



## ***Green University of Bangladesh***

*Department of Computer Science and Engineering (CSE)  
Semester: (Spring, Year: 2024), B.Sc. in CSE (Day)*

### **Project Report On**

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# ***"Calorie Care"*** **A Nutrition Based Recipe Application**

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*Course Title: Information System and Design Lab  
Course Code: CSE 426  
Section: 212 D2*

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<b><u>Lab Project Status</u></b>	
<b>Marks:</b>	<b>Signature:</b>
<b>Comments:</b>	<b>Date:</b>

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# Chapter 1

## Introduction

In today's fast-paced world, maintaining a balanced diet is more important than ever. With the increasing prevalence of lifestyle diseases such as obesity, diabetes, and heart conditions, there is a growing need for accessible nutritional guidance. Many individuals struggle with dietary planning due to lack of knowledge, time constraints, or simply not knowing where to start. Calorie Care addresses these issues by providing a user-friendly platform for personalized nutrition advice and recipe suggestions.

The concept of personalized nutrition is a burgeoning field that tailors dietary recommendations to an individual's specific health needs, preferences, and goals. By integrating technology with nutrition science, apps like Calorie Care can play a pivotal role in promoting healthier eating habits. These digital solutions not only make nutritional information more accessible but also encourage users to take proactive steps towards improving their health.

Calorie Care bridges the gap between general users and professional nutritionists, offering a comprehensive suite of features that cater to both parties. For general users, the app provides tailored recipe suggestions, the ability to upload and manage dietary prescriptions, and direct communication with nutritionists. For nutritionists, the platform offers tools to suggest recipes, manage subscribers, and interact with clients. This dual functionality ensures that users receive expert advice and support, making it easier to achieve their dietary goals.

# Chapter 2

## Literature Review

Several projects have aimed to address the need for personalized nutrition advice, each with its own strengths and weaknesses:

### 2.1 MyFitnessPal

**Features:** MyFitnessPal is a widely used app that allows users to track their food intake and exercise. It offers a large database of foods and the ability to log meals and workouts. It also provides some level of nutritional guidance based on user input.

**Lacings:** While MyFitnessPal is effective for tracking, it lacks direct interaction with nutritionists and personalized recipe suggestions, which limits its ability to provide comprehensive dietary advice.

### 2.2 Noom

**Features:** Noom combines psychological principles with nutrition advice to promote weight loss. It offers daily articles, coaching, and meal logging.

**Lacings:** Noom focuses heavily on weight loss and behavior change, but its general approach might not suit individuals with specific dietary needs or health conditions that require tailored advice.

### 2.3 Nutrino

**Features:** Nutrino offers personalized meal recommendations based on user preferences, health goals, and dietary restrictions. It integrates with wearable devices to provide real-time feedback.

**Lacings:** Despite its advanced personalization, Nutrino's database can be limited, and

it doesn't offer direct interaction with nutritionists, which could enhance the user experience.

## 2.4 Eat This Much

**Features:** Eat This Much generates meal plans based on user preferences and nutritional needs. It also offers a grocery list feature.

**Lacings:** The app's automated approach can lack the nuanced advice that comes from professional nutritionists, and users might miss the human touch in their dietary planning.

# Chapter 3

## Objectives and Motivation

### 3.1 Objectives

**Personalized Dietary Management:** Provide users with personalized dietary prescriptions tailored to their health goals, medical conditions, and preferences.

**Calorie Tracking and Monitoring:** Enable users to log their daily food intake, track consumed calories, and compare them against prescribed limits to maintain a balanced diet and achieve desired health outcomes.

**Data Security and Privacy:** Ensure the security and confidentiality of user data by implementing robust encryption measures, access controls, and compliance with relevant privacy regulations.

**Accessibility and Compatibility:** Design the application to be accessible across various devices and platforms, ensuring a consistent user experience for individuals with diverse technological backgrounds and preferences.

**Continuous Improvement and Innovation:** Strive for ongoing enhancement and innovation by incorporating user feedback, adopting emerging technologies, and staying abreast of advancements in nutrition science and digital health solutions.

### 3.2 Motivation

The primary Motivation of Calorie Care is to provide a comprehensive platform that bridges the gap between general users seeking nutritional guidance and professional nutritionists. The motivation behind this project stems from the need for a more personalized and interactive approach to dietary management. By facilitating direct communication between users and nutritionists, Calorie Care aims to offer tailored advice that can lead to better health outcomes. The app also seeks to empower users by making nutritional information more accessible and actionable.

# Chapter 4

## Problem Description

In the current landscape, there are several challenges and gaps in the field of personalized nutrition:

### 4.1 Analysis and Challenges

**Lack of Personalized Advice:** Many nutrition apps provide generic advice that may not suit individual needs.

**Accessibility of Expert Guidance:** Users often find it difficult to access professional nutritionists for personalized advice.

**User Engagement:** Keeping users engaged and motivated to follow their dietary plans can be challenging.

**Integration of Medical Prescriptions:** Users with specific health conditions require an app that can integrate their medical prescriptions into their dietary plans.

### 4.2 Questions to Address

These are some questions that arise in the present situation which need to be solved. We have tried to solve them in our project. They are:

- a) How can we provide personalized nutritional advice that caters to individual health needs?
- b) What methods can be employed to ensure easy access to professional nutritionists?
- c) How can the app keep users motivated and engaged with their dietary plans?
- d) What features can be incorporated to integrate medical prescriptions effectively into dietary planning?



# Chapter 5

## Requirement Analysis

### 5.1 Functional Requirement

**User Authentication:** Secure login and registration for both general users and nutritionists. **Profile Management:** Users can create and update their profiles, including dietary preferences and health conditions.

**Prescription Upload:** General users can upload medical prescriptions which can be reviewed by nutritionists.

**Recipe Suggestions:** The app provides personalized recipe suggestions based on user profiles and preferences.

**Nutritionist Interaction:** General users can communicate directly with nutritionists for advice and consultations.

**Subscriber Management:** Nutritionists can add and manage subscribers, providing tailored advice and recipes.

**Notifications:** Users receive notifications for new messages, recipe suggestions, and appointments with nutritionists.

### 5.2 Non-functional Requirement

**Security:** Ensure data privacy and protection for user information and medical prescriptions.

**Performance:** The app should load quickly and handle multiple users simultaneously without lag.

**Usability:** The interface should be intuitive and easy to navigate for users of all ages.

**Scalability:** The system should be able to handle an increasing number of users and data over time.

**Reliability:** The app must provide consistent performance and be available 24/7 without significant downtime.

# Chapter 6

## Block Diagram

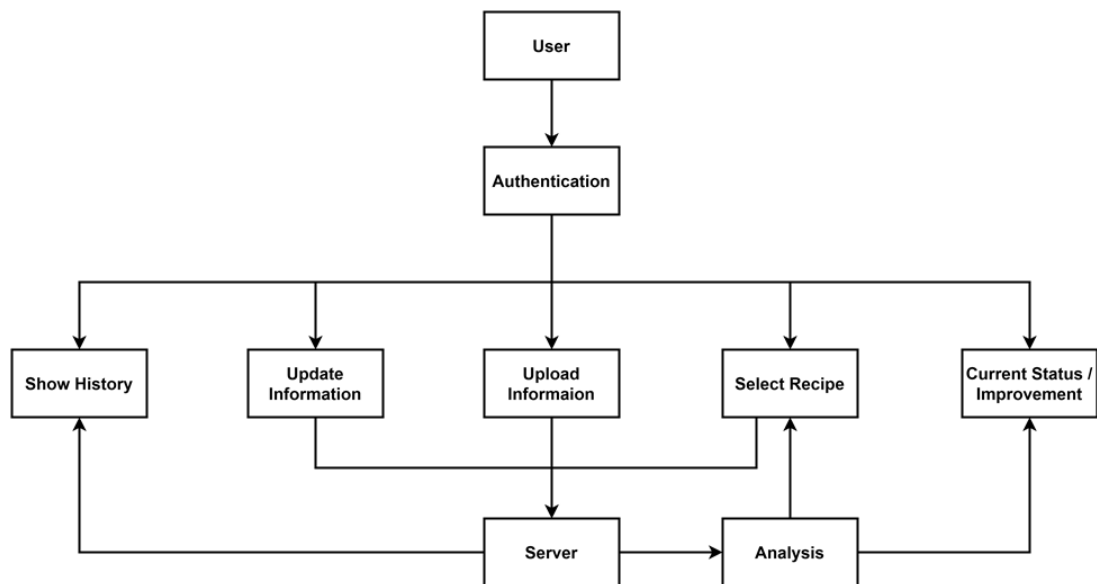


Figure 6.1: Calorie Care Block Diagram

# **Chapter 7**

## **Feasibility Study**

### **7.1 Technical Feasibility**

The project leverages existing technologies such as cloud storage for data management, secure authentication protocols, and AI algorithms for recipe suggestions. The development team has the necessary expertise to implement these technologies effectively.

### **7.2 Economic Feasibility**

Initial costs include app development, cloud storage, and marketing. Revenue can be generated through subscription plans for users and premium features for nutritionists. The projected user base and potential for expansion suggest a positive return on investment.

### **7.3 Operational Feasibility**

The app addresses a clear need in the market for personalized nutrition advice. User-friendly interfaces and robust features ensure that the app can be integrated smoothly into users' daily routines.

# Chapter 8

## Gantt Chart

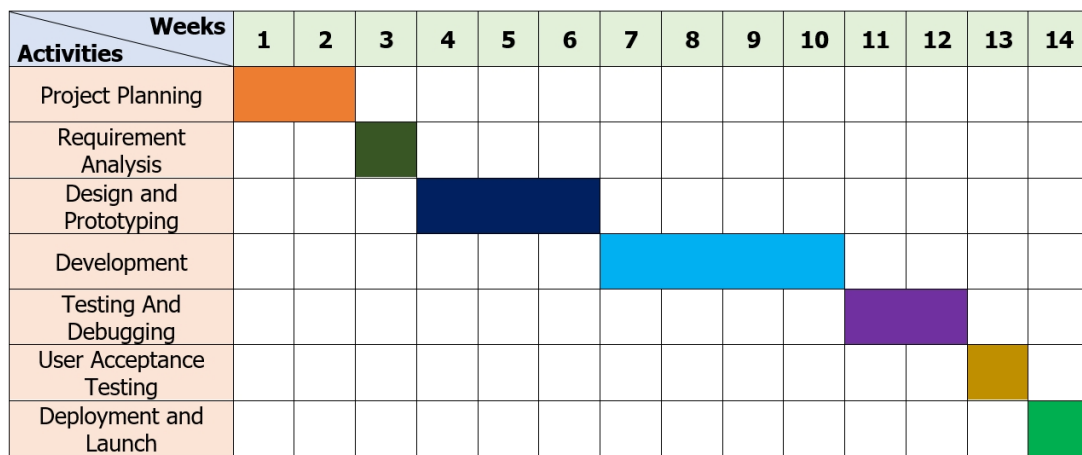


Figure 8.1: Gantt Chart of Calorie Care Project Development Timing

# Chapter 9

## Detailed Budget

Table 9.1: Budget Details

Category	Description	Cost
Testing Costs		
	Testing Tools and Software	\$1,000
	User Acceptance Testing	\$1,500
	Total Testing Costs	\$2,500
Design and Prototyping		
	UI/UX Design	\$3,000
	Prototyping Tools and Software	\$1,000
	Total Design and Prototyping Costs	\$4,000
Infrastructure and Hosting		
	Server Hosting	\$1,500/year
	Domain Registration	\$20/year
	SSL Certificate	\$50/year
	Total Infrastructure Costs (First Year)	\$1,570
	Total Infrastructure Costs (Subsequent Years)	\$1,570/year
Marketing and Promotion		
	App Store Registration	\$100 (one-time fee)
	Digital Marketing Campaigns	\$2,000
Grand Total Budget		\$27,600

# Chapter 10

## UML Diagrams

### 10.1 Use Case Diagram

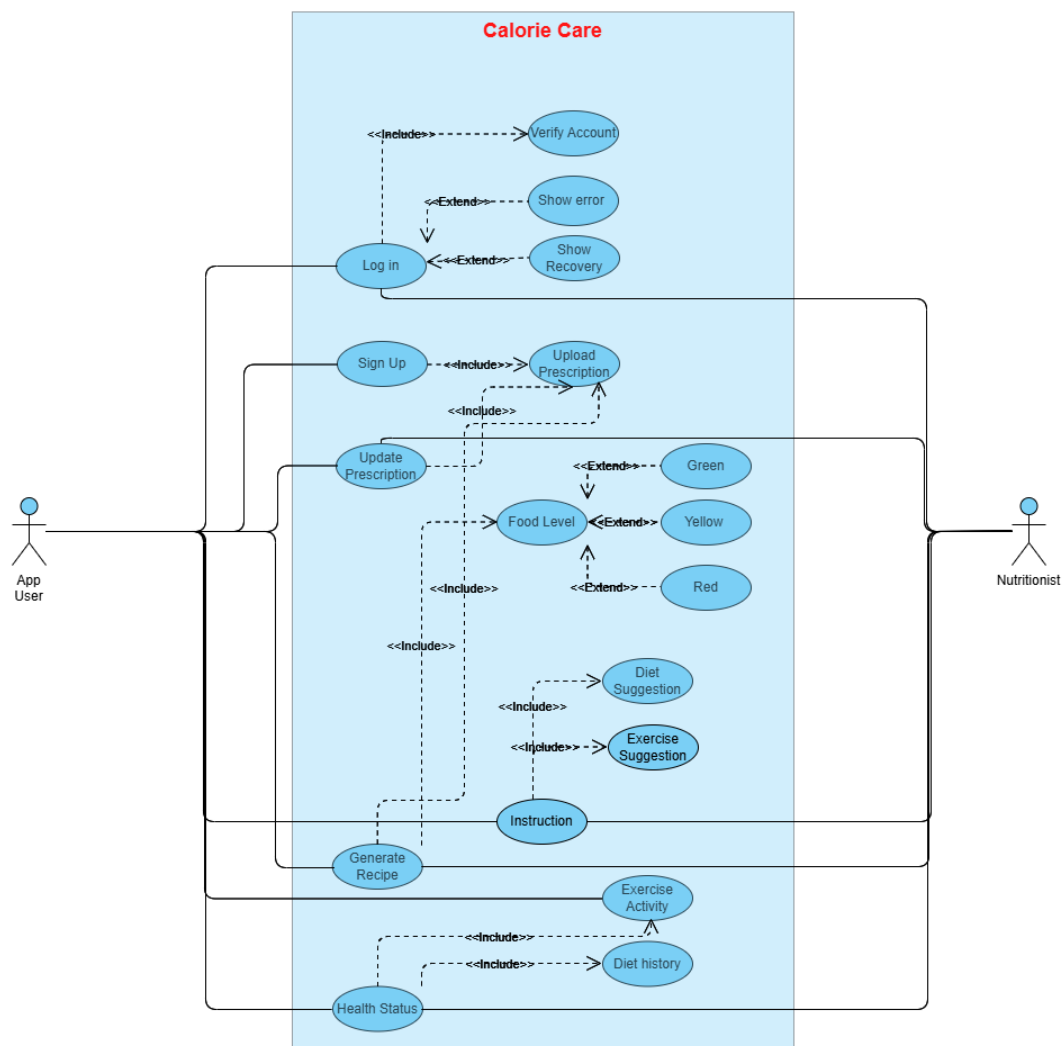


Figure 10.1: Use Case Diagram for Calorie Care Project

## 10.2 Data Flow Diagram

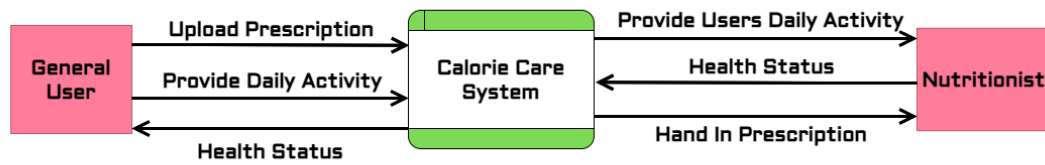


Figure 10.2: Level 0 DFD for Calorie Care Project

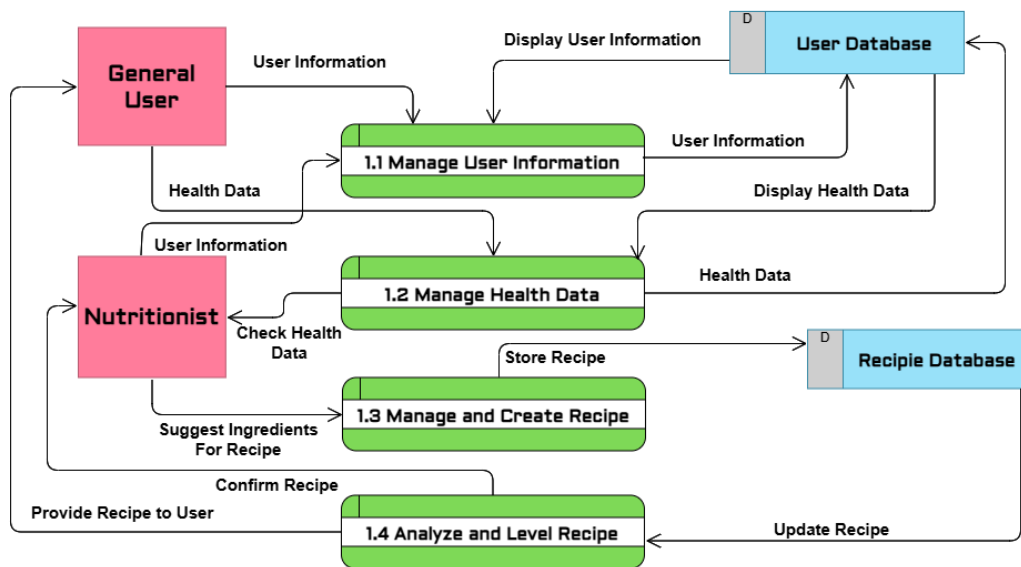


Figure 10.3: Level 1 DFD for Calorie Care Project

## 10.3 Sequence Diagram

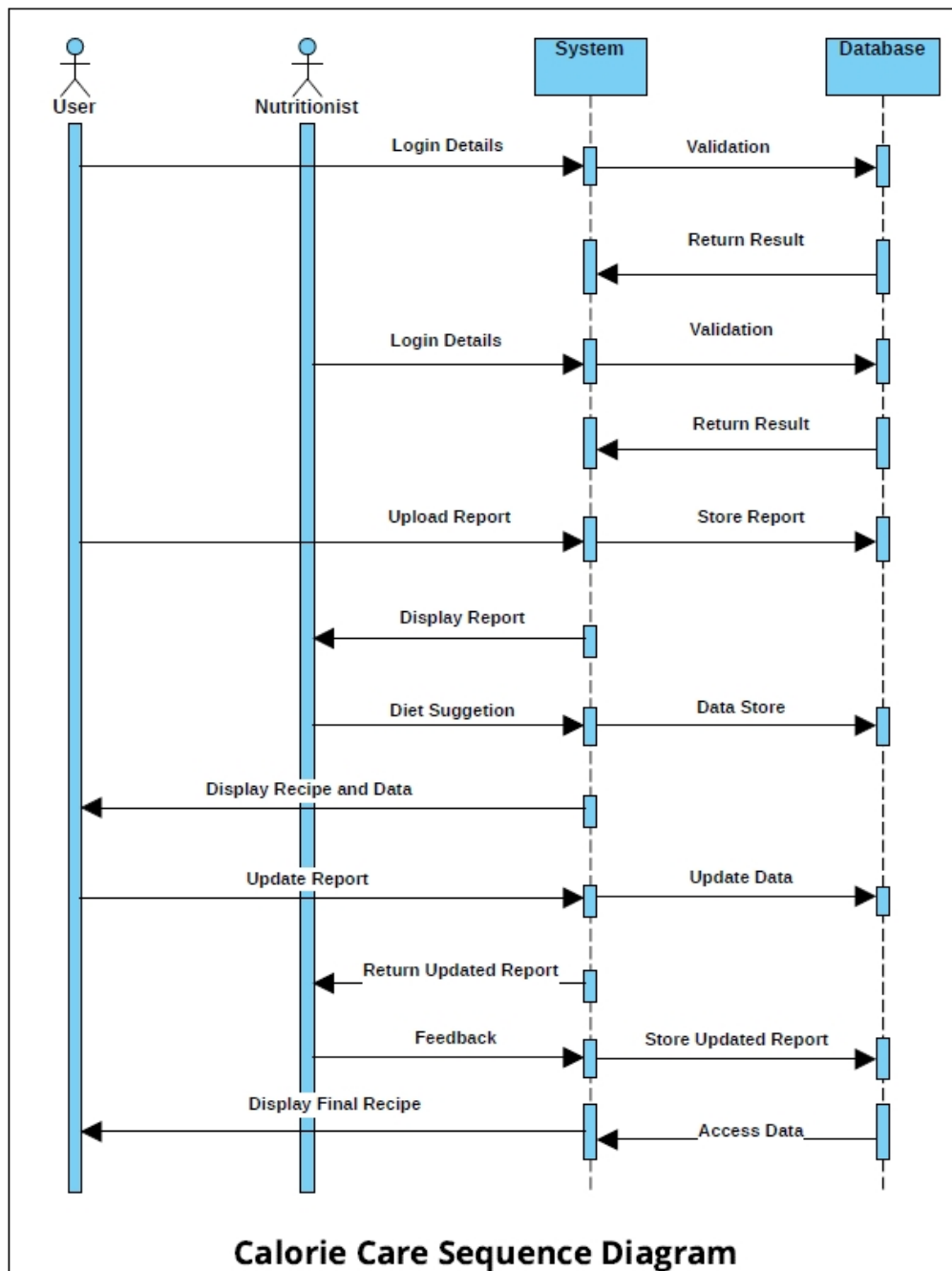


Figure 10.4: Sequence Diagram for Calorie Care Project



## 10.4 Class Diagram

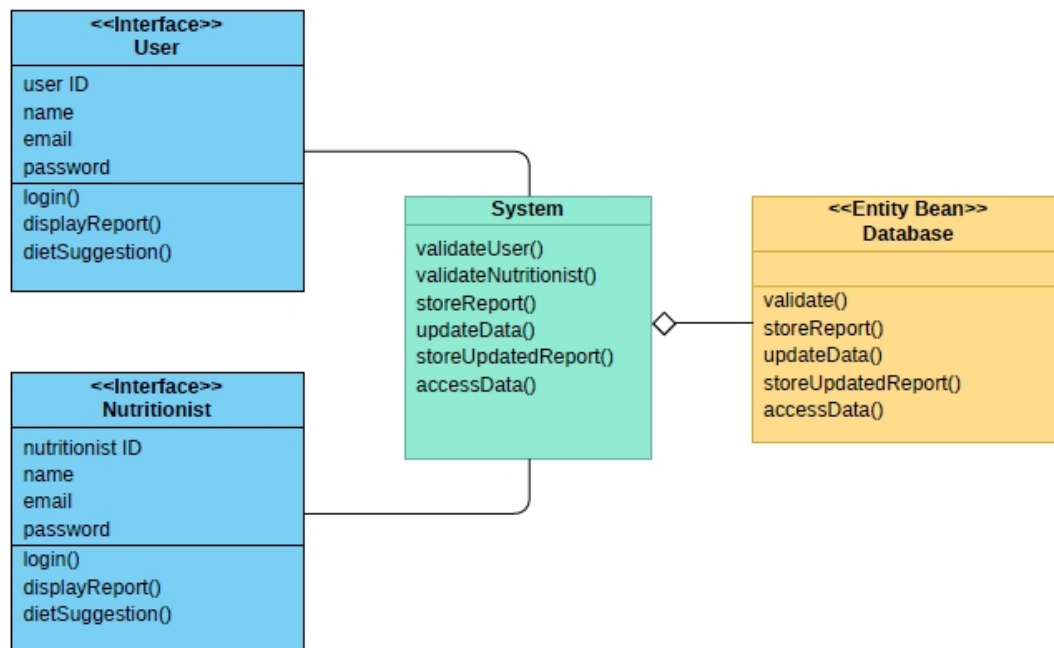


Figure 10.5: Class Diagram for Calorie Care Project

# **Chapter 11**

## **Impacts on real life issues**

### **11.1 Societal Impact**

Calorie Care promotes healthier eating habits, potentially reducing the prevalence of lifestyle diseases and improving public health. By making nutritional advice more accessible, it empowers users to make informed dietary choices.

### **11.2 Health Impact**

Personalized nutritional advice can lead to better health outcomes by addressing individual dietary needs and medical conditions. The app's ability to integrate medical prescriptions ensures that dietary recommendations are safe and effective.

### **11.3 Legal Impact**

The app complies with data protection regulations, ensuring user information is secure and private. Clear terms of service and user agreements protect both the users and the app providers legally.

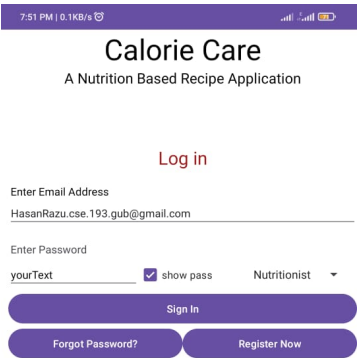
### **11.4 Cultural Impact**

Calorie Care respects diverse dietary preferences and cultural eating habits, providing recipe suggestions that align with users' cultural backgrounds and preferences.

# Chapter 12

## UI/UX Design

The UI/UX design focuses on simplicity and ease of use. The login screen provides a clear, straightforward interface for both user types. The user dashboard displays essential features like profile management, prescription uploads, and recipe suggestions. The nutritionist interface offers tools for managing subscribers and providing personalized advice.



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**Calorie Care**  
A Nutrition Based Recipe Application

[Log in](#)

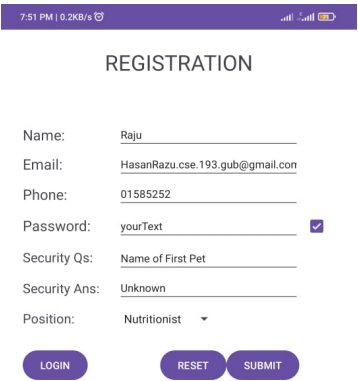
Enter Email Address  
HasanRazu.cse.193.gub@gmail.com

Enter Password  
yourText ☒ show pass Nutritionist ▾

[Sign In](#)

[Forgot Password?](#) [Register Now](#)

Figure 12.1: Snapshot 1



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**REGISTRATION**

Name: Raju

Email: HasanRazu.cse.193.gub@gmail.com

Phone: 01585252

Password: yourText ☒

Security Qs: Name of First Pet

Security Ans: Unknown

Position: Nutritionist ▾

[LOGIN](#) [RESET](#) [SUBMIT](#)

Figure 12.2: Snapshot 2

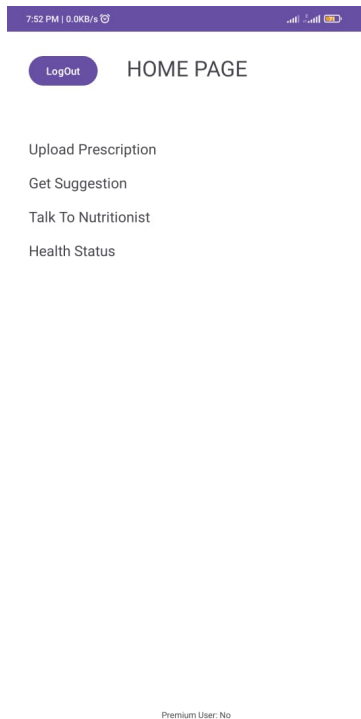


Figure 12.3: Snapshot 3

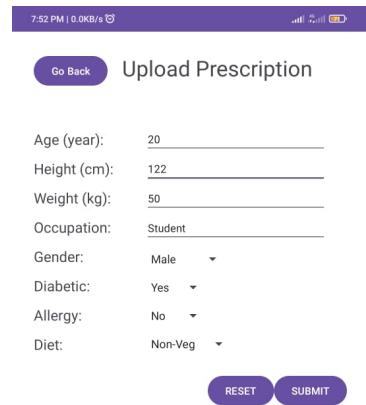


Figure 12.4: Snapshot 4

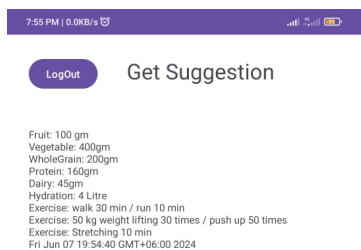


Figure 12.5: Snapshot 5

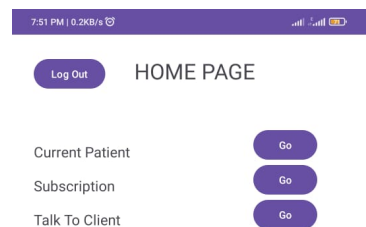


Figure 12.6: Snapshot 6

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Client List

Go Back

Suggest To Client: 

Suggest

ID: 1

Name: Raju

Email: Razu.cse.193.gub@gmail.com

Age: 20

Height: 115

Weight: 50

Occupation: Student

Gender: Male

Diabetic Status: Yes

Allergy Status: Yes

Diet Status: Veg

Updated By Nutritionist: No

Time: Fri Jun 07 12:53:24 GMT+06:00 2024

ID: 2

Name: Raju

Email: cse.193.gub@gmail.com

Age: 20

Height: 120

Weight: 50

Occupation: Student

Gender: Female

Diabetic Status: No

Allergy Status: No

Diet Status: Veg

Updated By Nutritionist: No

Time: Fri Jun 07 12:53:30 GMT+06:00 2024

ID: 3

Name: Raju

Email: 193.gub@gmail.com

Age: 200

Height: 320

Weight: 500

Occupation: Doctor

Gender: Female

Diabetic Status: Yes

Allergy Status: Yes

Diet Status: Non-Veg

Updated By Nutritionist: No

Time: Fri Jun 07 12:53:36 GMT+06:00 2024

ID: 4

Name: Raju

Email: cub@gmail.com

Figure 12.7: Snapshot 7

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Daily Plan

Go Back

Food And Exercise

Fruit :

Vegetable :

Whole Grain:

Protein :

Dairy :

Hydration :

Exercise :

Exercise :

Exercise :

Submit

Client Bio-Data

Time: Fri Jun 07 12:53:30 GMT+06:00 2024

Age: 20

Height: 120

Weight: 50

Occupation: Student

Diabetic Status: No

Allergy Status: No

Diet Status: Veg

cse.193.gub@gmail.com

Figure 12.8: Snapshot 8

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Daily Plan

Go Back

Food And Exercise

Fruit :

Vegetable :

Whole Grain:

Protein :

Dairy :

Hydration :

Exercise :

Exercise :

Exercise :

Submit

Client Bio-Data

Time: Fri Jun 07 12:53:24 GMT+06:00 2024

Age: 20

Height: 115

Weight: 50

Occupation: Student

Diabetic Status: Yes

Allergy Status: Yes

Diet Status: Veg

Time: Fri Jun 07 12:53:24 GMT+06:00 2024

Age: 20

Height: 122

Weight: 50

Occupation: Student

Diabetic Status: Yes

Allergy Status: No

Diet Status: Non-Veg

Figure 12.9: Snapshot 9

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Subscription

Go Back

Subscription:

Add Remove

Email: Razu.cse.193.gub@gmail.com, Subscription Status: Yes

Email: cse.193.gub@gmail.com, Subscription Status: No

Email: 193.gub@gmail.com, Subscription Status: No

Email: gub@gmail.com, Subscription Status: No

Subscription Successful

English

Figure 12.10: Snapshot 10

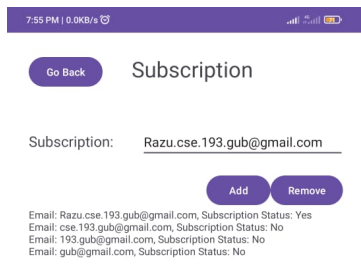


Figure 12.11: Snapshot 11

# Chapter 13

## Conclusion

Calorie Care is a comprehensive solution for personalized nutritional advice, bridging the gap between general users and professional nutritionists. By offering tailored recipe suggestions, prescription integration, and direct communication with experts, the app empowers users to make informed dietary choices and improve their health. The robust features, user-friendly design, and potential for positive societal impact make Calorie Care a valuable tool in the realm of nutrition and health.

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