MINISTRY OF EDUCATION AND TRAINING

HCMC UNIVERSITY OF TECHNOLOGY AND EDUCATION

FACULTY FOR HIGH-QUALITY TRAINING

Final Project

Dietic Nutrition Software Requirements and Designs

Course: Object-oriented software design

Lecturer: Huỳnh Xuân Phụng

Group 1:

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HCMC, May, 2021

SCORE

Criteria	Content	Presentation	Total
Point			

REMARKS OF TEACHERS

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Ho Chi Minh City, May, 2021

Teacher's score

(Signature and full name)

Huynh Xuan Phung

THANK YOU

In order to successfully complete this topic and this report, we would like to extend our sincere thanks to the lecturer, Dr. Huỳnh Xuân Phụng, who directly supported us throughout the process of making the topic. We thank the teacher for giving advice from his practical experience to guide us in the right direction with the requirements of the selected topic, always answer questions and give suggestions and corrections. time to help us overcome our shortcomings and complete it well as well as on schedule.

We also would like to express our sincere thanks to the teachers in the High Quality Education Department in general and the Information Technology industry in particular for their dedicated knowledge to help us have a foundation to make. This topic has created conditions for us to learn and perform well on the topic. Along with that, we would like to thank our classmates for providing useful information and knowledge to help us improve our topic.

The topic and report are made by us in a short time, with limited knowledge and many other limitations in terms of technical and experience in implementing a software project. Therefore, in the process of creating a topic with shortcomings is inevitable, we look forward to receiving valuable comments from the teachers to make our knowledge more complete and we can do even better next time.
We sincerely thank you.

At the end, we would like to wish all of you teachers, ladies and gentlemen, always having abundant health and more success in the career of growing people.
Once again we sincerely thanks.

SUBJECT DESCRIPTION OF THE SUBJECTS OF DATABASE MANAGEMENT

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Field: **Information Technology**

Project: **Nutrition Application**

Instructor: **Dr. Huỳnh Xuân Phụng**

Tasks of the topic: Building a nutrition app for the following functions:

1. Manage nutrition information.
2. Manage recipe.
3. Manage projects and work to be done in each project.
4. Manage user .

Table of Contents

1.GENERAL:

1.1. REASONS WE CHOOSE THE PROJECT TOPIC

Wellness and healthy lifestyles have become mainstream. Interest in fitness applications and revenue from them grow as fast as the number of people striving to be fit.

Calorie and nutrition counters are probably the most popular type of nutrition app. Their main objective is to measure calories consumed and burned by the user in a day. These apps work in a pretty simple way: first, a user sets a goal, in most cases their weight. After that, they input information about their activities and the food they eat, and the app calculates the calories they've consumed and burnt. Our app is to help people with those work, you just need to input food type and quantity, our app will help calculate the calories and guide the meal to user.

1.2. FUNCTIONS OF THE TOPIC

List of requirements for our nutrition application:

Number	Requirement	Explain in details
1	Enter personal stats	Important function, help the app easier to build up a nutritional theraphy
2	Food diary	Help user to manage their eating habit, more nutrional food, less unsuitable food
3	Calorie calculator	A function that every buidling diet app should have, help the user manage how much calorier they have, will absorbed with each kind of food
4	Suggested meal	Base on user's personal stats, our app will suggest suitable meal every day. Make sure users have enough calories for that day but also stick to the nutritional theraphy
5	Reminder	Meal reminder. Also remind if users have too much fatty acid, nutrition that day base on their food diary
6	Cooking recipe	With the suggested meal, our app will also have easy cooking recipe for users follow their nutrional theraphy.
7	Tracker user	Track user nutrion roadmap, their personal stats in order to add or suggest more suitable recipe.
8	User goal	Help users to build up a theraphy to reach their body shape or nutrional goal, lead them to their goal
9	…	…

- **FUNCTIONAL REQUIREMENTS**

- Register:

  + The user will register or sign up.

  + The dietic nutrition software have to provide information of user: user name, password, name of user, address, phone.

- Login:

  + Input: Enter the username and password.

  + Output: User will be able to use the features of software.

- Manage data:

+ Recipes, Weighted Ings, Ingredients, Ingredients Type can be load in by many different way.

+ Recipes, Weighted Ings, Ingredients, Ingredients Type can be save by many different way.

  + Can add weekly menu meal for user.

- Log out and restart:

  + User can log out of the app or just simply restart, exit it.

- Adding detailed of recipes, ingredients, ingredients type:

  + Can add, edit or delete new recipes, Ingredients and types of it. Can also calculate the nutrition of the recipes.

❖ **NON FUNCTIONAL REQUIREMENS**

- Usability Requirement

+ System provide to user a friendly user interface and easy to manage, add, edit, delete information.

- Availability Requirement

  + The system should always be 100% available to the user at any time.

- Efficiency Requirement

  + Even when the system broken down, the system will be recovered back up within an hour or less.

- Accuracy

  + The system must provide accurate real-time information and relevant to various concurrent issues. The system should provide 100% access reliability.

- Performance Requirement

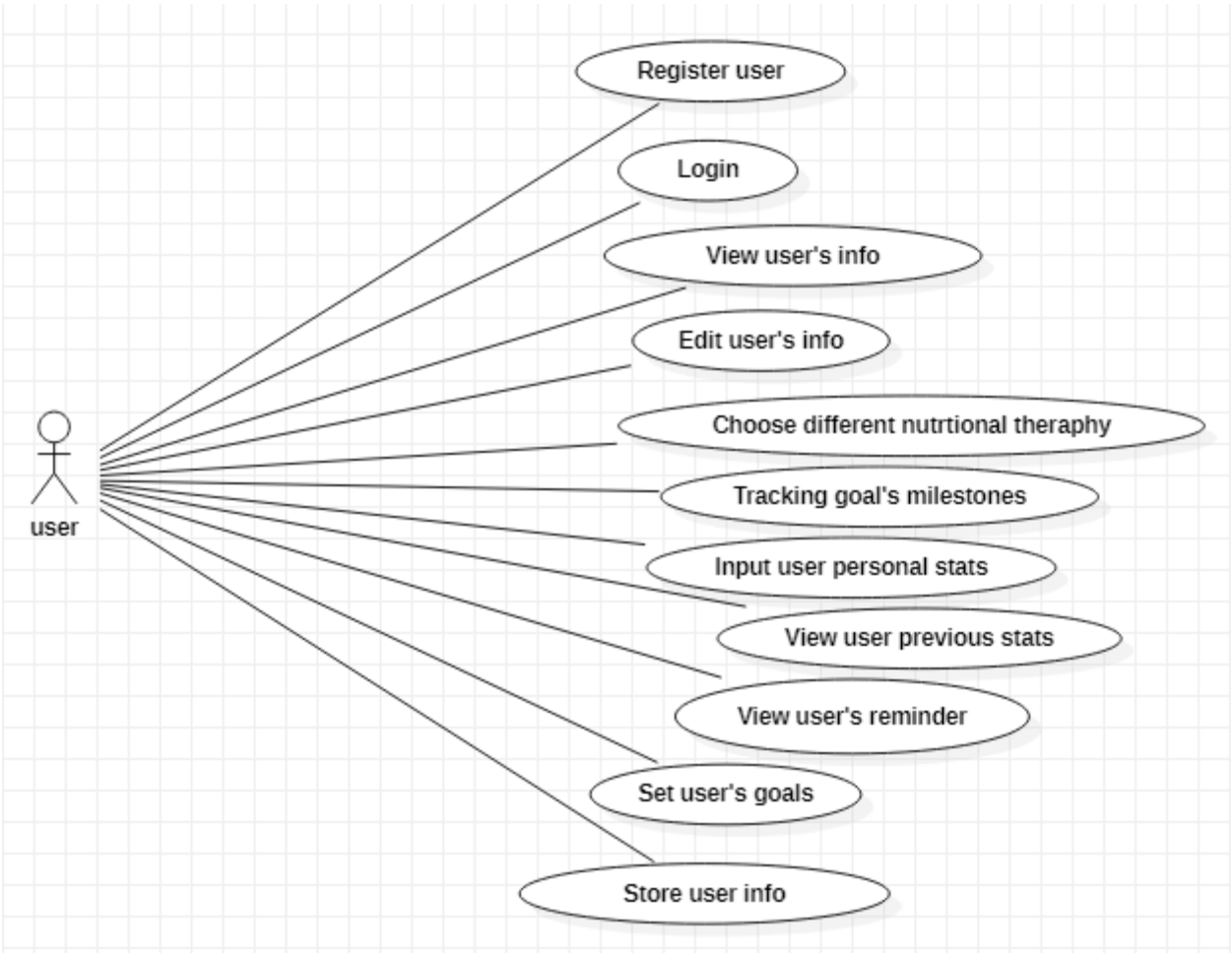
  + The system will reply within not less than two seconds from the time of request. The response to the information would not take more than 5 seconds to appear on the screen. The system will be allowed to take longer when performing large processing jobs.

- Reliability Requirement

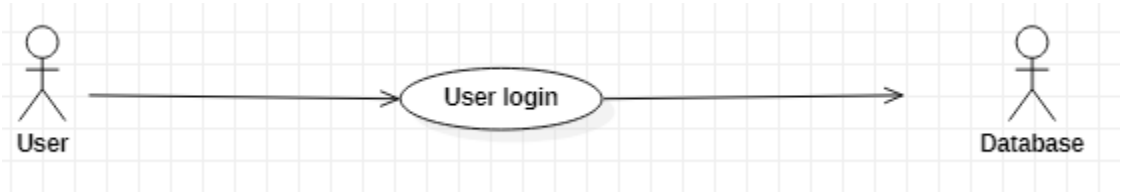
  + The system has to be 100% reliable due to the importance of data and the damages that can be caused by incorrect or incomplete data.

2. SYSTEM ANALYTIC AND DESIGN

Create user case:


Register user
Login
View user's info
Edit user's info
Choose different nutrtional theraphy
Tracking goal's milestones
Input user personal stats
View user previous stats
View user's reminder
Set user's goals
Store user info
user

Register user	
Actors	User, database
Description	User register to the system
Data	Username, password, user's basic info
Stimulus	Register form
Response	Register success or failure
Comments	User have a new identity username

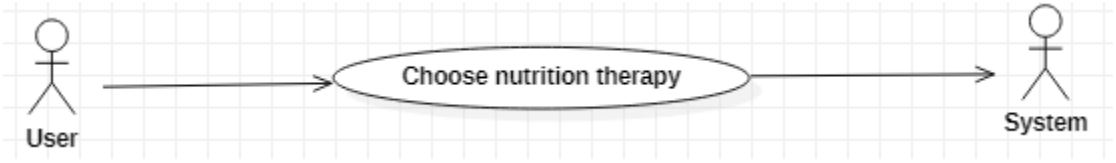


User Login	
Actors	User, database
Description	Login to the system
Data	Username, password
Stimulus	Login form including username and password blankspace
Response	Success or failure

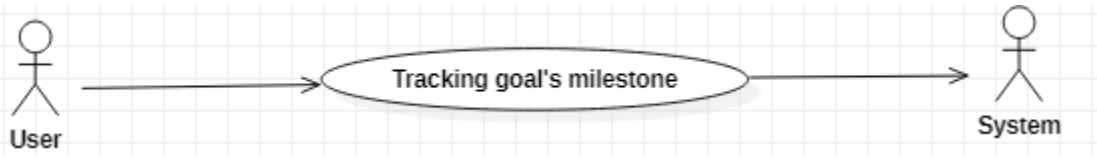
Comments	User have to input the correct username and password

View user info	
Actors	User, Database
Description	System shows user's info (name, dob, address…)
Data	User's info
Stimulus	Display a page including user's info
Response	User's info
Comments	User can view their info

Edit user info	
Actors	User, Database
Description	System shows user's info (name, dob, address…)
Data	User's info
Stimulus	Display a page
Response	User's info
Comments	User can edit their info



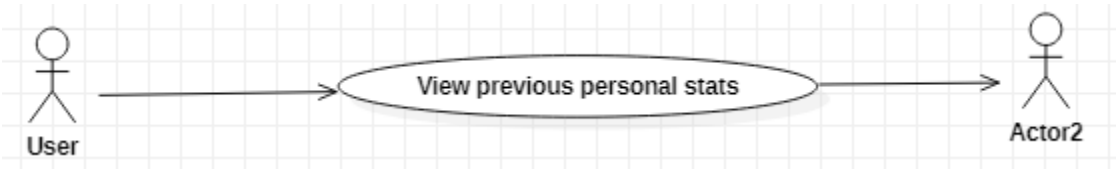
Choose nutritional therapy	
Actors	User
Description	User can choose different suggestion nutrition theorapy
Data	Nutrition theraphy (suggesting food, drink, calories rate …)
Stimulus	The interface given for user to choose different nutritional therapy.
Response	The user reminder will based on this user's chosen nutrition therapy
Comments	User can choose a suitable nutrition therapy for themselves



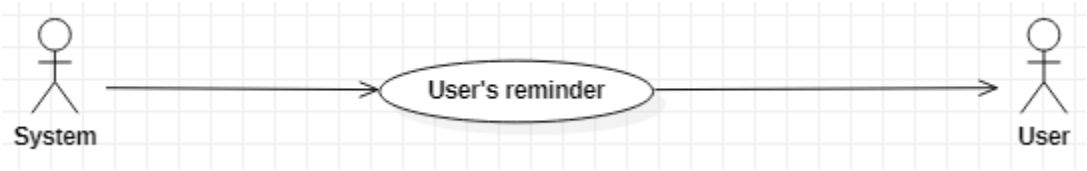
Tracking goal's milestones	
Actors	User, Record database
Description	User can follow, check their milestones to adjust their action
Data	User milestone

Stimulus	Display a page
Response	User's info
Comments	User can edit their info

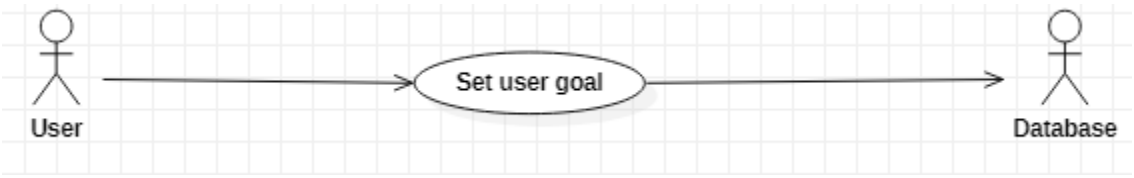
Input personal stats	
Actors	User, database
Description	User input their personal stats (height, weight, fat ratio, date…)
Data	User 's personal stats
Stimulus	Display a form to input their stats
Response	User personal stats
Comments	User have to input their stats in order for the system suggest a proper nutritional therapy



View previous personal stats	
Actors	User, database
Description	User can view their personal stats (height, weight, fat ratio ,…)
Data	User 's personal stats
Stimulus	Display user previous stats
Response	User personal stats
Comments	User can view how much they change based on previous stats (saved in database)

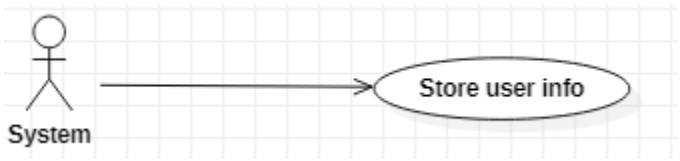


User's reminder	
Actors	User, System
Description	User will receive a notification from system for daily nutrition to ensure that user can track the milestones
Data	Daily nutrition (meal, drink calculated for proper calories)
Stimulus	Notifications from system
Response	User give a notification on the screen
Comments	Make sure that user can check daily nutrition reminder to follow user goal

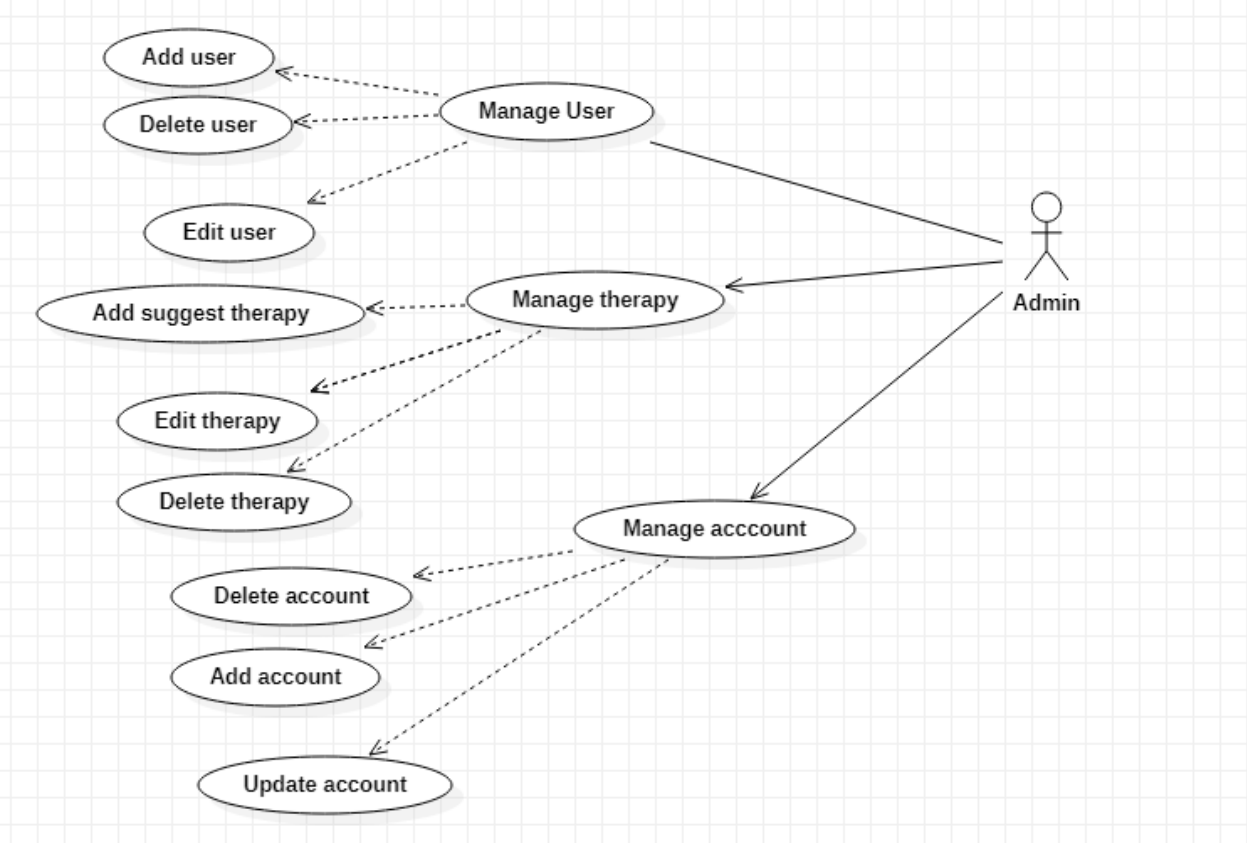


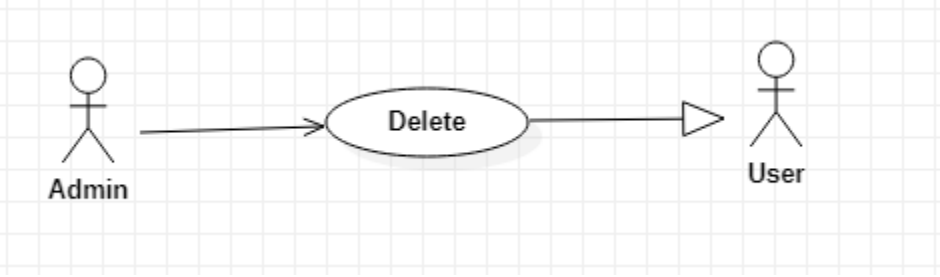
Set user's goal	
Actors	User, System
Description	User will have to set goal for themselves for expected weight, height, fat ratio…in their body.
Data	User expected weight, height, fat ratio…
Stimulus	The blank form given for user to fill in and the system will give those data and store them.

Response	The system will give user's goal so that it can give proper nutrition food
Comments	User have to give a proper goal.



Store user info	
Actors	System
Description	System store user's info (name, dob, address…); user's stats (weight, height…); user's goal
Data	User's info
Stimulus	Display a page including user's info
Response	User's info
Comments	Every user will store in the database to help system can track.





Delete User	
Actors	Admin, User record system
Description	An admin sends the user name to user record system with the command that delete this user from database
Data	User name
Stimulus	Interface that including username and delete button
Response	Message that: delete success of fail
Comments	Admin must have permission to delete user.

Add User	
Actors	Admin, User record system
Description	An admin send the user name to user record system with the command that add this user from database
Data	User name
Stimulus	Interface that including username and add button
Response	Message that : add success of fail
Comments	Admin must have permission to add user.

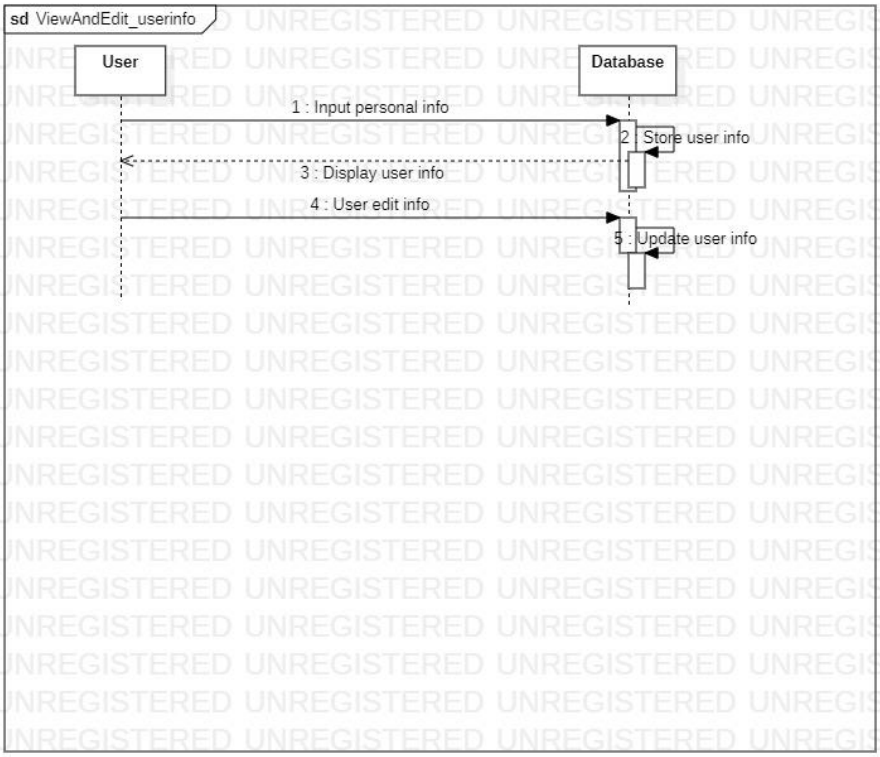
Edit User	
Actors	Admin, User record system
Description	An admin send the user name to user record system with the command that edit this user from database
Data	User name
Stimulus	Interface that including username and add button
Response	Message that: edit success of fail
Comments	Admin must have permission to edit user.

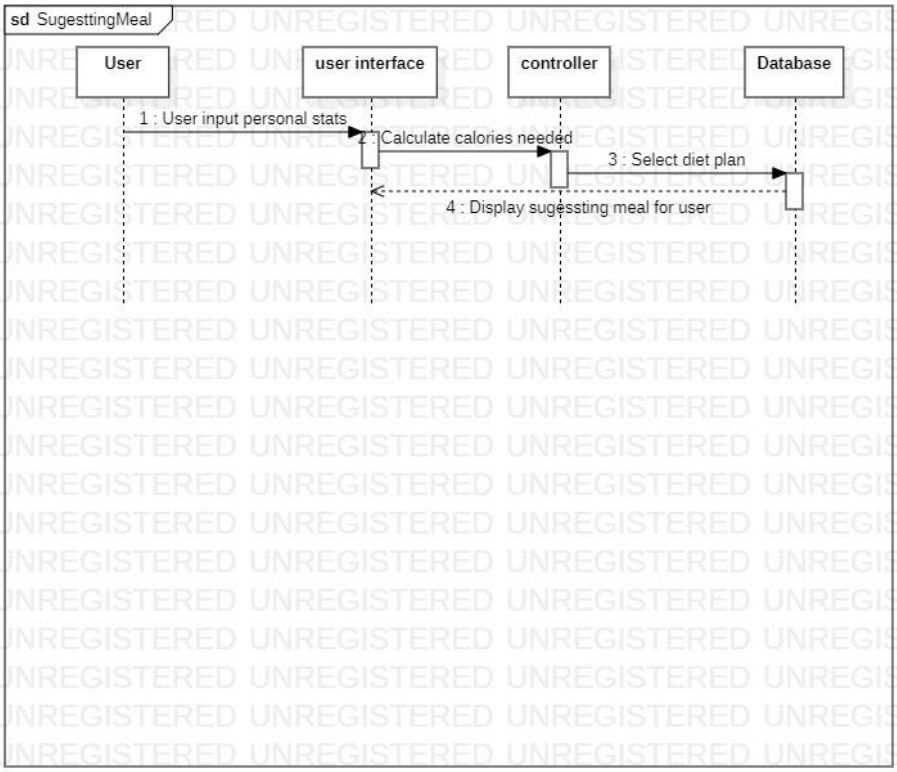
Add therapy	
Actors	Admin, system database
Description	Admin add new therapy so that can suggest proper meal for user
Data	meal
Stimulus	Interface that including add meal
Response	Message that: add succesfully
Comments	Admin must have permission to edit user.

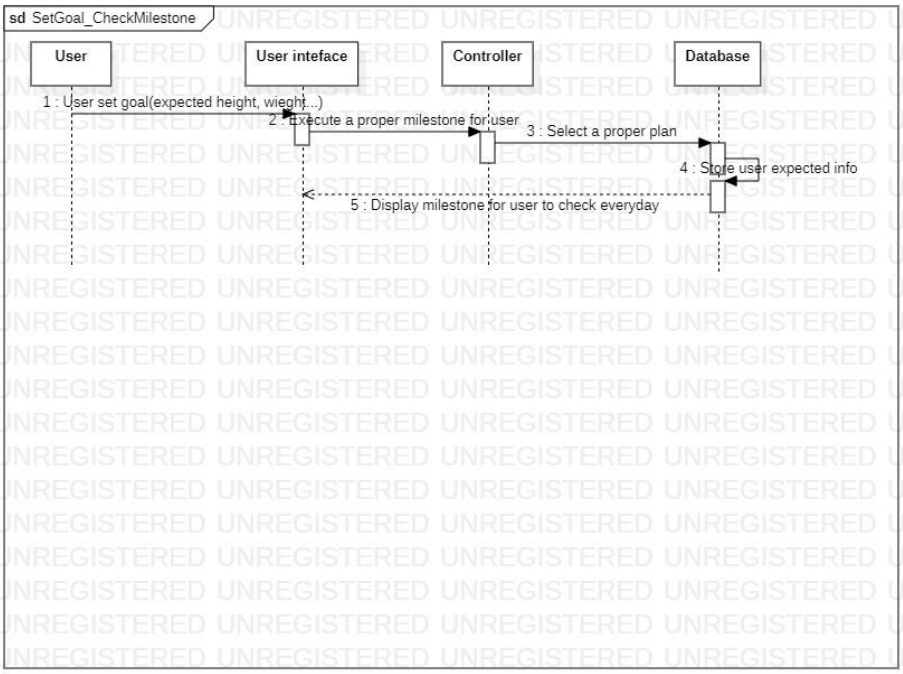
Edit therapy	
Actors	Admin, system database
Description	Admin edit therapy so that can suggest proper meal for user
Data	meal
Stimulus	Interface that including add meal
Response	Message that: edit succesfully
Comments	Admin must have permission to edit user.

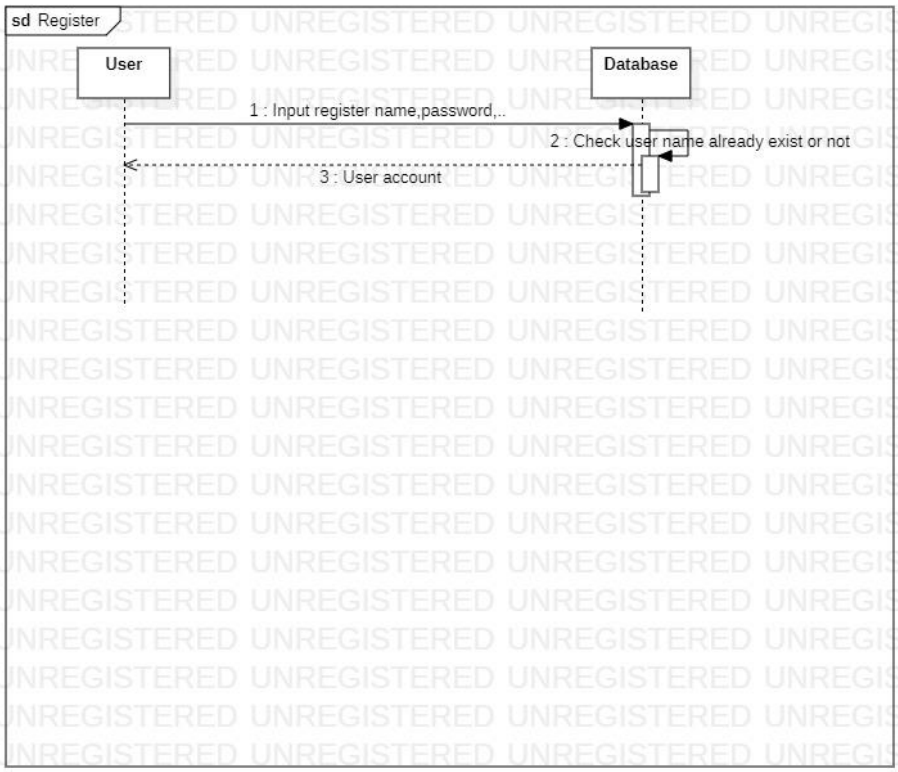
Delete therapy	
Actors	Admin, system database
Description	Admin delete therapy from database
Data	meal
Stimulus	Interface that including add meal
Response	Message that: delete succesfully
Comments	Admin must have permission to edit user.

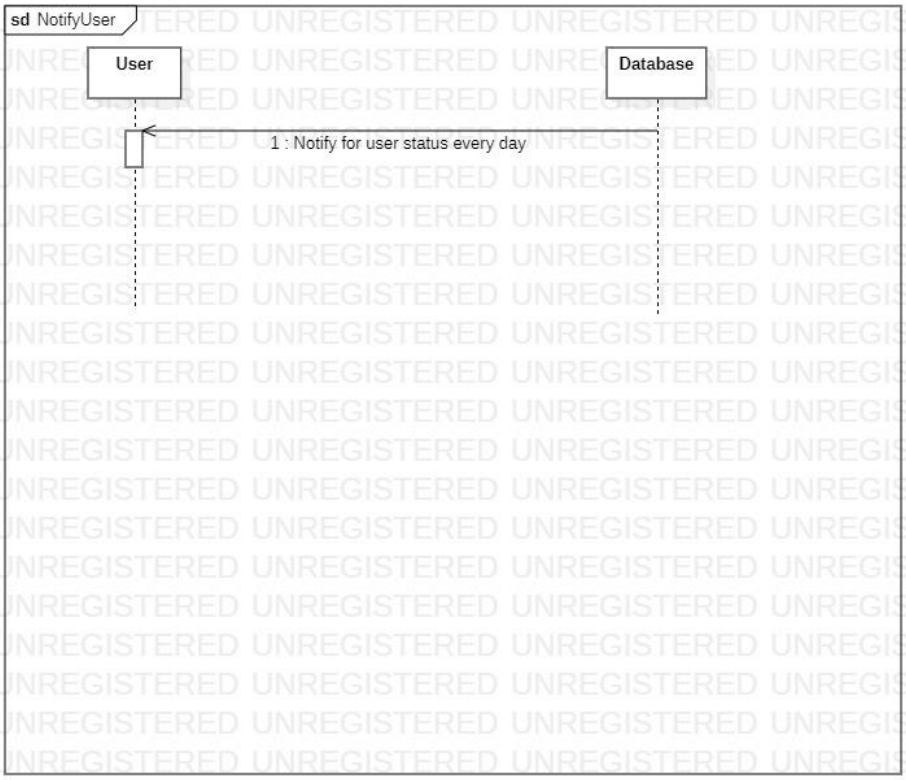
Sequence diagram:

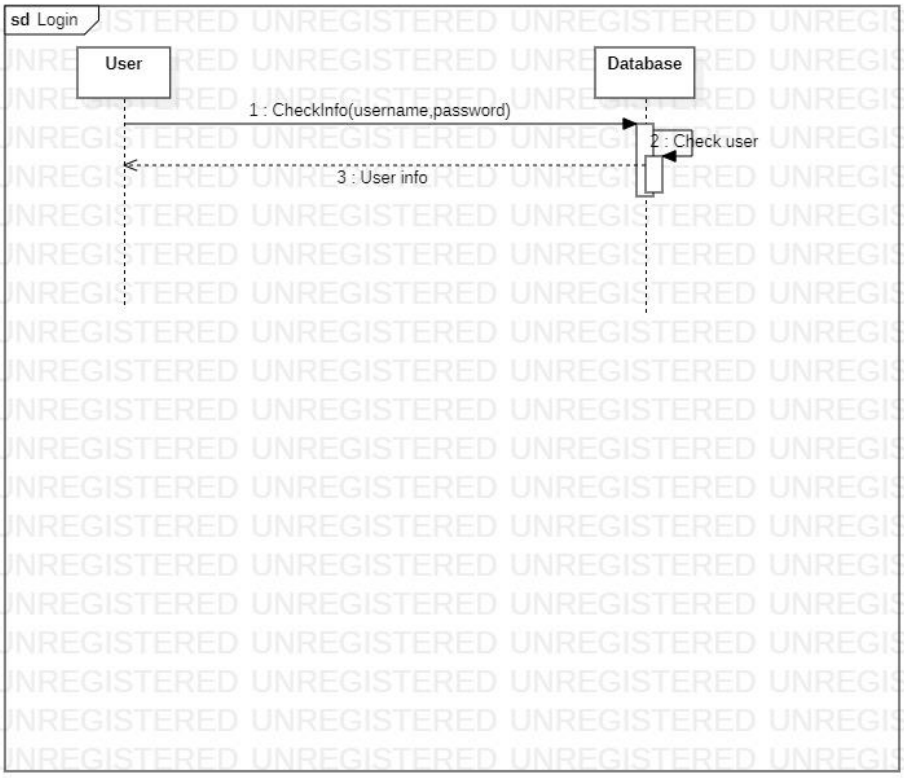





sd SetGoal_CheckMilestone
User
User inteface
Controller
Database
1 : User set goal(expected height, wieght...)
2 : Execute a proper milestone for user
3 : Select a proper plan
4 : Store user expected info
5 : Display milestone for user to check everyday


sd Register
User
Database
1 : Input register name,password,..
2 : Check user name already exist or not
3 : User account


sd NotifyUser
User
Database
1 : Notify for user status every day


sd Login
User
Database
1 : CheckInfo(username,password)
2 : Check user
3 : User info

3.INTERFACE DESIGN

3.1.Login

Use to sign in main form of nutrition app.

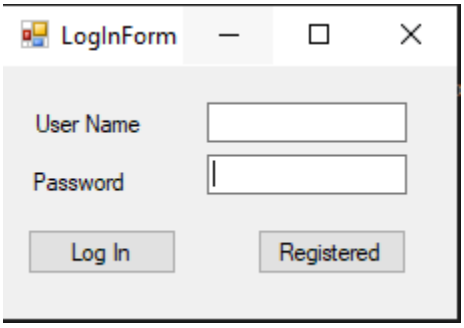


Figure 3.1 Login Form

3.2.Main Form

Main Form is the main page for all the app functions. It help us to quickly view quick functions in the system such as app functions, load, save data, add weekly menu.

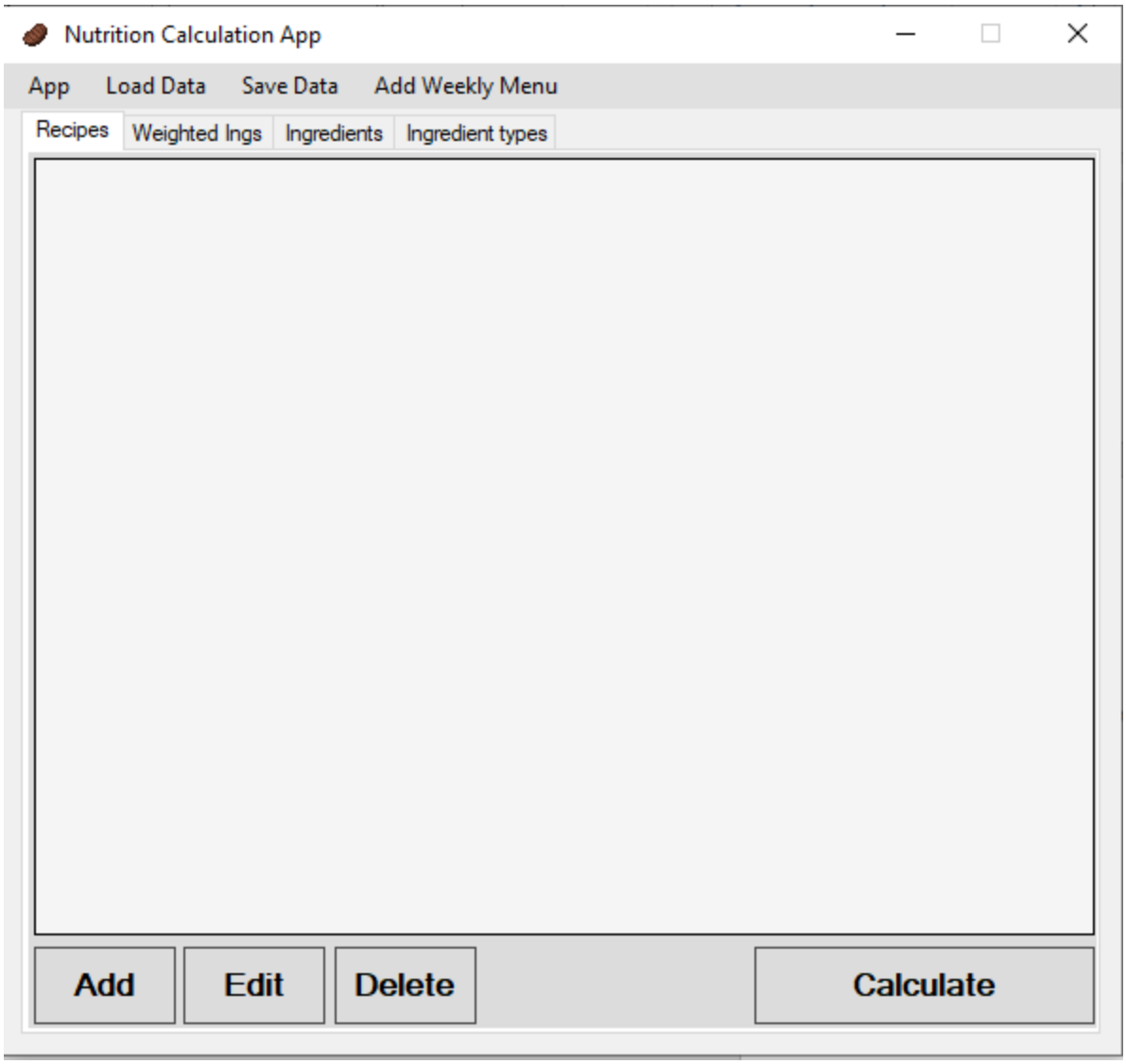


Figure 3.2.Main Form

3.3.App function:

Displays app functions.

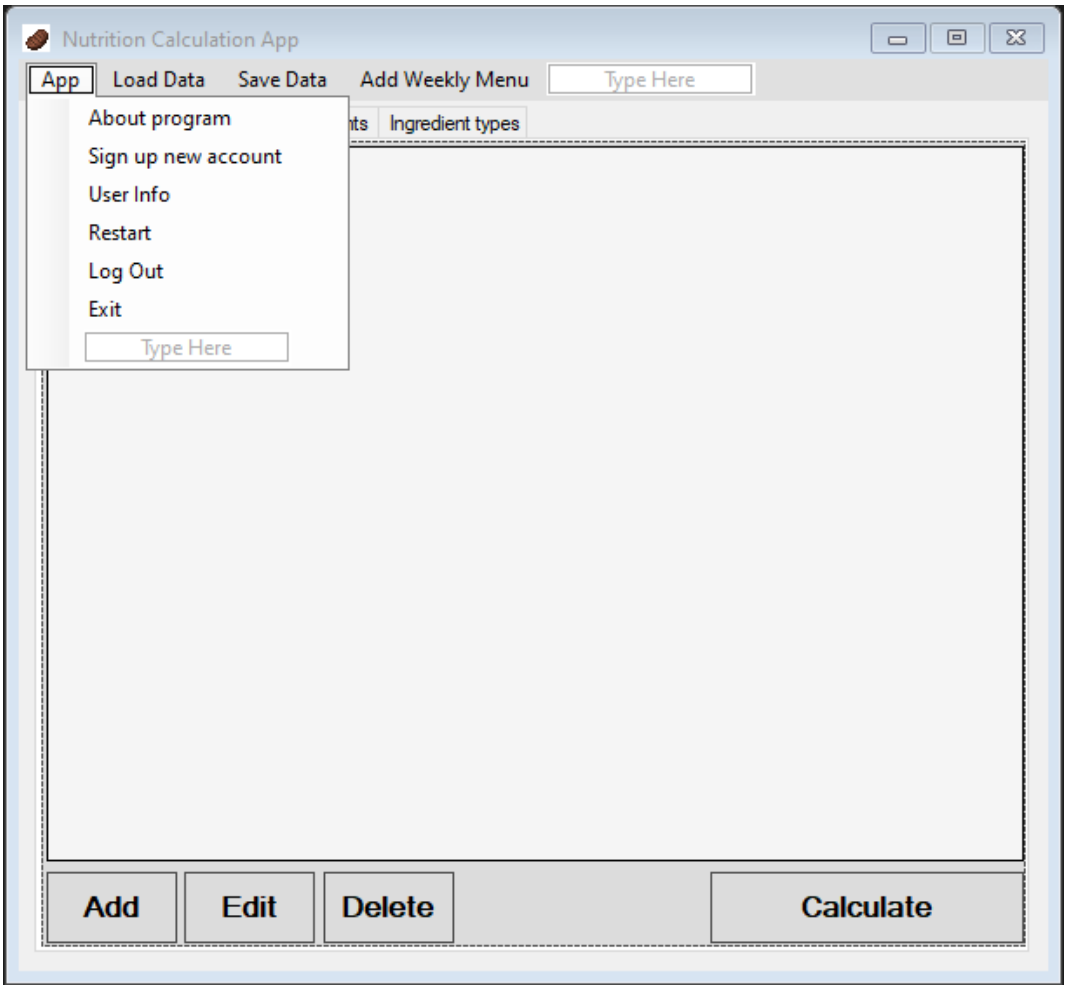


Figure 3.3.App functions

3.4.Sign up new account:

Form use for sign up new account:

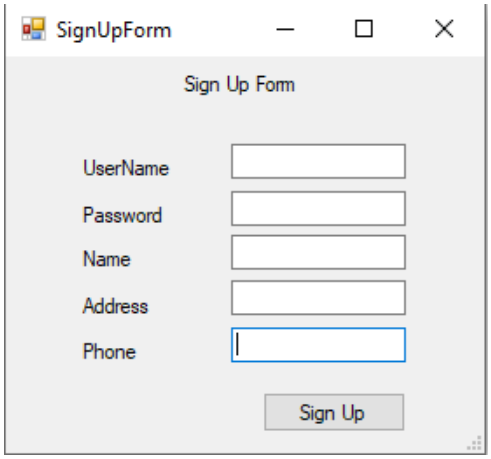


Figure 3.4.Sign up new account

3.5.Log out and exit:

When click in, user will log out or exit the application.

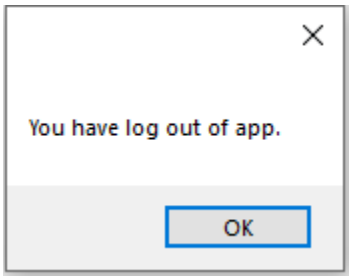


Figure 3.5.Log out or exit application

3.6.Load and save data in many types of file:

Form used to load in data and saving data into txt or json or xml file:

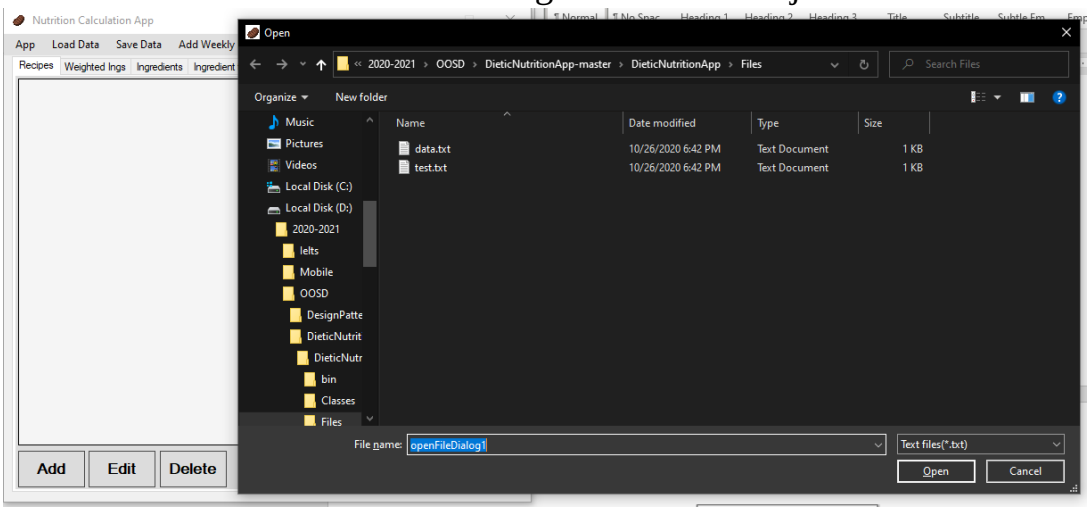
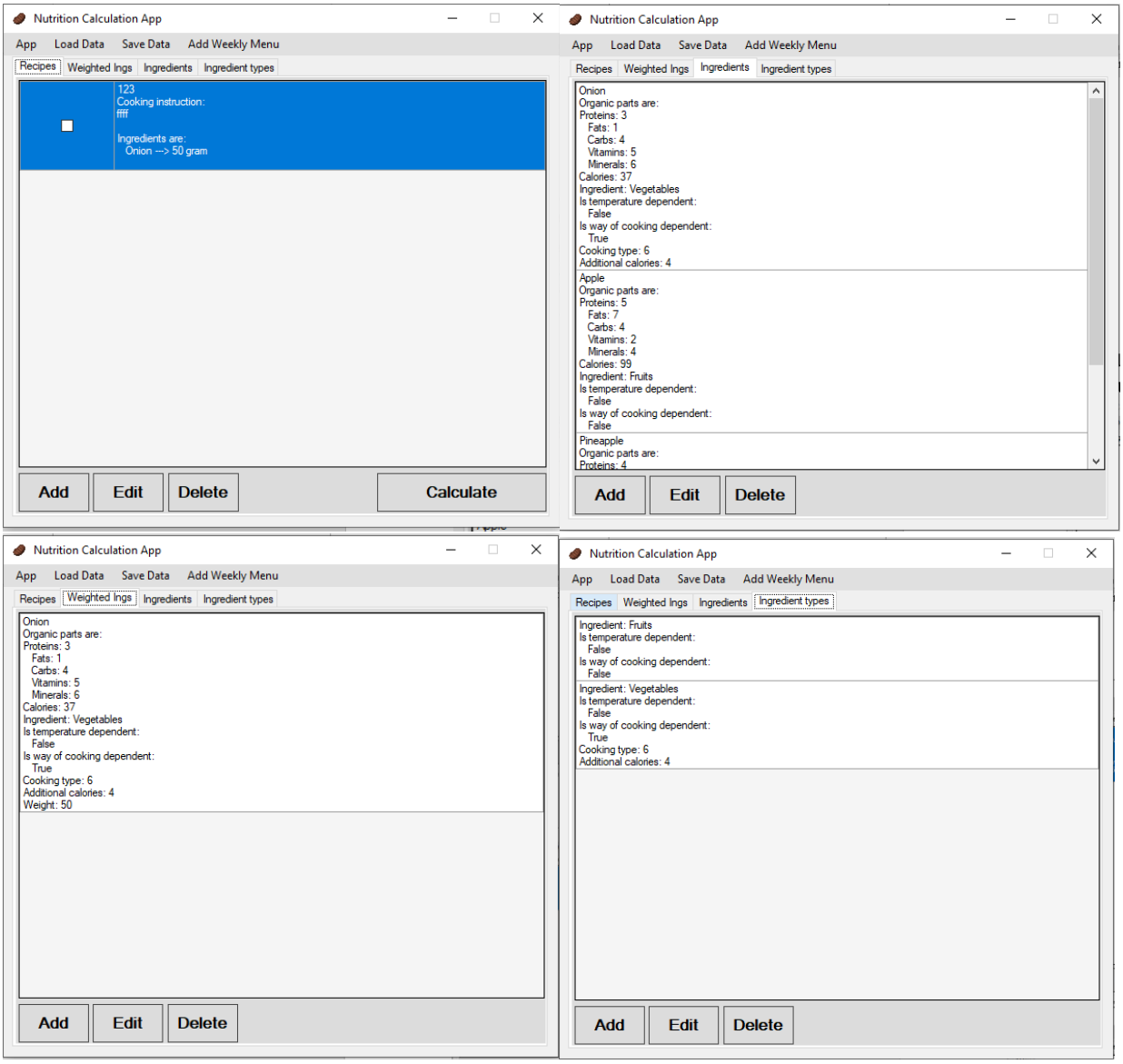


Figure 3.6.Load in txt data file



3.7.Data will show on the app screen when load in

3.7.Calculate nutrition

When press in calculate, there will be a from display the ration of that recipe:

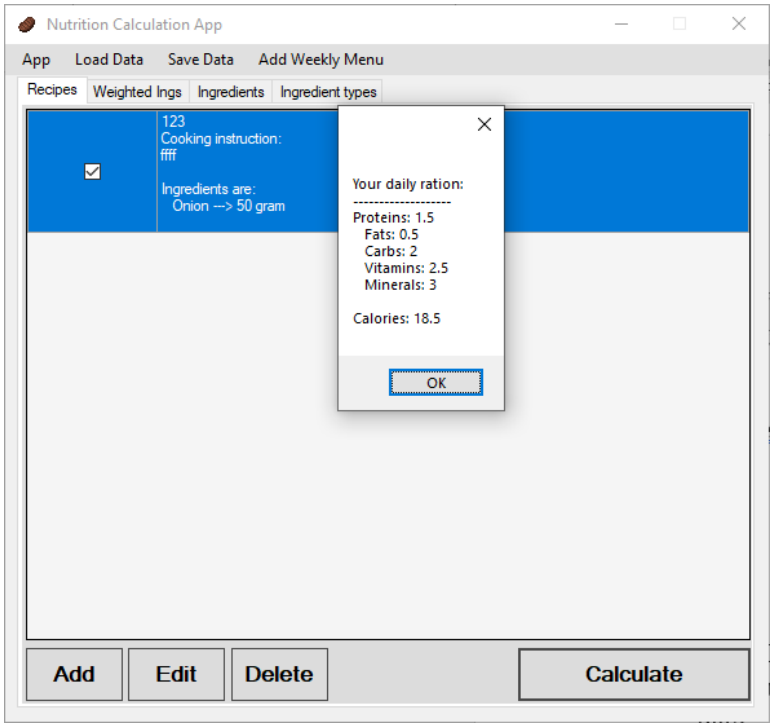


Figure 3.8.Ration form

3.8.Add weekly menu

Form used to add weekly menu type of meat and way to cook it.

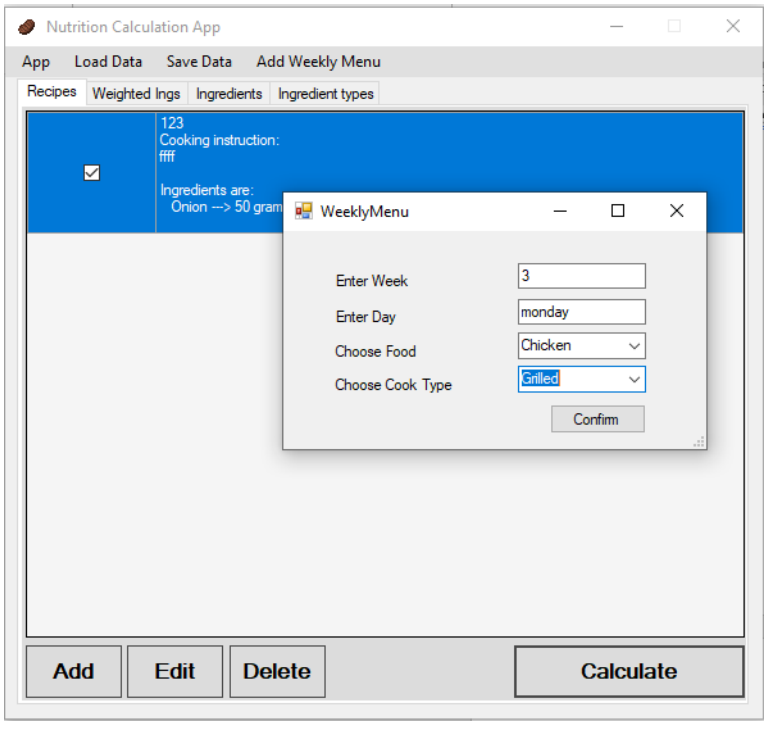


Figure 3.9.Revenue Form

3.9.Add ingredient type

The form used for adding ingredients.

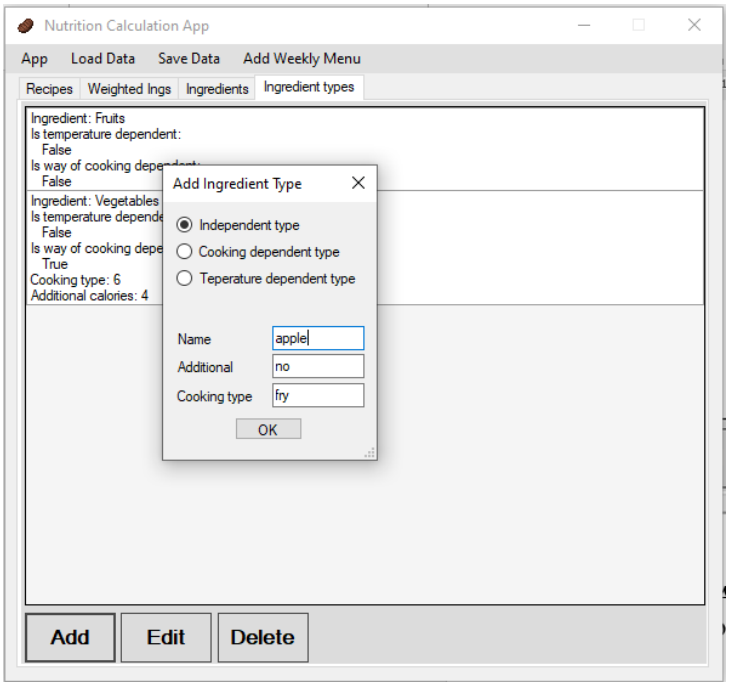


Figure 3.10.Add ingredient type form

3.10.Add ingredients

The form used for adding new ingredients to the application.

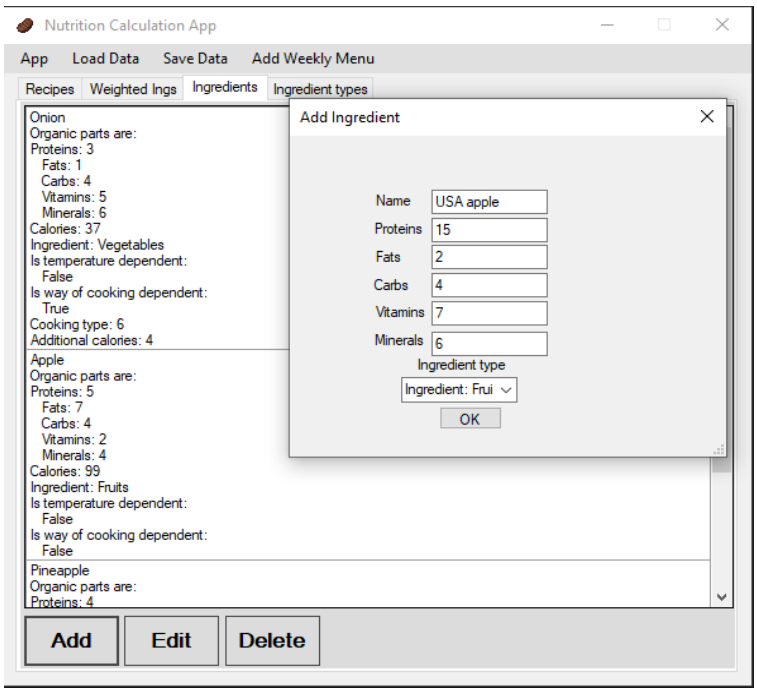


Figure 3.11.Add Ingredients form

3.11.Add Weighted Ingredients

This form used for adding weighted of the ingredients.

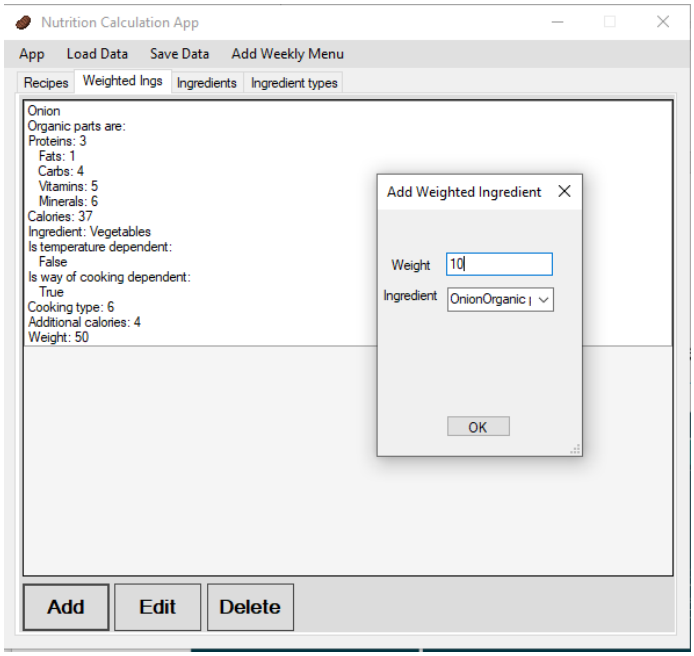


Figure 3.12.Add Weighted Ingredient form

3.12.Add Recipes

This form used for adding new recipes to the application.

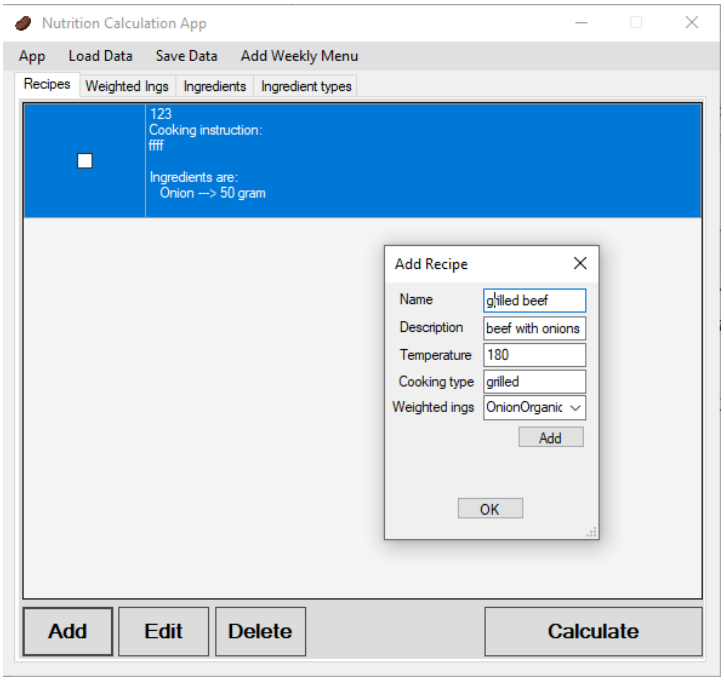


Figure 3.12.Add Recipes form

4.Conclusion

4.1.An overview about our project:

Our project has already include necessary function of a nutrition application. By adding new ingredient type, ingredients, recipes and planning on weekly meal. Our application help user easier on the way to keep their fit and tracking on their nutrition diary. Althought the interface is still not really stunning and our project still doesn't have many function as we have list at first, we've already try our best to make a complete project.

4.2.What we are lacking:

From the project, we have realize that our knowledge about design pattern are still really scanty. Our project still need more function and improvement on how it work and mange users, recipes and food nutrition. Our project also still doesn't have a database to save data right into the project. In stead of that we saving by other file.

4.3.Application future improvement:

We need to add a database to our orpject. Develop on manage user, user info and adding more food recipes, calories information into our project.

Last of all, we want to give a sincere thanks to our classmates, our lecturer, Dr.Huynh Xuan Phung.

Group 5

Reported by Duong Vo Nhat Duy