VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

A project report submitted to "**Maheswari S"**

SCHOOL OF COMPUTER SCIENCE & ENGINEERING

Project Report submitted in partial fulfilment of the requirements for the course

Of

INTERNET WEB AND PROGRAMMING

(CSE 3002)

SUBMMITED BY

RASHAM YATINKUMAR TITIYA	20BAI1307
DENZEL SHAJU	20BAI1267
KARANAM VENKATA VIKAS	20BAI1274
CHINTHAMANI MOHAN KRISHNA	20BAI1269

DECLARATION

We hereby declare that the project entitled **"THE NUTRITIONAL VEGGIE TRACKER"** submitted by us in partial fulfilment of the requirements for the course "INTERNET AND WEB PROGRAMMING -CSE 3002", is a record of bonafide work carried out by us under the course faculty of **"Maheswari S".** We further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full, for any other course of this institute or of any other institute or university.

AKNOWLEDGMENT

We would like to convey our deep appreciation to **MAHESWARI S, Assistant Professor (Senior) SCOPE** for her valuable suggestions and valuable guidance offered to us in a pleasant manner throughout the course of the project work encouragement in completion of the project.

We would like to extend our deep appreciation to each of our group members, without their support and coordination it would not have been possible to complete this project.

We are extremely grateful to. Dr A. Nayeemulla Khan, Dean of School of Computer Science VIT Chennai, for extending the facilities of the school towards our project and for their unstinting support.

We express our thanks to our Head of the Department Dr. Priyadarshini for her support throughout the course of this project.

We also take this opportunity to thank all the faculty of the School for their support and their wisdom imparted to us throughout the course.

Last but not the least; we would like to extend our hearty regards to our parents who were supportive to us. We are grateful to all our fellow classmates

and our friends for the suggestions and support given to us throughout the completion of our project.

ABSTRACT

Nutrients are consumed through the food that we eat, and through metabolic processes in the digestive system these nutrients are absorbed at a cellular level in the body

A nutrient-rich diet could assist apprentices to maintain a healthy body and mind.

Rapid developments in technology have encouraged the use of smartphones in health promotion research and practice

80 per cent of visits and time spent looking for health and nutrition advice came from commercial websites.

The job of dietary following on weight reduction stays neglected regardless of being essential for different diabetes and weights the board programs.

Smartphone apps are anticipated to be a beneficial and low-cost intervention for improving diet and nutrition in the general population, as well as treating obesity.

Dietary modifications are a common feature of lifestyle interventions; participants are encouraged to track their dietary intake through food journals and logs.

Diet-tracking apps are a significant ally in their users' efforts to lose and regulate weight because of their ease of use and user-friendliness.

The goal of this study is to examine the evidence suggesting a link between nutrition, diet, and as well as to offer dietary suggestions for their prevention. During development, nutrition has an impact on the teeth, and malnutrition can worsen periodontal and oral infectious disorders

It is vital to better understand users' attitudes and wants for dietary self-monitoring to encourage drive for long-term use should achieve goals.

Literature Review

The quality of nutritional information available on popular websites: a content analysis

The goal of this study was to gain a better grasp of the new information environment that is emerging on the Internet in terms of nutritional health content. This was done to provide better communication and health promotion tools to policymakers. Sites used to access nutrition information were identified and analysed in order to determine the sources of this nutritional information as well as the quality of the information through systematic comparison.80 per cent of visits and time spent looking for health and nutrition advice came from commercial websites. There was essentially no inappropriate advice about salt, coffee, or alcohol consumption.

1) Evaluation of Websites on Nutrition Information

- A total of ten websites were examined, all of which were maintained by nutrition experts and frequently linked to other related websites.
- The 15-question rating instrument was created to assess credibility, content, purpose, and design.
- Building on this instrument, various rating instruments for evaluating the quality of nutrition information websites can be constructed based on a range of factors.
- A prominent group of nutrition experts might create a standardized rating instrument, and the results of site reviews using the instrument could be made public in order to improve the quality of nutrition information on the internet.

2) WEB-BASED CALORIE INFORMATION SYSTEM

- The Calorie Information System is a dietetic monitoring and assessment system that calculates and regulates daily calorie intake.
- Before the system displays the user's Body Mass Index, Basal Metabolic Rate, and recommended calorie consumption, the measurement device measures the user's height and weight.

- The system determines the number of calories depending on a variety of variables, while the calories consumed by users are automatically calculated.
- On a regular basis, users can control their calorie consumption.
- The system delivers health-related information as well as supplementary information to assist the user with obesity and diet-related issues.
- This technique allows people to control calories in their daily lives, which help to reduce obesity and improve human life quality.

3) Semantics-Based Calorie Calculator

- Many applications are accessible online that can track calories for the foods eaten, but users must manually verify each calories and calculate total calories.
- A new method for calculating calories in several formats for a particular dish has been proposed. For entity extraction, the novel technique employs tokenization, hashing algorithms, and fuzzy matching, followed by unit conversion to calculate calories.
- The suggested technique's findings were compared to the outcomes of existing applications.
- These findings demonstrated that the new technique may deliver comparable results to existing programs and can calculate calories for recipes in a variety of formats available on the internet.

4) An overview of recommender systems in the healthy food domain

- This study discusses four different types of recommendation systems in the healthy food domains and gives an overview of them.
- The first three types of studies present existing research that focuses on personalizing advice to specific individuals.
- Recent research in the fourth kind, on the other hand, is aimed at advising nutritious food items in group circumstances.
- Many food systems employ popular recommendation methods. In order to increase the recommender's performance, hybrid approaches are also used.

- User information, recommendation algorithms, modifying eating behaviours, providing explanations, and collective decision making are all highlighted as areas for future research.

5) Smartphone Applications for Promoting Healthy Diet and Nutrition:
    - Smartphones are now being used in health promotion research and practice due to rapid technological advancements.
    - To properly establish the diet and nutrition intervention capabilities of cell phones, future studies should use randomised controlled trial research methods, larger sample sizes, and longer study periods.
    - To promote knowledge and awareness of health behaviours such as healthy eating, culturally appropriate, targeted health messages are required.
    - Smartphone apps are anticipated to be a beneficial and low-cost intervention for improving diet and nutrition in the general population, as well as treating obesity.
    - Major Smartphone platforms such as iPhone, Android, Nokia, and BlackBerry offer a wide range of diet, nutrition, and weight-control apps.
    - Feedback, goal setting for healthy eating, healthy cooking, supermarket or restaurant decision-making, self-monitoring of energy and nutrient consumption, weight tracking, and social support and change planning are all common strategies.

6) Diet and nutrition: A literature review of factors influencing blue-collar apprentices
    - Apprentices may benefit from a nutrient-dense diet to keep their bodies and minds healthy. Because most construction sector apprenticeships involve attention and moderate to high levels of physical exertion, trainees require a diet that can sustain these requirements.
    - High energy needs were required. Apprentices exhibit a variety of dietary patterns, according to anecdotal evidence.
    - Taste preferences, nutritional attitudes and knowledge, and the surroundings appear to be moderating factors.

- (e.g., food availability; healthy dietary recommendations) and the extent to which traditional practises are prescribed preconceptions associated with men
- The factors that influence good eating, the impact of nutrition on mental health, and gender disparities in eating habits
- This literature review discusses nutrition and workplace programmes. Even though there is no research.

7) Nutrition and cancer: A review of the evidence for an anti-cancer diet
    - The study of nutrition's influence in the cancer process covers a wide range of topics. As more study is done, it is becoming obvious that nutrition plays a significant role in cancer.
    - According to the American Institute for Cancer Research and the World Cancer Research Fund, adequate diets, physical activity, and maintaining a healthy body weight can prevent 30–40% of all malignancies.
    - Some cancers are likely to have a greater mortality rate than this. Most of the nutrition and cancer research has been reductionist, meaning that a specific food or nutrient has been researched in relation to its impact on tumour formation/regression or another end point of cancer at a specific region in the body.
    - These investigations are extremely beneficial in gaining a better understanding of illness mechanisms. They do not, however, contribute to a comprehensive picture of how to avoid cancer through food. Even worse, they don't say anything about what to eat if you already have cancer and want to eat a diet that will help you recover.
    - This study will look at the dietary components that have been linked to an increased risk of cancer, as well as the extra protective dietary factors that have been linked to a lower risk of cancer. Finally, some whole-diet studies will be discussed, which provide a more comprehensive view of how these separate components interact to lower cancer risk.
    - One of the most important risk factors for cancer is overeating.
    - This can be demonstrated in two ways:
    - The increased risk of cancer due to obesity, and (2) the preventative impact of consuming less food.

- In the United States, obesity has reached pandemic proportions. Overweight or obese adults account for 64% of the adult population
- Approximately one in every 50 people is now very obese (BMI > 40 kg/m2)
- Poor diet and physical inactivity were determined to be the second biggest cause of death (400,000 deaths per year in the United States) and will certainly overtake cigarettes as the top cause of death, according to Mokdad et al.
- Overweight and obesity were projected to account for 14 per cent of all cancer deaths in men and 20 per cent of cancer deaths in women in a recent study from a prospective cancer prevention cohort.
- Obesity has been linked to an increased risk of death from malignancies of the oesophagus, colon, and rectum, liver, gallbladder, pancreas, kidney, stomach (in men), prostate, breast, uterus, cervix, and ovary. The scientists calculated that if the adult population maintained a normal weight (BMI 25.0), approximately 90,000 cancer deaths may be averted each year, so Obesity is clearly a big cancer risk factor.

8) Diet, nutrition and the prevention of cancer

Published online by Cambridge University Press: 02 January 2007

- Obesity raises the risk of malignancies of the oesophagus (adenocarcinoma), colorectum, breast (postmenopausal), endometrial, and kidney; body weight should be kept in the 18.5–25 kg/m2 range, and weight growth in adulthood should be avoided.
- Alcohol causes oral cavity, pharyngeal, oesophageal, and liver cancers, as well as a minor increase in the risk of breast cancer.
- If ingested, alcohol intake should not exceed 2 units per day. Aflatoxin in foods promotes liver cancer, while its significance in the absence of hepatitis virus infections is unclear; aflatoxin exposure in foods should be avoided.
- Chinese-style salted fish is linked to an increased risk of nasopharyngeal cancer, especially when consumed as a child, and should be consumed in moderation.

- Fruits and vegetables are thought to lower the incidence of oral, oesophageal, stomach, and colorectal cancers, and diets should include at least 400g/d of total fruits and vegetables.
- Preserved meat and red meat are likely to raise the risk of colorectal cancer; if consumed, these items should be consumed in moderation.
- Stomach cancer is likely to be increased by salt preserved foods and high salt intake; total consumption of salt preserved foods and salt should be modest.
- Drinks and meals that are scalding hot are likely to increase the risk of oral cavity, pharyngeal, and oesophageal cancers; drinks and foods should not be ingested when they are scalding hot.
- Physical exercise, which is the primary predictor of energy expenditure, lowers the risk of colon cancer and may also lower the risk of breast cancer; frequent physical activity is recommended.

9) The Effect of Adherence to Dietary Tracking on Weight Loss: Using HLM to Model Weight Loss over Time

- Dietary tracking was found to be an important component of successful weight loss, with those who tracked at least 5 days of each week showing significant and sustained weight loss over time as compared to those who tracked fewer days or inconsistently during the program.
- Consistent tracking is a significant predictor of weight loss, resulting in an additional seven pounds of weight loss over the course of the program suggesting the intervention successfully achieved clinically and significant long-term weight loss in high-risk rural Appalachian adults with diabetes and prediabetes.
- In addition, a model of weight change over time revealed that more weight was lost over the summer as compared with the holiday season.
- Despite potential challenges to eating healthy during holidays, those who consistently maintained their food journal and tracked their calories and fat intake did not experience an increase in weight over the holidays, indicating that consistent tracking may act as a protective factor to the challenges of following a healthy lifestyle during the holidays.

- Future research can test this hypothesis by looking at changes in dietary tracking over time to determine if certain periods of tracking are critical to weight loss success.

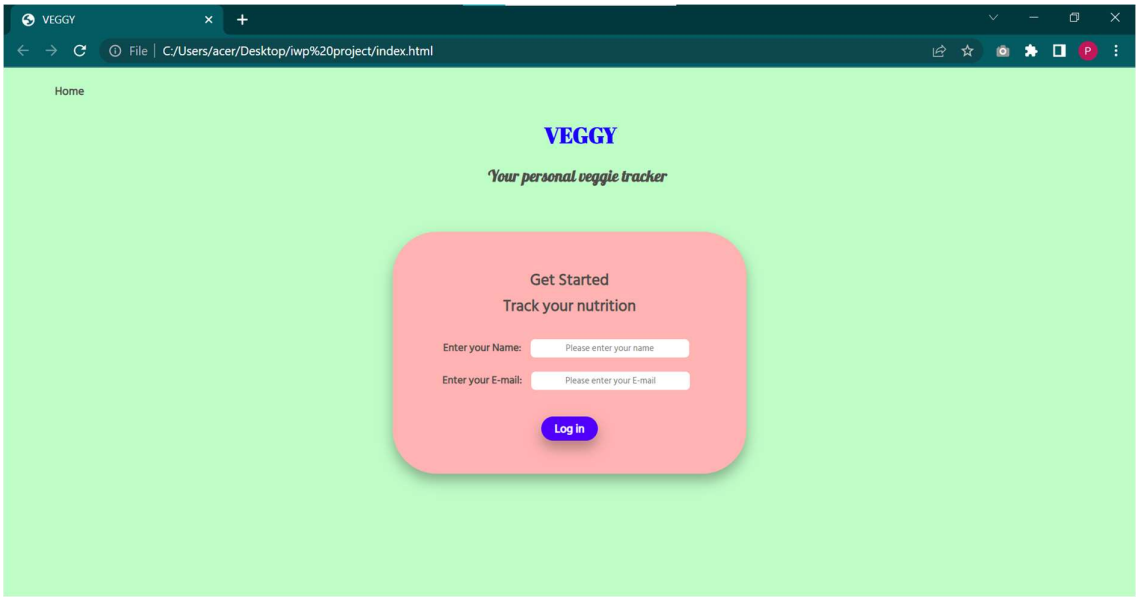
10) User Perspectives of Diet-Tracking Apps: Reviews Content Analysis and Topic Modelling

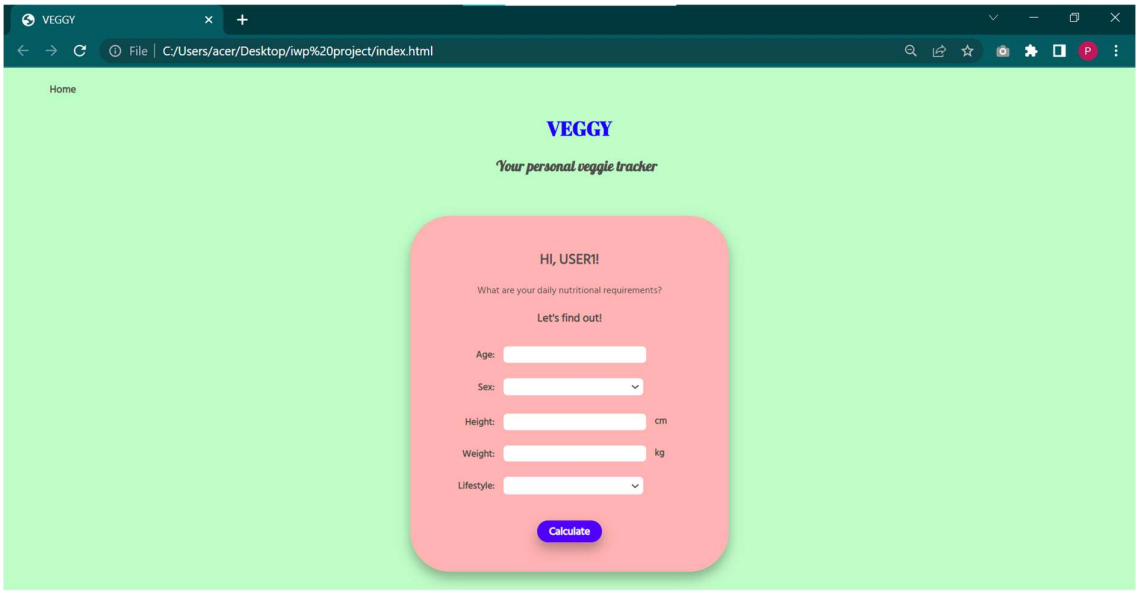
- Assessment of 72,084 user reviews for diet-tracking apps revealed an overall positive user evaluation.
- Users highly value the ability to track their food intake and manage their weight. Nonetheless, there is significant room for improvement, particularly in the area of charges associated with app use and features that enable adding food to the apps' databases.
- The findings of this study provide relevant insights into user opinions and evaluations of diet-tracking apps.
- The implications of this study go beyond those for app developers as stakeholders; for example, in cases concerning health and nutrition, public policy and official institutions should be involved.
- Digital participation of current and future generations is increasing; there is also evidence that mobile apps are a potentially useful tool for shaping and tracking users' diets
- By exploring users' experiences with apps, along with their suggestions and comments, it is possible to better support the apps they need and improve their eating habits, health and diet management, and nutrition-related well-being

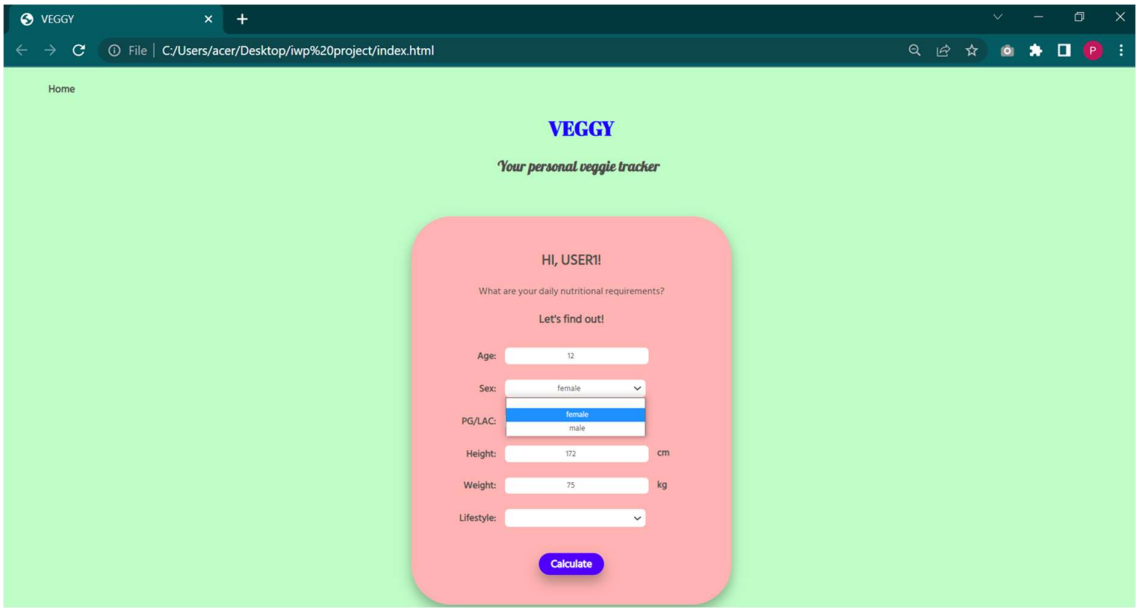
Proposed Methodology

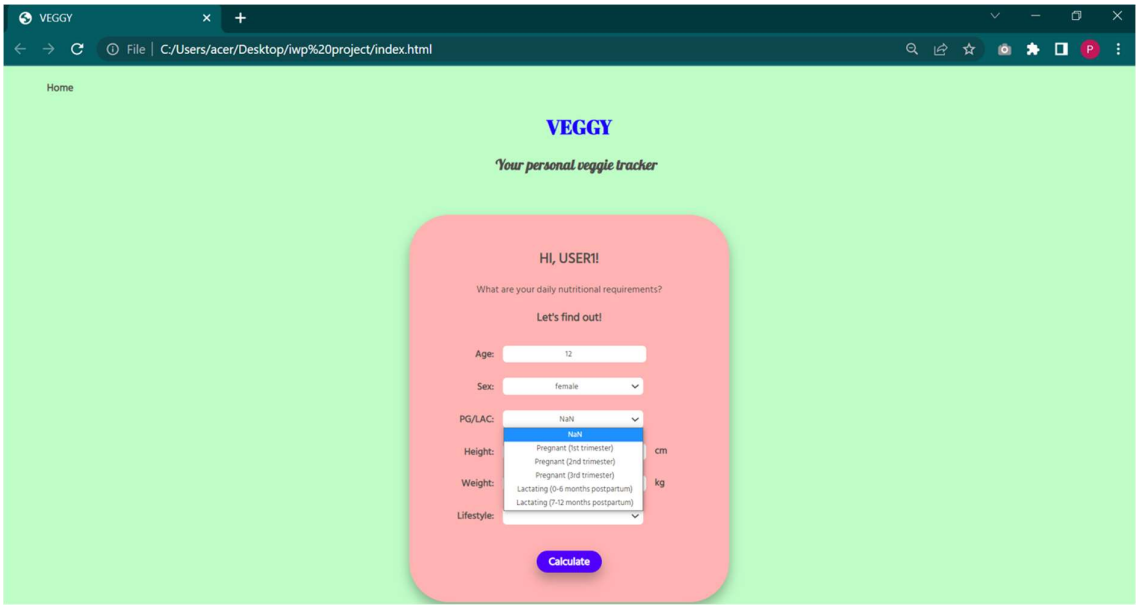
We've implemented a system that allows you to see and track if you've ingested the recommended daily calorie intake. After inputting a valid email address, the website will request user information such as age, gender, height, weight, and lifestyle activity. Users under the age of 18 are not allowed to fill out this form. The website asks the user what they've eaten and how much they've eaten after they've entered these facts. The program will compute how much the user has ingested and the percentage of each nutrient that the user has consumed or still to consume based on the nutritional values of the food items per 100 grams.

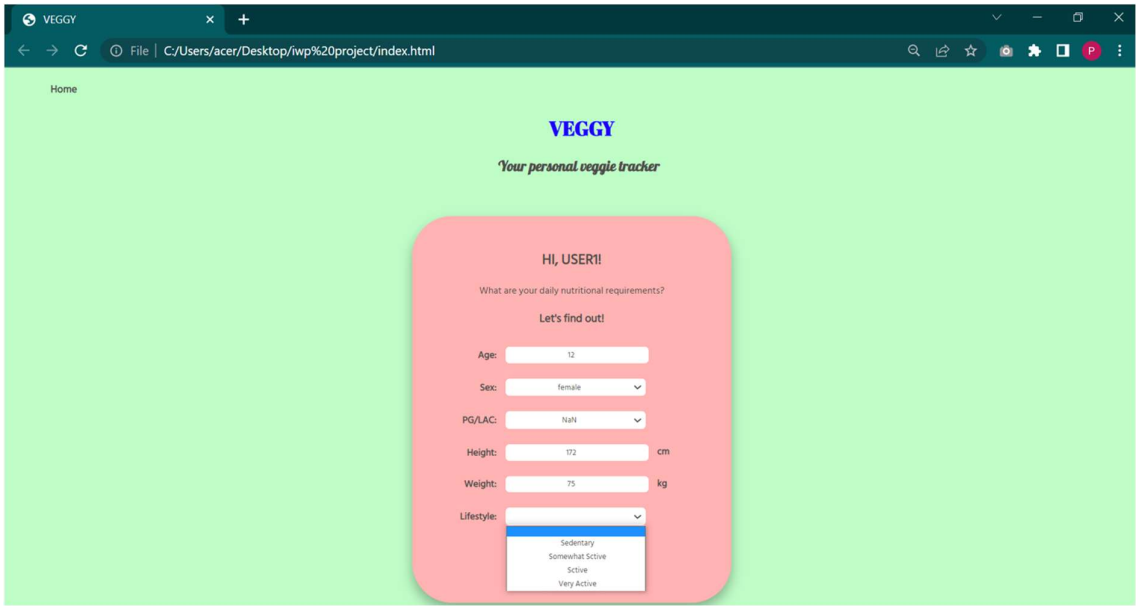
Results

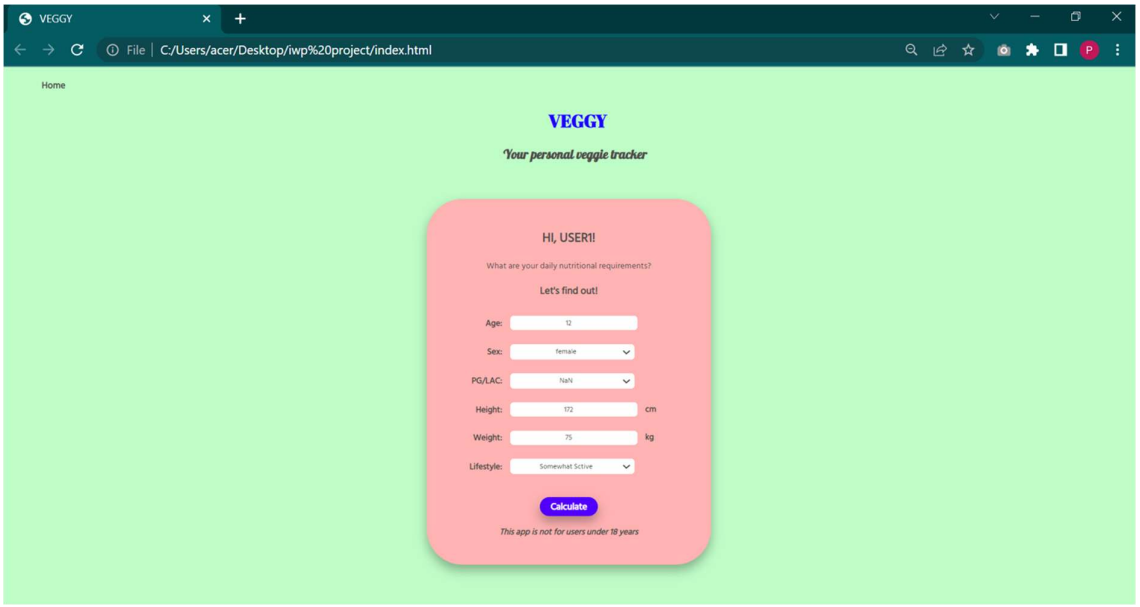

VEGGY
File | C:/Users/acer/Desktop/iwp%20project/index.html
Home
VEGGY
Your personal veggie tracker
Get Started
Track your nutrition
Enter your Name:
Please enter your name
Enter your E-mail:
Please enter your E-mail
Log in

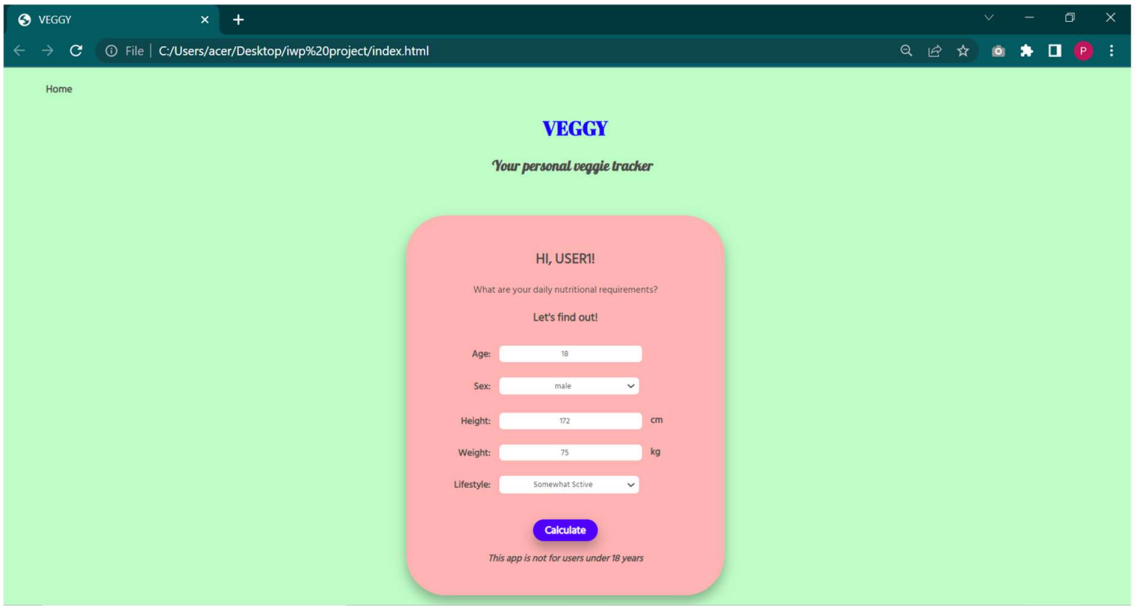

VEGGY
File | C:/Users/acer/Desktop/iwp%20project/index.html
Home
VEGGY
Your personal veggie tracker
HI, USER1!
What are your daily nutritional requirements?
Let's find out!
Age:
Sex:
Height:
cm
Weight:
kg
Lifestyle:
Calculate


VEGGY
File | C:/Users/acer/Desktop/iwp%20project/index.html
Home
VEGGY
Your personal veggie tracker
HI, USER1!
What are your daily nutritional requirements?
Let's find out!
Age:
12
Sex:
female
PG/LAC:
female
male
Height:
172
cm
Weight:
75
kg
Lifestyle:
Calculate

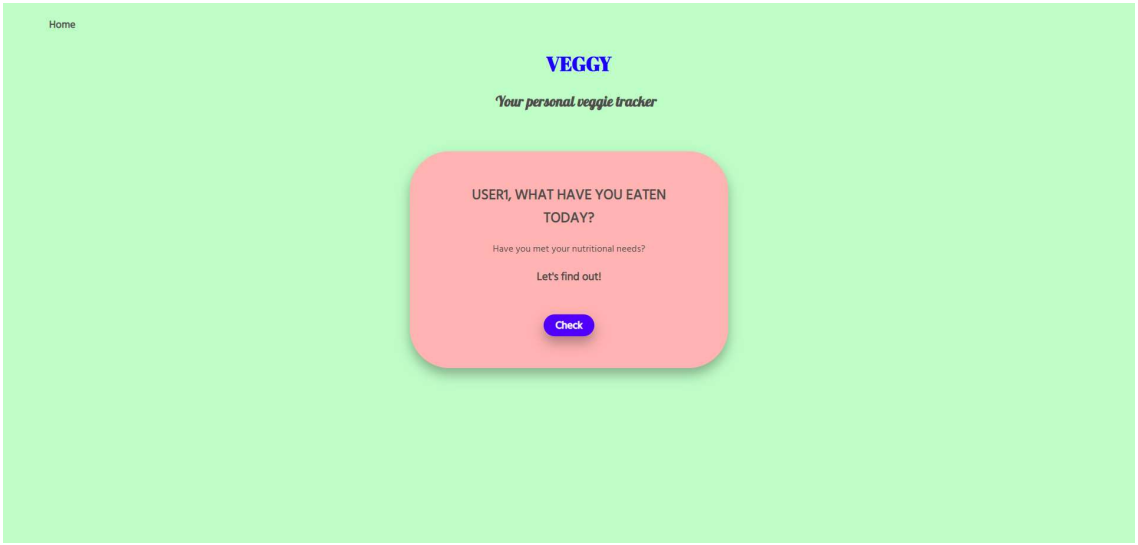

VEGGY
File | C:/Users/acer/Desktop/iwp%20project/index.html
Home
VEGGY
Your personal veggie tracker
HI, USER1!
What are your daily nutritional requirements?
Let's find out!
Age:
12
Sex:
female
PG/LAC:
NaN
NaN
Pregnant (1st trimester)
Pregnant (2nd trimester)
Pregnant (3rd trimester)
Lactating (0-6 months postpartum)
Lactating (7-12 months postpartum)
Height:
cm
Weight:
kg
Lifestyle:
Calculate

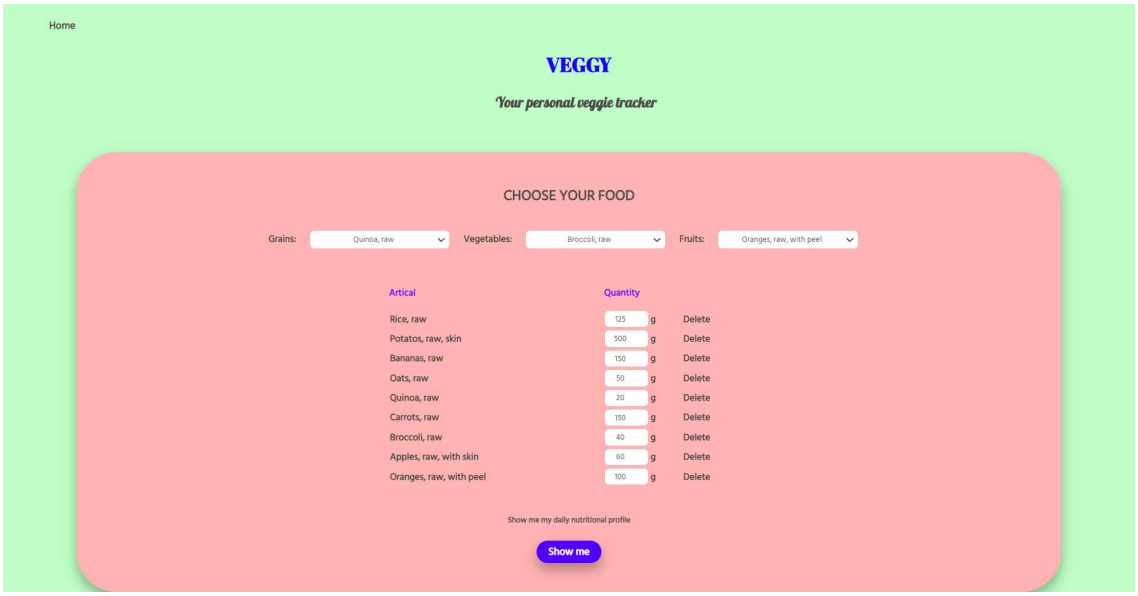

VEGGY
File | C:/Users/acer/Desktop/iwp%20project/index.html
Home
VEGGY
Your personal veggie tracker
HI, USER1!
What are your daily nutritional requirements?
Let's find out!
Age:
12
Sex:
female
PG/LAC:
NaN
Height:
172
cm
Weight:
75
kg
Lifestyle:
Sedentary
Somewhat Sctive
Sctive
Very Active

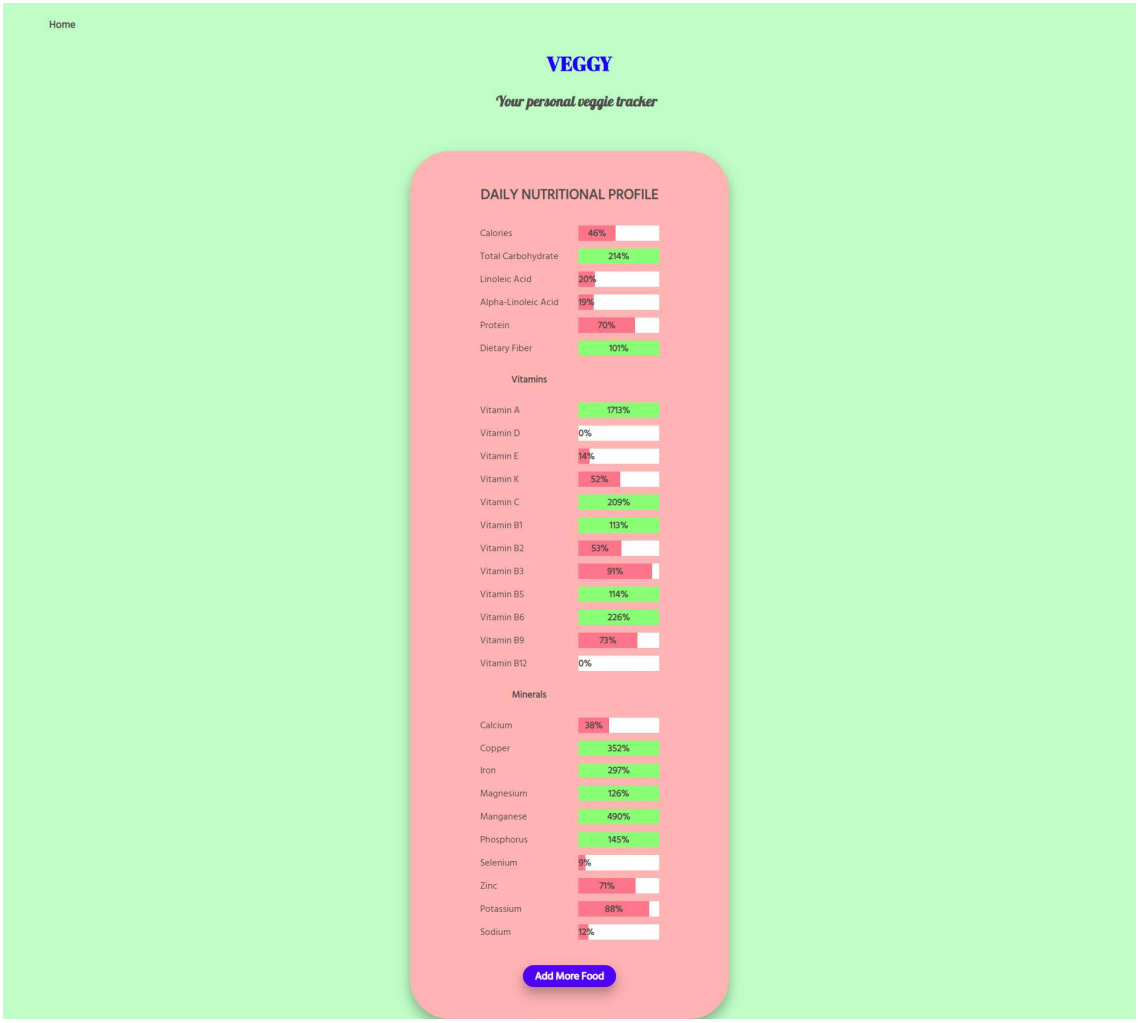

VEGGY
File | C:/Users/acer/Desktop/iwp%20project/index.html
Home
VEGGY
Your personal veggie tracker
HI, USER1!
What are your daily nutritional requirements?
Let's find out!
Age:
12
Sex:
female
PG/LAC:
NaN
Height:
172
cm
Weight:
75
kg
Lifestyle:
Somewhat Sctive
Calculate
This app is not for users under 18 years


VEGGY
File | C:/Users/acer/Desktop/iwp%20project/index.html
Home
VEGGY
Your personal veggie tracker
HI, USER1!
What are your daily nutritional requirements?
Let's find out!
Age:
18
Sex:
male
Height:
172
cm
Weight:
75
kg
Lifestyle:
Somewhat Sctive
Calculate
This app is not for users under 18 years


Home
VEGGY
Your personal veggie tracker
YOUR DAILY NUTRITIONAL REQUIREMENTS
Calories (kcal) 2845
Total Carbohydrate (g) 130
Linoleic Acid (g) 17
Alpha-Linoleic Acid (g) 1.6
Protein (g) 56
Dietary Fiber (g) 38
Vitamins
Vitamin A (µg) 900
Vitamin D (µg) 15
Vitamin E (mg) 15
Vitamin K (µg) 120
Vitamin C (mg) 90
Vitamin B1 (mg) 1.2
Vitamin B2 (mg) 1.3
Vitamin B3 (mg) 16
Vitamin B5 (mg) 5
Vitamin B6 (mg) 1.3
Vitamin B9 (µg) 400
Vitamin B12 (µg) 2.4
Minerals
Calcium (mg) 1000
Copper (µg) 900
Iron (mg) 8
Magnesium (mg) 400
Manganese (mg) 2.3
Phosphorus (mg) 700
Selenium (µg) 55
Zinc (mg) 11
Potassium (g) 4.7
Sodium (g) 1.5
Next


Home
VEGGY
Your personal veggie tracker
USER1, WHAT HAVE YOU EATEN TODAY?
Have you met your nutritional needs?
Let's find out!
Check


Home
VEGGY
Your personal veggie tracker
CHOOSE YOUR FOOD
Grains:
Quinoa, raw
Vegetables:
Broccoli, raw
Fruits:
Oranges, raw, with peel
Artical
Quantity
Rice, raw 125 g Delete
Potatos, raw, skin 500 g Delete
Bananas, raw 150 g Delete
Oats, raw 50 g Delete
Quinoa, raw 20 g Delete
Carrots, raw 150 g Delete
Broccoli, raw 40 g Delete
Apples, raw, with skin 60 g Delete
Oranges, raw, with peel 100 g Delete
Show me my daily nutritional profile
Show me



Conclusion

This website was built using HTML, CSS, and JS. When a user enters his or her name and email address on the login page, it displays nutritional requirements; if we continue, it displays daily nutritional requirements; we may then add food and specify the kind of foods we should consume; and finally, it displays your daily nutritional profile. Because we didn't have enough data to implement every potential food item, we added several food items using JS and HTML on our own.

References

https://ecu.au.libguides.com/nutrition-dietetics

https://www.sciencedirect.com/science/article/pii/S0010482521001591

https://medlineplus.gov/definitions/nutritiondefinitions.html

https://www.healthline.com/nutrition/top-iphone-android-apps#super-food

https://link.springer.com/article/10.1007/s10844-017-0469-0

http://www.arpnjournals.org/jeas/research_papers/rp_2015/jeas_1015_2790.pdf

https://library.ndsu.edu/ir/bitstream/handle/10365/25969/Semantics-Based%20Calorie%20Calculator.pdf?sequence=1&isAllowed=y

https://link.springer.com/article/10.1007/s10844-017-0469-0

https://pubmed.ncbi.nlm.nih.gov/26819969/

https://www.semanticscholar.org/paper/Diet-and-nutrition-%3A-A-literature-review-of-factors-Plessis/708f1becbf2d700f267ac4b95b5053ddd57c372e

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC526387/

https://www.cambridge.org/core/journals/public-health-nutrition/article/diet-nutrition-and-the-prevention-of-cancer/1708E47B20A7E8CA5BAE425DB63AA812

https://pubmed.ncbi.nlm.nih.gov/28852651/