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Artificial Intelligence based Nutritionist Chatbot System

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ABSTRACT: Artificial Intelligence chatbot is a technology that makes interaction between man and machine using natural language possible. As people across the globe are becoming more interested in watching their weight, eating more healthy food and avoiding junk food, a system that can measure calories and nutrition in every day meals can be very useful for maintaining our health. Food calorie and nutrition measurement system is very beneficial for nutritionist and patients to measure and manage the daily food intake. The proposed system is a responsive website which contains the knowledge and data regarding the fitness of a person. A nutritionist consults a person based on his schedule, body type, height and weight. The system too asks all this data from the user and processes it. The system stores and processes this data and then calculates the nutrient value needed to fill up user needs. The system then shows an appropriate nutrition plan to the users and asks if user is ok with it, else it shows other alternate plan to fill up user needs.

KEYWORDS: Machine learning, Chatbot, text-to-text diagnosis, pattern matching, natural language processing (NLP)

I. INTRODUCTION

Artificial Intelligence is an approach to make a computer, a robot, or a product to think how smart human think. Now a days, a human being suffering from many health problems such as fitness problem, maintaining proper diet problem, etc. Therefore we are developing this website for providing special nutrition plan and proper exercise knowledge for normal persons and for handicap peoples also. Here there are two persons, the admin and user. The user fills the registration form and then login to the website. After login users have to fill personal information including age, weight, height, gender and if user have any allergies or diseases. On the basis of user's information Artificial Nutritionist will display the proper nutrition plan for logged user.

This webpage suggests the user to what to do for example diet plan, Exercises, Online Training, etc. Here we are included different exercises like Yoga, Gym exercises, Aerobics, Cardio, Basic workouts, etc. The user can also fire a query to the admin on his/her health related problems to maintain his/her fitness and the admin can give solutions on users problems.

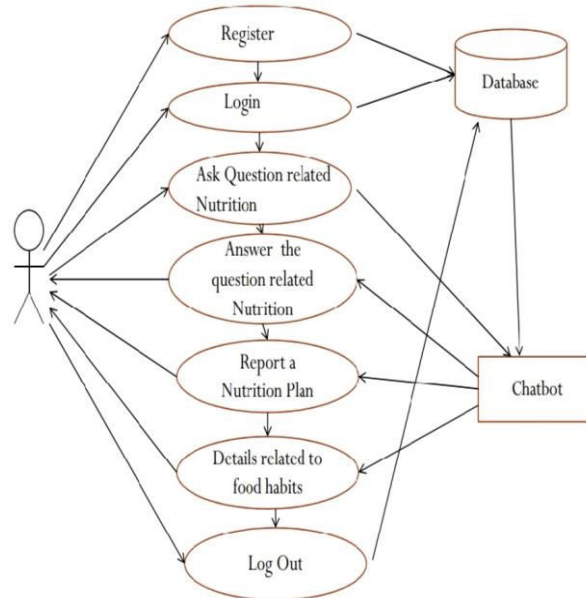


Fig1: Use-Case diagram

II. EXISTING SYSTEM

In the previous system nutrition charts are usually generated using conditioning algorithms and data mining which hypes the use of database and purely depending on the database which leads to entering of data again and again and also it doesn't focus on health condition. Existing system takes in account the users height weight and gives a diet chart without taking his/her daily routine, health conditions, types of food they can eat into account which was a serious issue. The application can generate only diet plan for the specific user or it can only track the users health by considering their information like height, weight etc.

III. THE PROPOSED METHOD

The proposed system is a responsive website which contains the knowledge and data regarding the fitness of a person. This website will generate the nutrition plan as well as it also monitor the user health. This website will also use the AI algorithms. This website consist the user interface which will be publically displayed on the website i.e. the basic information regarding the fitness such as how to maintain good health by doing some workouts and by eating some food products which includes calories, proteins and carbohydrates etc.

The working of the system is as follows-

- **Home Page:**

In home page there is About and Contact icon is provided after clicking on it user get directed towards About and contact page where information about DOC.

- **User Login:**

User need to register on Chatbot System for getting access. Then they can ask for nutrition plan and queries related to that.

- **Information update:**

After login when user start chat with bot. User have to give the basic information about themselves, their food choices and current health condition; according to that bot will provide appropriate nutrition plans to the user.

- **Nutrition plan:**

After analyzing the whole information given by user bot provide them two or three nutrition plans, user can select



anyone plan according to their choice. Bot will also suggest some exercises to the user which will help them to keep themselves feet.

- **Query satisfaction:**

User can also ask if he/she have some queries related to nutrition plan and exercises.

The satisfaction of the customer is the major concern of our system. The actual welfare of the Chatbot is to facilitate the people by giving proper guidance regarding the good health and healthy leaving. Advantage of Chatbot will be proper and friendly nutrition plan.

- No need of consulting doctor for nutrition plans.
- This system provides full details of the nutrient constitution in body and if required more or not along with the plan by just answering to some queries.
- Saves money and very effective and give accurate results as it is coded with keeping diet chart in mind.
- There are alternative nutrition chart provided by the system if the user don't like any.

IV. SCOPE

- The future scope in this website are going to be the improved GUI of this application.
- A proper workout schedule and routine will be provided to the user for a better fit life.
- The diseases can be identified accurately by the classifiers.
- Wearable are used by the user to keep track of the nutrition plan.

V. CONCLUSION

The use of chatbots within the field of health promotion has a large potential to reach a verified group of people. "Artificial Intelligence Nutritionist" allow the user to know about his/her actual nutrition plan information i.e. how much user had calories in their body on this basis system displays workout and food suggestions. It described architectural design of the nutritionist bot. This bot gives the diet plan for a week to an average person. During the conversation between the user and the bot, the bot will respond according to the question asked by the user. For example, if the user enters the day, the bot will display the nutrition plan simultaneously it will ask for alternatives if the user wants or not. Instead of consulting a nutritionist directly this virtual nutritionist helps us without any hesitation and paying a high of cost. User can access to this bot as much they want and the user also may not hesitate to enquire the diet plan.

Hence this nutritionist chat bot is a virtual nutritionist which is easily accessible for the user and this software reduces the time span and cost for expert advices for nutrition.

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