Daffodil International University

Care Of Health

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This Project report has been submitted in fulfillment of the requirements for the Degree of Bachelor of Science in Software Engineering.

APPROVAL

This **Project/Thesis** titled "**Care of Health**", submitted by **Rashedul Islam**, **ID:151-35-1123** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Software Engineering and approved as to its style and contents.

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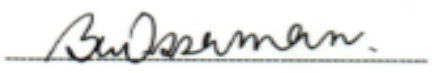

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ACKNOWLEDGEMENT

First of all, I express my gratitude to the Almighty Allah for giving me the ability to complete this Project. I am also gratitude to my guardians for their support and caring at me.

I would like to admit the significant support and assistance of my supervisor, Khalid Been Md. Badruzzaman, Lecturer, Department of Software Engineering, Daffodil International University, who has supervised and provided us with the necessary instructions throughout the process to make this work a success.

I take the opportunity to record my sincere thanks to all the faculty members of Software Engineering Department for their help.

Finally, I would like to thank my family and friend for their support.

ABSTRACT

The experience to working with this project is very important for computer and software engineering students. This system will help to figure out the best way to control weight any kind of person. If any person follows the instruction of Care of Health they can be able to maintain weight.

For that reason, I try to solve these problems in this project and the project is Care of Health.

Table of contains

Contents

List of figure

List of Table

Chapter-1

Introduction

1. Introduction

1.1 Project Overview

Care of Health is a basically weight control web app. Some basic theoretical term and mathematical calculation for maintaining, gaining, or losing weight. Care of Health is the best way to control weight any kind of person. If any person follows the instruction of Care of Health they can be able to maintain weight.

1.2 Project Purpose

Care of Health is a web app project. People may aware to use this project. There are many health problems cause because of overweight and obesity. Moreover, heart disease, certain cancers, diabetes are also included. If any women are pregnant, extra weight create problem for his child. Care of Health is the best solution to overcome from theses disease.

1.2.1 Background of the Project

In our Bangladesh there are maximum people are either overweight or obese. Overweight and obese leads them into serious health issues and it cause their faults and bad food habit. This project helps to understand about their body and food habit

1.2.2 Benefits & Beneficiaries

This projects are mainly beneficiaries for people. Benefits are,

1. This projects are very user-friendly and flexible.
2. It is very easy to use.
3. People easily understand how to control weight.
4. If any people use this app they can't go to doctor for body fitness.

1.2.3 Goal of the Project

The goal of the Project is control his/her weight and lead a happy life. Extra weight causes some health problems, including

- Heart disease
- Kidney disease
- Diabetes
- High blood pressure
- Pregnancy problem
- Cancer

People can s stay away from these diseases only just by changing their food habits. Care of Health is help to changing food habits and diets.

1.3 Stakeholders

There are two types of stockholders.

1. User
2. Admin

1.4 Project Schedule

1.4.1 Gantt chart

In project planning, I use Gantt chart to manage my project properly. To use these tools, I can track the entire task which is not done or not. I manage my project timing by these.

Week Works	1	2	3	4	5	6	7	8	9	10	11	12
Analysis Phase												
Feasibility Study												
Project Proposal												
Project UI												
Mid-Term Defense												
Implementation of the Project												
Testing												
Documentation												
Final Defense												

Figure 1.4.1: Gantt chart

Chapter-2
Requirement Specification

2. Requirement Specification

2.1 Functional Requirement

Table 2.1: Functional Requirement

SRS No	Name	Description	Priority
01	Home page	Application will show the basic post .	High
02	Update Calorie Chart	Admin can update calorie chart	High
03	Update Diet Chart	Admin can update diet chart	High
04	Calculation Process	BMI, BMR and TDEE calculations are available in this website.	High
05	Profile Creation	User can create their Profile to maintain .	High

2.2 Data Requirements

Table 2.2: Data Requirement

No	Description	Priority
01	Admin has to insert the login information accurately otherwise system show error message	High
02	Admin has to insert all information about the Calorie and Diet chart.	High
03	User need to insert login information after signup	High
04	User have to do all calculation process.	High

2.3 Performance Requirements

2.3.1 Precision or Accuracy Requirements

Table 2.3.1: Precision or Accuracy Requirement

NO	Description	Priority
01	The input data should be valid when the admin or user provide data	Medium
02	All data should be placed accurately	Medium
03	Need to validate all the collections of sqlite3 database	Medium

2.3.2 Capacity Requirements

Table 2.3.2: Capacity Requirement

No	Description	Priority
01	The web application site must be able to load at hosting site.	Medium
02	System should support 1000 request per second	Low
03	System should support 100k user at the beginning version	Low

2.4 Dependability Requirements

2.4.1 Reliability Requirements

Table 2.4.1: Reliability Requirements

No	Description	Priority
01	All data should collect from users by their permission and by the acceptance of the terms and policy	Low
02	Confidential data must have to be encrypted	Medium
03	No one can use user data for any other purpose excepting system needs	Low

2.4.2 Availability Requirements

Table 2.4.2: Availability Requirements

No	Description	Priority
01	Ability to operate without catastrophic failure	Medium
02	The system should work 24*7	Medium

2.5 Maintainability and Supportability Requirements

2.5.1 Maintenance Requirements

Table 2.5.1: Maintenance Requirements

No	Description	Priority
01	Any types of backend support after deployment	Low
02	Ability to fix bug and solve issues	Low

2.5.2 Supportability Requirements

Table 2.5.2: Supportability Requirements

No	Description	Priority
01	System should support all the browser and screen size	Low
02	Should support latest or popular cloud service	Low

2.5.3 Adaptability Requirement

Table 2.5.3: Adaptability Requirements

No	Description	Priority
01	System should adapt all upgrading version and time	Low
02	New version of system should support latest node modules	Low

2.6 Security Requirements

2.6.1 Access Requirements

Table 2.6.1: Access Requirements

No	Description	Priority
01	CSRF Protection	Medium
02	In order to access information users must first be permitted	Medium
03	Only admin able to enter the system	Low
04	User boundaries should be within the browse	Low

2.6.2 Integrity Requirements

Table 2.6.2: Integrity Requirements

No	Description	Priority
01	Only Admin can update calorie and diet chart	Medium

2.6.3 Privacy Requirements

Table 2.6.3: Privacy Requirements

No	Description	Priority
01	Users data must not be public	High
02	Users information should not involve any personal problem	Medium
03	All the confidential data should be encrypted	Medium

2.7 Look and Feel Requirements

2.7.1 Appearance Requirements

Table 2.7.1: Appearance Requirements

No	Description	Priority
01	The user interface must be easy to use	Medium
02	The user interface needs to be appealing	High
03	The interface of the user must be interactive	Medium

2.7.2 Style Requirements

Table 2.7.2: Style Requirements

No	Description	Priority
01	The interface color should be flat	Medium

Chapter-3

Requirements Analysis

3. Requirements Analysis

3.1 Use case Diagram

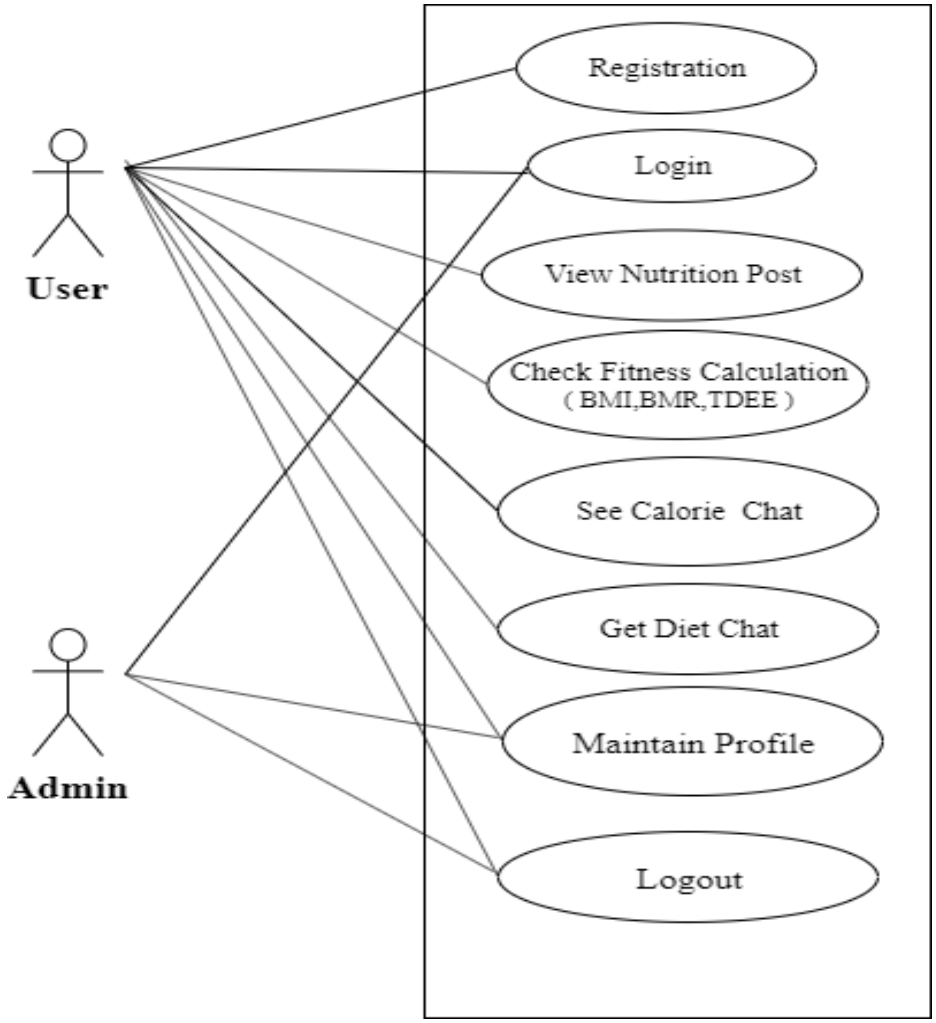

Figure 3.1: Use-Case Diagram

3.2 Use Case Description

3.2.1 View Nutrition Post

User can see the post with valid user name and password.

Table 3.2.1: View Nutrition Post

Use Case Name	**View Nutrition Post**
Scenario	User see the basic Nutrition Post
Precondition	User must be registered
Condition	Basic Nutrition information available
Actors:	User
Description	User can see the all basic post.
Main Success Scenario	The user of the system must be authorized
Scenario Extensions	1. If system user is not authorized 2. If user not registered

3.2.2 Check Fitness Calculation

User can do the all calculation process like BMR, BMI, TDEE.

Table 3.2.2: Check Fitness Calculation

Use Case Name:	Check Fitness Calculation
Scenario :	User can calculate BMR, BMI, TDEE.
Brief Description:	BMR, BMI, TDEE related to each other. if any user wants to know TDEE, User must know the BMR first.
Actor:	User
Condition:	User has to sign up or login and see check fitness calculation process
Main Success Scenario	User can check all the calculation process
Scenario Extensions	User can't do the TDEE calculation first

3.2.3 See Calorie Chat

User can see the calorie chart

Table 3.2.3: See Calorie Chart

Use Case Name:	See Calorie Chart
Scenario :	User can see the Calorie Chart
Description:	Calorie Chat help to maintain weight.
Actor:	User
Condition:	Calorie Chat must be available
Scenario Extensions	User can't make Calorie chart.

3.2.4 Get Diet Chart

User can get the Diet chart

Table 3.2.4: Get Diet Chart

Use Case Name:	See Diet Chat
Scenario :	User can see the Diet Chart
Description:	Diet Chat help to maintain weight.
Actor:	User
Condition:	Diet Chat must be available
Scenario Extensions	User can't make Diet chart

3.2.5 Maintain Profile

User and Admin Can Maintain Profile

Table 3.2.5: Maintain Profile

Use Case Name:	Maintain Profile
Scenario :	User and Admin can update profile
Description:	User and Admin can change and update their profile and Admin can access also user profile
Actor:	User and Admin
Precondition:	User must have registered.
Condition:	User must have a profile

3.3 Activity Diagram

Activity diagrams are the process of representations all work flow of step by Step activity and action. Activity diagram is a flowchart for represent one activity to another activity. Its show all operation of this system.

3.3.1 Activity Diagram for Check Fitness Calculation

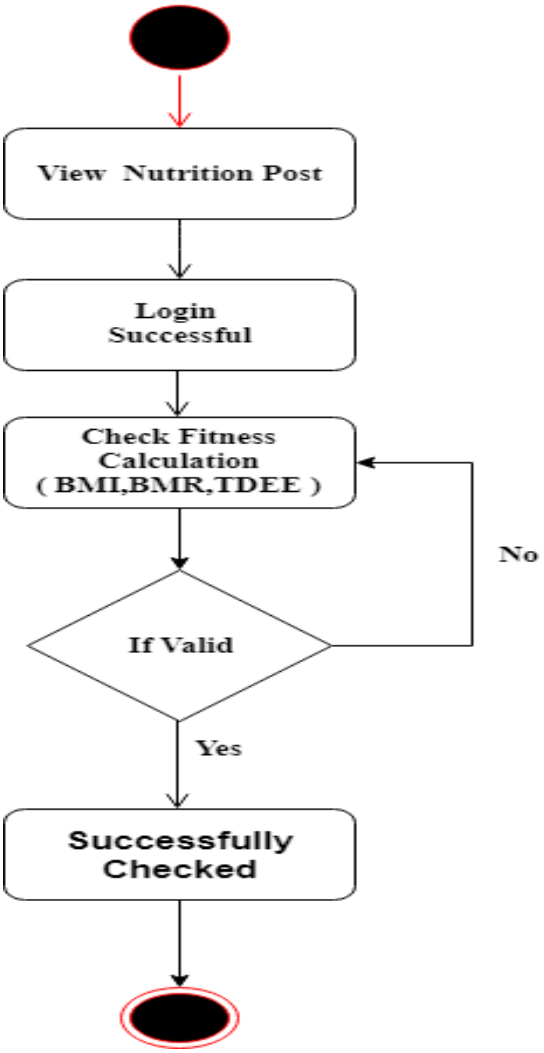

Figure 3.3.1: Activity Diagram for Check Fitness Calculation

3.3.2 Activity Diagram for See Calorie Chart

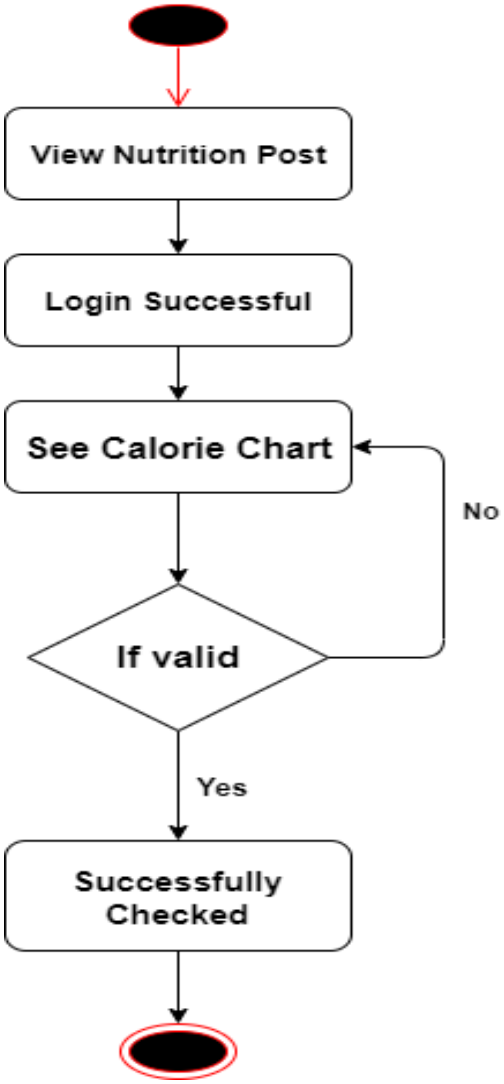

Figure 3.3.2: Activity Diagram for See Calorie Chat

3.3.3 Activity Diagram for Get Diet Chart

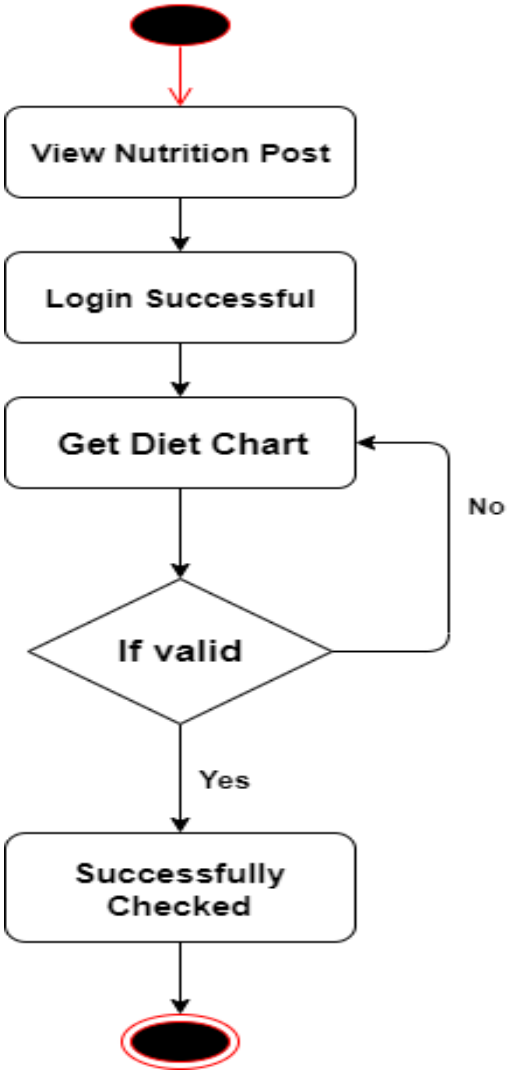

Figure 3.3.3: Activity Diagram for Get Diet Chart

3.3.4 Activity Diagram for Maintain Profile

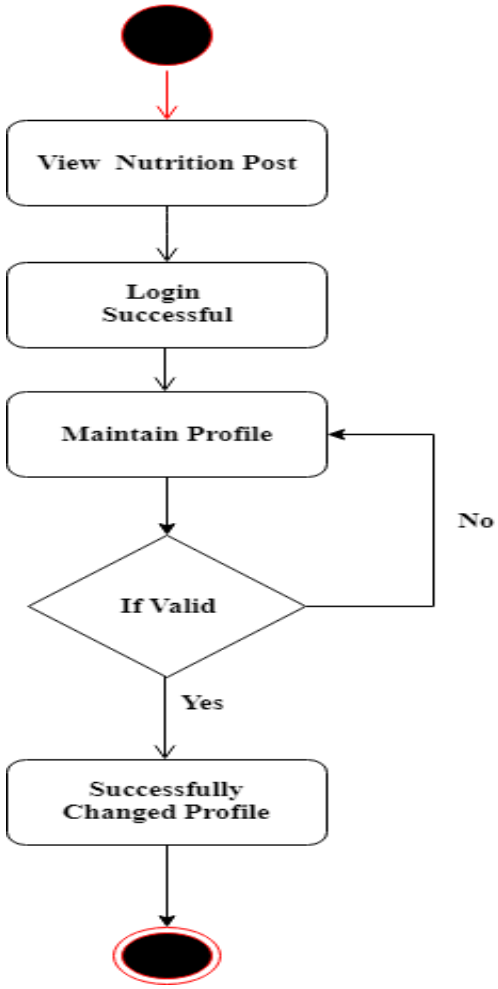

Figure 3.3.4: Activity Diagram for Maintain Profile

Chapter-4

System Design Specification

4. System Design Specification

4.1 Sequence Diagram

4.1.1 Sequence Diagram for Registration

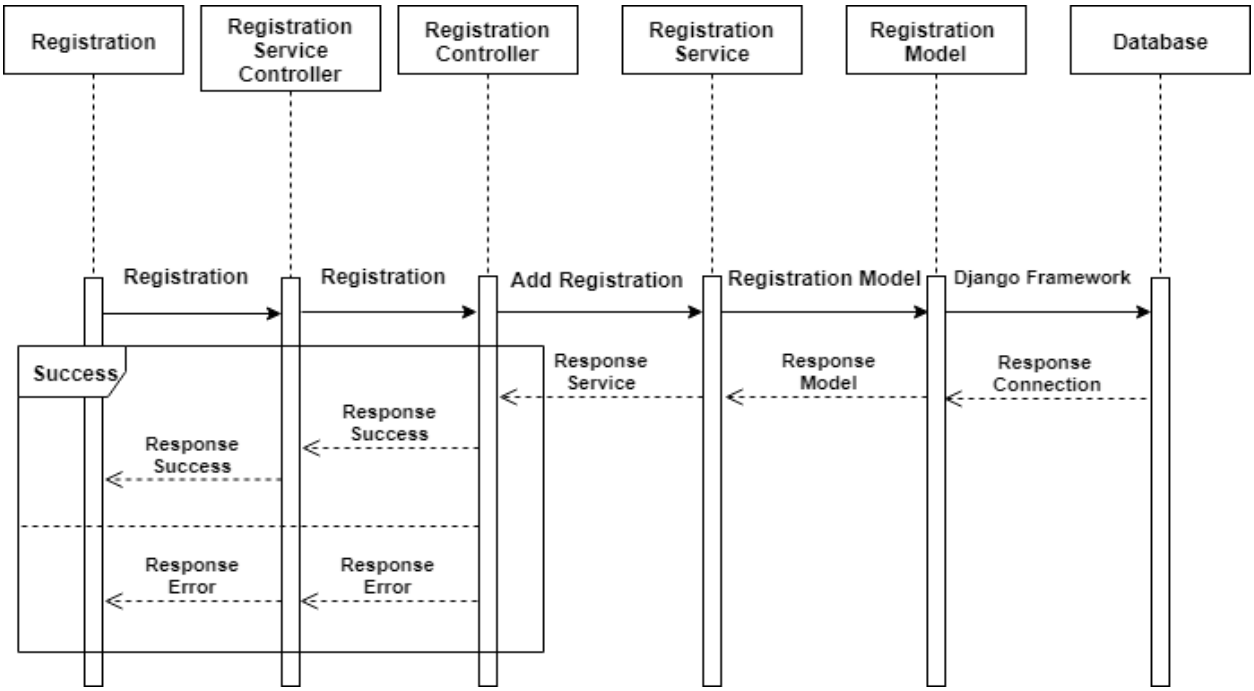

Figure 4.1.1: Sequence Diagram for Registration

4.1.2 Sequence Diagram for Login

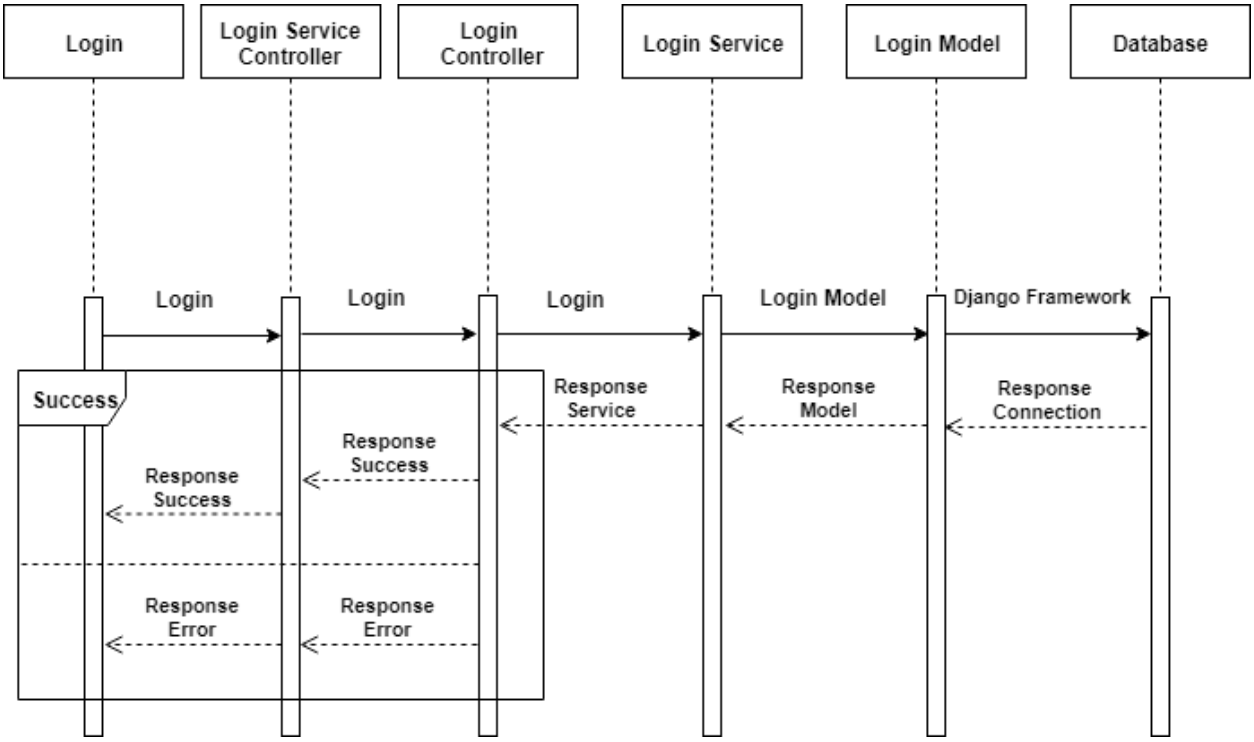

Figure 4.1.2: Sequence Diagram for Login

4.1.3 Sequence Diagram for Check Fitness Calculation

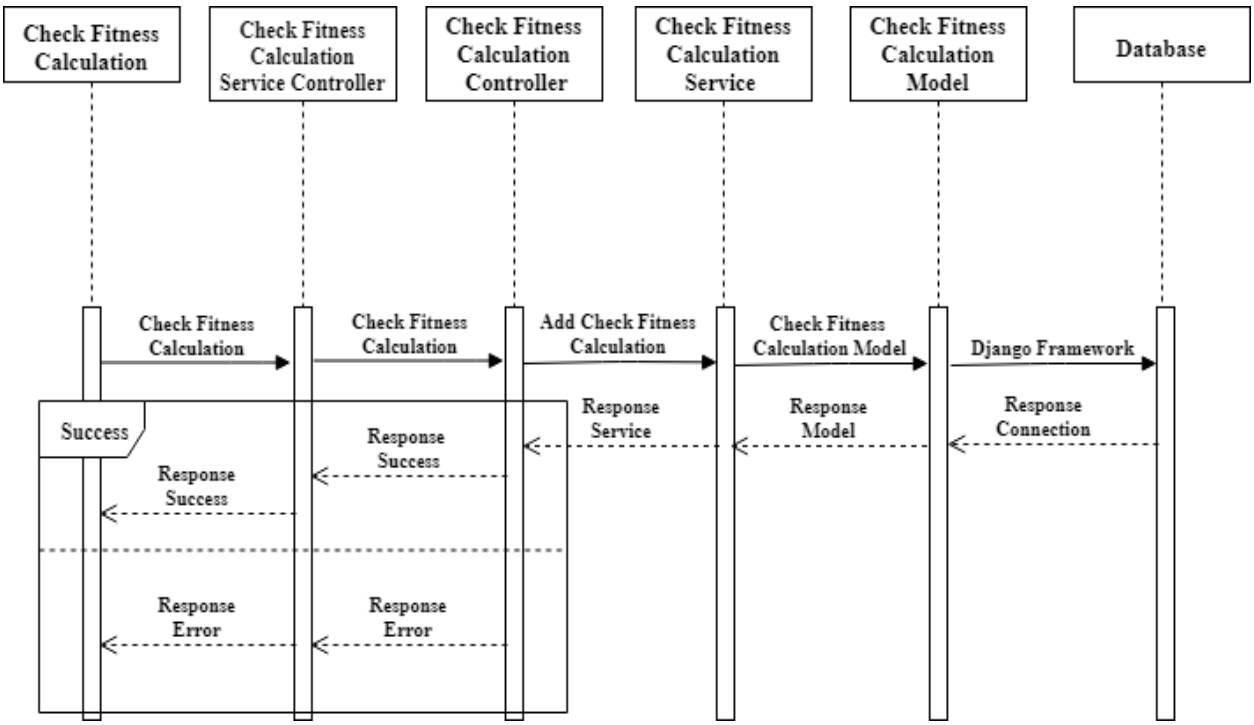

Figure 4.1.3: Sequence Diagram for Check Fitness Calculation

4.1.4 Sequence Diagram for See Calorie and Get Diet Chart

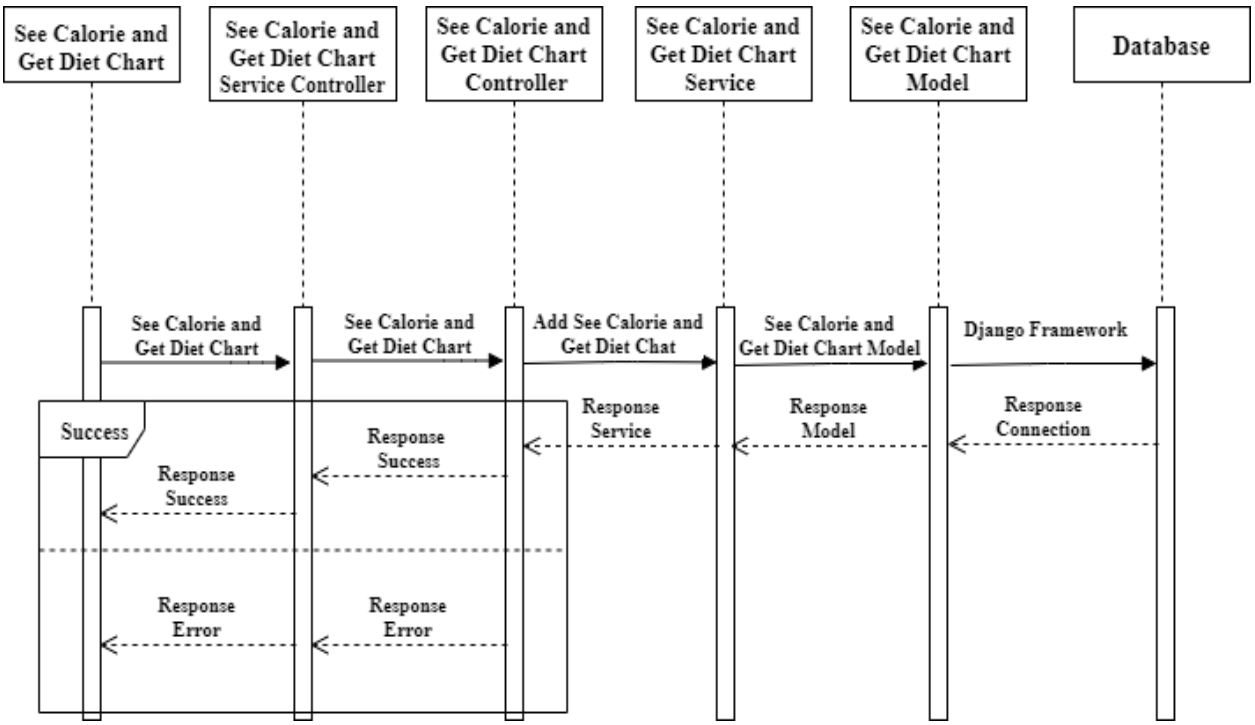

Figure 4.1.4: Sequence Diagram for See Calorie and Get Diet Chart

4.1.5 Sequence Diagram for Maintain Profile

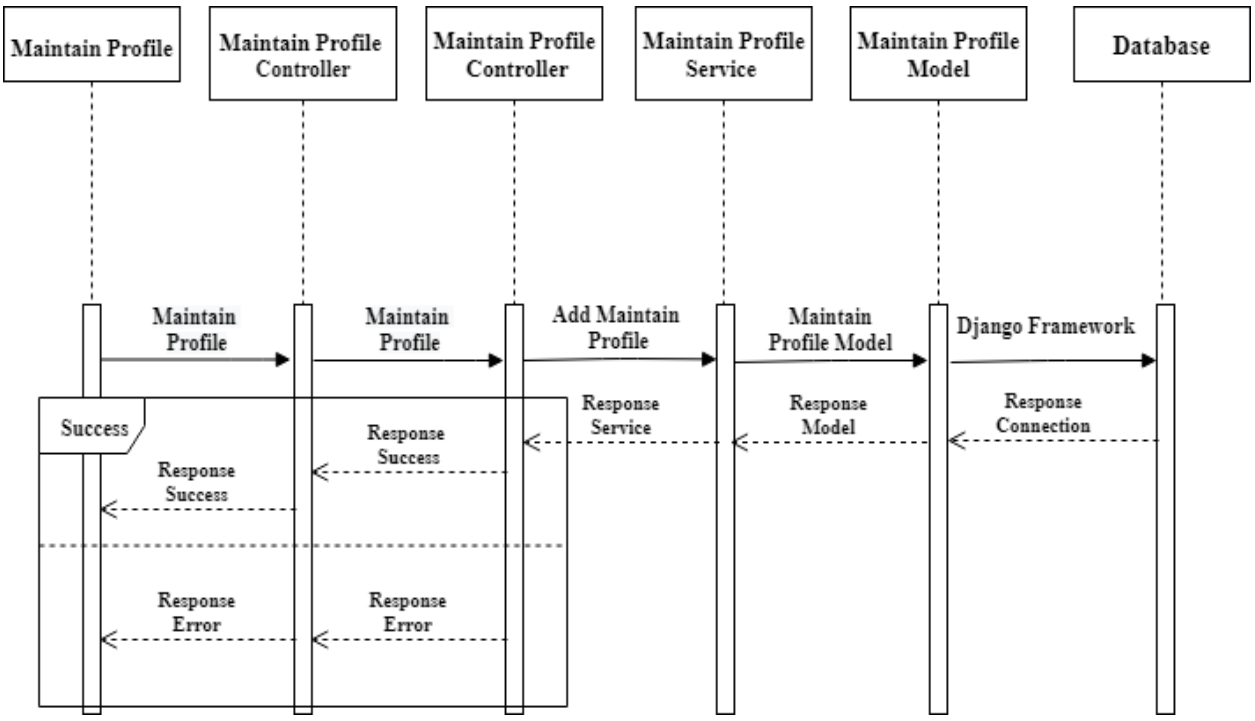

Figure 4.1.5: Sequence Diagram for Maintain Profile

4.2 Class Diagram

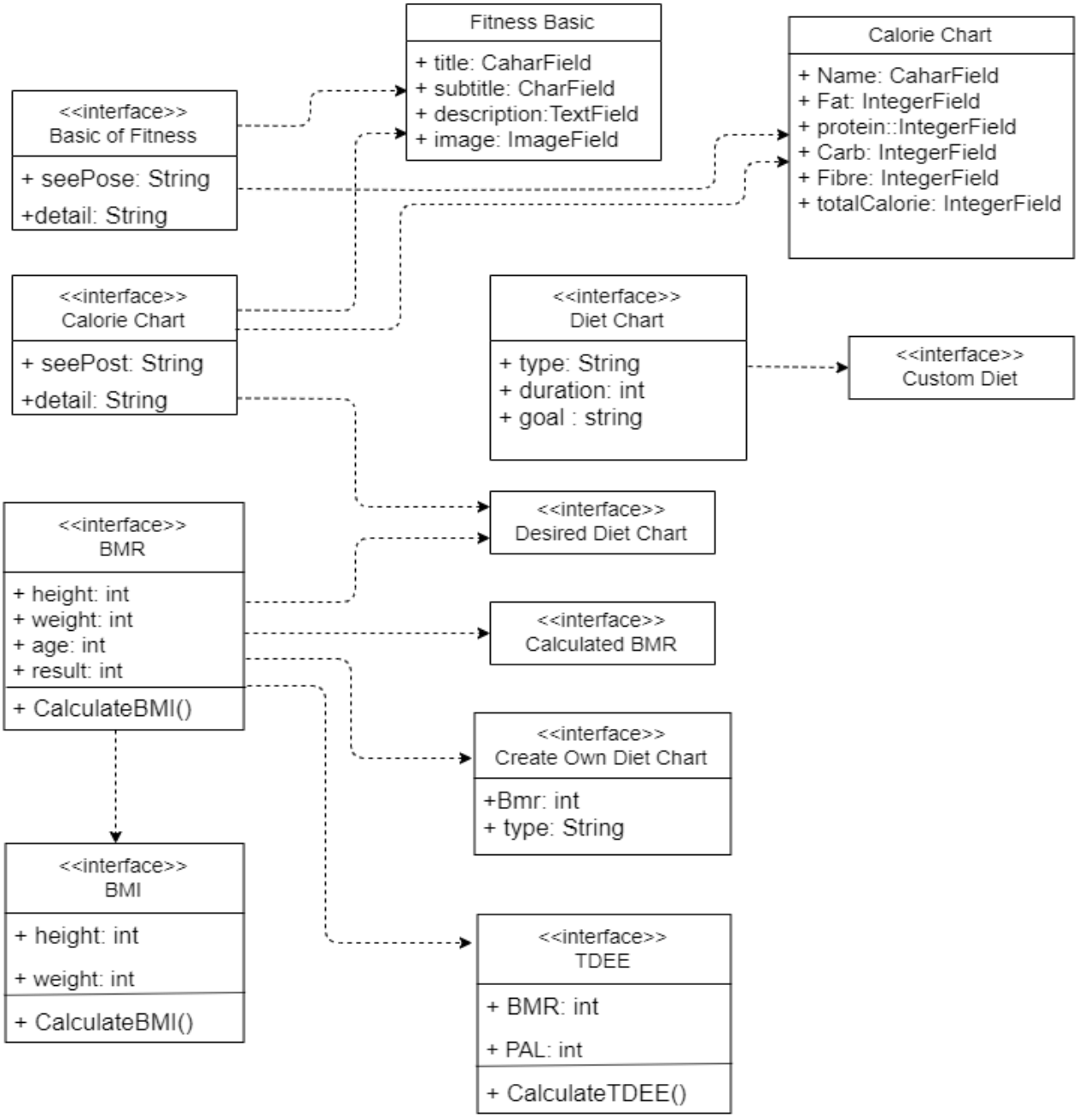

Figure 4.2: Class Diagram

4.3 Development Tools & Technology

4.3.1 Programming Language & Framework

- Python 3
- Django
- HTML5
- CSS 3
- Vanilla JavaScript
- CSS

4.3.2 User Interface Technology

- CSS
- Google Font
- JQuery
- Popper Js
- Ajax Library

4.3.3 Implementation Tools & Platforms

In this stage we describe what needs to implement this application

Hardware:

- Processor: Dual Core or above
- Processor speed: 1.8GHz or above
- RAM: 2GB or above
- Hard Disk Drive: 18GB or above

Software:

- IDE: Pycharm
- Database: SQLite3

Chapter-5
System Testing

5. System Testing

5.1 Testing Features

5.1.1 Features to be tested

- Registration
- User Login
- BMR Checking
- BMI Checking
- TDEE Checking

5.1.2 Features not to be tested

- Nutrition Post
- Manage Profile

5.2 Testing Strategies

5.2.1 Test Approach

In test approach there are two types of techniques:

1. Proactive - An approach in which the test design process is initiated as early as possible in order to find and fix the defects before the build is created.
2. Reactive - An approach in which the testing is not started until after design and coding are completed.

5.2.2 Pass/Fail Criteria

1. Component Pass/Fail criteria – The test will pass if the case meet the object design requirement or fail if not.
2. Integration Pass/Fail criteria – The test will pass if the case meet the object design architecture requirement or fail if not.
3. System Pass/Fail criteria – The test will pass if the case meet the functional and non-functional requirements or fail if not.

5.2.3 Suspension and Resumption

1. Build Acceptance Test – The system will pass the test if every build is successful if not than try build again.
2. System Design Changes – The system should work properly after each change in the design.
3. Regression Testing – The system should work properly after each change on the system.
4.

5.2.4 Testing Schedule

Table 5.2.4: Testing Schedule

Test Phase	Time	Owner
Test Plan Creation	1 week	Rashedul Islam
Test Specification Creation	1 week	Rashedul Islam
Test Specification Team Review	2 weeks	Rashedul Islam
Component Testing	2 weeks	Rashedul Islam
Integration Testing	2 weeks	Rashedul Islam
System Testing	3 weeks	Rashedul Islam

5.3 Testing Environment

1. Testing IDE: Pycharm
2. Browser: Google chrome
3. Server: Default SQLite
4. Operating System: Windows 10
5. Possessor: Core I 7

5.4 Test Case

5.4.1: Test case of Registration

Test Case #01	Designed by: Rashedul Islam
Test Priority: High	Test Design Date: 25-09-2019
Module Name: Registration	
Description: Registration testing of Care of Health	

Table 5.4.1: Test case of Registration

Steps	Action	Action Result	Expected System Response	Pass/Fail
01	Press registration button without any data	Required message	Required message	Pass
02	Press the registration button incompletely filling with data	Not registration and required messages.	Not registration and required messages.	Pass
03	Press the registration button with valid information and password less than 6	Registered and error message.	No Required message	Fail
04	Click the registration button with valid information and password not matching with confirm password.	Not Registered and error message.	Not signed up and error message.	Pass
05	Click sign up button with valid data and password.	Registered and redirected to main page.	Registered and redirected to main page.	Pass

5.4.2: Test case of Login

Test Case #02	Designed by: Rashedul Islam
Test Priority: High	Test Design Date: 26-09-2019
Module Name: Login	
Description: Test login process of Care of Health	

Table 5.4.2: Test case of Login

Steps	Action	Action Result	Expected System Response	Pass/Fail
01	Enter valid email and valid password	Get logged in.	Logged in into the system.	Pass
02	Valid email and invalid password	Not logged in and error	Not logged in and error message.	Pass
03	Click login without any data	Required message	Essential message	Fail

5.4.3: Test case of BMR

Table 5.4.3: Test case of BMR

Test Case #03	Test Designed by: Rashedul Islam
Test Priority: High	Test Design Date: 20-11-2019
Module Name: Check BMR	
Description: Checking BMR from Care of Health	

5.4.4: Test case of BMI

Table 5.4.4: Test case of BMI

Test Case #04	Test Designed by: Rashedul Islame
Test Priority: High	Test Design Date: 22-11-2019
Module Name: Check BMI	
Description: Checking BMI from Care of Health	

5.4.5: Test case of TDEE

Table 5.4.5: Test case of TDEE

Test Case #05	Test Designed by: Rashedul Islam
Test Priority: High	Test Design Date: 25-11-2019
Module Name: Check TDEE	
Description: Checking TDEE from Care of Health	

Chapter-6

User Manual

6. User Manual

6.1 Home page

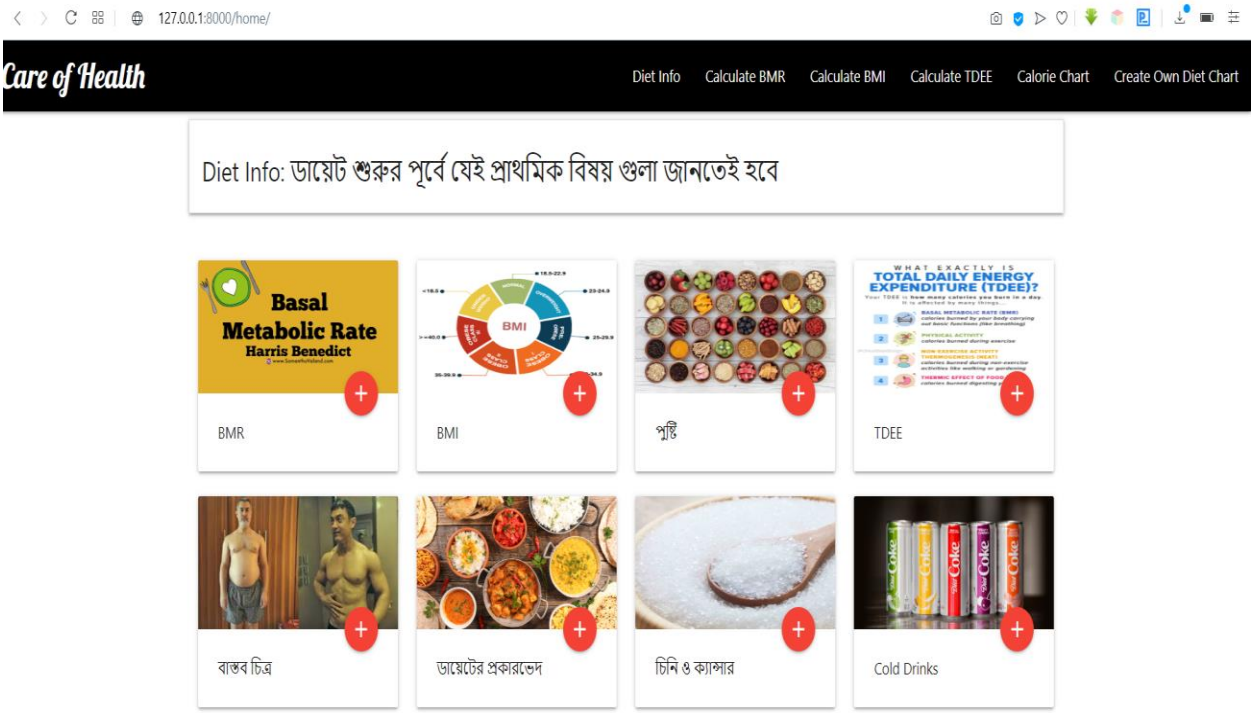

Figure 6.1: Home page

6.2 Calculation Process BMR

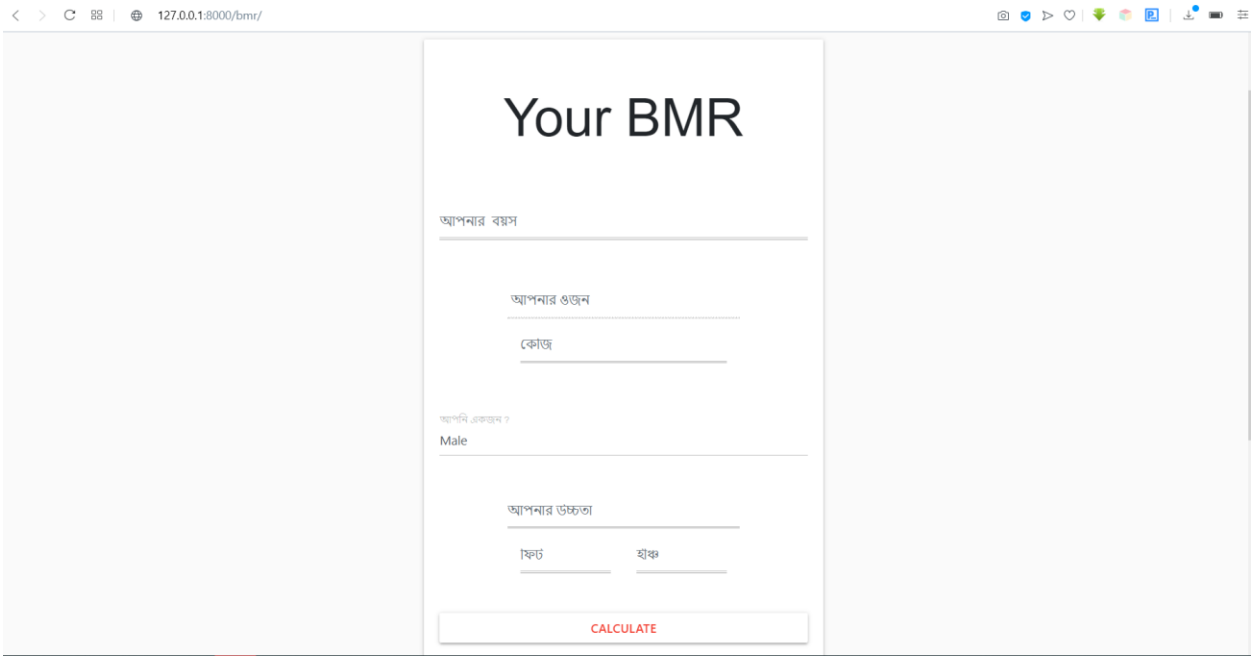

Figure 6.2: BMR

6.3 Calculation Process BMI

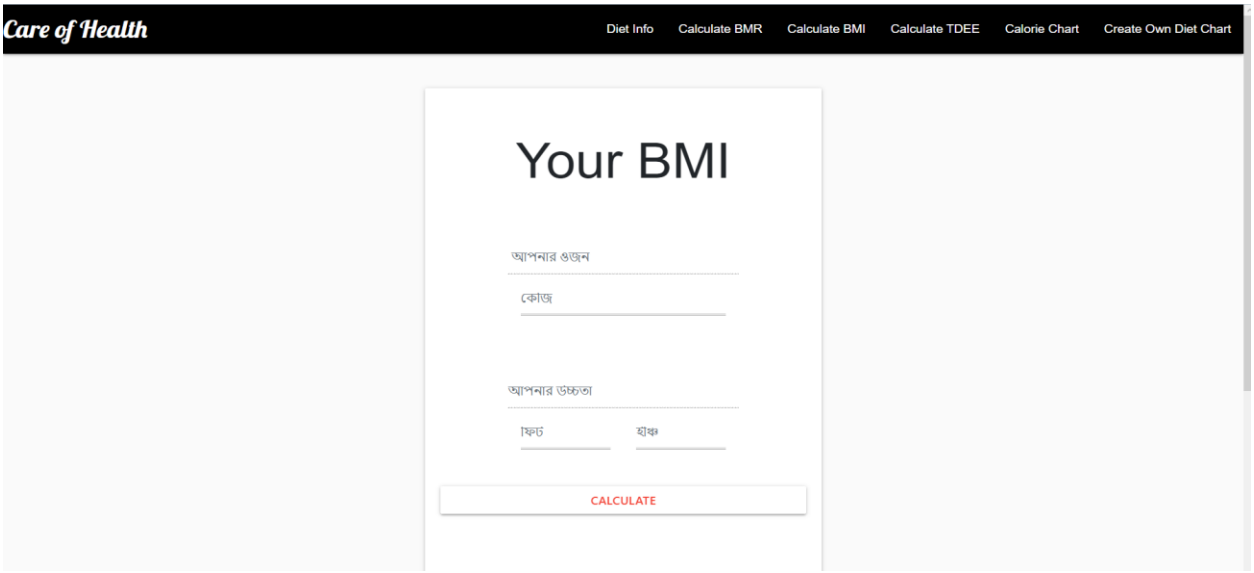

Figure 6.3: BMI

6.4 Calculation Process TDEE

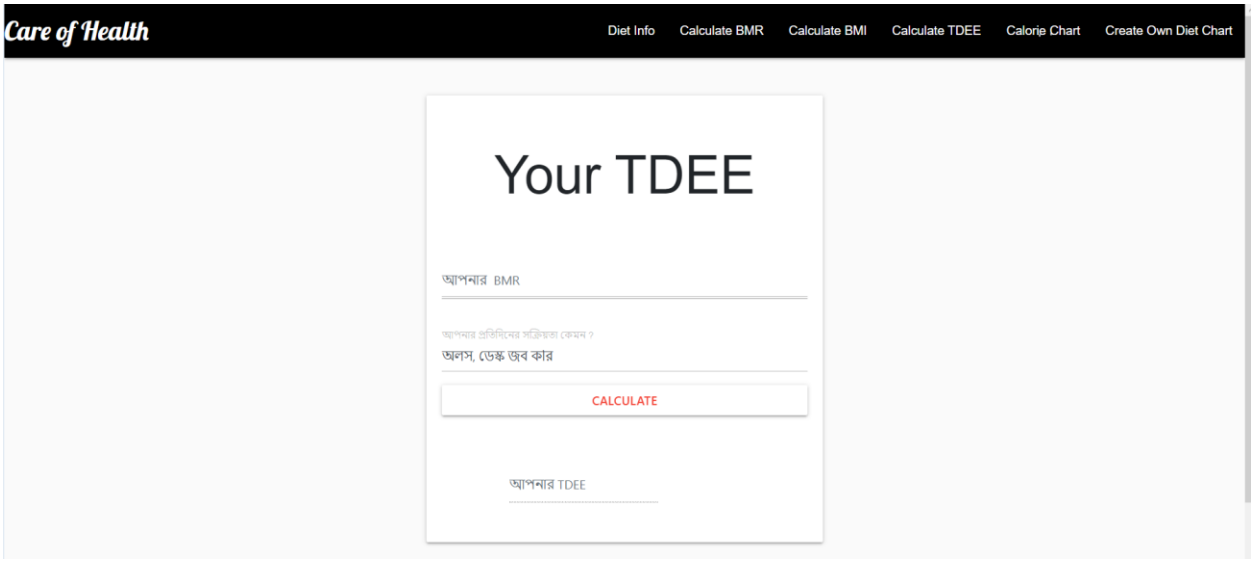

Figure 6.4: TDEE

6.5 Calorie Chart

শর্করা জাতীয় খাবার

নাম	ফ্যাট	কার্ব	প্রোটিন	ফাইবার	নেট কার্ব	ক্যালরি / ১০০ গ্রাম
চাল	০.৪	৭৬.৮	৬.৫	৩.৪	৭৩.৪	৩৪৪
ভাত ১ কাপ / ১৫০ গ্রাম	০	৪৬	৪	০	৪৬	২০০

প্রোটিন জাতীয় খাবার

নাম	ফ্যাট	কার্ব	প্রোটিন	ফাইবার	নেট কার্ব	ক্যালরি / ১০০ গ্রাম
মুরগীর ডিম (কুসুম সহ)	৫	০.৩	৬	০	০	৭৪
মুরগীর ডিম (কুসুম ছাড়া)	০.৬	০	৩.৬	০	০	১৭

Figure 6.4: Calorie Chart

Chapter-7

Project Summary

7. Project Summary

7.1 GitHub Link

https://github.com/RashedBabu/Care-of-Health

7.2 Critical Evolution

I have used python programming language and Django framework to implementing this web app. Django follows MVT patterns Model-View-Template. Django free and open source web framework which is written in python language. Django is very useable because of less code, reusability, scalability. Django have a default database SqLite3 which I used my project Care of Health. Django provides administrative create, read, update, delete interface generated dynamically through the admin models.

7.3 Limitations

My project Care of Health have some limitations.

- It's not apply hosting server yet
- Only authorized member can have the access of Care of Health

7.4 Obstacles & Achievements

Django framework is updating every day so it's quite tough to work with new technology. Django library function is very helpful though the project implementation is hard and occur some error while developing this system.

7.5 Future Scope

Although the system has been created as good some major changes will be including in future. I will try to add cooking recipe and workout plan and also tutorial.

Conclusion

Care of Health is a web app project. People may aware to use this project. There are many health problems cause because of overweight and obesity. Moreover, heart disease, certain cancers, diabetes are also included. Change the food habits and maintaining diet plan can reduce those diseases. Care of Health is the best solution to overcome from theses disease.

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