PROFORMA FOR THE APPROVAL PROJECT PROPOSAL

PNR No.: _____ Roll No: _____

1. Name of the Student

_____

2. Title of the Project

_____

3. Name of the Guide

_____

4. Teaching experience of the Guide

5. Is this your first Submission? Yes ☐ No ☐

Signature of the Student

Date:

Signature of the Guide

Date:

Signature of the Coordinator

Date:

ARTIFICIAL INTELLIGENCE DIETICIAN

Submitted in partial fulfillment

of the Requirements for the

award of the Degree of

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

By

SAHIL BHOSALE

(Seat Number:)

Under the esteemed

guidance of Asst.

Professor

DEPARTMENT OF INFORMATION TECHNOLOGY

DNYAN GANGA EDUCATION TRUST'S

DEGREE COLLEGE OF ARTS, COMMERECE AND SCIENCE

Affiliated to University of

***Mumbai* THANE, 400615**

MAHARASHTRA

2021-2022

DNYAN GANGA EDUCATION TRUST'S

DEGREE COLLEGE OF ARTS, COMMERCE AND SCIENCE

Affiliated to University of Mumbai

THANE-MAHARASHTRA-400615

DEPARTMENT OF INFORMATION TECHNOLOGY

CERTIFICATE

This is to certify that the project entitled **"ARTIFICIAL INTELLIGENCE DIETICIAN"** is bonafied work of **Sahil Bhosale** bearing Seat No:

submitted in partial fulfillment of the requirements for the award of Degree of BACHELOR OF SCIENCE in INFORMATION TECHNOLOGY from University of Mumbai

Internal Guide **Coordinator**

External Examiner

Date: **College Seal**

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 dieticians 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. We also referred data required to develop the website, from gym exercise book which makes the website a unique one. The basic information related to 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. The online artificial dietician is a chat bot with Artificial Intelligence about human diets. It acts as a diet consultant similar to a real dietician. Dieticians are educated with nutrient value of foods. A dietician 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. It asks about how many hour the user works, his height, weight, age etc. The system stores and processes this data and then calculates the nutrient value needed to fill up user needs.

ACKNOWLEDGEMENT

The goal is best achieved by treading the path of excellence with discipline and deep insight. We would have never succeeded in completing our task without the cooperation, encouragement and help provided to us by various teachers and guides.

With deep sense of gratitude, we express our sincere thanks to our esteemed and worthy guide, , for her valuable guidance in carrying out this project under his/her effective supervision, encouragement, enlightenment and cooperation.

We feel indebted to express our deep sense of gratitude towards Dr. Bhavika R. Karkera (Principal), (HOD Information Technology) and Mrs. Awantika Deshpande (Project Coordinator) who have been a constant source of inspiration for us throughout this project.

We would also like to thank all faculty members and non-teaching staff for their kind support without vacillation.

The acknowledgement would be incomplete if we do not mention the emotional support and blessings provided by our parents and friends. We had a pleasant enjoyable and fruitful company with them. Last but not the least we would like to thank all the people who directly or indirectly helped us in this project.

DECLARATION

I hereby declare that the project entitled, **"ARTIFICIAL INTELLIGENCE DIETICIAN"** done at Department Of Information & Technology, **Dnyan Ganga Education Trust's Degree College Of Arts, Commerce, & Science**, University Of Mumbai in partial fulfillment of the requirements for the award of degree of **BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)** is a record of original dissertation work done by me, under the guidance and supervision of Mrs. Awantika Deshpande, and it has not formed the basis for the award of any Degree/Diploma/Associate ship/ Fellowship or other similar title to any candidate of any University.

Place:

Signature of Candidate

Sahil Bhosale

Date:

Artificial Intelligence Dietician

CHAPTER 1

INTRODUCTION

1.1. Background

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 fulfils this requirement. This work provides a required diet plan to the user by considering different factors. The system measures user's BMI using his or her height and weight. It provides a proper diet plan to the individual considering age, gender, height, weight, disease. We are going to develop an App in which diet plan will be displayed.

1.2. Objectives

The online artificial dietician is a bot with artificial intelligence about human diets. It acts as a diet consultant similar to a real dietician. Dieticians are educated with nutrient value of foods. A dietician 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. It asks about how many hour the user works, his height, weight, age etc. The system stores and processes this data and then calculates the nutrient 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. Work provides an intelligent agent which will give a diet plan to user. Eating habits of different person are different therefore their diet plan should be different. Lifestyle of each person is different. The different tensions are there for different professions. Because of this stress a proper diet is essential to follow. This work gives a proper diet which is different for each person. The user has to enter the information about his lifestyle and according to that, the diet plan will be displayed

1.3. Purpose, Scope & Applicability.

1.3.1. Purpose

- No need of consulting doctor for diet 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 diet chart provided by the system if the user don't like any.

1.3.2. Scope

The designed system is useful for common people to maintain their health by taking proper diet. We can develop a system in which if the user is at a remote

place, he/she can get details through SMS and system can send diet plan to user

1.3.3. Applicability

- We should enter height in meter and weight in kg to calculate BMI.
- BMI is calculated as follows BMI= (height)^2 weight (2)
- Enter Age and Gender of User.
- Enter the Disease if any.
- Choose Database according to the input factors given.
- Display the diet on the application and send the diet to the user on the application.

1.4. Achievement

The goal of the project is to provide a proper diet plan and an appropriate exercise plan totally free of cost.

The main goal allocated are:

- Provide a proper diet for the user according to their body type.
- Provide a proper exercise to the user with their diet for bulking as well as cutting.

- As the application is user friendly it will be easier to be used by user of any age.

CHAPTER 2

SURVEY OF TECHNOLOGIES

a) **AWS:** Amazon Web Services is a subsidiary of Amazon providing on-demand cloud computing platforms and APIs to individuals, companies, and governments, on a metered pay-as-you-go basis.

b) **Flask:** Flask is a popular Python web framework, meaning it is a third-party Python library used for developing web applications.

c) **Machine Learning:** Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer

d) **Docker:** Dockers is a tool designed to make it easier to create, deploy, and run applications by using containers. Containers allow a developer to package up an application with all of the parts it needs, such as libraries and other dependencies, and deploy it as one package.

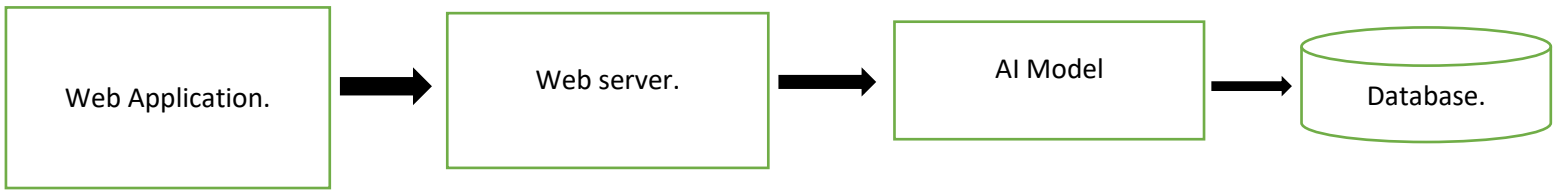
CHAPTER 3

REQUIRMENTS AND ANALYSIS

We are developing this web application for providing special dietician information so every person should take proper diet for his/her own concern. The user fills the registration form and then login. After the login users have to fill personal information including age, weight, height, gender for the calculating BMI age, weight, height, gender are necessary. On the basis of calculated BMI then will display the proper dietician for logged user.

In this project we analyse that, People are taking non healthy food and they got some severe diseases because of their careless behaviour. Human being suffering from many health problems such as fitness problem, maintaining proper diet problem etc. Therefore we are developing this web application for

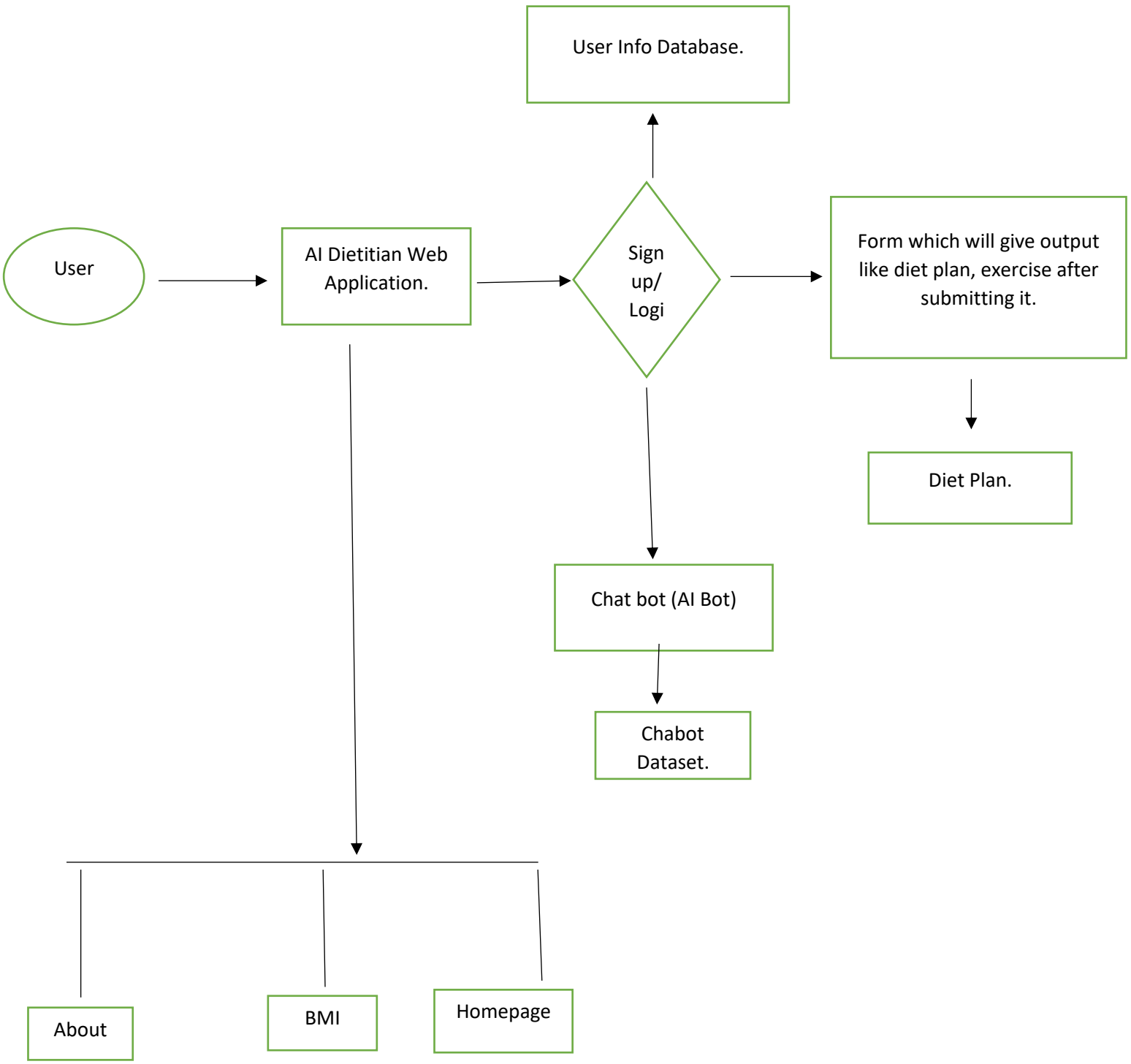
providing special dietician information so every person should take proper diet for his/her own concern.



Application Process Diagram

The user fills the registration form and then login. After the login users have to fill personal information including age, weight, height, gender to get a proper diet plan.

After the text edit has been completed, the paper is ready for the template. Duplicate the template file by using the Save As command, and use the naming convention prescribed by your conference for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper.



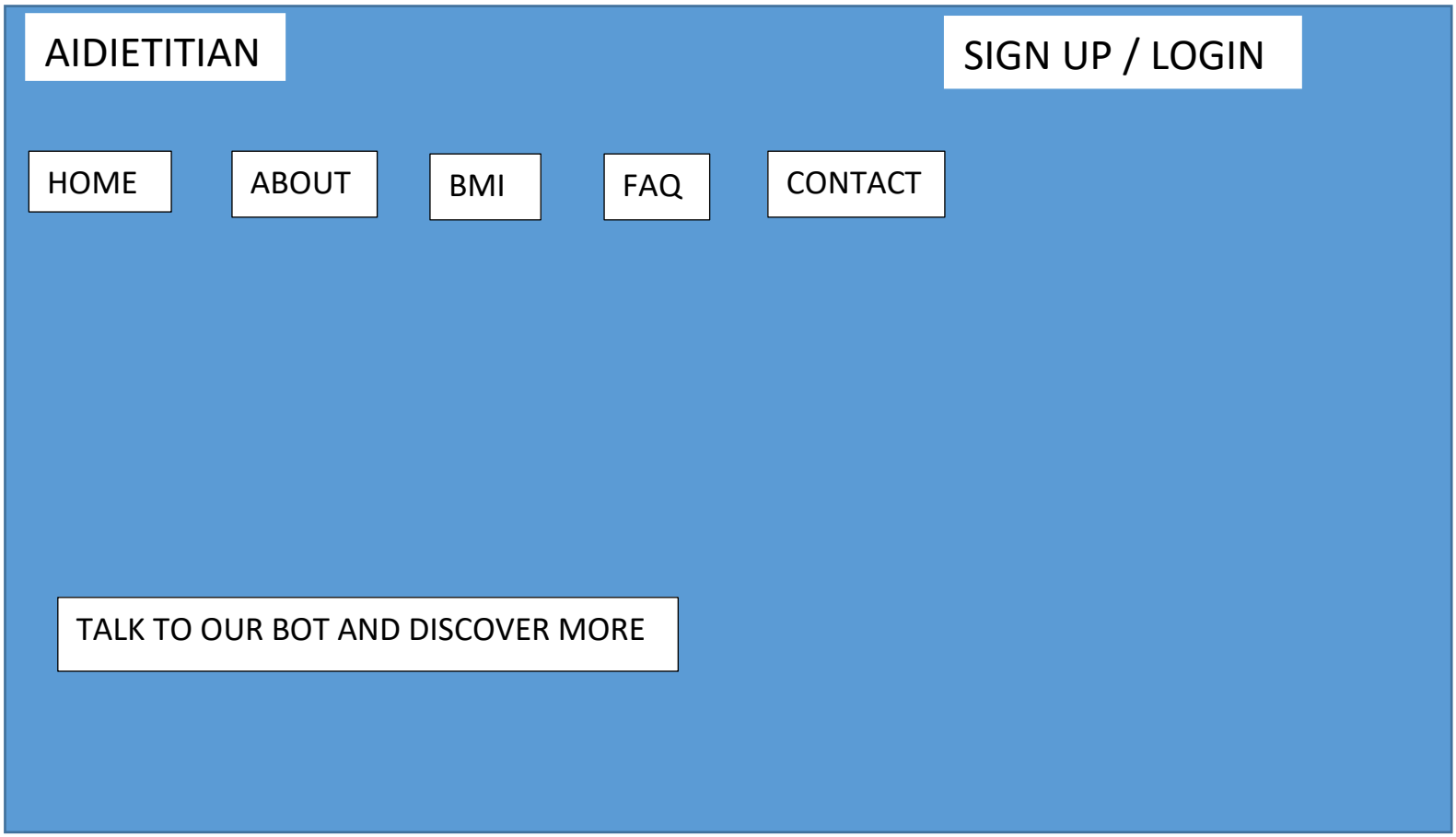
System Architecture Diagram

A dietician 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. It asks about how many hour the user works, his height, weight, age etc. The system stores and processes this data and then calculates the nutrient value needed to fill up user needs. The ‘AI Dietician’ application has several pages containing the overall information of the application.

BMI page is one of the main view pages which includes a section of BMI i.e. Body Mass Index. The parameters are height and weight of the user and on that basis the output retrieved is BMI of the user

HOMEPAGE

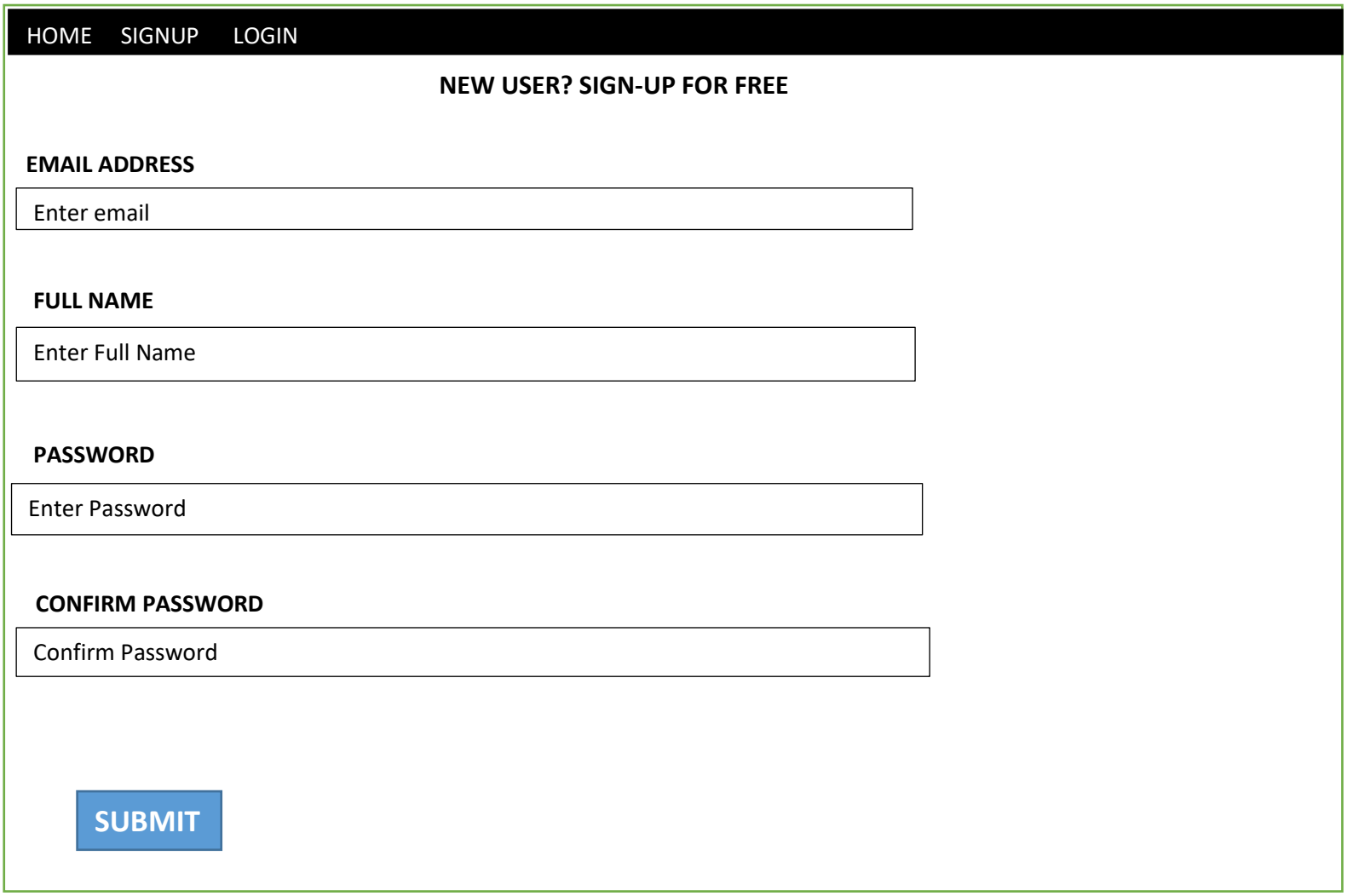
Homepage is the main page of our website that would be viewed by the clients every time they click on the domain. It consist all the information and links to other page. The homepage consist direct connection to the chat bot too.



BRIEF IDEA REGARDING HOMEPAGE STRUCTURE

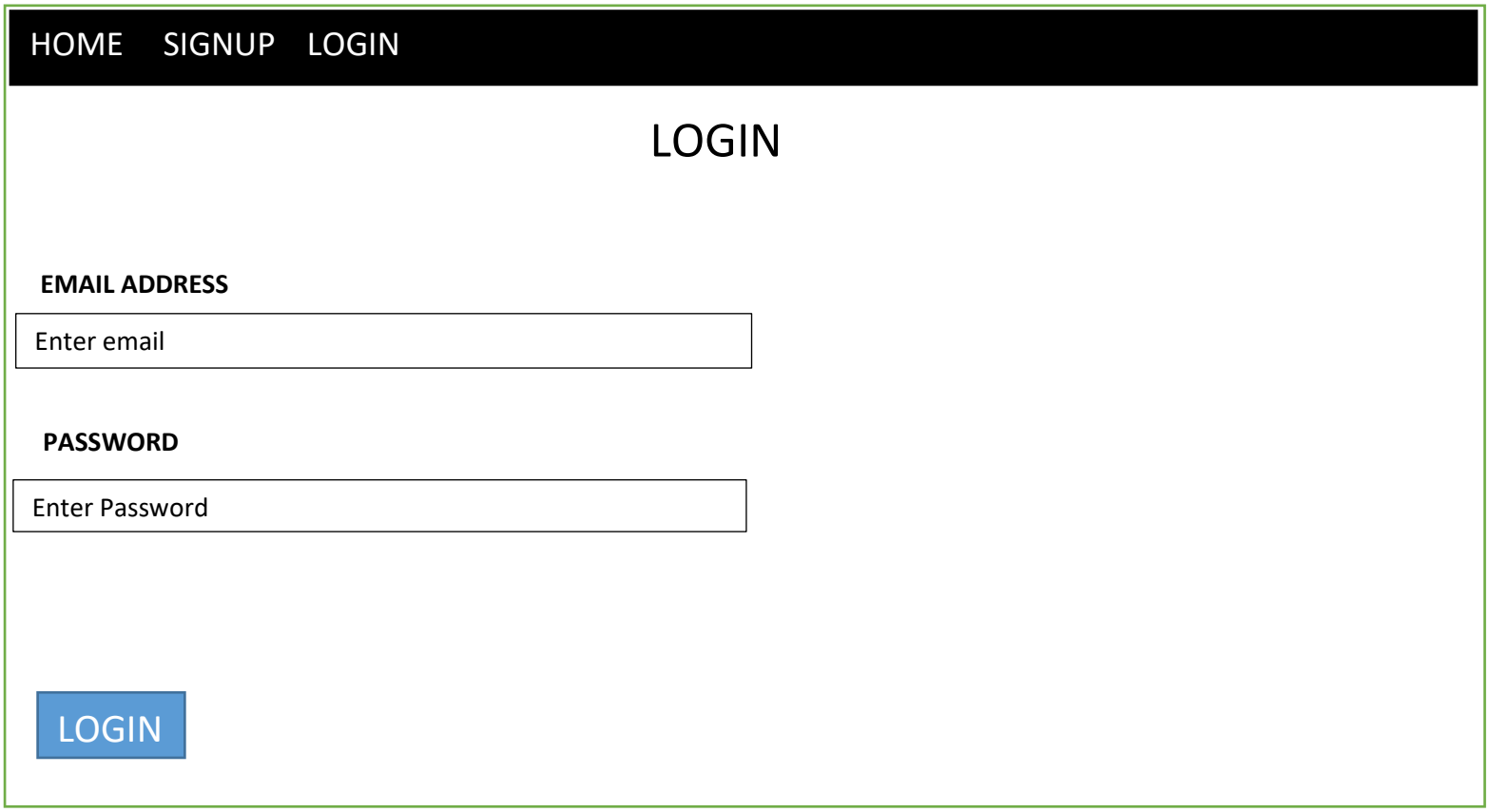
SIGN-UP PAGE

The sign-up page is one that permits the user to create the account if not exists. Every user has its own credential that gets store in the database. This provides security to a system. After singing up every user will be able to fill up the form with his/her details simply known as prediction form



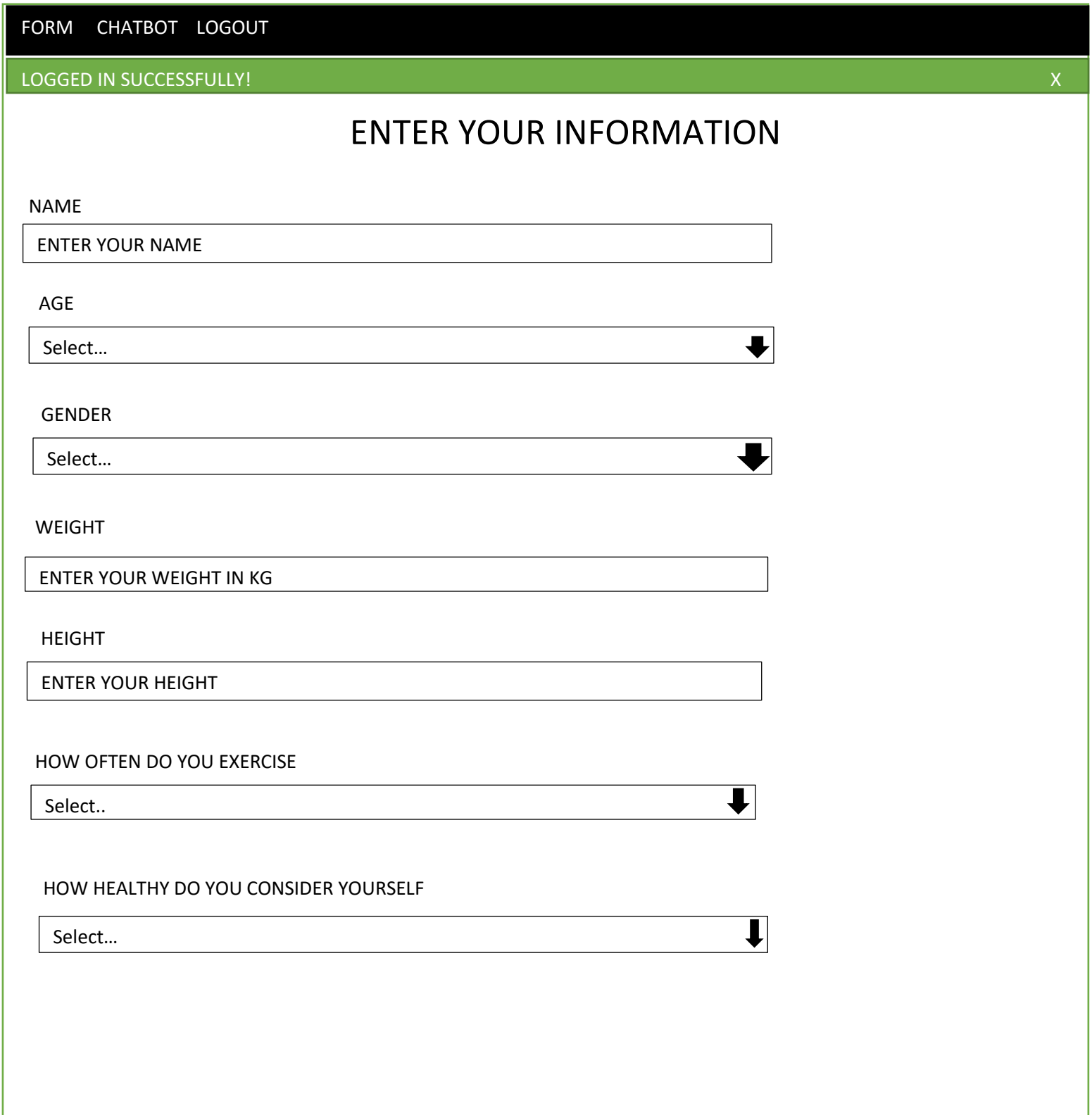
LOGIN PAGE

The one who has already created his/her account can directly login to account. After login there are two option that user can use. One is Prediction form other is Chabot.



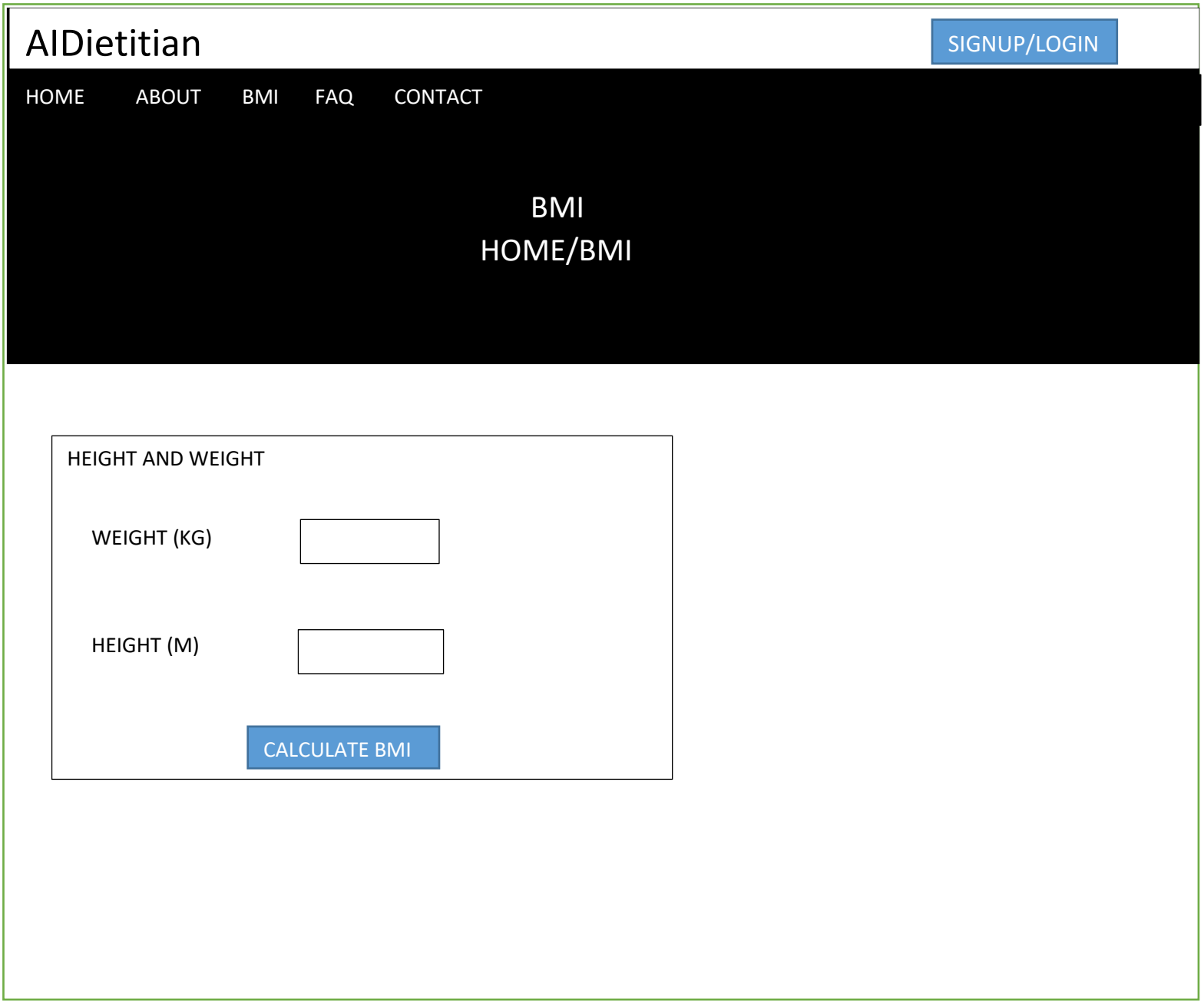
PREDICTION FORM.

The prediction form allows the user to enter the details and tells about whether the person is fit or unfit. The Diet chart to user is provided based on the entered details.



BMI

The BMI is general Body Mass Index calculation that user can use to know about his/her health status. For most adults, an ideal BMI is in the 18.5 to 24.9 range. For children and young people aged 2 to 18, the BMI calculation takes into account age and gender as well as height and weight. If your BMI is: below 18.5 – you're in the underweight range.



CHAPTER 4

IMPLEMENTATION AND TESTING

4.1. IMPLEMENTATION APPROACH

The system is a responsive web application named ‘AI Dietitian’ which contains the knowledge and data regarding the fitness of a person. The basic information related to the fitness such as how to maintain a good health by doing some workouts and eating some food products which includes calories, proteins and carbohydrates etc. Also contains user login such as Admin and User. The online artificial dietician predicts the health of a person whether he is fit or unfit by using collected user data and Machine Learning prediction model.

On the basis of this, the result contains the diet plan according to the predicted value. The system also contains the Chat bot which solves the different queries of user regarding the health and diet. The chat bot on backend uses a Deep Learning and Machine Learning Model which makes bot an intelligence bot and we have named it as AI Bot. It acts as a diet

consultant similar to a real dietician. Dieticians are educated with nutrient value of foods.

The designed system will be useful for common people to maintain their health by taking proper diet suggested by AI Dietician application. The predicted result shows whether the person is fit or unfit. On that basis, the application provides user a proper diet plan to maintain proper health. The chat bot named AI Bot will solve all the user queries related to the health and diet plans. AI Bot also suggests the nutritionists or dieticians availability near his or her location. The cost of a personal dietician will be reduced. It will save time as it will be an excellent feature of use anytime anywhere

4.2. CODING