Team Name: FindMyMeal

Group members: Benaya Berhane, Bazen Mekonen,
Muhammad Wajahat, Hunnain Arsalan, Ishan Giri,
Michael Glass

Class Name: Structured Systems Analysis and Design

Class Code: IS436

Deliverable Name: Deliverable 2 - “Requirements Definition Document and Use Cases”

Date: 10/13/2024

Team Information

- **Team Name**: FindMyMeal
- **E-mail** of the project contact person: Hw71819@umbc.edu
- **Team Members' Roles**:
    - **Hunnain Arsalan**: Team Lead / Frontend Developer
    - **Muhammad Wajahat**: Project Manager
    - **Benaya Berhane**: Database Developer
    - **Bazen Mekonen**: Backend Developer
    - **Ishan Giri**: Networking Specialist
    - **Michael Glass**: Database Developer, Testing
- **Time set aside to meet**: Mondays and Wednesdays at 4 pm

Project Plan (Updated from Deliverable 1)

- **Feasibility Analysis** (Completed)
- **Requirements Gathering** (Start: 10/8/2024, End: 10/14/2024)
- **System Design** (Start: 10/15/2024, End: 10/28/2024)
- **Development Phase** (Start: 10/29/2024, End: 11/25/2024)
- **Testing Phase** (Start: 11/26/2024, End: 12/10/2024)
- **Deployment** (Start: 12/11/2024, End: 12/15/2024)
- **Final Presentation and Report** (Start: 12/16/2024, End: 12/20/2024)

Functional Requirements

1. Process Oriented:

    a. The system must allow for the users to create accounts
    b. The system must allow users to to log in to accounts
    c. The system must allow for users to find recipes based on their criteria including ingredients, cuisine, etc.
    d. The system must show the calories in the recipe
    e. The system must show the time a recipe takes
    f. The system must show the servings in a recipe
    g. The system must show a photo of the recipe
    h. The system must allow for users to make swaps in recipes.
    i. The system must allow for users to have their calories and/or macronutrients be the deciding factor.
    j. The system must allow price to be the deciding factor
    k. The system must allow for users to change the amount servings and the recipe
2. Information Oriented:
    a. The system must include save users saved recipes
    b. The system must include different recipes from the criteria
    c. The system must include time requirements
    d. The system must include allergens for all recipes
    e. The system must hold last 3 pages a user looked at
    f. The system must make sure that the user can have a saved budget(which can be saved) and the system must make sure that recipes stay below that.

Non-functional Requirements

1. Operational:
    a. The system will run on the web.
    b. The system will be brand new needing no integration
    c. Database and backend will be created for this website.
    d. The website will use external API.
    e. This will be compatible with all web browsers
2. Performance:
    a. The website will not take longer than 3 seconds to load results
    b. The system will save recipes within 3 seconds
    c. The system will support 100 simultaneous users
    d. The system will save have the capacity to save 300 users
    e. The system will be available 24 hours per day, 365 days per year
3. Security:
    a. The dev team won’t see users personal information
    b. Data will be safe guarding from malicious software.
    c. Developers won’t see personal information.
    d. Only high-level security personnel will have the authority to grant access to data visibility
    e. We will use industry standard AES encryption on data.
4. Cultural and Political:

a. The system will be in US currency and measurements, but will have metric measurements offered
b. Personal information is protected incompliance with the Data Protection Act.

Interviews

1. Interview with Eamon
    a. Current Student and worker
    b. Interview taken the 9th of October at 6pm
    c. Interviewer: Bazen Mekonen
    d. Questions asked:
        i. What would you look for in a meal planner?
        ii. What about being a person who goes to the gym regularly?
        iii. What do you prioritize at your age and lifestyle and what would you need help with as you change in lifestyles?
        iv. What about the current market do you think is missing? Can you go into further detail?
    e. Overall Summary:
        i. What I found was that in his early to mid 20s, Eamon prioritized convenience. He wanted food that would not take the large amount of times and adhere to his lifestyle and work schedule
2. Interview with Aaron
    a. Current Computer Science Student
    b. Interview taken on the 11th of October at 9pm
    c. Interviewer: Bazen Mekonen
    d. Questions asked:
        i. What about current meal planners are you not in love with?
        ii. What are your favorite cuisines?
        iii. How do your friends eat on campus?
        iv. Is cooking viable for you?
        v. Can you give me an example of when you wanted to cook but couldn't think of a recipe?
    e. Overall Summary:
        i. As someone who lives on campus Aaron is someone who doesn't see cooking as viable for him. He eats his cafeteria food outside. But living in his apartment he has wanted to start cooking but doesn't know where to start.
3. Interview with Nem
    a. Current SWE
    b. Interview taken on the 10th of October at 6pm
    c. Interviewer: Bazen Mekonen
    d. Questions asked:
        i. How does your work restrict you cooking time?

ii. Do you feel like you can create recipes?
iii. What would you do with a fridge full of random ingredients?
iv. What about the current market do you feel is lacking? Play you elaborate on that?
v. What is something about meal planning that you wish was more widely available?
vi. How does going to the gym affect your time and ability to cook?

e. Overall Summary:
   i. As someone who is a current worker, Nem feels as though he may not have enough time to cook. From meetings, to working, to the gym and hobbies, Nem doesn't feel as though he can cook. This is very typical for a young man working. He would love to have some guidance in creating healthy recipes for himself.

Observational Notes

Some of the biggest meal planner sites were eatthismuch and ultimatemealplans. These two sites were some of the most popular and we found that they seemed to do much of what we planned. They told the price of recipes, macronutrients, calorie count, and even gave you a meal plan. But for ultimatemealplans, it only allowed meal plans made behind a paywall exclusively. Now eatthismuch has much going for it. It lets you pick meal size, number of people, preferred meal type, cooking time, if you can't or can't cook, and meal complexity. These features are all amazing. But this is set behind the calorie count. It doesn't let you pick on the ingredients you have, nor does it let you pick a certain cuisine. The meal plans that are offered are also very limited being paleo, vegetarian, vegan, ketogenic, or mediterranean. Another blunder I see is that they don't allow for you to pick your favored macro nutrients. For some they want to hit a certain amount of protein, carbohydrates, and/or fats. The current practices seem to make sure that the image of the recipe is available, the macronutrients, the price, and the recipe time/serving are all basics in this design. But noticing that the amount of lifestyles/recipes are limited, that you can't pick based on ingredients, or that you can't pick based on cuisine are all things that we can offer in our meal planner.

Use Case Analysis

Use Case Name: Logging into account
Use Case ID: UC-1
Priority: High
Actors: User and Authentication System
Description: The User logs into their account and the system
Pre-Conditions: The user must have an account
Trigger: Logging in

Normal Course:

1. User enters in username and password
2. If both are found the user is allowed to log in
    1. If the password is found but not user then send user email to change password
    2. If user isn't authenticated then send them to the sign up page

Alternate Course:

1. If the user doesn't have an account then they will be sent to the sign up page to make an account.

Use Case Name: Logging into account	Use Case ID: UC-1	Priority: High
Actors: User and Authentication System Description: The User logs into their account and the system		
Pre-Conditions: The user must have an account		
Trigger: Logging in		
Normal Course: 1. User enters in username and password 2. If both are found the user is allowed to log in 1. If the password is found but not user then send user email to change password 2. If user isn't authenticated then send them to the sign up page		
Alternate Course: 1. If the user doesn't have an account then they will be sent to the sign up		

page to make an account.		
Post Conditions: The user can now access their account. They can look at saved recipes and add to their saved recipes list.		

Use case name: Account creation
Use Case ID: UC-2
Priority: High
Actors: User and database
Description: This is the signup page for users to create their accounts
Pre-Conditions: None
Trigger: Account creation
Normal Course:

1. Put in email
2. Create Password
3. Sign up to the website

Alternate Course:

1. If none valid email is given you won't get the authentication code.

Use case name: Account creation	Use Case ID: UC-2	Priority: High
Actors: User and User database		
Description: This is the signup page for users to create their accounts		
Pre-Conditions: None		
Trigger: Account creation		

Normal Course: 1.Put in email 2.Create Password 3. Sign up to the website		
Alternate Course: 1. If none valid email is given you won't get the authentication code.		
Post-Conditions: There is now an account that the user has to begin saving recipes.		

Use Case Name: Finding recipe based on ingredients
Use Case ID: UC-3
Priority: High
Actors: User and Spoonacular API
Descriptions: The user will put in recipes into a text box and find recipes based on those ingredients
Pre-conditions: Ingredients are placed
Trigger: Querying
Normal Course:

1. The user asks for recipes based on the recipes that are searched.
2. The recipes are then found by querying the API using the recipes.
3.Users then look through recipes
4.They can decide based on calorie count, macronutrient amounts, or whatever they decide themselves.

Alternative Course:

1. If food isn't found or none is their liking then whatever they find they can add into the recipes.
2.If the combo of ingredients doesn't make anything, then we will try to show the closest recipes to what they picked. That includes adding in whatever they want.
3.If the overall recipe isn't there then they can add in a recipe

Use Case Name: Finding recipe based on ingredients	Use Case ID: UC-3	Priority: High
Actors: User and Spoonacular API		
Descriptions: The user will put in recipes into a text box and find recipes based on those ingredients		
Pre-conditions: Ingredients are placed Trigger: Querying		
Normal Course: 1. The user asks for recipes based on the recipes that are searched. 2. The recipes are then found by querying the API using the recipes. 3.Users then look through recipes 4.They can decide based on calorie count, macronutrient amounts, or whatever they decide themselves.		

Alternative Course: 1. If food isn't found or none is their liking then whatever they find they can add into the recipes. 2.If the combo of ingredients doesn't make anything, then we will try to show the closest recipes to what they picked. That includes adding in whatever they want. 3.If the overall recipe isn't there then they can add in a recipe		
Post-Conditions: The users can save any recipes they like They can also add in more recipes/take out some		

Use Case Name:Finding recipe based on calories/macronutrients
Use Case ID: UC-4
Priority:High
Actors: User and Spoonacular API
Descriptions: Similar to use case 3 but this will use nutrition as the requirements
Preconditions: Restrictions are placed
Trigger: Querying
Normal Course:

1. You enter in your calorie count and/or your macro nutrient count

2. The recipes are found based on your information
3. Users can look through the recipes
4.They can save any that they decide to save

Alternative Course:

If calories are too low we can give a warning.
We will also advise on not giving too little in the macro department.

Use Case Name:Finding recipe based on calories/macronutrients Use Case ID: UC-4	Use Case ID: UC-4	Priority:High
Actors: User and Spoonacular API		
Descriptions: Similar to use case 3 but this will use nutrition as the requirements		
Preconditions: Restrictions are placed		
Trigger: Querying		
Normal Course: 1. You enter in your calorie count and/or your macro nutrient count 2. The recipes are found based on your information 3. Users can look through the recipes 4.They can save any that they decide to save		
Alternative Course: If calories are too low we can give a warning.		

We will also advise on not giving too little in the macro department.		
Post-Conditions: The user can now save any recipes they find. They can also change the calories that they want to change.		

Use Case Name: Saving Recipe
Use Case ID: UC-5
Priority: High
Actors: Users and database
Descriptions: The user can save any recipe that the find within the sight
Pre-conditions: The user must have an account and be logged in
Trigger: Saving the recipe
Normal Course:

1. Find a recipe you enjoy
2. Hit the save button
3. Have the recipes within your saved folder

Alternative Course:

If the recipe doesn't save reach out with customer service so we can fix the bug
In result of constant error take photos of the recipes and save URL
If you are browsing without an account logged in then you will not have the ability to save data.

Use Case Name: Saving Recipe	Use Case ID: UC-5	Priority: High
Actors: Users and database		
Descriptions: The user can save any recipe that the find within the sight		
Pre-conditions: The user must have an account and be logged in		

Pre-conditions: The user must have an account and be logged in		
Trigger: Saving the recipe		
Normal Course: 1. Find a recipe you enjoy 2. Hit the save button 3. Have the recipes within your saved folder		
Alternative Course: If the recipe doesn't save reach out with customer service so we can fix the bug In result of constant error take photos of the recipes and save URL If you are browsing without an account logged in then you will not have the ability to save data.		
Post-Conditions: Users can look at all the recipes that they save. Now stored in a database with the specific user.		

Use Case Name: Looking through saved recipes
Use Case ID: UC-6
Priority: High
Actors: Users and database
Description: The user can look through their saved recipes
Pre-conditions: The user must have an account and be logged in
Trigger: Clicking on saved folder
Normal Course:
1.Click through recipes

2.Search through what is saved

Alternative Course:

If recipes aren't found contact customer service

If you want to save recipes outside of site you can save the url.

Use Case Name: Looking through saved recipes	Use Case ID: UC-6	Priority: High
Actors: Users and database		
Description: The user can look through their saved recipes		
Pre-conditions: The user must have an account and be logged in		
Trigger: Clicking on saved folder		
Normal Course: 1.Click through recipes 2.Search through what is saved		
Alternative Course: If recipes aren't found contact customer service If you want to save recipes outside of site you can save the url.		
Post-Conditions: Users can look at all the recipes saved.		

Use case: Unsaving recipes

Use Case ID: UC-7

Priority: High

Actors: Users and database
Description: The user can look through their saved recipes
Pre-conditions: The user must have an account and be logged in
Trigger: Pressing save button
Normal Course:

1.If the recipe is already saved then just press the save button again.
2.The once lit save button will now not be and it will be recorded in the database.

Alternative:

If you try to unsave something you look at it will only be saved
We recommend you unsave in the saved folder so you don't get confused.

Use case: Unsaving recipes	Use Case ID: UC-7	Priority: High
Actors: Users and database		
Description: The user can look through their saved recipes		
Pre-conditions: The user must have an account and be logged in		
Trigger: Pressing save button		
Normal Course: 1.If the recipe is already saved then just press the save button again. 2.The once lit save button will now not be and it will be recorded in the database.		
Alternative: If you try to unsave something you look at it will only be saved		

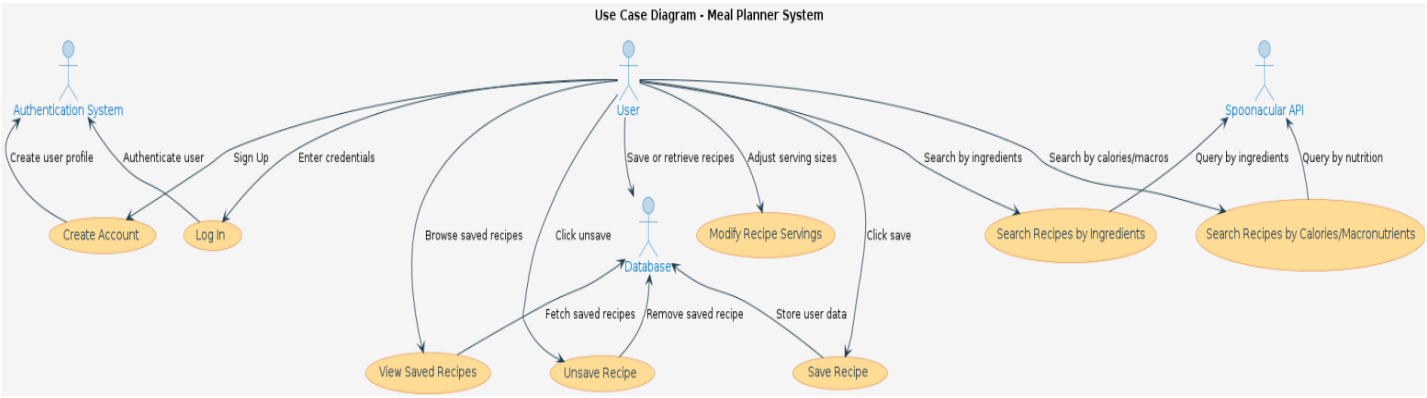
We recommend you unsave in the saved folder so you don't get confused.		
Post-Conditions: Recipes are now taken out from the users database.		

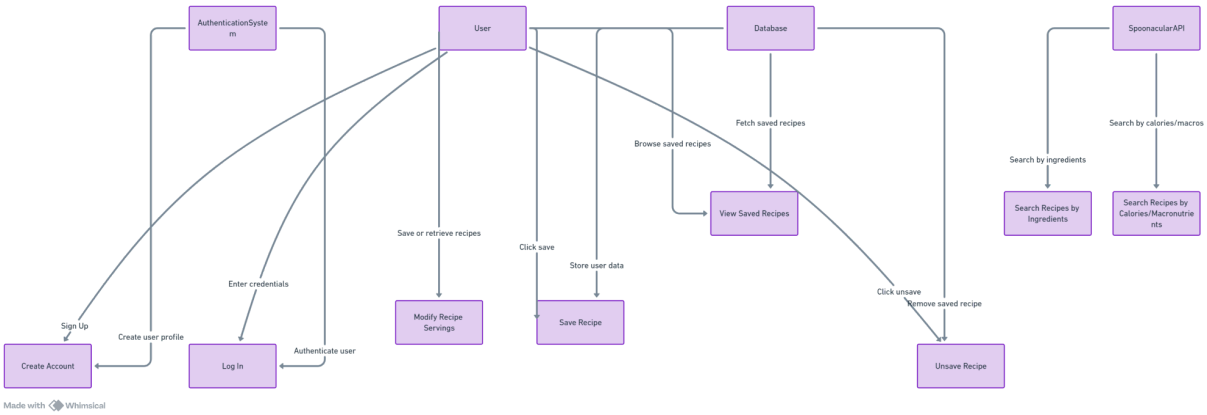
Five Key Use Cases

Our five use cases will be account creation, logging in, recipe searching by ingredients, recipe saving, and recipe unsaving.

The reason that we are focusing on these cases are the bases of our website. These will be the cases that we are going to prototype with first before adding in other features. These features are also the base of what we want our website to show as well.

Use Case Diagram





GitHub Link: https://github.com/users/bazenmekonen/projects/4