

# Artificial Intelligence Dietician

<sup>1</sup>Yash Vashishtha, <sup>2</sup>Sweety Thapa, <sup>3</sup>Name of 3<sup>rd</sup> Author

<sup>1</sup>B.Tech(CSE), <sup>2</sup>B.Tech(CSE),  
Department of Computer Science And Engineering,  
Uttaranchal University, Dehradun, India

**Abstract :** This research paper aims to present As people across the globe are becoming more interested in watching their weight, eating healthy food and avoiding fast 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 dieticians and patients to measure and manage the daily food intake. The proposed system is a software which contains the knowledge and data about the fitness of a person. We also transfer some data required to develop the software, from gym exercise book which makes the software a unique one. This software consist the user interface which will be displayed on the software i.e. the basic information regarding the fitness such as how to maintain good health by eating some good food products which have calories, proteins and carbohydrates etc. Also contains both user login such as Admin login User. Artificial Intelligence Dietician paper will give overview on modules in this software. The artificial dietician is a bot with artificial intelligence about human diets. It acts as a real consultant similar to a dietician. Dieticians are well educated with their nutrient value of foods. A dietician consults is a person based on their schedule, body type, height and weight. The system will asks all his data from the user and processes it. It asks about how his height, weight, age etc. The system stores and processes the data and then calculates the nutrient value need to fill up users needs.

**Index Terms-user, Better lifestyle, Nutrition, Diets.**

## INTRODUCTION

Dietician is an expert in dietetics; that which human nutrition and the regularity of diet. A dietitian alters their patient nutrition based upon their medical condition and their needs. Dieticians are regulated health care professionals licensed to assess, diagnose, and treat nutritional problems. A registered dietitian (RD) or registered dietitian nutritionist (RDN) is a dietitian who meets all of a set of special academic and professional requirements, including the completion of a bachelor's degree with an accredited nutrition curriculum, an internship at an approved health-care facility, foodservice organization, or community agency, and satisfactory performance on a registration exam. Roughly half of all RDNs hold graduate degrees and many have certifications in specialized fields such as sports, pediatrics, renal, oncological, food-allergy, or gerontological nutrition. After learning about a patient's health history, favorite foods, eating and exercise habits, the RD helps the person to set goals and to prioritize. Follow-up visits often focus on maintenance and monitoring progress. Most RDs work in the treatment and prevention of disease (administering medical nutrition therapy, as part of medical teams), often in hospitals, health-maintenance organizations, private practices, or other health-care facilities. In addition, a large number of registered dietitians work in community and public-health settings, and/or in academia and research. A growing number of dietitians work in the food industry, journalism, sports nutrition, corporate wellness programs, and other non-traditional dietetics settings.



## System Design

**Inputs** The inputs are necessary for an expert system to give a diet advice for users. The developed nutrition and diet expert system advises people based on the following inputs:

- 1 .What is your age "age"?
- 2 .What is your gender "gender"?
- 3 .What is your height "height"?
- 4 .What is your weight "weight"?
- 5 .Are you doing exercise "exercise"?
- 6 .What is your waist circumference "waist"?

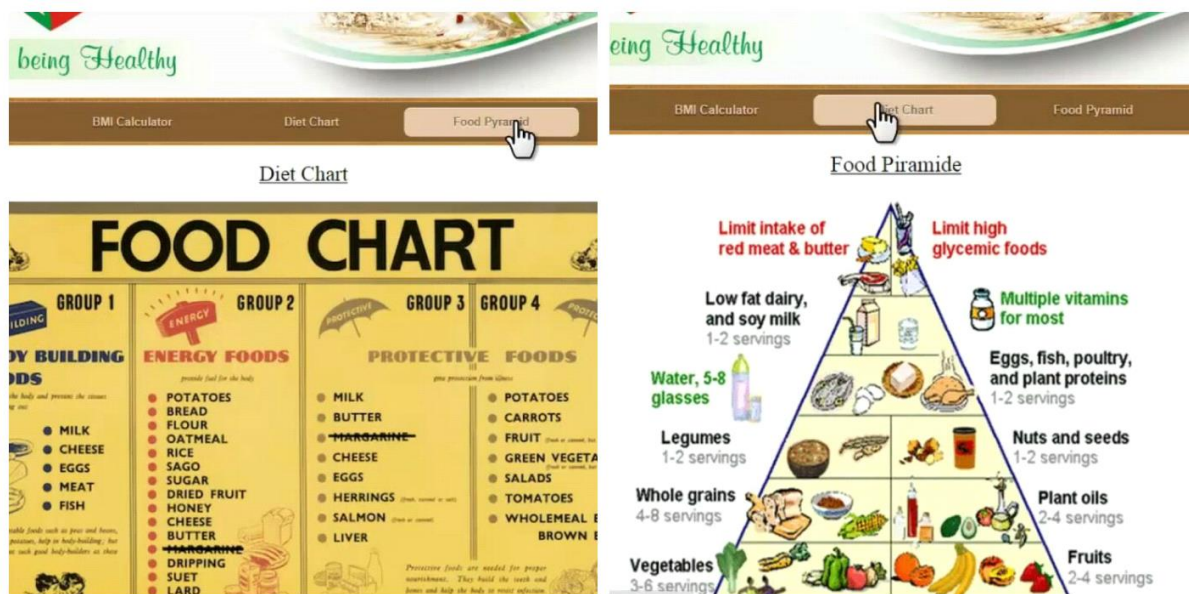
**Outputs** The developed prototype nutrition and diet expert system provides the following outputs to the users :

- Body Mass Index(BMI)
- Body Status: obese, normal or under weight
- [Kcal] : Such as "you should eat 4000Kcal a day"
- [Protein] : Such as "you should eat 20-25g of protein"
- [carbohydrates] : Such as "you should eat 137-187g of"
- [fiber] : Such as "you should eat 8-20g of fiber"
- [vitamin A] : Such as "you should eat 350-500µg of vitamin A"

- [vitamin d] : Such as "you should eat 2.5-5 µg of vitamin d"
- [iron] : Such as "you should eat 5.5 mg of iron" and
- [folate] : Such as "you should eat 150-200 µg of folate"
- [Zinc] : Such as "you should eat 10 mg of Zinc"
- [calcium] : Such as "you should eat 250-400 mg of calcium"

The prototype system also provides advice on the recommended exercises and recommended food menu for:

- [Breakfast] : Such as "40 ml fruit juice ,1/4 cup oats porridge with 1 T honey,½ cup full cream milk"
- [Mid-morning snack] : Such as "½ cup yoghurt ,½ mashed, ripe banana"
- [Lunch]: Such as "1 boiled egg,½ - 1 slice whole wheat bread with 1 t polyunsaturated margarine,½ grated apple,½ cup full cream milk"
- [Mid-afternoon snack] : Such as "15 g sweet milk or Gouda cheese,½ slice whole wheat bread with 1 t polyunsaturated margarine,40 ml fruit juice" and
- [Supper]: Such as " 30 g cooked, mincemeat, Mashed potato 2 T,Cooked butternut 1 T,1/4 cup custard" and
- [Bed-time snack]: Such as "1/4 cup full cream milk with Ovaltine"



**Methodology**-In this paper we have mention the better way of nutrition and diets plans for individual to individual by studying various data from net, books.

### Conclusion

Our approach for implementing this project is we have implemented the artificial intelligent dietitian using dot net and sql . Our system comprises of main components such as of a user login, dietitian login and an admin login. The software system allows the user to create their profiles and upload all their details including their BMI onto the system. The admin can check each user details and can remove faulty accounts. The system also consists of a dietitian login where various dietitian visiting the application can access the The developed expert system provides expertise in nutrition consulting. It offers a wide range of advices about nutrients quantity that meet the basic needs of the body such nutrients as proteins, vitamins, fiber, and some kind of minerals. Also the system helps the users to make a decision to increase or decrease their weight by knowing their body type. Moreover nutrition system will provide you with meal plans and the foods you need to eat for your particular body type.

## Acknowledgement

It gives *me immense pleasure* to present the Project on Artificial Intelligence Dietician. It would not have been possible without the kind support of my teacher , under whose guidance and constant supervision the project was brought to the present state. I would also like to express my gratitude towards my parents for their kind co-operation and encouragement which helped me in the completion of this project. I am also thankful to the Uttaranchal University for giving me such an amazing opportunity for making this project, and giving a suitable instructions and guidelines for the project. Last but not the least, I thank my friends who shared necessary information and useful web links for preparing my project.

## References

- 1, Becerra-Fernandez, I., Gonzalez, A., & Sabherwal, R. (2004). Knowledge management: Challenges, solutions and technologies. New Jersey: Pearson Education Inc.
2. Chen, Y. , Hsu, C. Y. , Liu, . L and Yang, S. (2012), 'Constructing a nutrition diagnosis expert system,' Expert System with Application, 39(2) , 2132–2156 .
3. Khan,A. and Hoffmann,A.(2003). 'Building a case-based diet recommendation system without a knowledge engineer,' Artificial Intelligence in Medicine, 27, 155–179.
4. Oxford handbook of nutrition and dietetics edited by Joan Webster-Gandy, Angela Madden and Michelle Holdsworth

