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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Dương Võ Nhật Duy - 18110006

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 .

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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

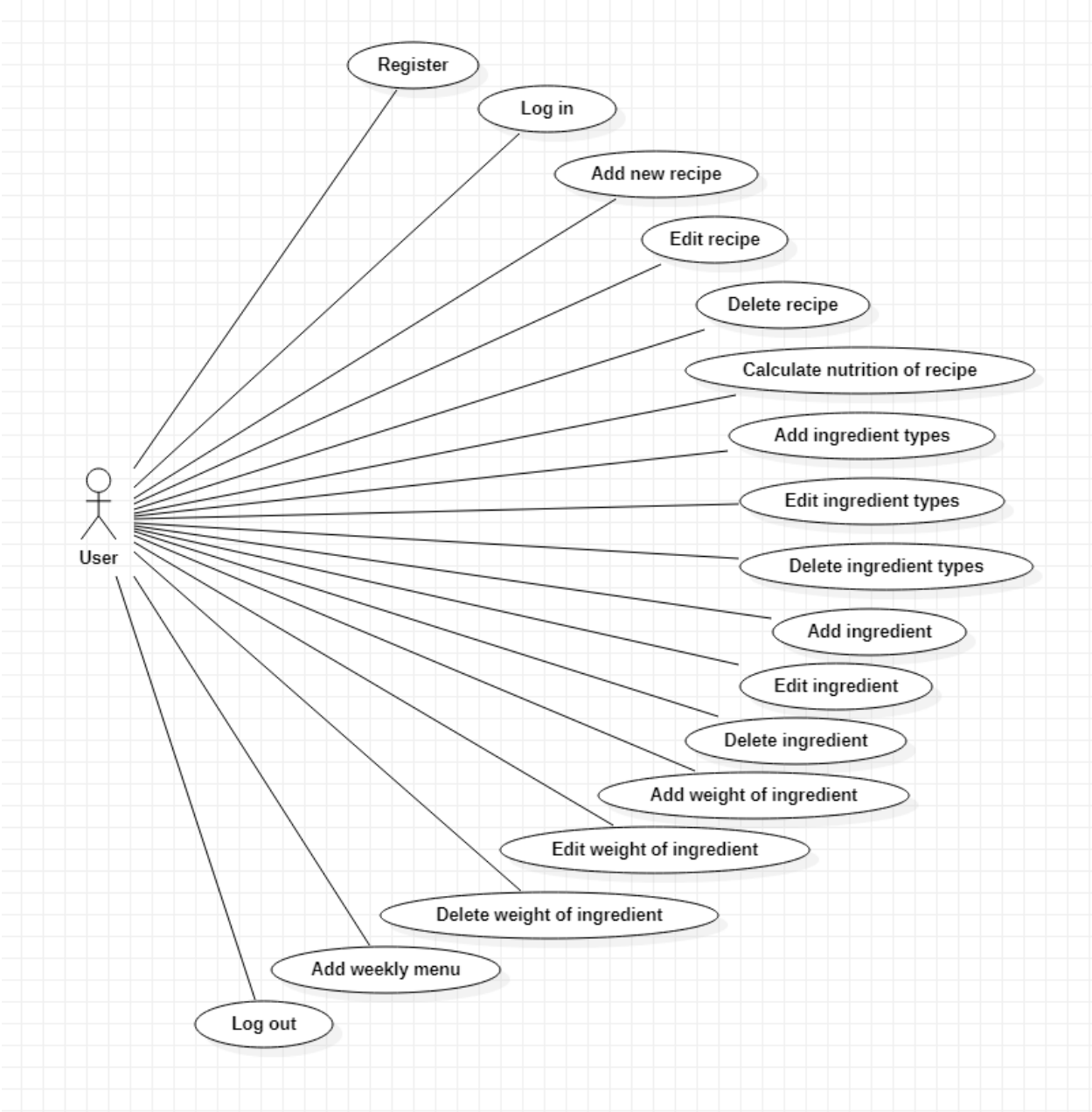
  + The system will reply within not less than two seconds from the time of request. The response to the information would not take more than 5 seconds to appear on the screen. The system will be allowed to take longer when performing large processing jobs.

- Reliability Requirement

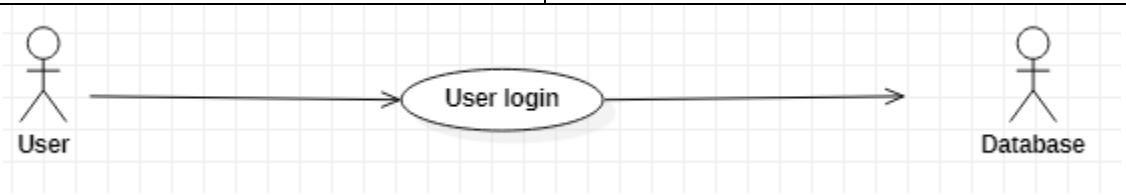
  + The system has to be 100% reliable due to the importance of data and the damages that can be caused by incorrect or incomplete data.

2. SYSTEM ANALYTIC AND DESIGN

Create user case:

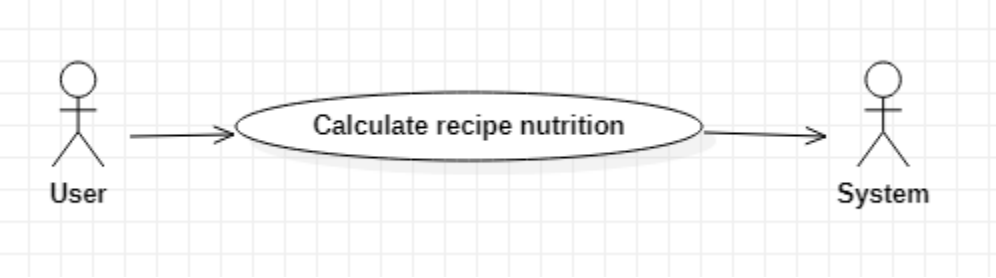

Register
Log in
Add new recipe
Edit recipe
Delete recipe
Calculate nutrition of recipe
Add ingredient types
Edit ingredient types
Delete ingredient types
Add ingredient
Edit ingredient
Delete ingredient
Add weight of ingredient
Edit weight of ingredient
Delete weight of ingredient
Add weekly menu
Log out
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

User Log out	
Actors	User, database
Description	Log out of the system
Data	
Stimulus	Log out button
Response	Success or failure
Comments	User can log out of the project



Calculate recipe nutrition	
Actors	User
Description	User can calculate recipe nutrition base on food protein
Data	Recipe
Stimulus	The interface given for user to calculate different recipe nutritional.
Response	The nutrition of that recipe
Comments	User can choose a suitable nutrition therapy for themselves

Add recipe	
Actors	User
Description	User can add new recipe
Data	Recipe
Stimulus	The interface given for user to add new recipe.
Response	A table for user to add new recipe
Comments	User can add new recipe

Edit recipe	
Actors	User
Description	User edit the recipe they choose
Data	Recipe
Stimulus	The interface given for user to edit the recipe they choose.
Response	A table to edit recipe
Comments	User can choose a recipe and edit it

Delete recipe	
Actors	User
Description	User delete the recipe they choose
Data	Recipe
Stimulus	The interface given for user to delete the recipe they choose.

Response	The recipe user have choose will be delete
Comments	User can choose a recipe and delete it

Add ingredient types	
Actors	User
Description	User can add new ingredient types
Data	Ingredient types
Stimulus	The interface given for user to add new ingredient types.
Response	A table for user to add new ingredient types
Comments	User can add new ingredient types

Edit ingredient types	
Actors	User
Description	User can edit new ingredient types
Data	Ingredient types

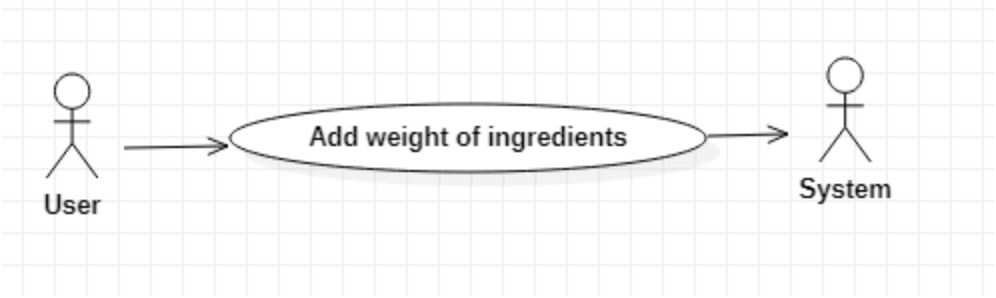
Stimulus	The interface given for user to edit ingredient types.
Response	A table for user to edit ingredient types
Comments	User can edit ingredient types

Delete ingredient types	
Actors	User
Description	User can delete ingredient types
Data	Ingredient types
Stimulus	The interface given for user to delete ingredient types.
Response	A table for user to delete ingredient types
Comments	User can delete ingredient types

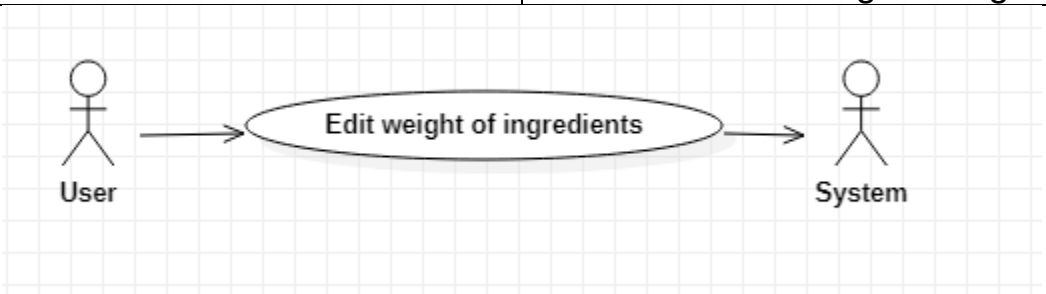
Add weighted ingredient	
Actors	User
Description	User can add new ingredient
Data	Ingredient
Stimulus	The interface given for user to add new ingredient
Response	A table for user to add new ingredient
Comments	User can add new ingredient

Edit ingredient	
Actors	User
Description	User can edit new ingredient
Data	Ingredient
Stimulus	The interface given for user to edit ingredient
Response	A table for user to edit ingredient
Comments	User can edit ingredient

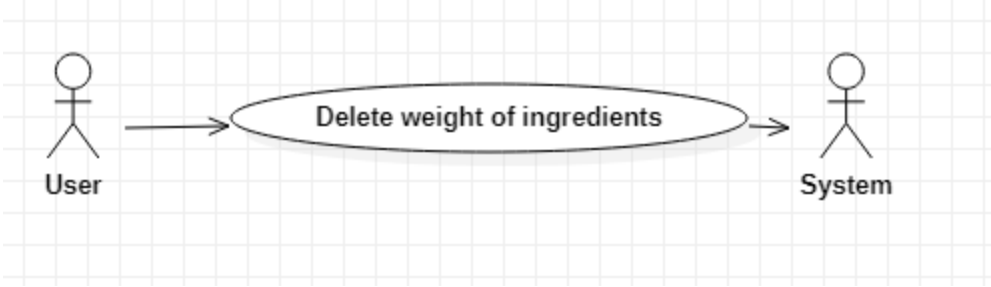
Delete ingredient	
Actors	User
Description	User can delete ingredient
Data	Ingredient
Stimulus	The interface given for user to delete ingredient
Response	A table for user to delete ingredient
Comments	User can delete ingredient



Add weighted ingredient	
Actors	User
Description	User can add weight of ingredient
Data	Weight of ingredient
Stimulus	The interface given for user to add weight of ingredient
Response	A table for user to add weight of ingredient
Comments	User can add weight of ingredient



Edit ingredient weight	
Actors	User
Description	User can edit weight of ingredient
Data	Weight of ingredient
Stimulus	The interface given for user to edit weight of ingredient
Response	A table for user to edit weight of ingredient
Comments	User can edit weight of ingredient

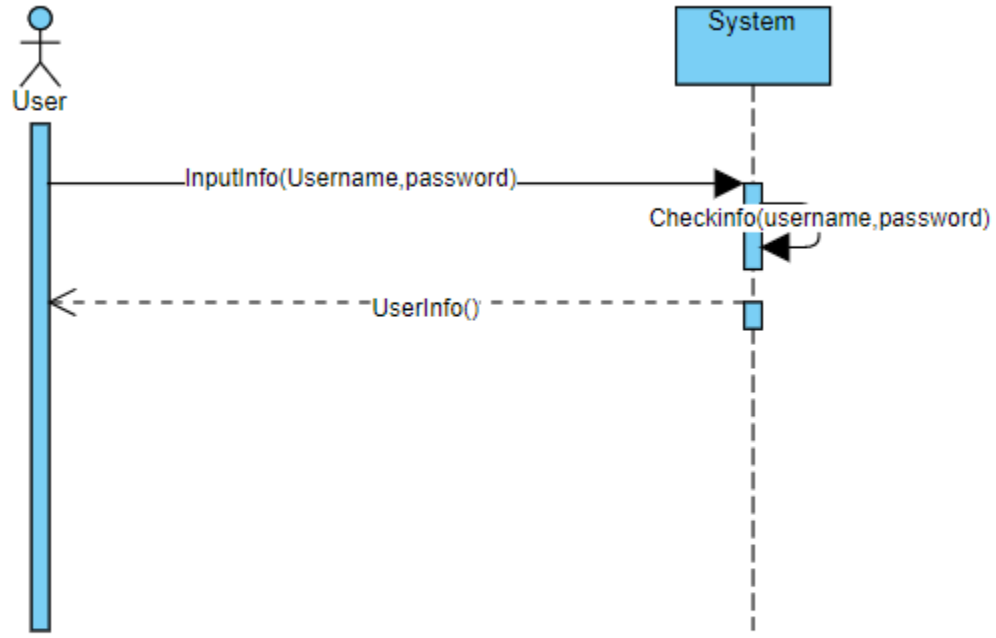


Delete ingredient weight	
Actors	User
Description	User can delete weight of ingredient
Data	Weight of ingredient
Stimulus	The interface given for user to delete weight of ingredient
Response	A table for user to delete weight of ingredient
Comments	User can delete weight of ingredient

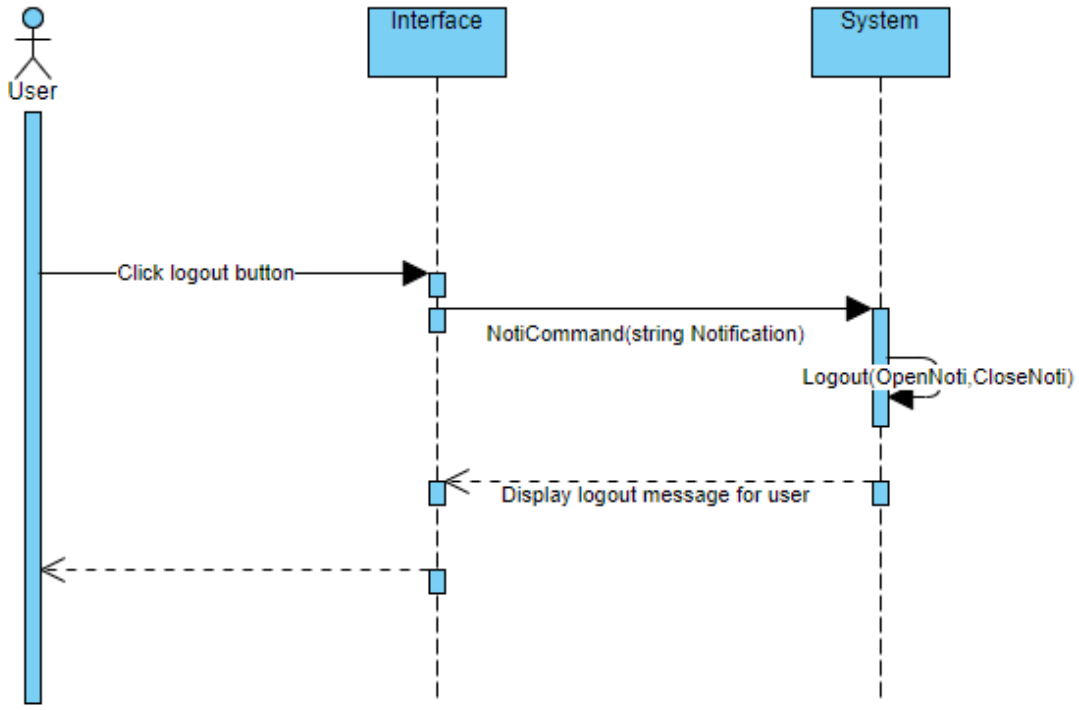
Add weekly menu	
Actors	User
Description	User can enter week, day and choose meat type, cooking type
Data	Week, day, meat type, cooking type
Stimulus	The interface given for user to add weekly menu
Response	A table for user to add weekly menu
Comments	User can add weekly menu

Sequence diagram:

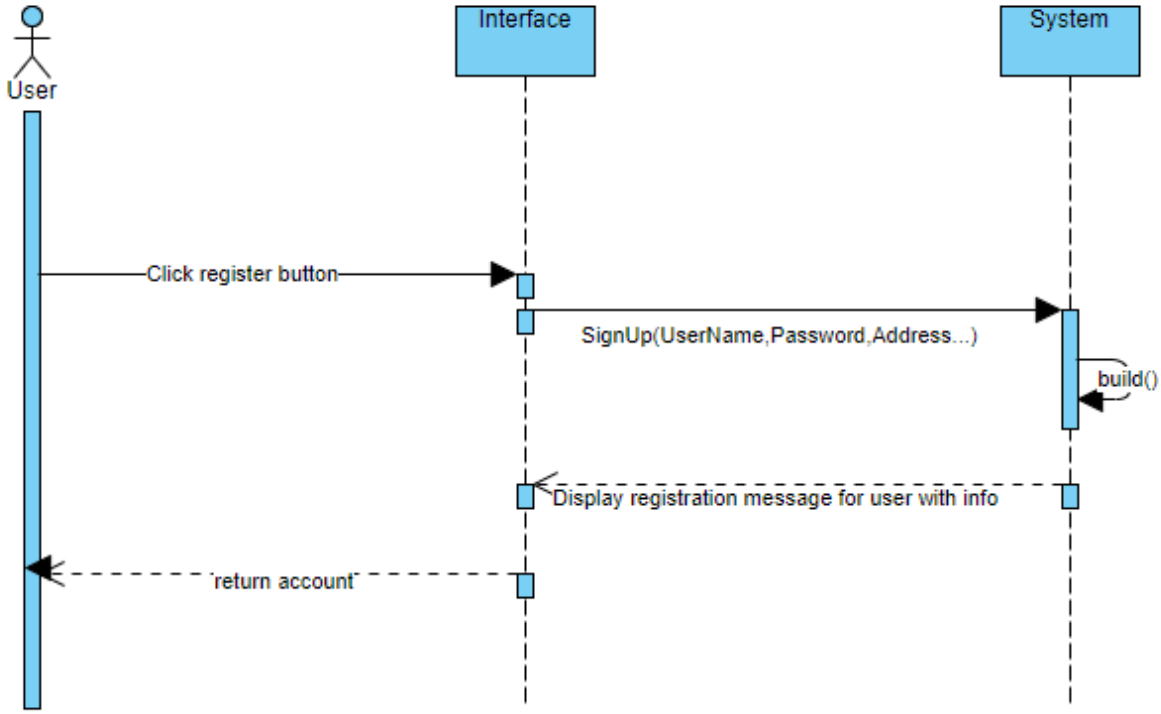
1.Login



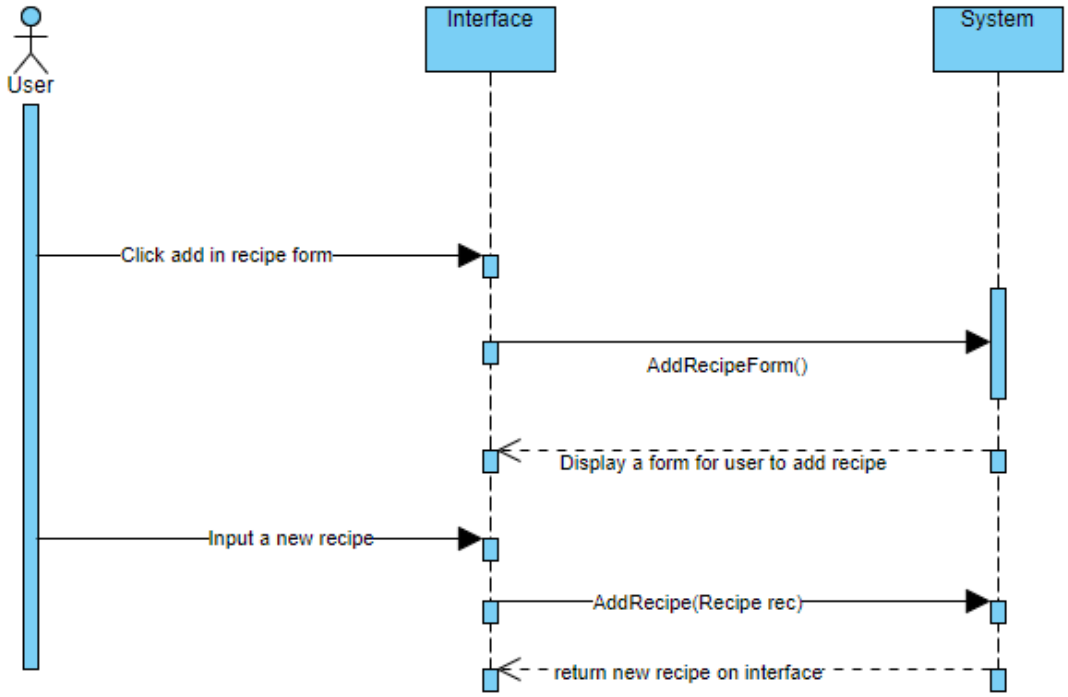
2.Logout


User
Interface
System
Click logout button
NotiCommand(string Notification)
Logout(OpenNoti,CloseNoti)
Display logout message for user

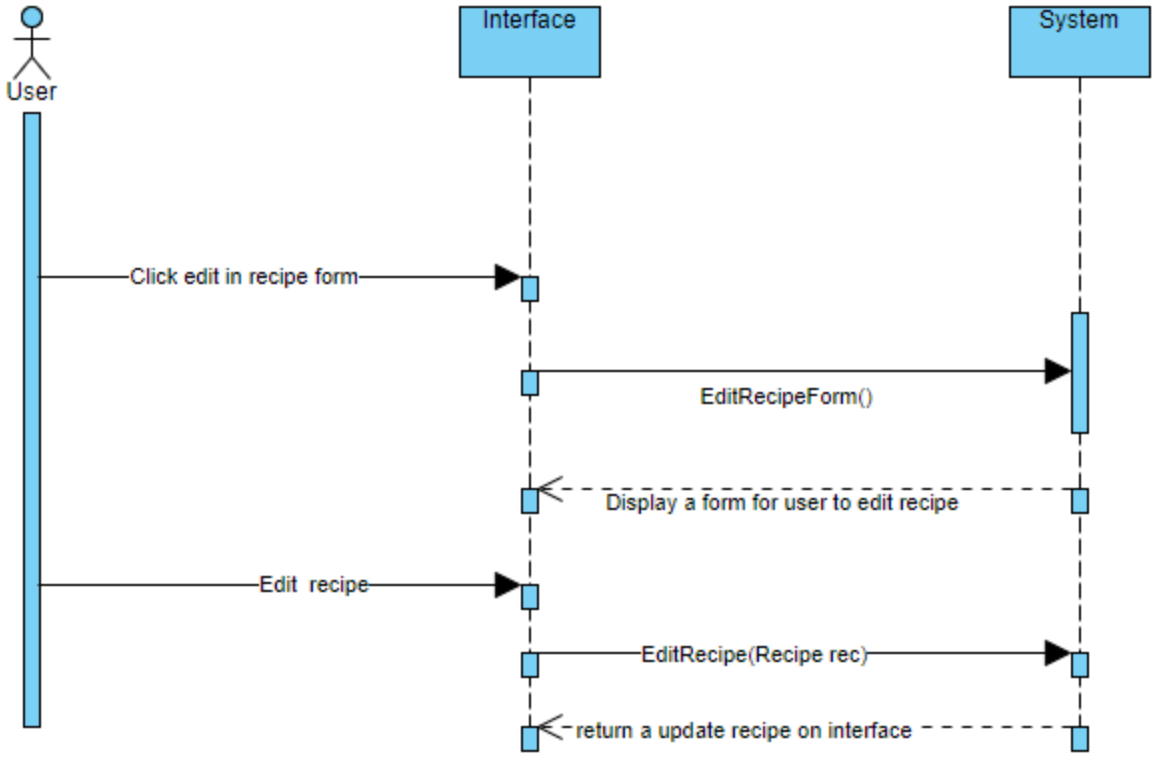
3.Register


User
Interface
System
Click register button
SignUp(UserName,Password,Address...)
build()
Display registration message for user with info
return account

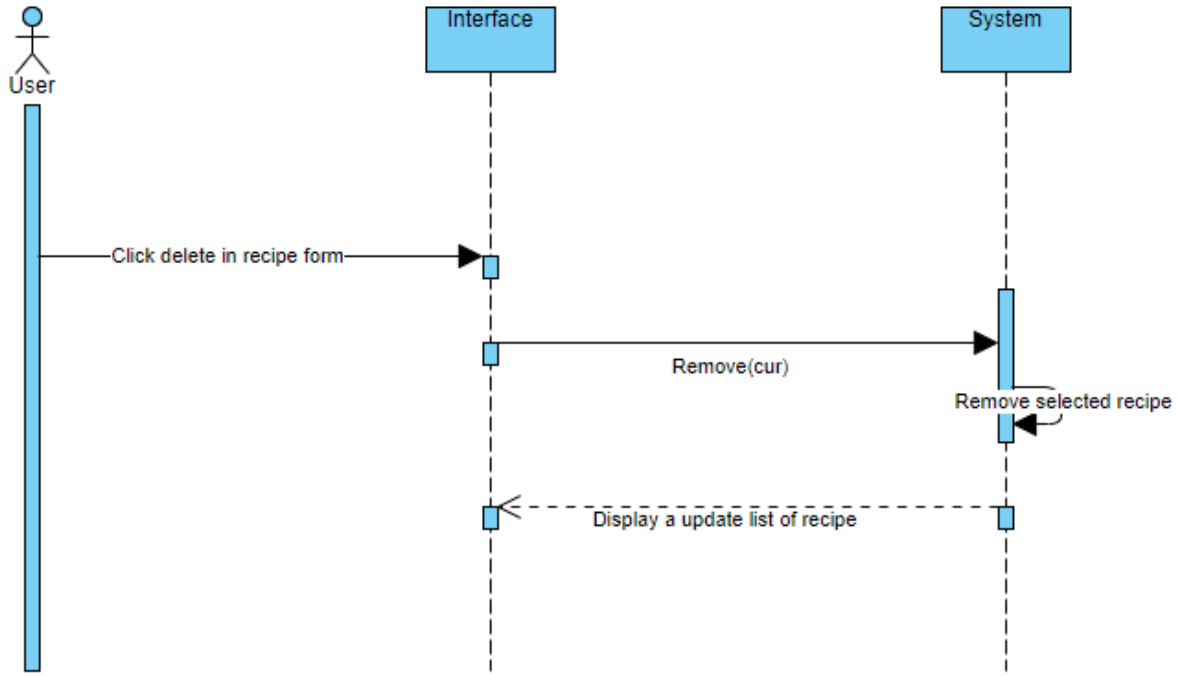
4.Add recipes



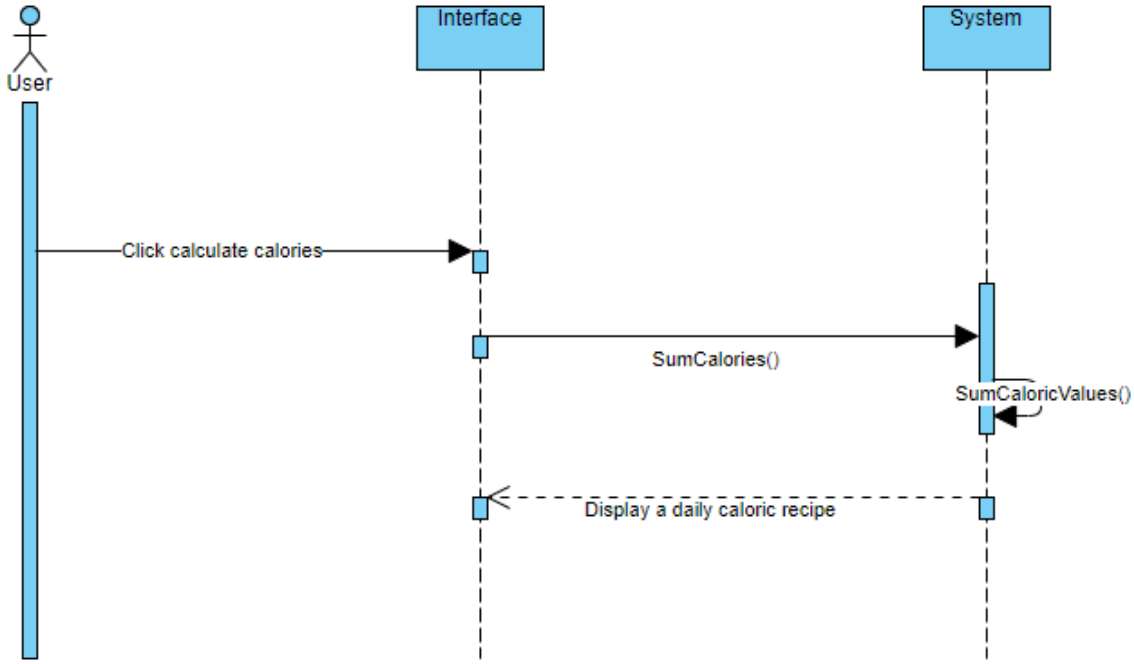
5.Edit recipe



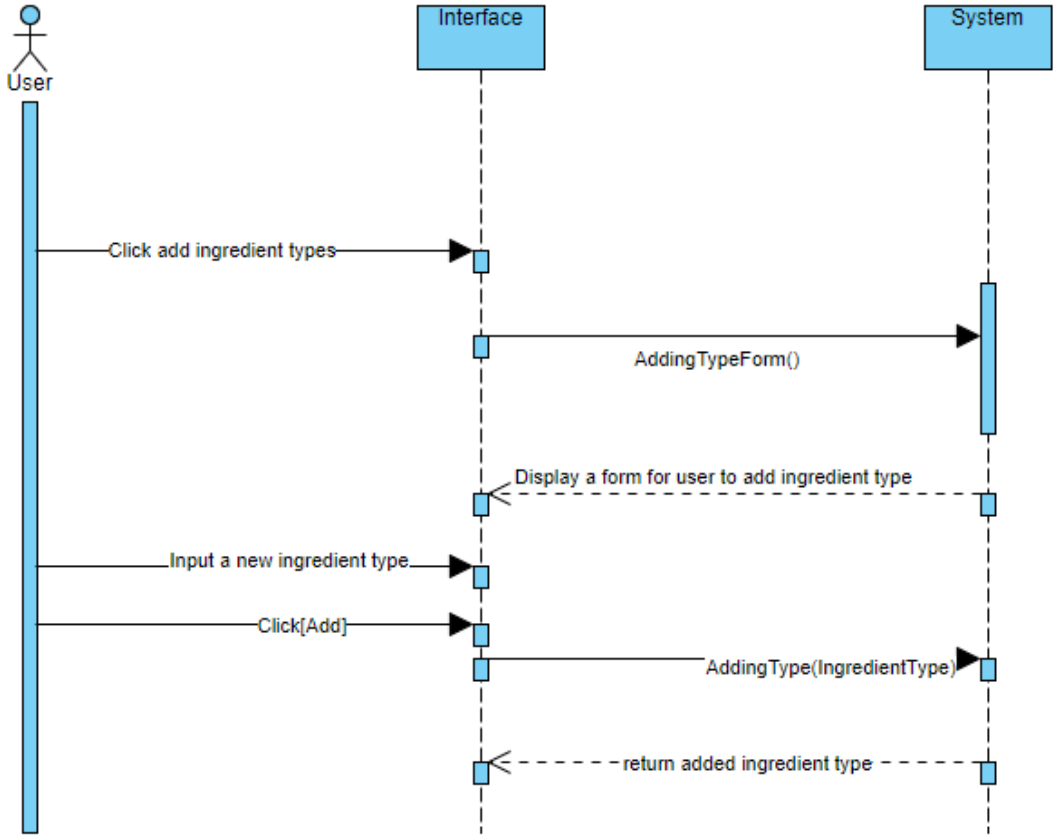
6.Delete Recipe



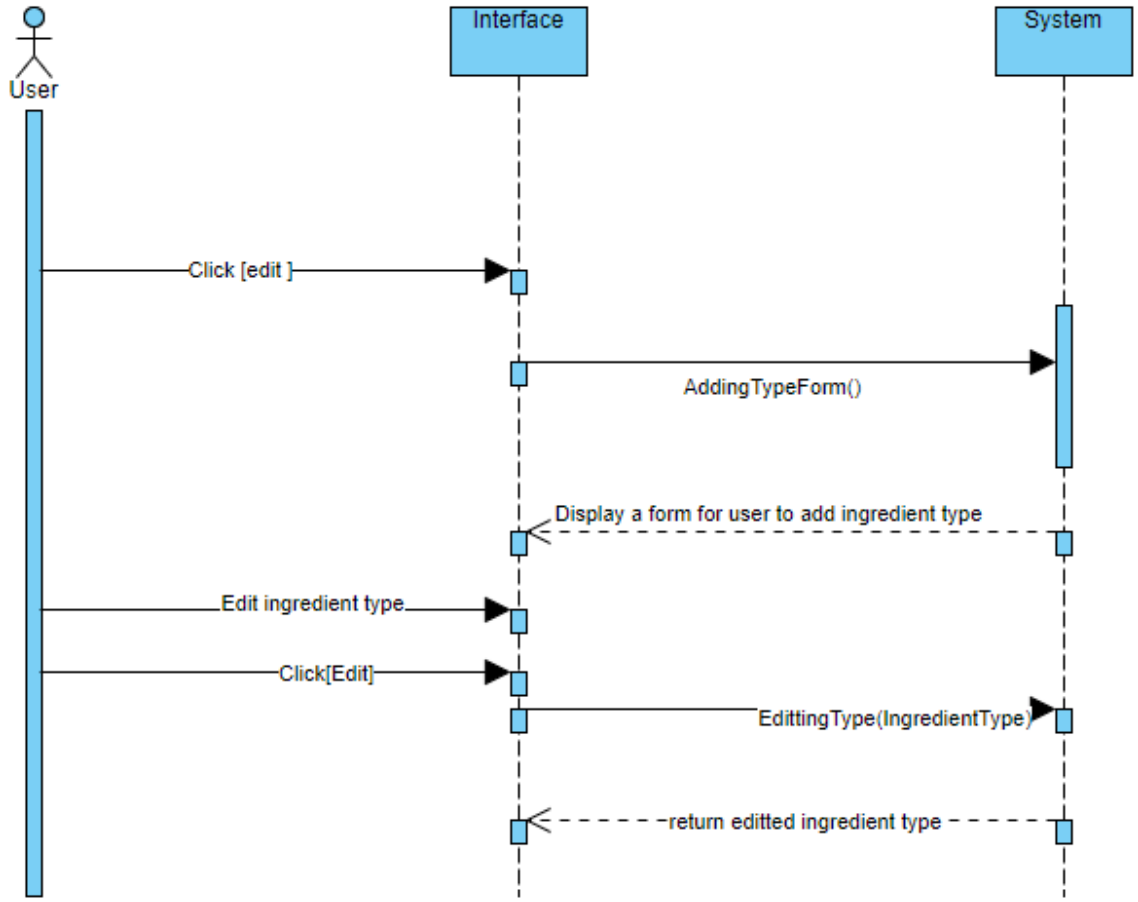
7.Calculate nutrition of recipe



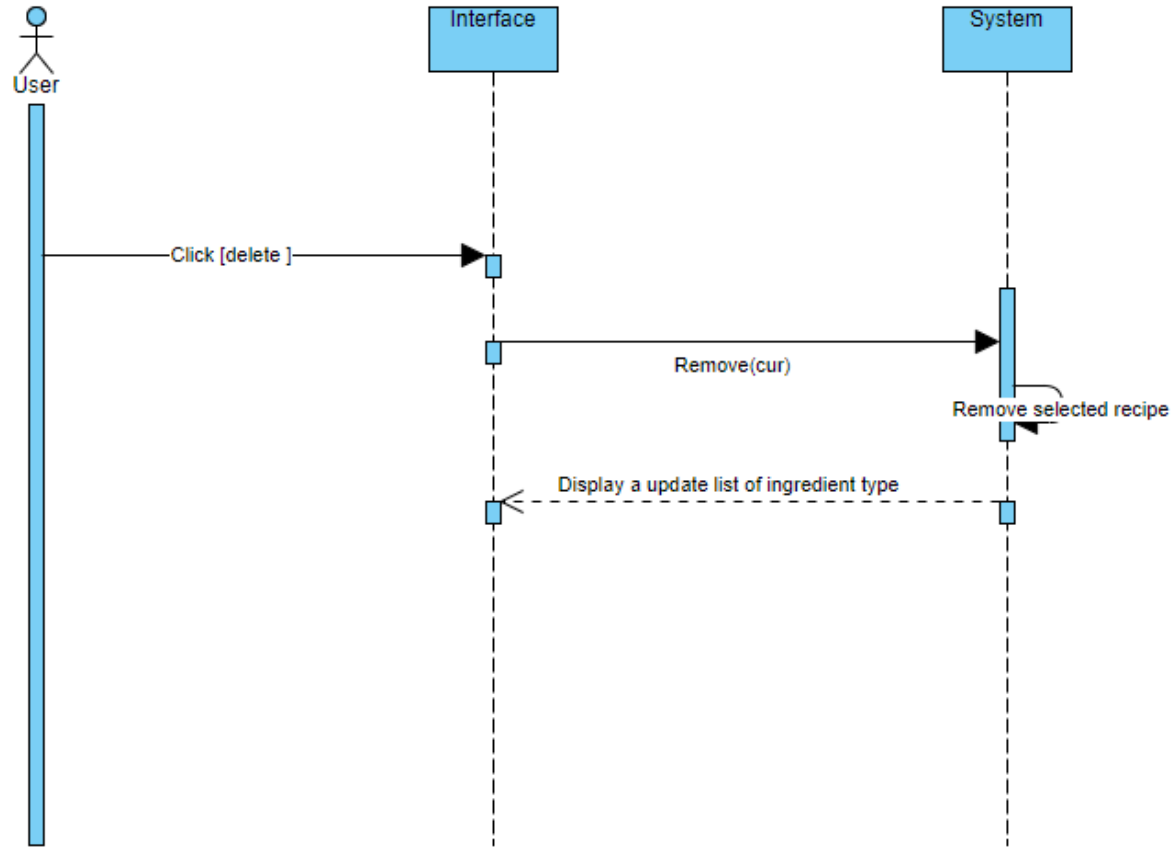
8.Add ingredient type



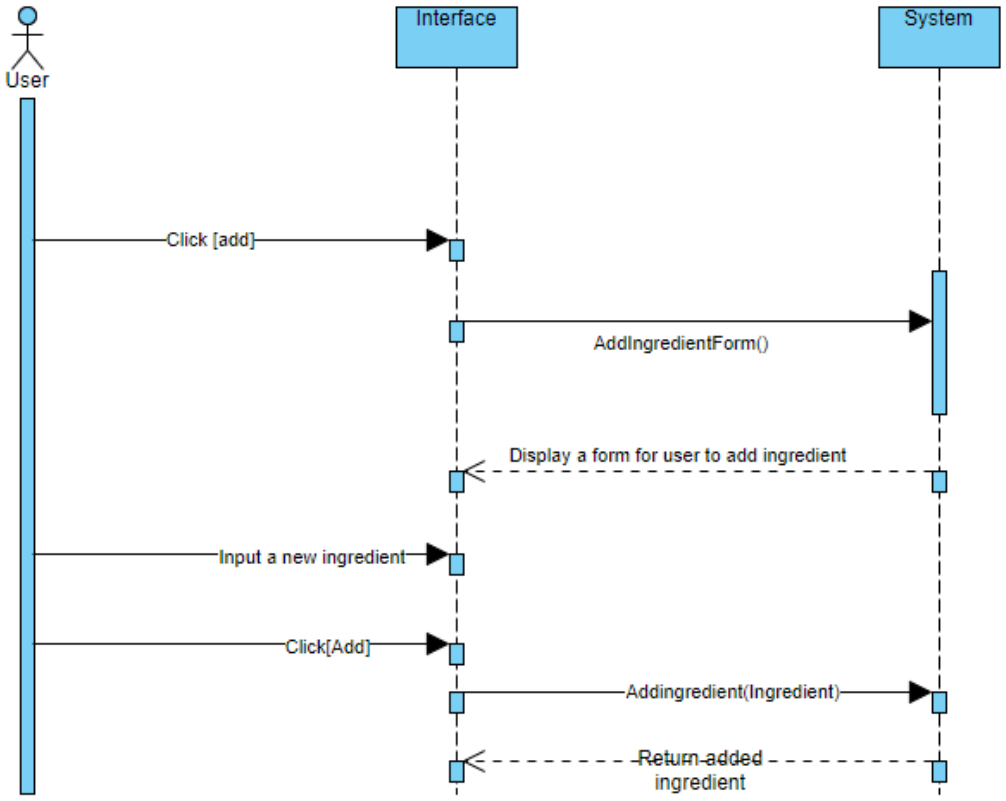
9.Edit ingredient type



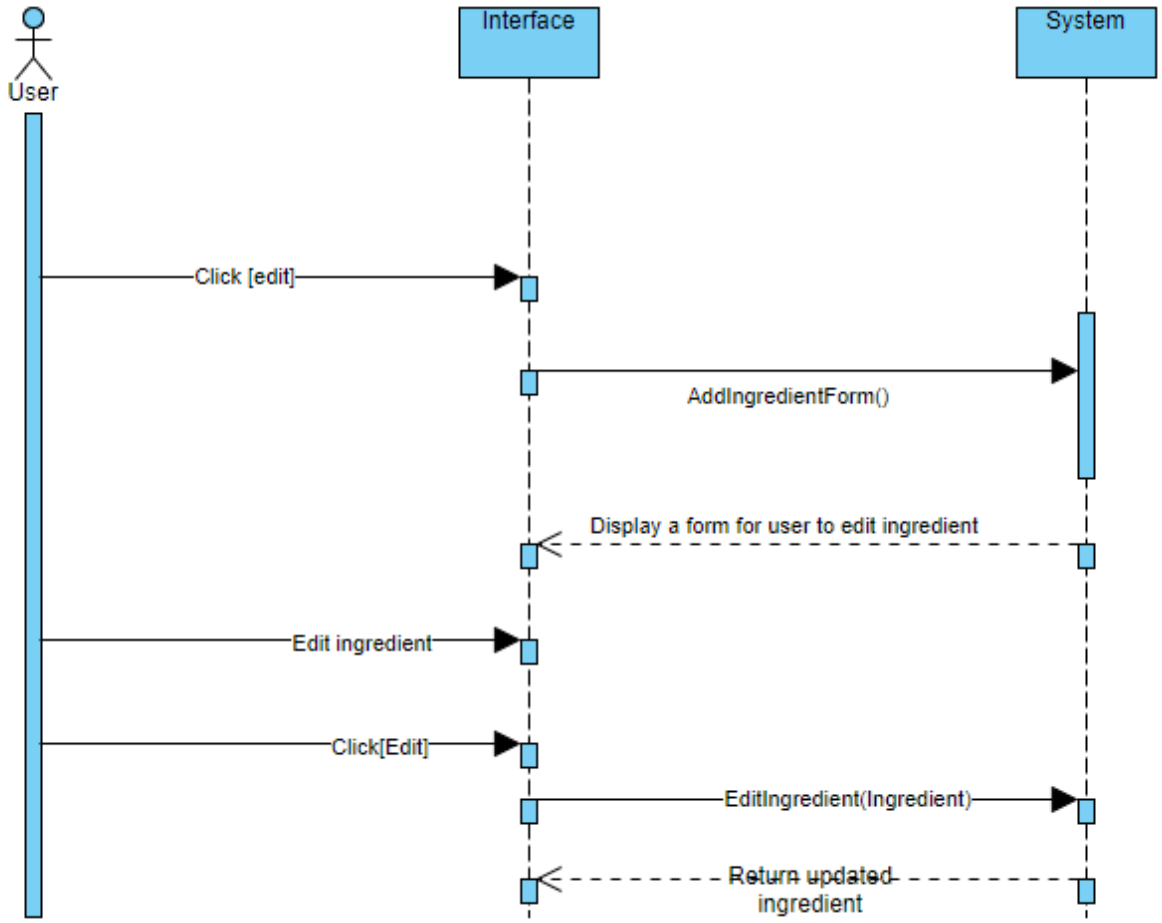
10.Delete ingredient type



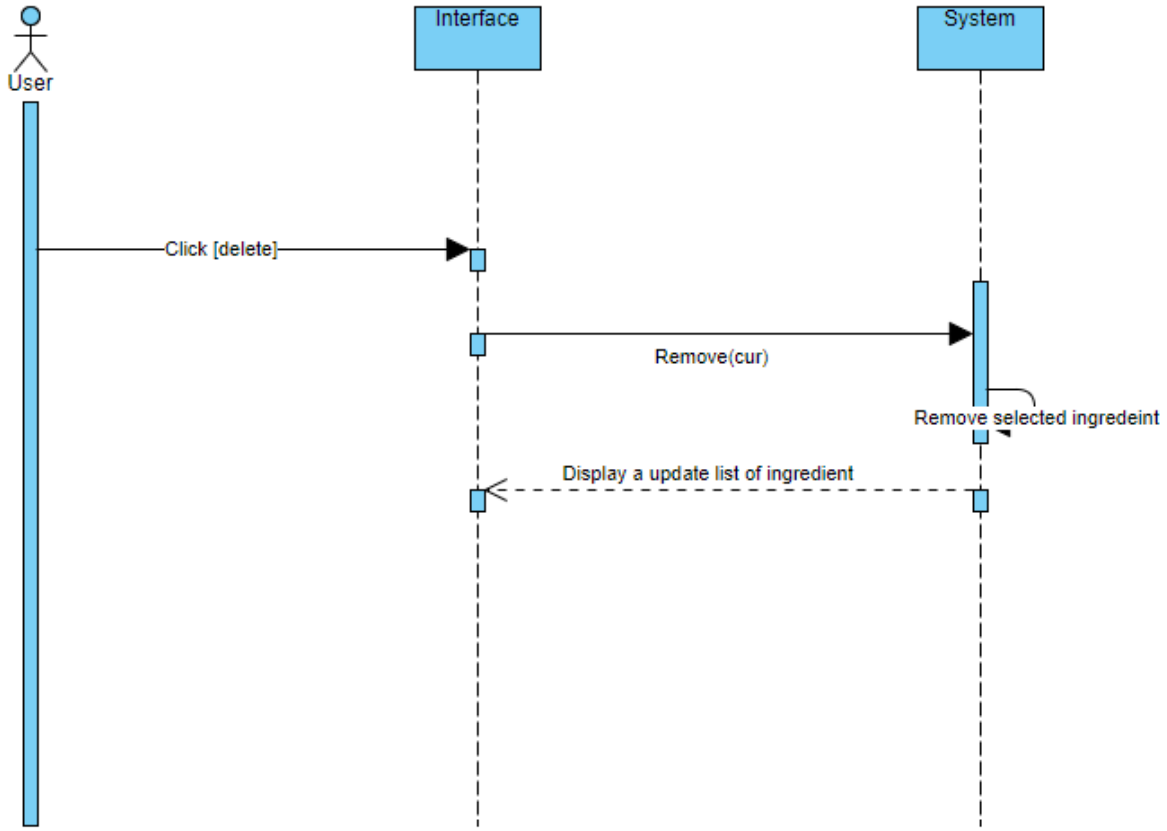
11.Add ingredient



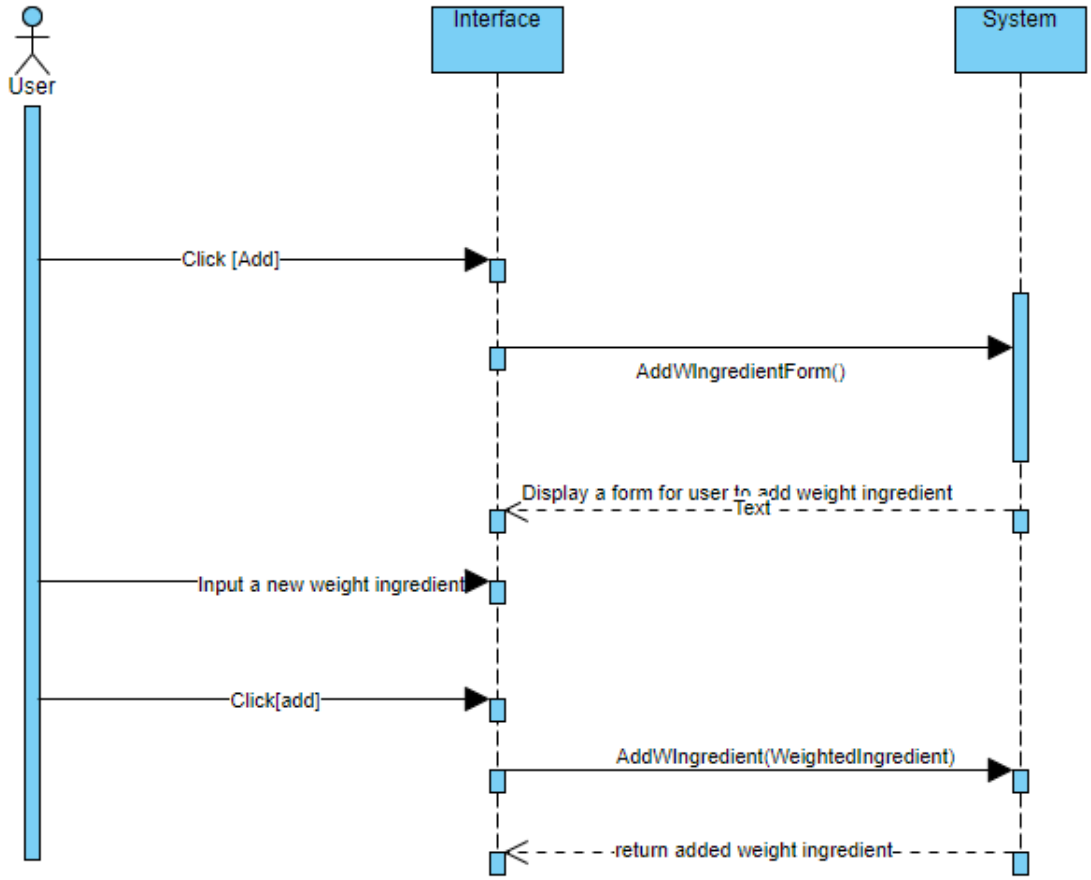
12.Edit ingredient



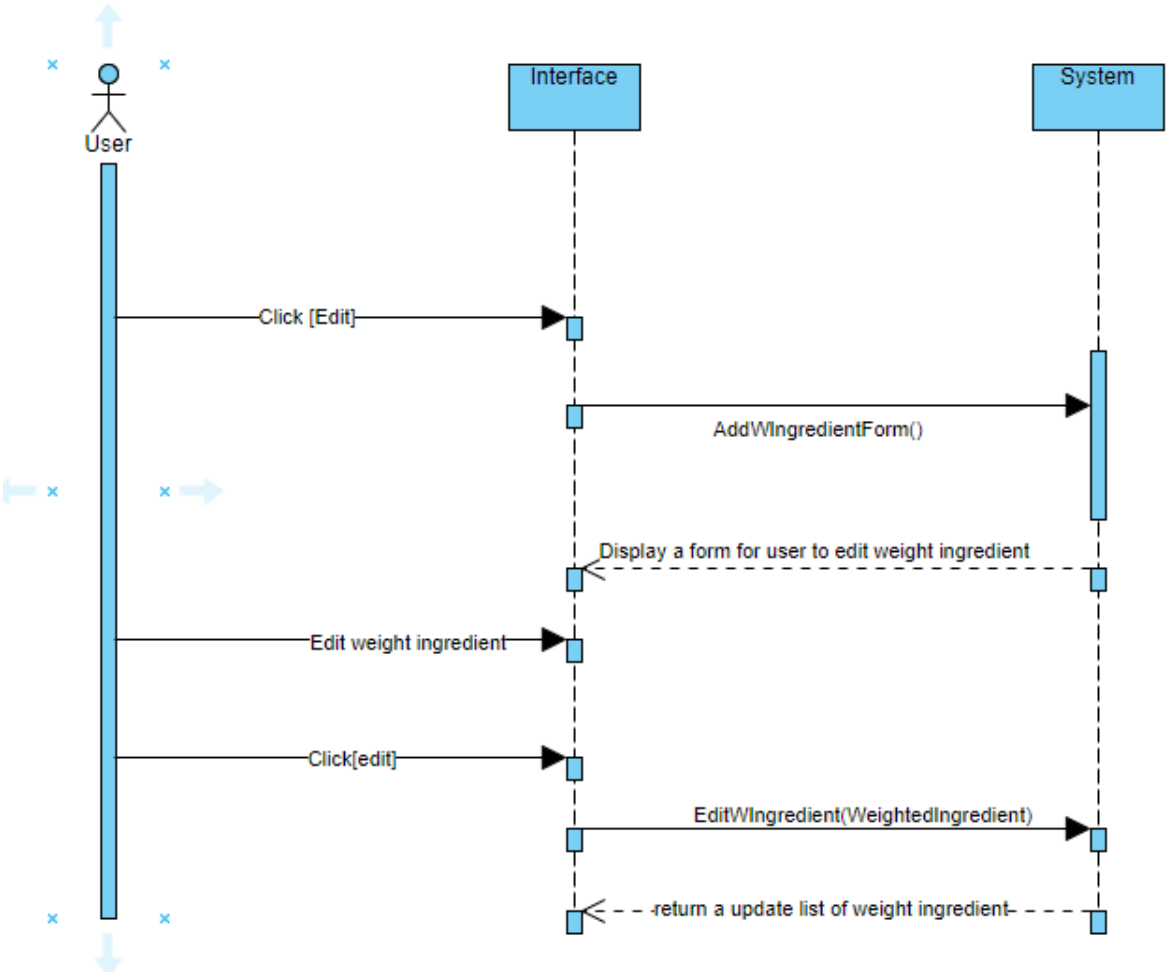
13.Delete ingredient



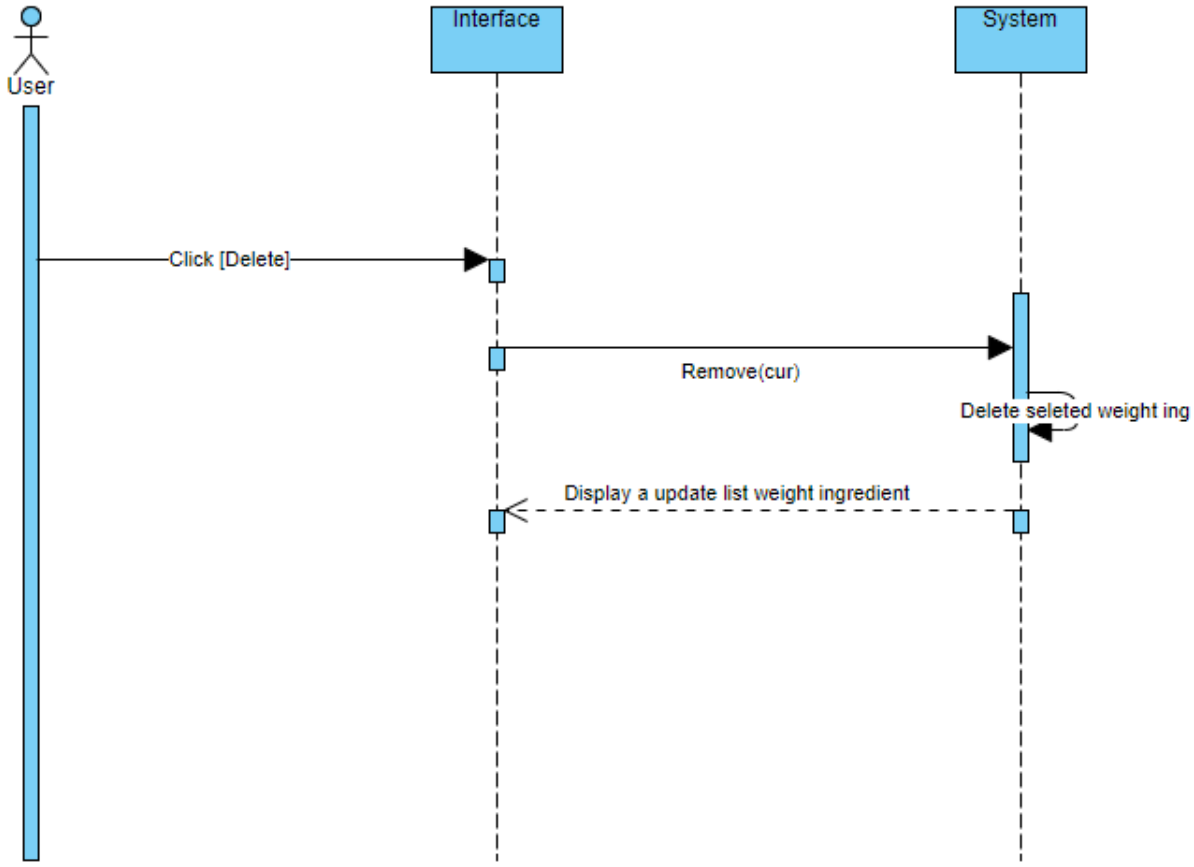
14.Add weight of ingredient



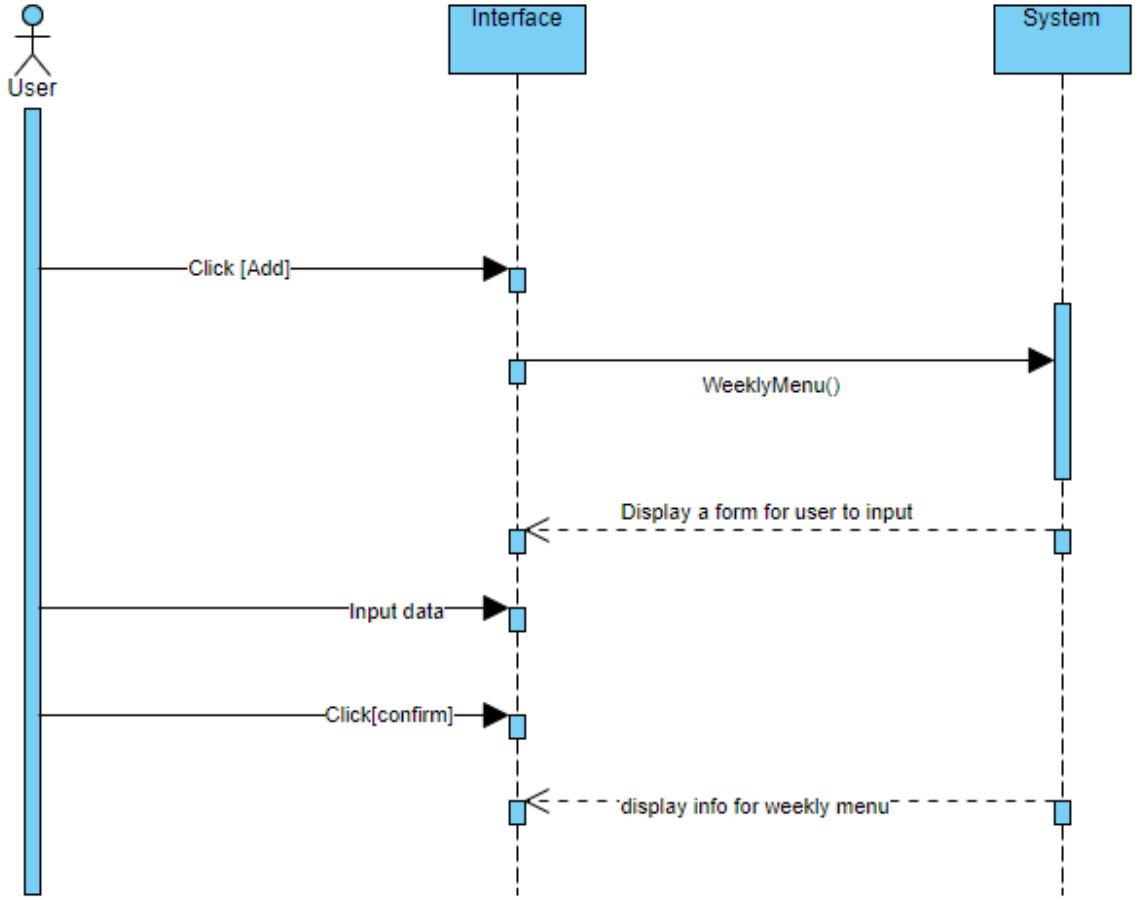
15.Edit weight ingredient



16.Delete weight ingredient



17.Add weekly menu



3.INTERFACE DESIGN

3.1.Login

Use to sign in main form of nutrition app.

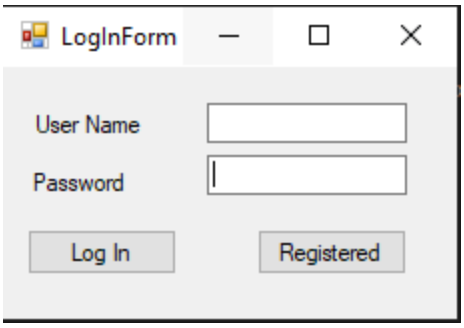


Figure 3.1 Login Form

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.

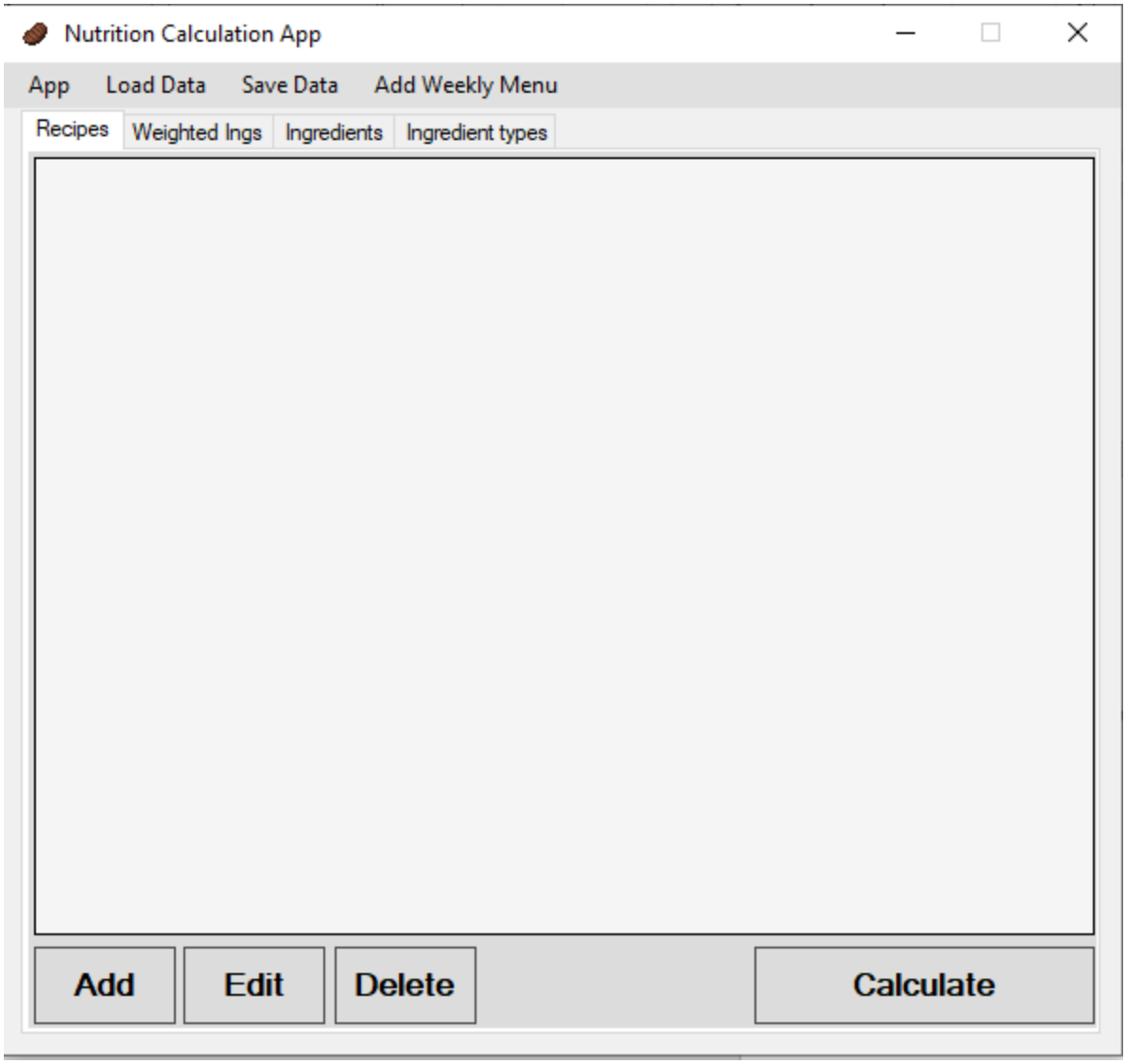


Figure 3.2.Main Form

3.3.App function:

Displays app functions.

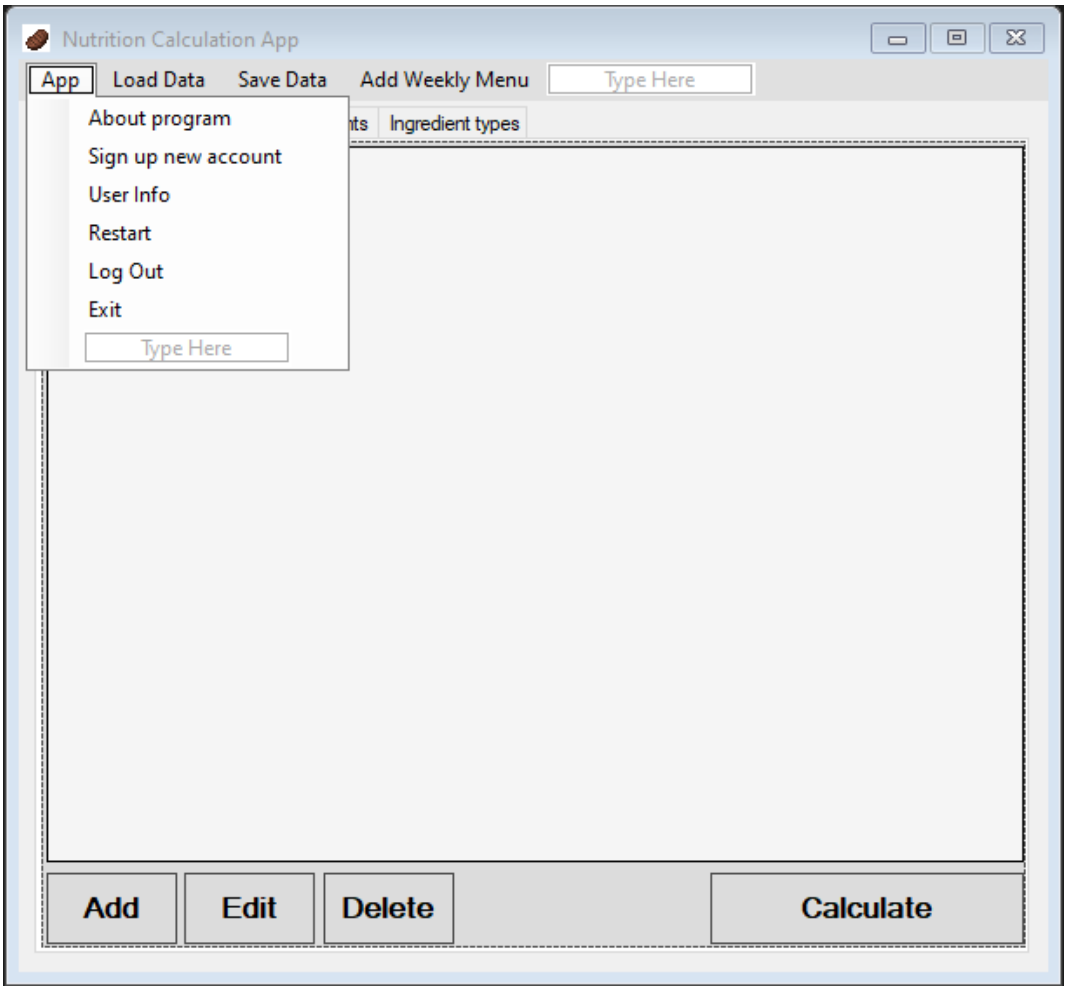


Figure 3.3.App functions

3.4.Sign up new account:

Form use for sign up new account:

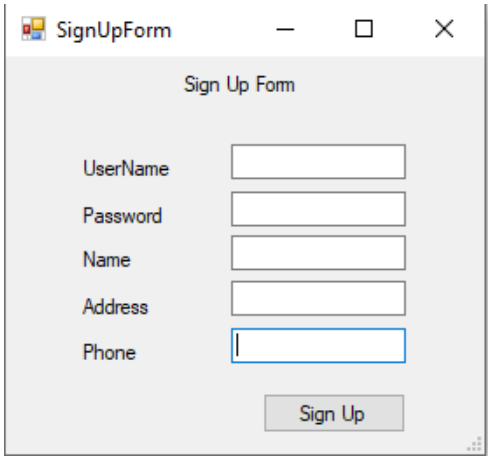


Figure 3.4.Sign up new account

3.5.Log out and exit:

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

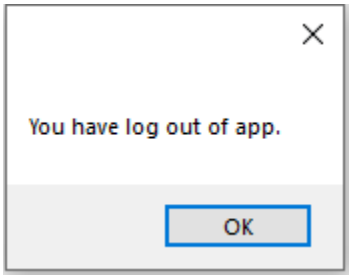


Figure 3.5.Log out or exit application

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:

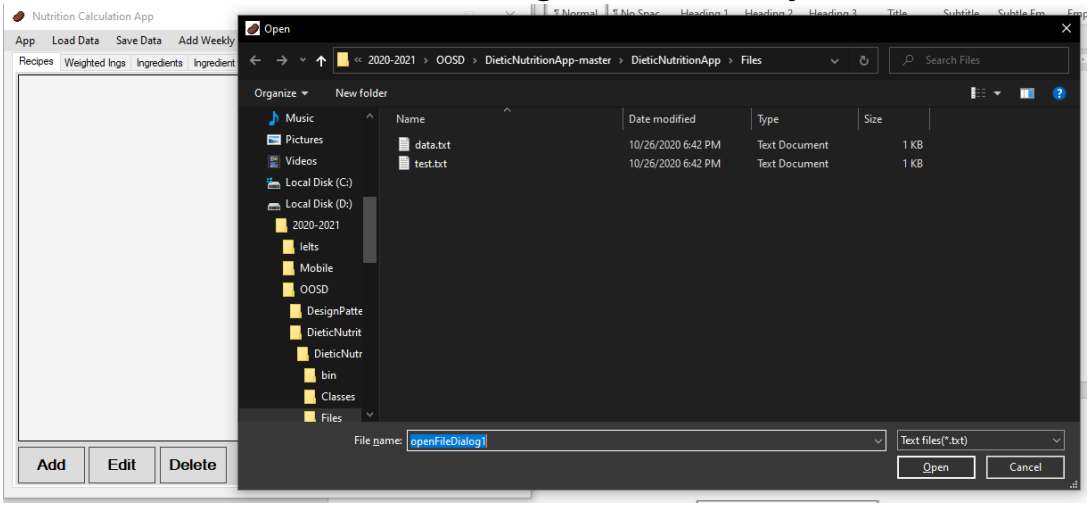
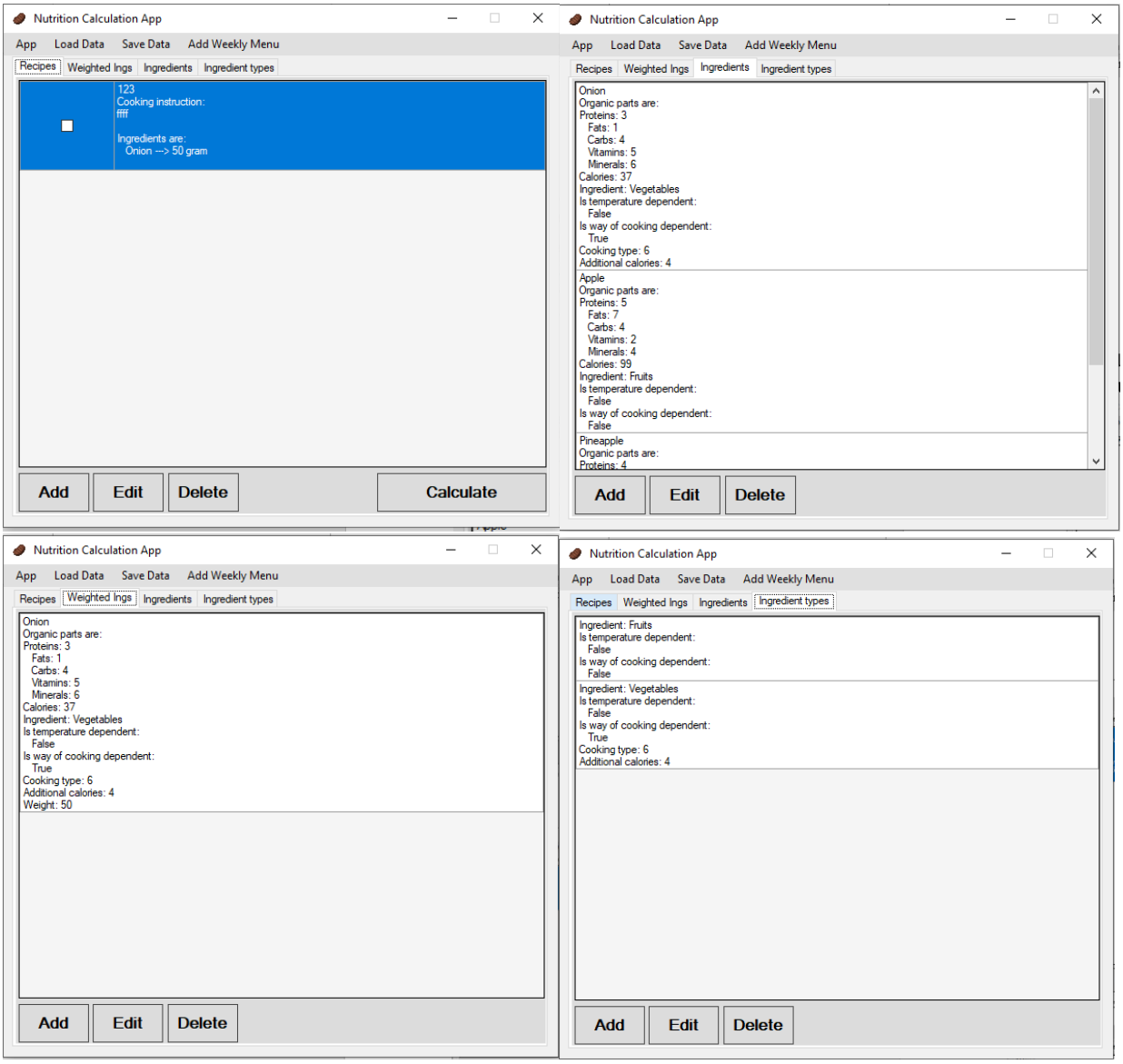


Figure 3.6.Load in txt data file



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:

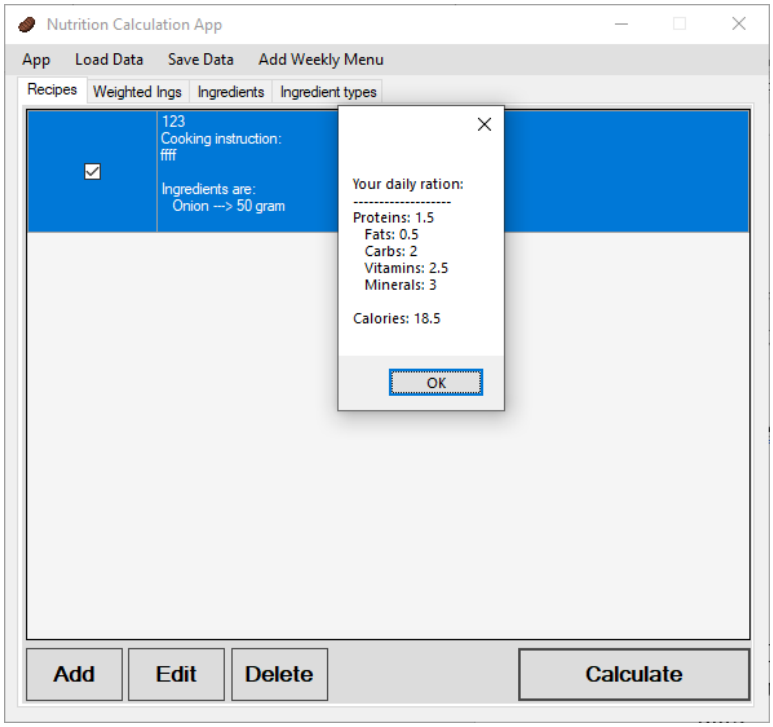


Figure 3.8.Ration form

3.8.Add weekly menu

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

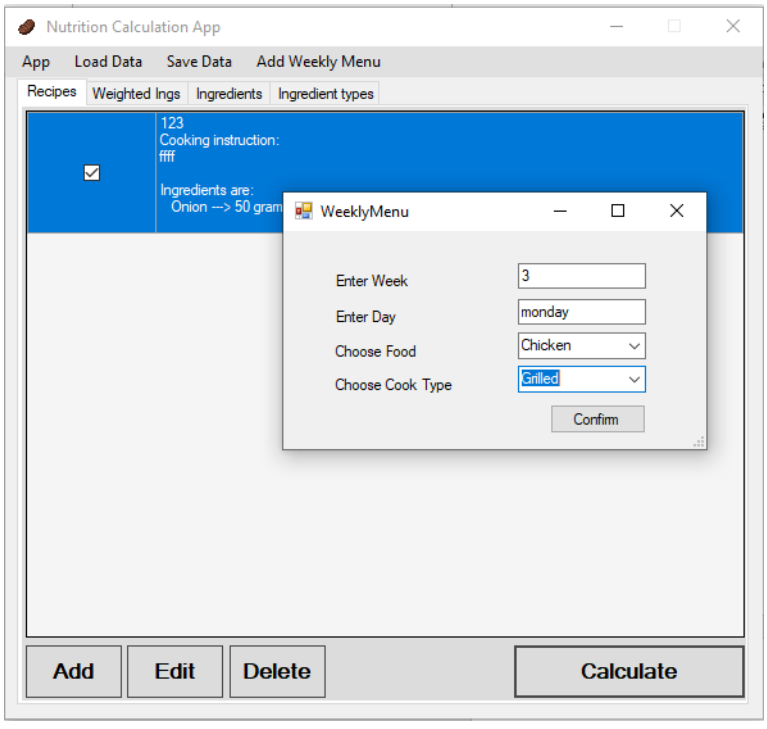


Figure 3.9.Revenue Form

3.9.Add ingredient type

The form used for adding ingredients.

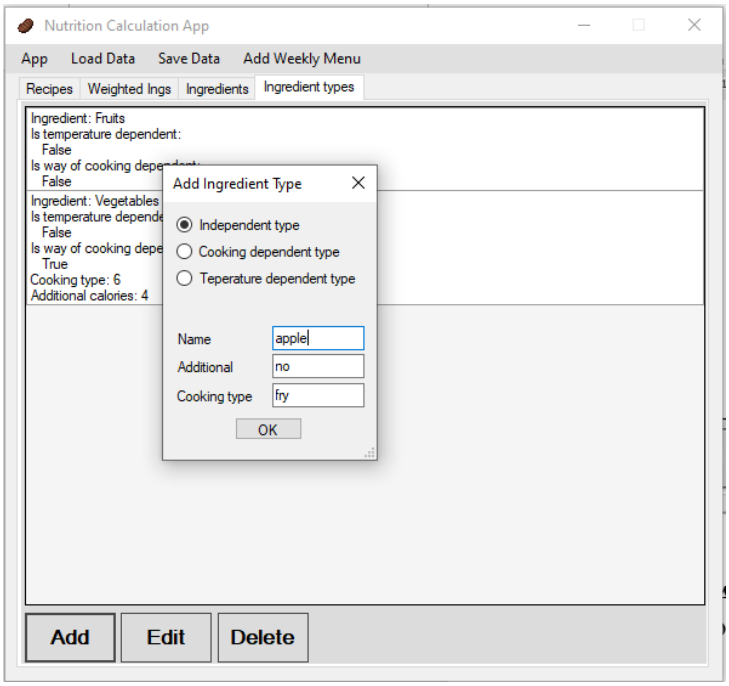


Figure 3.10.Add ingredient type form

3.10.Add ingredients

The form used for adding new ingredients to the application.

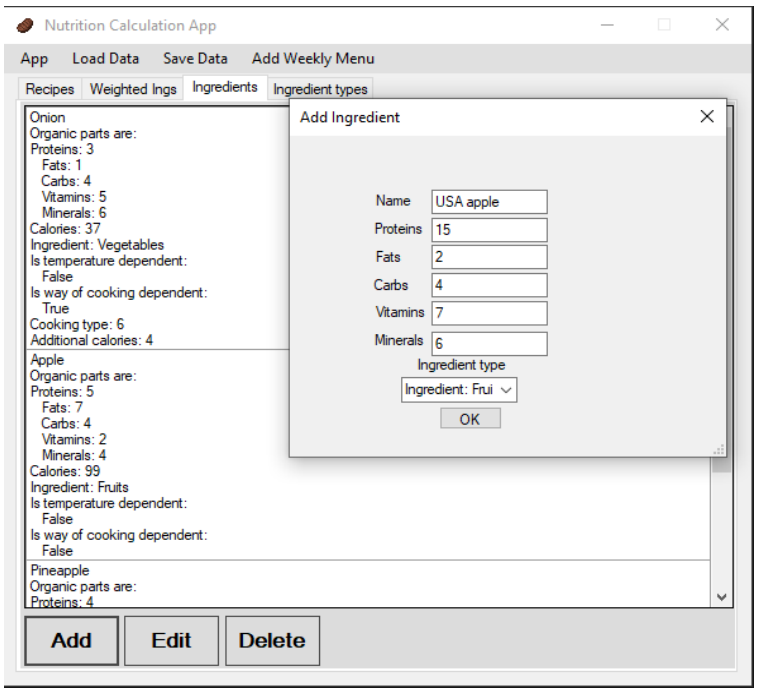


Figure 3.11.Add Ingredients form

3.11.Add Weighted Ingredients

This form used for adding weighted of the ingredients.

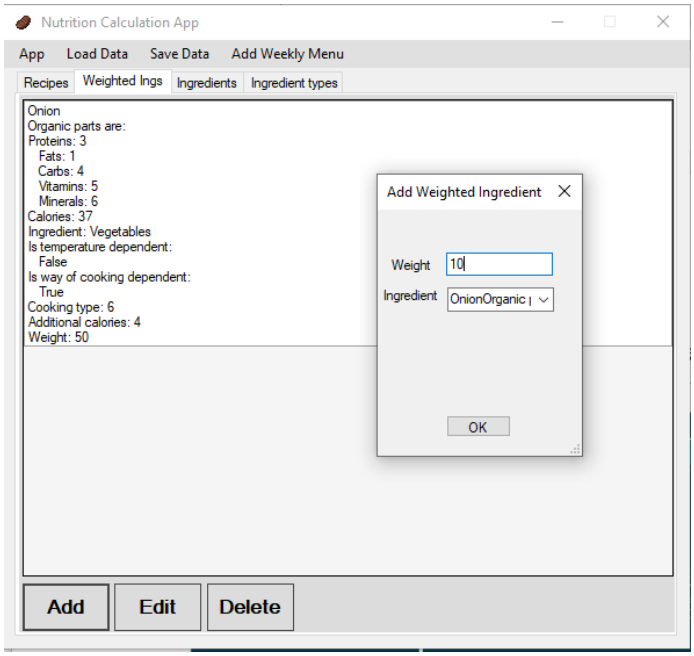


Figure 3.12.Add Weighted Ingredient form

3.12.Add Recipes

This form used for adding new recipes to the application.

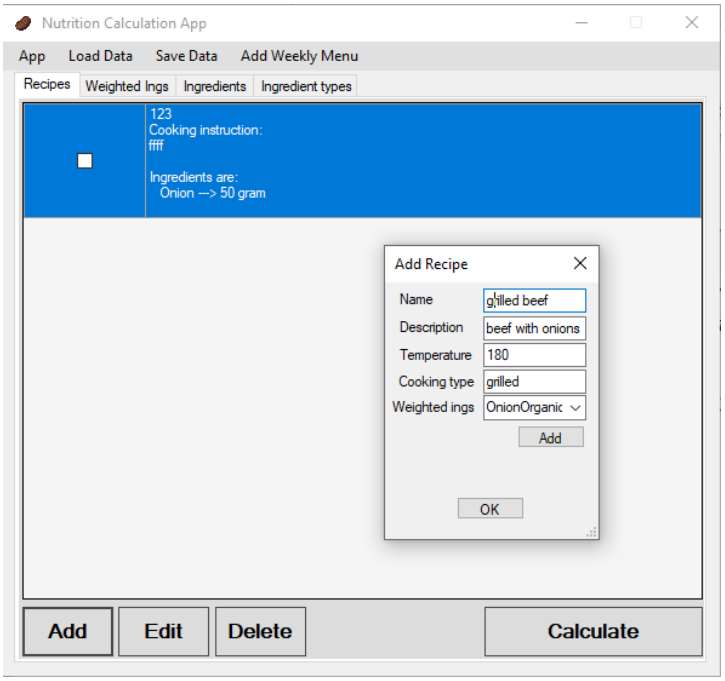


Figure 3.12.Add Recipes form

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