



A Web Based Diet and Nutrition Analyzer

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ABSTRACT:

The greatest wealth is health. It is sometimes said your health is a function of what you are not doing, not what you are currently doing. The degree to which individuals can attain, process, and comprehend the necessary health information and services they need to make proper health decisions is vital for optimal health and wellbeing.

The main objective of this Project presents a new Web based Diet and Nutrition tracker Which is designed for the individuals to track their Calories, Macro Nutrients and BMI. It suggests the food items to be taken for the individuals who are underweight and do Not follow their diet in terms of Macro Nutrients and Calories. It also suggests some Exercises to the individuals who are overweight and who take more calories than required.

Keywords: Diet, Nutrition, BMI, Analyzer, Calories, Macro Nutrition

1. Introduction:

1.1 Problem Statement:

The current problem is that many people struggle to maintain a healthy diet and lifestyle, which can lead to numerous health problems such as obesity, diabetes, and heart disease. One reason for this is a lack of awareness about the nutritional content of the food they consume. A nutrition diet tracker will help users monitor their food intake, track their progress towards their dietary goals, and make informed decisions about their food choices. The nutrition diet tracker aims to provide users with a personalized, convenient and easy-to-use tool for tracking their daily food intake and assessing their nutrient intake. The tool will also allow users to set specific dietary goals and track their progress towards achieving them. The problem is to develop a web-based nutrition diet analyzer that can help individuals track and analyze their dietary habits and provide personalized recommendations for improving their nutrition and overall health. The analyzer should consider the individual's age, gender, weight, height, activity level, and any specific dietary preferences or restrictions to generate accurate and relevant recommendations.

1.2 Problem objective:

A web-based nutrition diet analyser is to provide individuals with a comprehensive analysis of their dietary intake and nutrient consumption, enabling them to make informed decisions about their food choices and achieve their dietary goals. The nutrition diet analyzer aims to provide users with an easy-to-use tool for assessing their dietary intake, identifying nutrient deficiencies or excesses, and making adjustments to their diet accordingly. The tool will also provide personalized recommendations for dietary changes based on the user's goals and preferences.

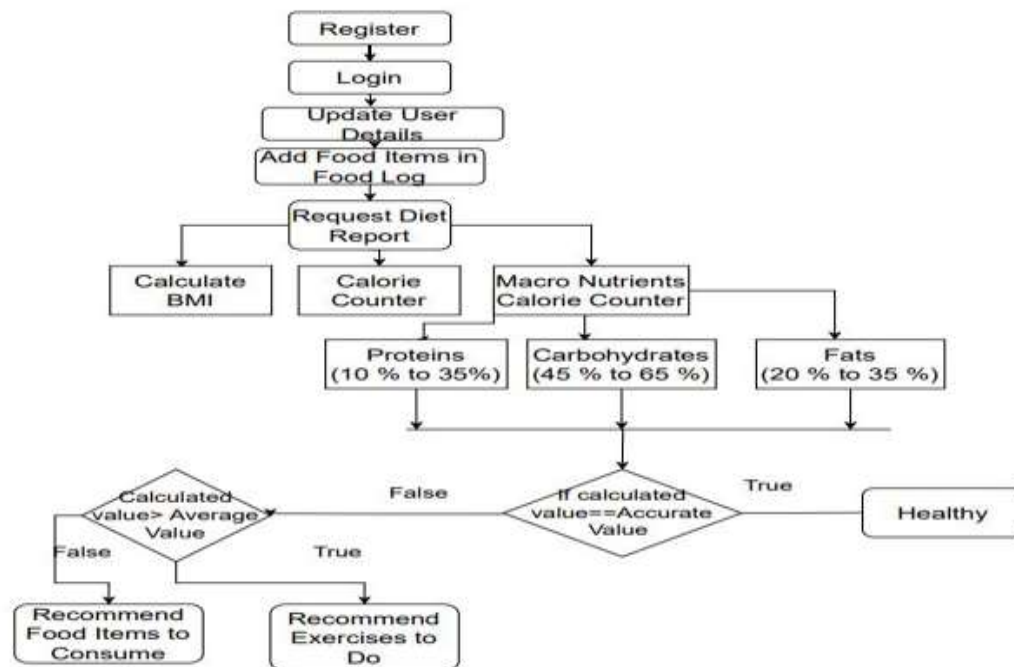
2. Proposed System

The Proposed web-based nutrition and diet analyser is a website of diet plans. The system measures a user's body mass index based on his/her height and weight. The user has to then enter his food items and the system presents him/her the nutrition information that would be best for that particular user. All the food items along with the quantity is shown to the user.

In this website, the first page is of login the client login into the system. The client can fill data like Name, Age, Gender, Email-Id, Password, and so forth. From utilizing Email-Id and Password he can login to system. After effectively login to the system, user needs enter individual data like age, weight, gender, climate. By this information, the BMI is acquired and health reports are generated. According to the BMI, the user is suggested to do exercises and recommended food. The user has to enter the food item and can view the nutrient information about that food. The food is categorised into different types like vegetables, fruits, meat, juices, rice, flours, leafy vegetables etc. When the user entered food item in search bar, the website shows the food item with image and nutrition information containing carbohydrates, proteins, fats, calories with quantity.

2.1 ADVANTAGES OF PROPOSED SYSTEM

- Measure calories as well as macro nutrients.
- Provides food items to be consumed by the user based on BMI, calorie intake and macro nutrients consumption.
- Suggests exercises to the users who are overweight and who takes more calories per day.



3. Methodology

This system is built using Django web application framework. Django was originally developed for the news-oriented site of the world company in Lawrence, Kansas. It simplifies the development process of complex, data-base driven web applications like a news-oriented site. Its well-designed framework includes three major parts: model, view and template. Our course management system consists of four components which are grades, marking, group and submission. Each component contains those three parts. When we develop the Diet and Nutrition Analyzer, we first design the model of the relative component for data architecture, then the template for user interface, at last we implement the view which includes all the functions.

To build such a complicated web system, we need three major parts for each component: database, user interface and the functions to interact in between. Django framework provides sufficient functionalities to implement these three parts. Corresponding to database, user interface and functions in between, Django has model, template and view components to deal with each part respectively. Django's model component helps programmer to define and maintain tables in the database, while its template component helps to write html files using a combination of both html syntax and Django syntax. For those functions in between, Django provides a view component which reads the input from user interface and makes corresponding changes in the database.

3.1 User table:

The User table inherits from Django's AbstractUser class and has additional fields like age, height, weight, neededcalories, neededcalorieslow, neededcalorieshigh, gender, and climate. The age field is an integer that represents the age of the user, the height field represents the height of the user, the weight field represents the weight of the user, neededcalories field represents the number of calories the user needs to consume daily, and neededcalorieslow and neededcalorieshigh represent the range of calories the user can consume daily. The gender field is a string that represents the gender of the user, and the climate field represents the climate type in which the user resides.

```

class User(AbstractUser):
    age = models.IntegerField(default=5)
    height = models.IntegerField(default=40)
    weightt=models.IntegerField(default=4)
    neededcalories = models.IntegerField(default=0)
    neededcalorieslow=models.IntegerField(default=0)
    neededcalorieshigh=models.IntegerField(default=0)
    GENDER_CHOICES = [
        ('M', 'Male'),
        ('F', 'Female'),
    ]
    CLIMATE_CHOICES = [
        ('C', 'Cool'),
        ('H', 'Hot'),
        ('M', 'Mild')
    ]
    climate=models.CharField(max_length=1,default='M',choices=CLIMATE_CHOICES)
    gender = models.CharField(max_length=1,default='M', choices=GENDER_CHOICES)
    def __str__(self):
        return f'{self.username}'

```

3.2 FoodLog Table:

The FoodLog table represents the food items that the users have consumed. It has two fields, user and food_consumed. The user field is a foreign key that references the User table, and the food_consumed field is a foreign key that references the Food table.

```

class FoodLog(models.Model):
    user = models.ForeignKey(User, on_delete=models.CASCADE)
    food_consumed = models.ForeignKey(Food, on_delete=models.CASCADE)

    class Meta:
        verbose_name = 'Food Log'
        verbose_name_plural = 'Food Log'

    def __str__(self):
        return f'{self.user.username} - {self.food_consumed.food_name}'

```

4. Conclusion

A web-based nutrition diet analyzer is a useful tool for individuals who want to monitor their daily food intake and make informed decisions about their diet. With this tool, users can track their calorie and nutrient intake, set goals for their diet, and generate reports to monitor their progress. The system can also provide personalized recommendations based on the user's dietary needs and preferences. Additionally, an admin panel can allow for efficient management of user accounts and data. Overall, a web-based nutrition diet analyzer can be a valuable resource for individuals looking to improve their health and well-being through healthy eating habits.

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