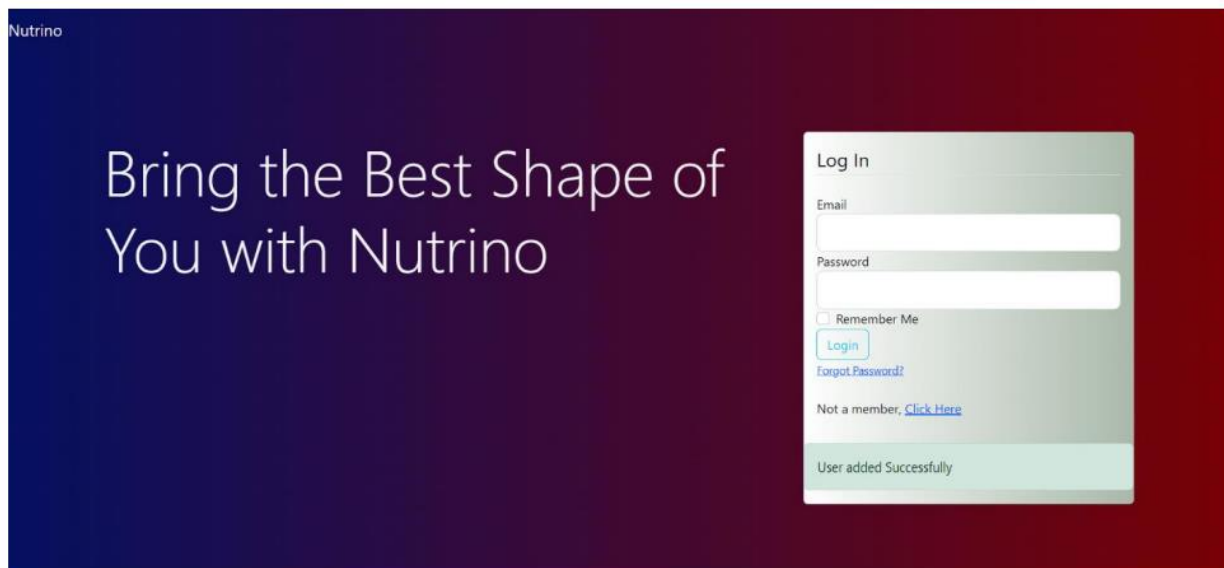
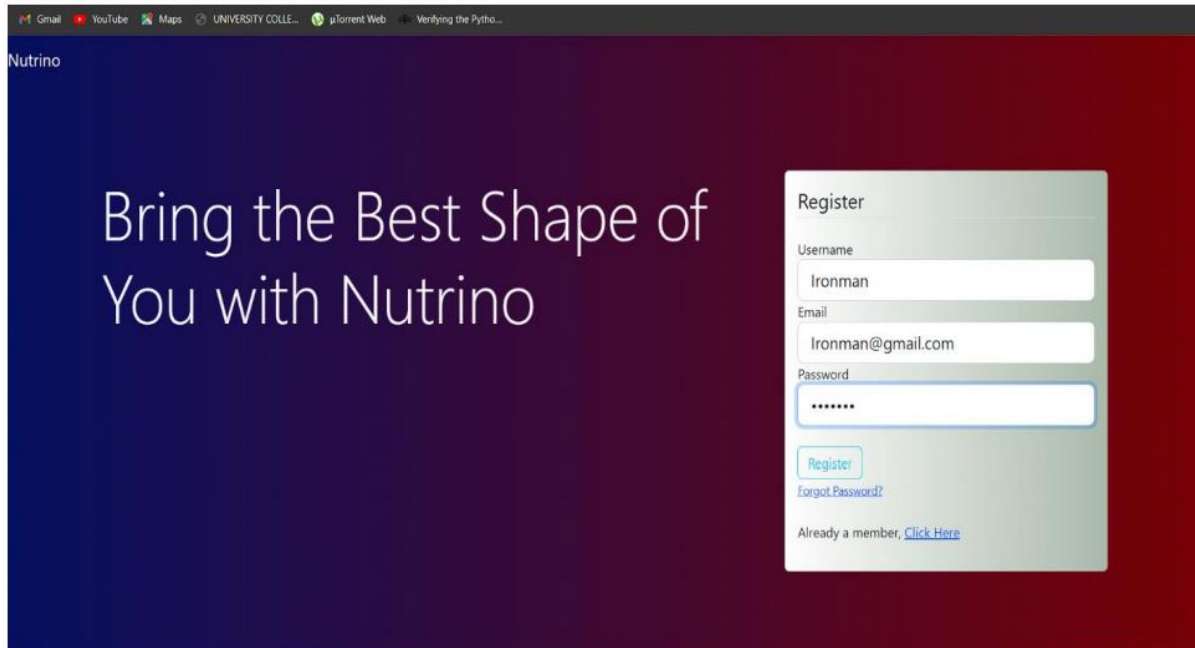


CODING & SOLUTIONING

7.1 FEATURE 1

- ☐ Enter the credentials to register and login to our Neutrino
- ☐ already a user, use the login directly.
- ☐ Wrong login credentials will be notified.
- ☐ on correct username and password, user is directed to

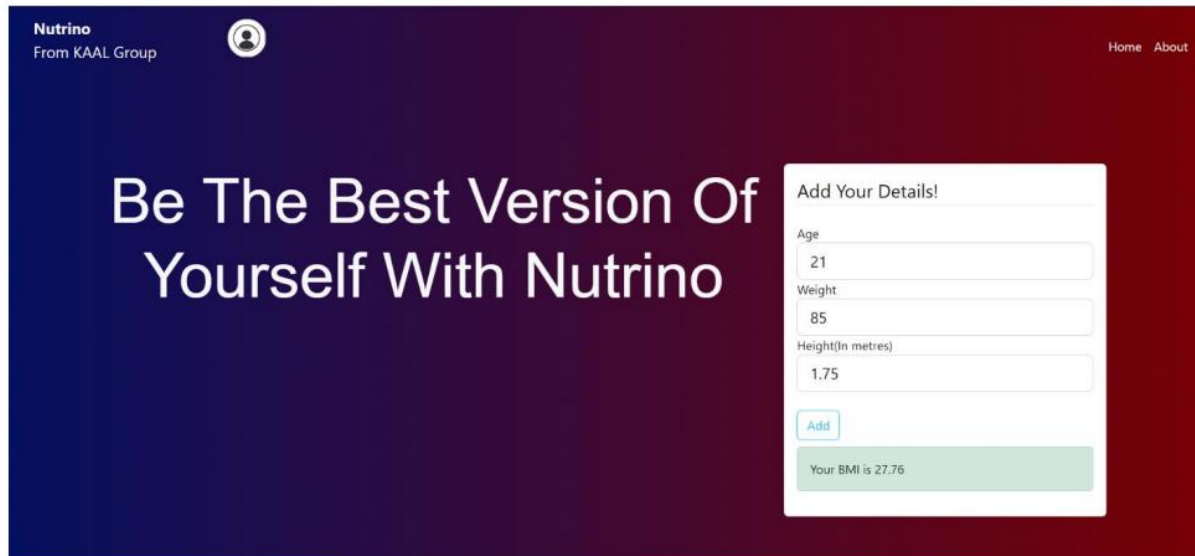
Profile page.



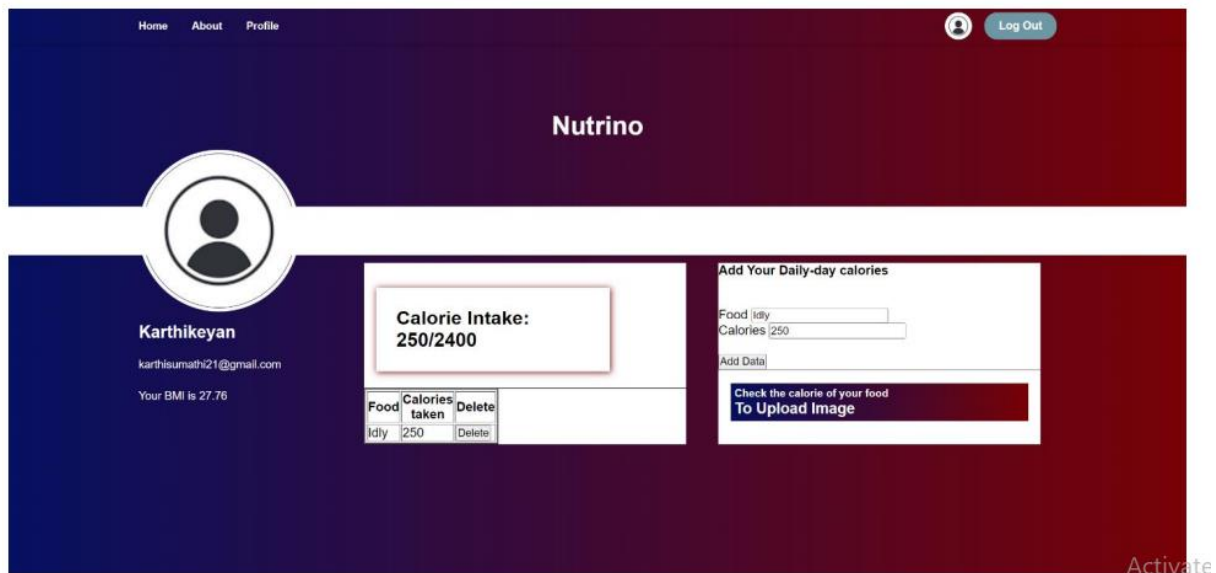
7.2 FEATURE 2

- ☐ User is taken to the profile page, and the user's details are collected.
- ☐ The BMI for the user's information is provided.

□ The dashboard with the user's daily intake of calorie is
Displayed.



The image shows the Nutrino landing page. The header includes the Nutrino logo and 'From KAAL Group' on the left, and 'Home About' on the right. The main content area features a large heading 'Be The Best Version Of Yourself With Nutrino'. On the right side, there is a 'Add Your Details!' form with input fields for Age (21), Weight (85), and Height (1.75). Below these fields is an 'Add' button and a green box displaying 'Your BMI is 27.76'.



The image shows the Nutrino user dashboard. The header includes 'Home About Profile' on the left, the Nutrino logo in the center, and a user profile icon with a 'Log Out' button on the right. The main content area is divided into three sections. On the left, there is a user profile for 'Karthikeyan' with email 'karthisumathi21@gmail.com' and 'Your BMI is 27.76'. In the center, there is a 'Calorie Intake: 250/2400' box and a table showing food intake.

Food	Calories taken	Delete
Idly	250	Delete

On the right, there is an 'Add Your Daily-day calories' form with input fields for 'Food' (Idly) and 'Calories' (250), an 'Add Data' button, and a button labeled 'Check the calorie of your food To Upload Image'.

TESTING

8.1 TEST CASES

i. Our code was tested on different food to check whether it

Gives the correct output.

ii. The code is tested in every aspect to fulfill the customer's

Requirements

RESULTS

9.1 PERFORMANCE METRICS

The proposed procedure was implemented and tested

On a set of different food images. The database consists of various images of

Food items. Once a food is recognized the equivalent nutritional values

Displayed on the screen.



ADVANTAGES

1. User is now able to track his daily calorie intake

2. He/she can now take effective measures to maintain a healthy

Bodyweight

3. It delivers the information on the nutritional value for food and how it should be maintained for your daily basis.

CONCLUSION

In our conclusion, many people now-a-days are not aware of their health condition and taking these conditions in hand and to save their time and money, and to lead the healthy life style, the change in food routine should be maintained. The goal of user either to increase or decrease bodyweight through regular calorie-intake tracking with simple yet efficient application is achieved. The users following their respective calories are highly enough to get them FIT.

FUTURE SCOPE

In future we'll be adding extra features that will engage our users a lot more. The interaction with the users will be a lot easier. And extra dietary plans will be added for the users.