Online Dietician using Artificial Intelligence

Shaikh Saqib[#1], Khan Vaqui[*2], Shaikh Mohd Ashfaque[#3]

Computer Engineering, Rizvi College of Engineering.

Abstract— **The online artificial dietician is a web page with artificial intelligence about human diets. It acts as a diet. Based on a person's schedule, body type, height and weight, a dietician it consults a person, the system too asks all this data from the user and processes it. It requires information about how many hours the user works, his height, weight, age etc. The system stores and processes this data and then calculates the nutrient B.M.I value needed to fill up user's needs. The system then shows an appropriate diet to the users and asks if user is ok with it, else it shows other alternate diets to fill up user's needs.**

Keywords— **Dietician, Artificial, Bot, User, Calorie measurement, Workouts.**

INTRODUCTION

The online artificial dietician could be an online page with computer science about human diets. It acts as a diet consultant kind of like a true dietician. Dieticians are educated with nutrient value of foods. supported somebody's schedule, body type, height and weight, a dietician it consults an individual. The system also asks this data from the users and processes it. It wants to grasp what number hours the user works, his height, weight, age etc. The system stores and processes this data and so calculates the nutrient value needed to extra service user's needs. The system then shows an appropriate diet to the users and asks if user is happy with it, else it shows other alternate diets to stock up user's needs.

A diet, nourishment, or aliment, is that which provides materials - food - needed by organisms and cells to stay alive. In science and human medicinal drugs, a diet is that the science or observe of overwhelming and utilizing foods. As biology, chemical science, and biology advance, a diet has become plenty of targeted on metabolism and metabolic pathways - chemical science steps through that substances within U.S. are remodelled from one type to a unique.

To maintain health and to possess our health in condition, everyone should take a diet. this can be vital for maintaining an honest health condition. Now a day's people are taking non healthy food and that they got some severe diseases thanks to their careless behaviour. These diseases are curable but health condition degrades. So, everyone should take proper diet for his/her own concern. People should follow dietary guidelines additionally. This work exactly fulfills this requirement. This work provides a required diet commit to the user by considering various factors. The system measures user's BMI using his or her height and weight. It provides a correct diet attempt to the individual considering age, gender, height, weight, disease. We are visiting develop an App within which diet plan are displayed. Features:

- User login
- Online Chatting Ability
- Diet Data processing
- User a diet counselling
- Efficient user handling

SURVEY EXISTING SYSTEM

In the existing AI Diet Consultant system, you will need to hire a dietician so as to urge an advice. Hiring a nutrition doctor won't only waste some time and efforts for calling them, visiting them so on but also, they're very expensive, as their charges per month are very high. the instant will arrive after they aren't available for you and you have got to go looking for a few different dietitians urgently. during this system, there's repetitive scanning of the files within the system regularly.

After a specified period, the system calculates checksum for every and each enter the system, regardless of whether it had been accessed. Then the new checksum values are compared with the old or reference checksum values so on determine if the move into the system is modified or not. as an example, within the earlier dietitian must collect user details for diet.

Approving those user details takes lot of your time. Dietitian and user need to consult one another directly if any information is required. If, any new user come for diet schedule, dietitian and his staff must search the user details and that they should find the dietitian schedule for that exact diet. Here trying to find eligible diet takes plenty of time. And sometimes some users' details could also be missed.

1. According to current health survey in India there are more than 70% of people suffer from one or the other disease
2. This can be because they don't understand how much they should eat.
3. People avoid going to nutritionists or diet planner because of their high fees
4. Ignorant of amount of fat required by body.

LIMITATION EXISTING SYSTEM

• One needs to take care about their details while entering fields like age height weight working hours and lots of more otherwise this method would give results that's not suitable for user if undecided about what they entered.
• The android mobile user won't be able to insert or view details if the server goes down. Thus, there's disadvantage of single point failure.

PROBLEM STATEMENT AND OBJECTIVE

•   Problem Statement: To maintain health and to have our health in good condition, everyone should take a diet. This is very important for maintaining a good health condition. Now a day's people are taking non healthy food and they got some severe diseases because of their careless behaviour. These diseases are curable but health condition degrades. So, every person should take proper diet for his/her own concern. People should follow dietary guidelines as well. This work exactly fulfills this requirement. This work provides a required diet plan to the user by considering different factors.

•   Objective:

✓ Dietitians can use this system to make sure what they recommend patients.
✓ This system can be very well used in medical colleges for teaching and practicing purposes so that student can learn from it.
✓ This system can also be utilized in gym particularly for calculating the customers' calories and diet plans.
✓ Individual can also use this software especially for themselves in home.

PROPOSED SYSTEM

The proposed system is fully programmed, which removes all the downsides of existing system. during this proposed system of computing diet consultant, using the technique of computer science, you'll get access to all or any the facilities via this application, which is really provided by a person's dietitian. the most advantage of using this standalone web application is that the time required by the people to jaunt the dietitian are reduced and also it reduces the value of hiring dietitians for a few particular purposes. Also, this web application offers quite one diet plan also, for a few particular reasonably functionalities of human bodies. All the users have some common services like changing password, updating details, attempting to find details, checking the small print, mailing to administrator, and reading the fabric uploaded by admin if the user could be a student. Administrator needs to do the services like adding events, achievements and he can reply to the mails sent by users. He can upload materials, seek for diet details, and he has the proper to approve the identical.
Some points on proposed system are:
         1. It calculates your BMI and tells you which diet to follow.
         2. Diet plan varies from person to person and by age.
         3. It is easy to use because of its simple interface and speech recognition.

Algorithm:
     Step 1: Clean and prepare the data as per the requirements
     Step 2: Input details from the user:
•   Age (in years)
•   Weight (in pounds)
•   Height (in Feet and Inches)
•   daily exercise level.

     Step 3: Calculate Basal Metabolic Rate (BMR) [using the Harris-Benedict Equations]
•   Men BMR= 88.362 + (13.397 * weight in kg) + (4.799 * height in cm) – (5.677 * age)
•   Women BMR = 447.593 + (9.247 * weight in kg) + (3.099 * height in cm) – (4.330 * age)

Step 4: Calculate the calorie intake using Table 01:

TABLE 01
CALORY COUNT

Exercise level Daily	Calories Required (Kcal/day)
Little to no exercise	BMR x 1.2
Light exercise (1–3 days per week)	BMR x 1.375
Moderate exercise (3–5 days per week)	BMR x 1.55
Heavy exercise (6–7 days per week)	BMR x 1.725
Very heavy exercise (twice per day, extra heavy workouts)	BMR x 1.9

Step 5: Then we use "randint (0,6)" function to select items from list

Step 6: Recommend a diet plan based on the above steps. If not interested, look for an
alternative plan using the defined rules

HARDWARE & SOFTWARE REQUIREMENTS

✓ Hardware:
  o Hard Disk – 2 GB.
  o RAM – 1 GB.
  o Processor – Dual Core or Above.
  o Mouse.
  o Keyboard.
  o Monitor.
  o Printer.

✓ Software:

  o Android software development kit (SDK)
  o Windows XP/ Windows 7/ Windows 8/ Windows 10
  o Java Development Kit (JDK)
  o Notepad
  o Android debug bridge

CONCLUSION

"Online Dietician using Artificial Intelligence" allow the user to grasp about his/her actual diet information i.e., what quantity user had calories in their body on this basis system displays workout and food suggestions. This software package may be a strong enough to resist regressive facility for the Handicapped Peoples. This software reduces the time span and value for expert advices for diet. This site is exceptionally valuable to wellbeing cares and dietician. This product diminishes the time compass and value for master advices for eating routine. additionally, the system will save time rather than visiting the human expert. Also, the nutrition system is accessible all the time and may be employed in anyplace. Our system integrates and captures the nutrition and diet knowledge and knowledge in easy, clear, and understandable way for the users.

REFERENCE

- Raman spectroscopy for determining nutritional facts By Moustakas, C. Dept. of Electr. & Comput.Eng., Univ. of Cyprus, Nicosia, Cyprus Pitris, C. and E-ISBN: 978-1-4244-5379-5; Print ISBN: 978-1- 4244-5379-5; INSPEC Accession Number: 11102584.
- Jul 10, 2014 - Measuring Calorie and Nutrition from Food Image by Parisa Pouladzadeh, Shervin Shirmohammadi And Rana Almaghrabi and ISSN: 00189456; INSPEC Accession Number: 14432032.
- FOODS: A Food-Oriented Ontology-Driven System by Snae, C. Dept. of Comput. Sci. & Inf. Technol., Naresuan Univ., Phitsanulok Bruckner, M. and E-ISBN: 978-1-4244-1490-1; Print ISBN: 978-1-4244- 1489-5; INSPEC Accession Number: 10287294.
- "I had to lose weight for anorexia treatment", by Awful Spirale to lose, maintain weight, by Elizabeth Sommerfeld.
- Becerra-Fernandez, I., Gonzalez, A., & Sabherwal, R. (2004). Knowledge management: Challenges, solutions and technologies. New Jersey: Pearson Education Inc.
- Links:
  ✓ http://ieeexplore.ieee.org/xpl/articleDetails.jsp?tp=&arnumber=4635195&queryText%3DArtificial+Intelligence+Dietician
  ✓ http://ieeexplore.ieee.org/xpl/articleDetails.jsp?tp=&arnumber=4630615&queryText%3DArtificial+Intelligence+Dietician
  ✓ http://ieeexplore.ieee.org/xpl/articleDetails.jsp?tp=&arnumber=4804025&queryText%3DArtificial+Intelligence