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## ARTIFICIAL INTELLIGENCE AND DIETICIAN



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### ABSTRACT



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 dietitians and patients to measure and manage the daily food intake [2].The proposed system is a responsive website which contains the knowledge and data regarding the fitness of a person. We also referred data required to develop the website, from gym exercise book which makes the website a unique one. 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. Also contains user login such as Admin and User. Artificial Intelligence andDietician paper abstract will give overview on modules developed in this website.

**KEYWORDS :** *Calorie measurement, Workouts.*

### INTRODUCTION :

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 dietician information and proper exercise knowledge for normal persons and for handicap peoples also.

The effective personal dietary guidelines are very essential for managing our health, preventing chronic diseases and the interactive diet planning helps a user to adjust the plan in an easier way[4].

The website is to be produced on "Artificial Intelligence and Dietician". 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 exercise level. For calculating BMI age, weight, height, gender and exercise level are necessary. On the basis of

calculated BMI (Body Mass Index) and BMR (Basal Metabolic Rate) Artificial Dietician will display the proper dietician for logged user [3].

This application suggests the user to what to do for example diet tips, 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 user's problems. The user can give feedback related to website or on suggestions given by admin.

The admin always does updates of workouts and food products which is very important for user. This website provides special features for Handicapped Peoples. It also provides expert advice which reduces actual cost and time. The calculated BMI is stored in warehouse and so that any information needed can be easily retrieve.

## II. PROBLEM DEFINITION

1. Currently there is no any existing software in health management system to calculate BMI (Body Mass Index) and BMR (Basal Metabolic Rate) of person and give suggestions about health related problems.
2. The peoples don't know how to maintain the body fitness on the basis of age, weight, height, gender and exercise level. And also they don't know dietician related tips.
3. The handicapped people can't go to gym for maintaining good health.
4. The machine for calculating BMI and BMR is very expensive.

## III. METHODOLOGY

We are developed this project using php (v5.4.19) and mysql (v 5.0) and these are the free ware software's.

The php is relative fast since it uses much system resource.

Since it is maintained by many developers, so when bugs are found, it can be quickly fixed.

You can connect to database easily using PHP, since many websites are data/content driven, so we will use database frequently, this will largely reduce the development time of web apps. Can be run on many platforms, including Windows, Linux and Mac, it's easy for users to find hosting service providers.

The Innovativeness of our project is that we have used the responsive technology. Means, when user opens our project in his/her pc, tab, or mobile at that time it changes its responsiveness according to his/her device for this we have used bootstrap technology.

Raman Spectroscopy was very useful to examine variety of commonly available food products. When analysis techniques were used the nutritional parameters can be estimated from that food product like fat, protein, calories, sugars, carbohydrates and fiber [1].

We took registration because user is new user and we need the user's personal information like name, address, DOB, gender, emailed, password etc. for maintaining user record.

Login is necessary to authenticate the user and already registered user can login to website directly.

BMI Calculation form is required to calculate the user's fat or how much user had calories and also how much calories user have to maintain daily on the basis of user's age, weight, height, gender and exercise level.

Query form is necessary because if user has some queries about his/her body fitness related

problems then he/she can fire queries.

To give feedback related to website or about diet tips given by admin this form is required.

The food registration form is for admin to upload new variety of foods which is very healthier for user.

Video upload form is required to upload new workout videos for users to maintain their body fitness.

Through query reply form admin can give reply to the queries asked by the users.

A.Procedure

1)User Modules:

a)Registration:

The people who visit this website they can do registration to know their health related information and some dietician tips. User have to give name, address, mobile number, gender, city, email, password, confirm password, DOB, handicapped or not etc. information.

b>Login:

After registration if user wants to login they can enter email and password and then get logged in.

c)BMI Calculation:

After login user has to fill personal information including age, weight, height, gender and exercise level. Exercise level is nothing but how much exercise will do user daily.

On the basis of calculated BMI (Body Mass Index) and BMR (Body Mass Ratio) Artificial Dietician will display the proper dietician for logged user like workout and food suggestions for normal and handicapped people also.

It also displays user's health like calories in their body, you are thin/healthy/overweight etc. and also daily maintenance of calories in their body.

d)Query:

If user has any query about their health related problems then they can fire query to admin through this form. This form contains two fields like subject and description. User have to mention subject like for weight gain or weight loss etc. and description i.e. detailed question which user wants to ask to admin.

e)Feedback:

If user wants to give any feedback about website then they can give through this form by filling name, address, mobile number and message fields.



Fig1- Registration



Fig2-Login



Fig3-BMI calculation



Fig4- Workout tips for weight gain

### Handicapped People

Exercise or Workouts:-

Tips:-

1. Perform aerobic exercises five days a week.
2. You can perform back-to-back days of aerobic resistance training
3. Always make sure you discuss your exercise plans with your doctor.
4. Make healthy food choices to properly manage your caloric intake.
5. Participate in organized disability sports, such as basketball, racing or fencing.

[Read More](#)

Fig5- Workout tips for handicapped people



Fig6- Workout videos



Fig7- Food Suggestions



Fig8- Query



Fig9- Feedback

## 2)Admin Modules:

### a)Food Registration:

The admin makes the updates of various food products like adding of new foods or deleting foods etc.Admin fills details like food name, quantity, unit of measurement and food calories etc.Quantity indicates how many food products user can intake daily and food calories nothing but how much calories are present in that food which makes user very healthier.

### b)Video Upload:

The admin uploads new workout videos for users.

Admin fills the fields like category name, workout name and video name.Category means in which category/type that workout is present and video name is nothing but name of video.

### c)Query Reply:

The queries fired by users will appear in query reply form and if admin wants to give reply to these queries then admin will give reply to user.It contains fields like user id, subject, category name, workout name, description and status.

User id means id of user which is unique, subject means for weight gain/loss, category means type which includes various workouts i.e. different exercises, description means detailed query fired by users and status means that query is read by admin or not this information it includes.



Fig10- Food Registration



Fig11- Video Upload



Fig12- Admin Query

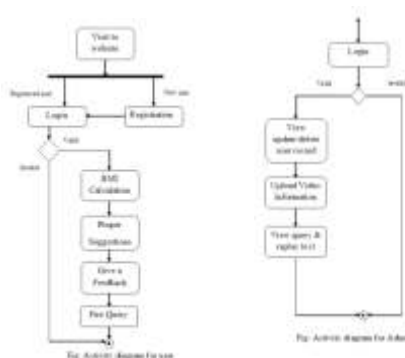


Fig13- Activity Diagram

#### IV. RESULTS

In BMI (Body Mass Index) Calculation form user have to give height, weight, age, gender and exercise level then submit the form. After submitting these all values it displays BMI(Body Mass Index) i.e.how much calories you have in your body and also displays that you are thin/healthy/overweight and also displays the BMR(Basal Metabolic Rate) i.e. how much calories you have to maintain daily.

On the basis of calculated BMI (Body Mass Index) and BMR(Basal Metabolic Rate) Artificial Dietician i.e. system will display the proper dietician for logged user.

That's means it gives workout and food suggestions for example Exercises, Online Training, Diet tips etc. Here we are included different exercises like Yoga, Gym exercises, Aerobics, Cardio, Basic workouts, etc. for user.





Fig14- BMI Calculation

## V. CONCLUSION

"Artificial Intelligence and Dietician" allow the user to know about his/her actual diet information i.e. how much user had calories in their body on this basis system displays workout and food suggestions. This software package is a strong enough to withstand regressive facility for the Handicapped Peoples. This software reduces the time span and cost for expert advices for diet.

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