

# **Agile Development Group Project**

## **Product Documentation**

Group Wilson

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# 1 Description

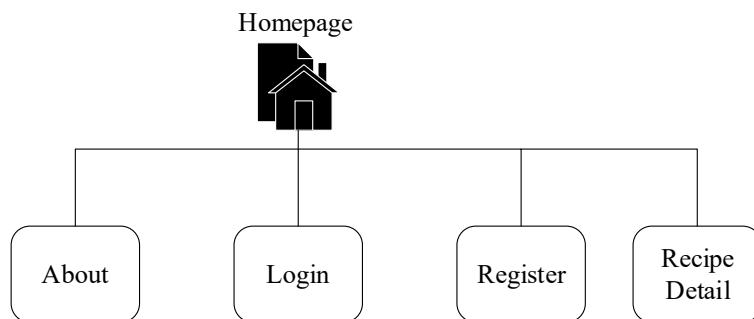
## 1.1 Overview

This website is created for novice cooks who want to start cooking cheaply but do not know how to go about it, for example, university students. Users can use our website to share recipes and it is very easy to join us here, just click on REGISTER to create an account.

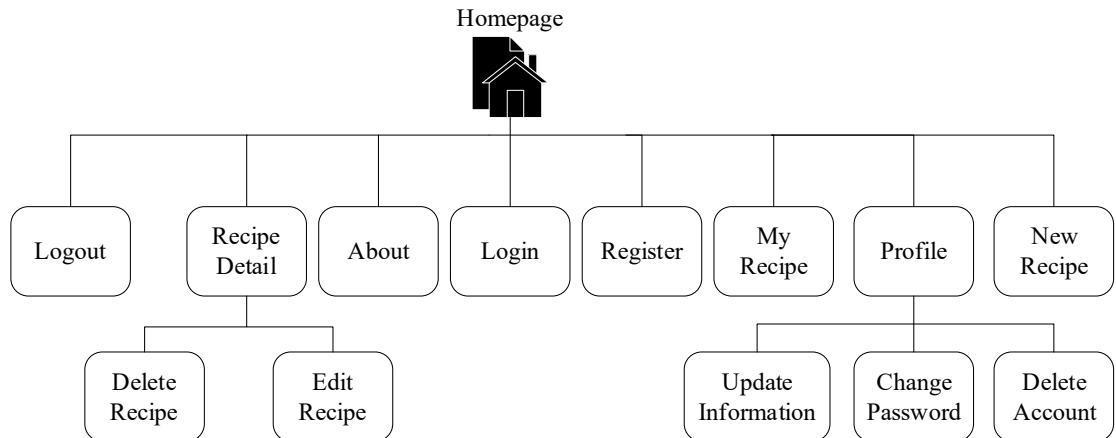
After creating the own account, the user is able to log in and add recipes share them with others, update or delete recipes to do some modifications.

On the homepage, users can browse existing recipes on the website, check the recipe details by clicking on the recipe title, or click on a different user name to see what other users have shared. This site also has common functions: change password, change account information and delete account.

## 1.2 Web pages in a tree



For unregistered users, from Homepage users can reach Login page, Register page, About page, Recipe detail page.



For registered users, after logging in, users will go back to homepage, then can reach My Recipe page, Profile page, Log out page and New recipe page that are not open to unregistered users. From Recipe Detail page, users can reach Edit Recipe page, Delete recipe page. From Profile page, users can reach the following pages: Delete account, Change password, and update their names and email addresses. From Login page, users can sign in, and reach Change Password page and Register page.

### **1.3 Implementation**

This site uses PostgreSQL as the database, python as the backend development language and Django as the web framework, which is a Python-based open-source framework based on the MVC architecture. Many excellent Python packages also are used: Bootstrap4 for designing the pages, Django-crispy-forms for making forms of pages, Whitenoise for managing static files.

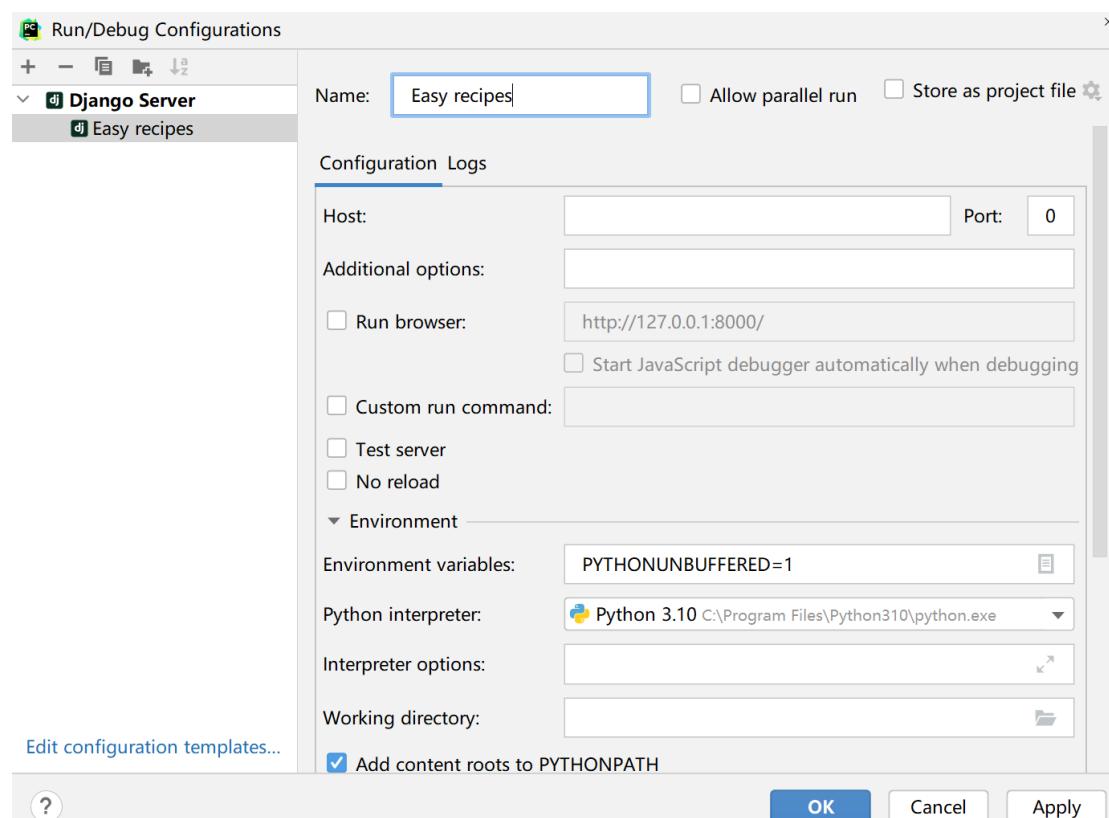
## 2 User Manual

### 2.1 Environment Requirements

1. Python 3.10 is installed and its environment variables are set well.
2. The professional version of Pycharm is installed.
3. The database using PostgreSQL is set up.

### 2.2 Installation

Start Pycharm and open the project from the correct file location, set up a python interpreter for the project, then in the Terminal input “pip install -r requirements.txt” to install necessary Python packages, in the end, set up a new Django server at Run/Debug Configurations to launch the website.

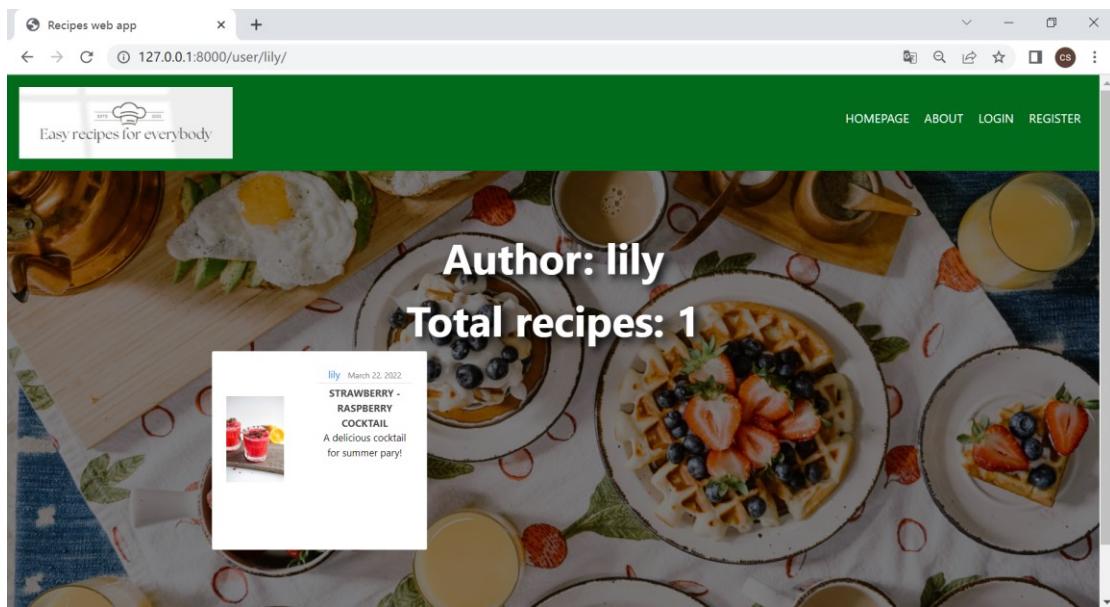
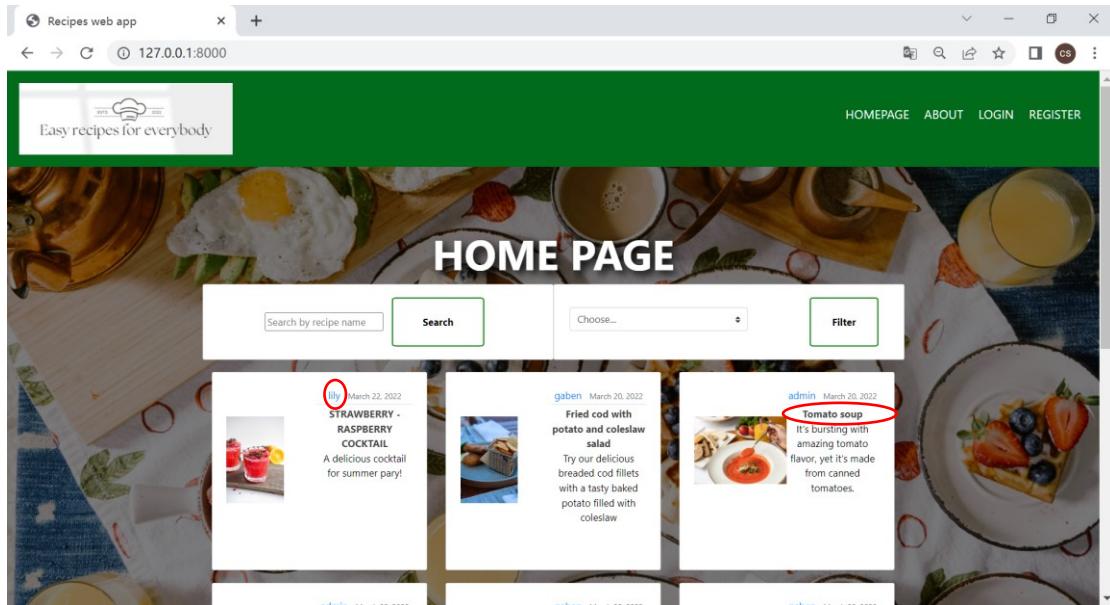


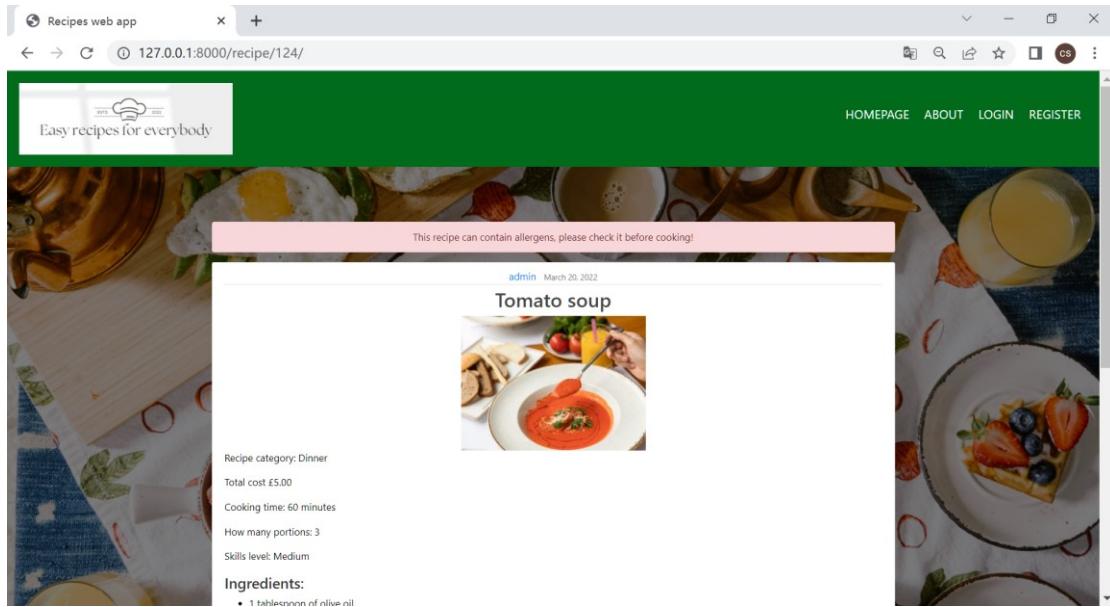
### 2.3 Browser Requirements

This website can be used with the following browsers: Chrome, Firefox, and Microsoft Edge

### 2.4 Homepage

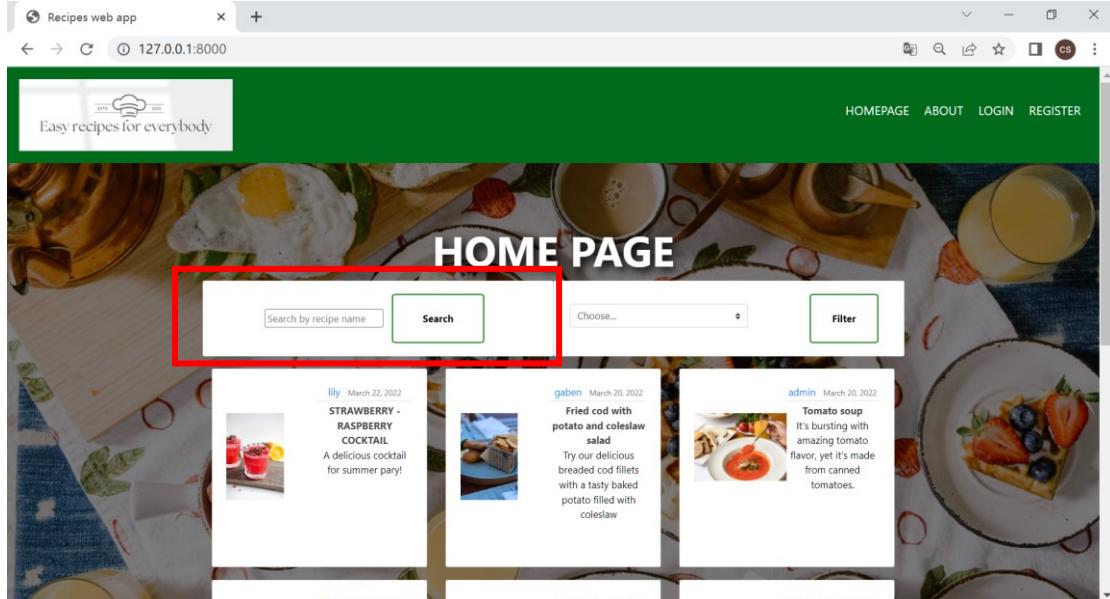
Users can click on the buttons at the top right to access to Login page, Register page, About page. Also, they can access User Recipe page by clicking the blue username, or clicking recipe name below user name and date moving to Recipe Detail page.

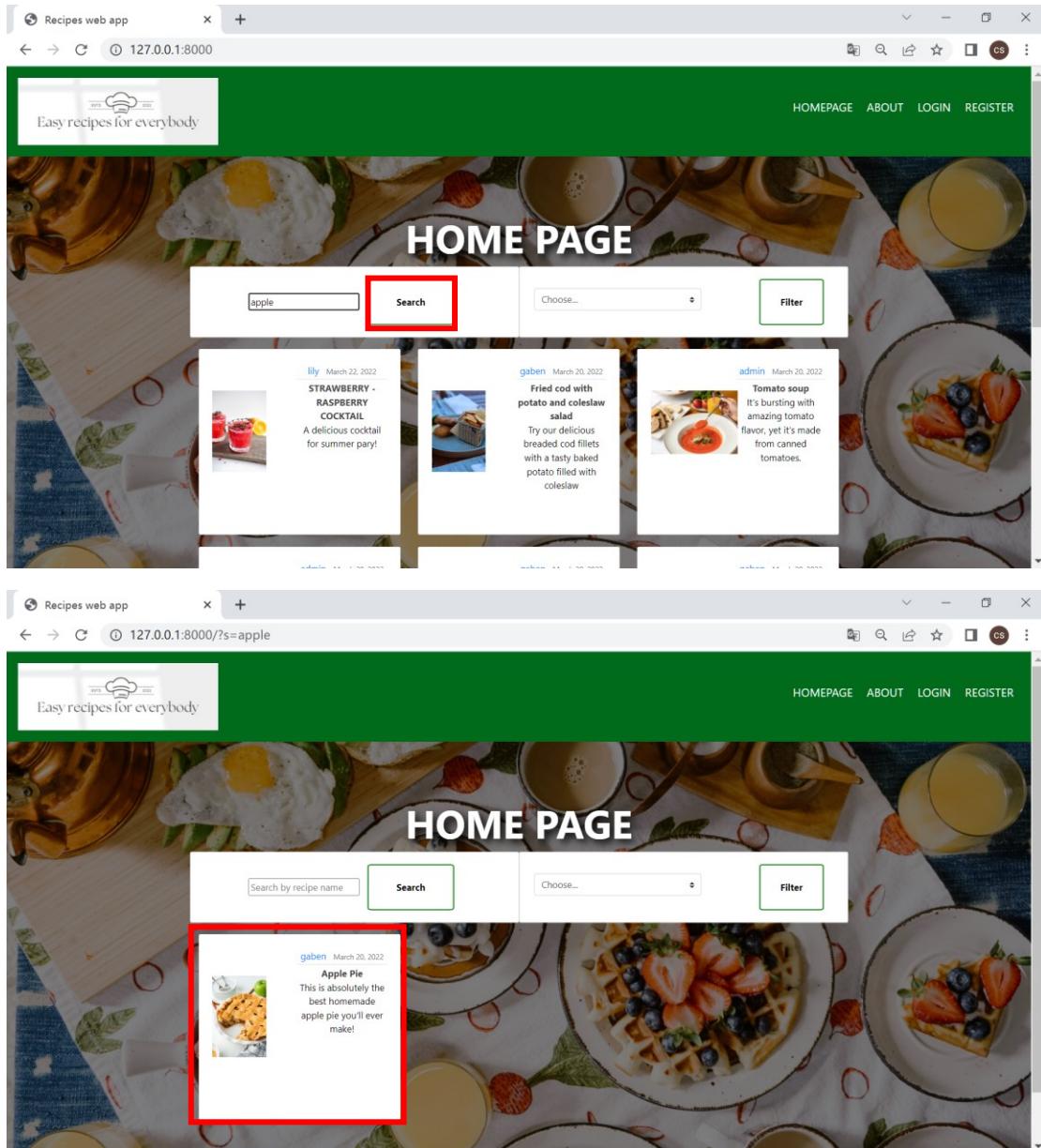




## 2.5 Search

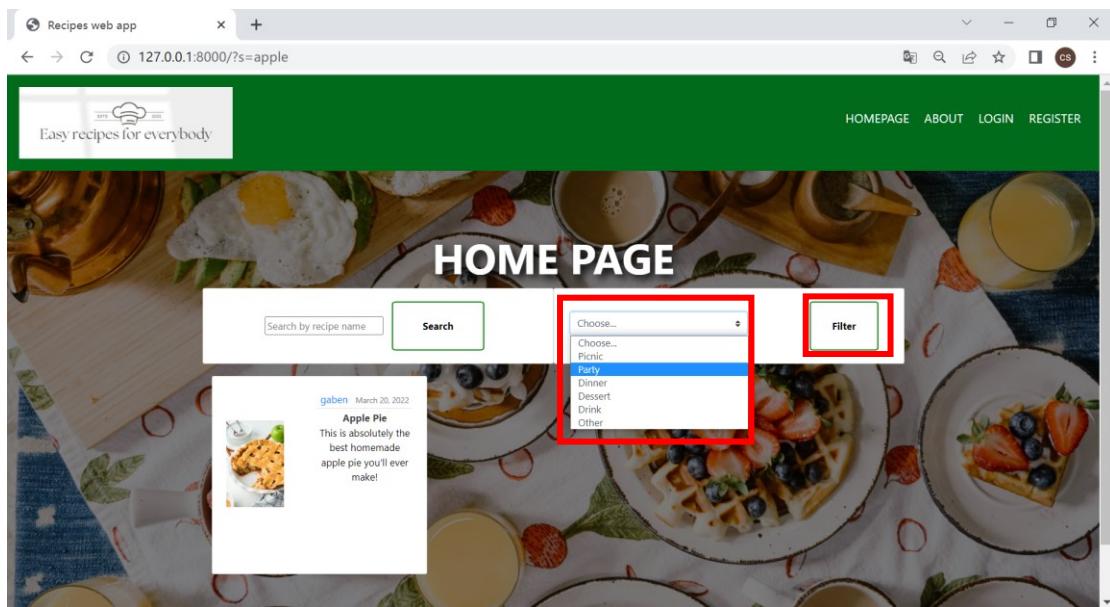
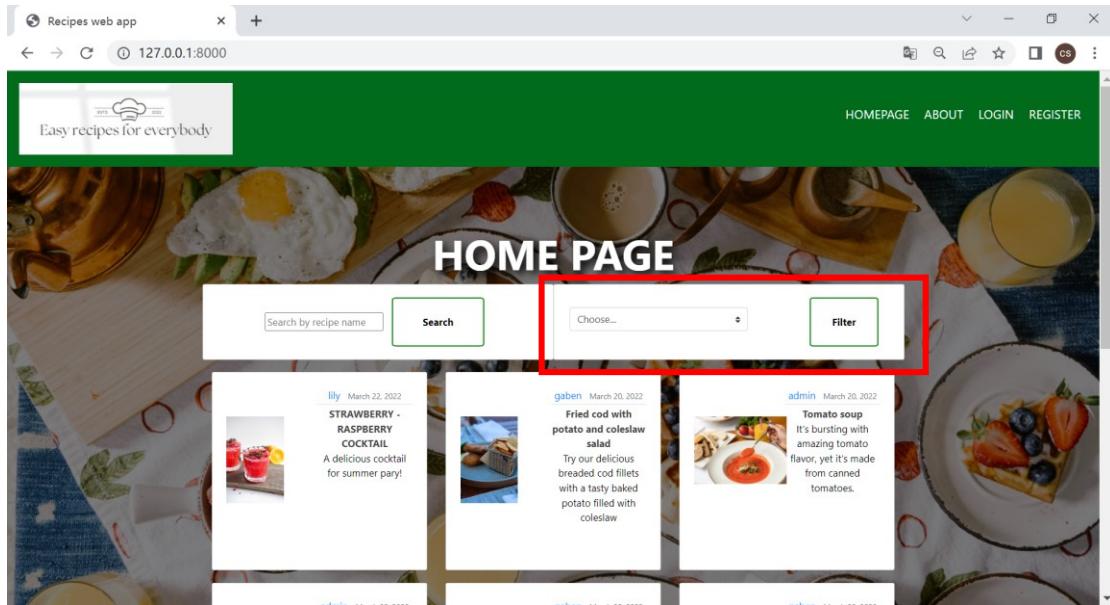
Users are able to filter the displayed recipes by their input using a form at the left top of the website homepage. By entering the text, they wish to filter using in the text field and clicking the “Search” button, the webpage refreshes, displaying only the recipes with titles that contain the entered text. For example, inputting “apple” and clicking the search button, the result is the recipe that includes “apple” in the recipe name.

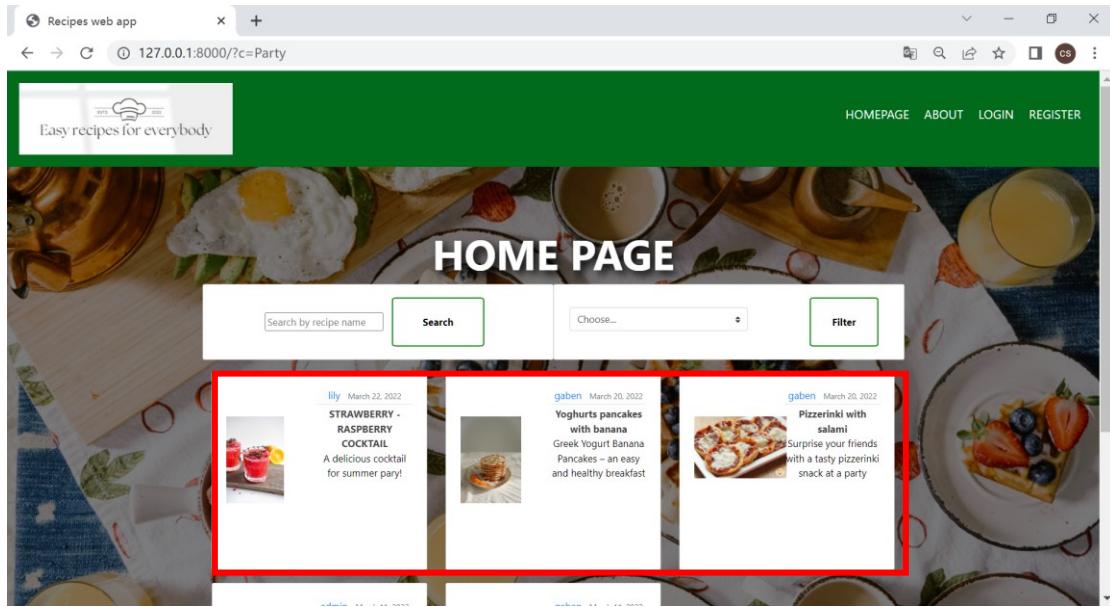




## 2.6 Category

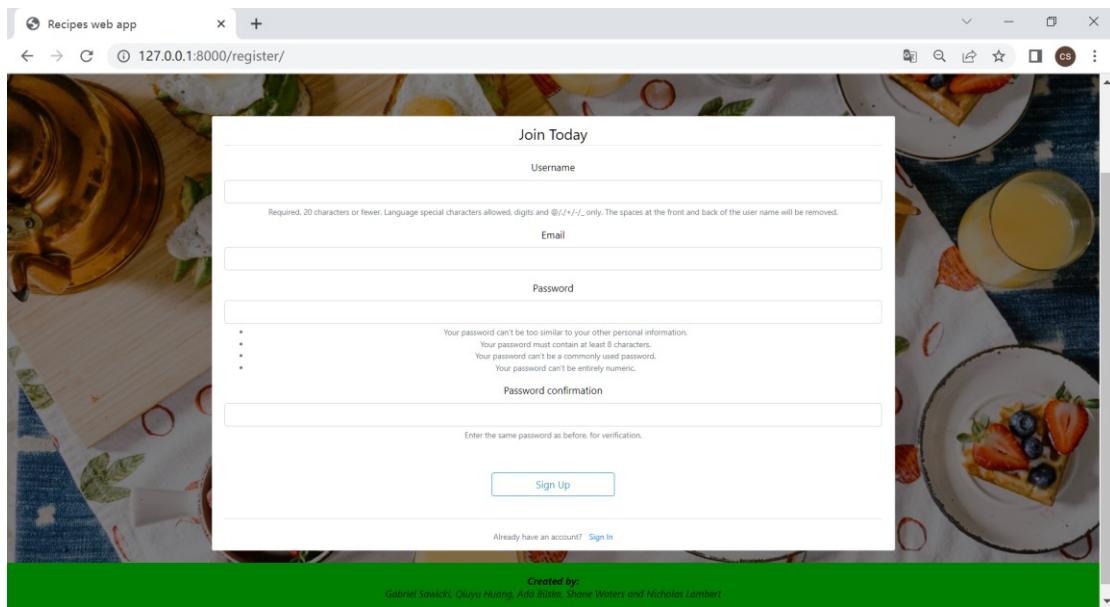
Users are able to filter the displayed recipes by their category through the use of a form at the right top of the website homepage. By selecting the category, they want to view from the dropdown and clicking the “Filter” button, the webpage refreshes, displaying only the recipes that fall under the selected category. For example, selecting the category “Party” and clicking “filter”, the result is recipes whose category is Party.





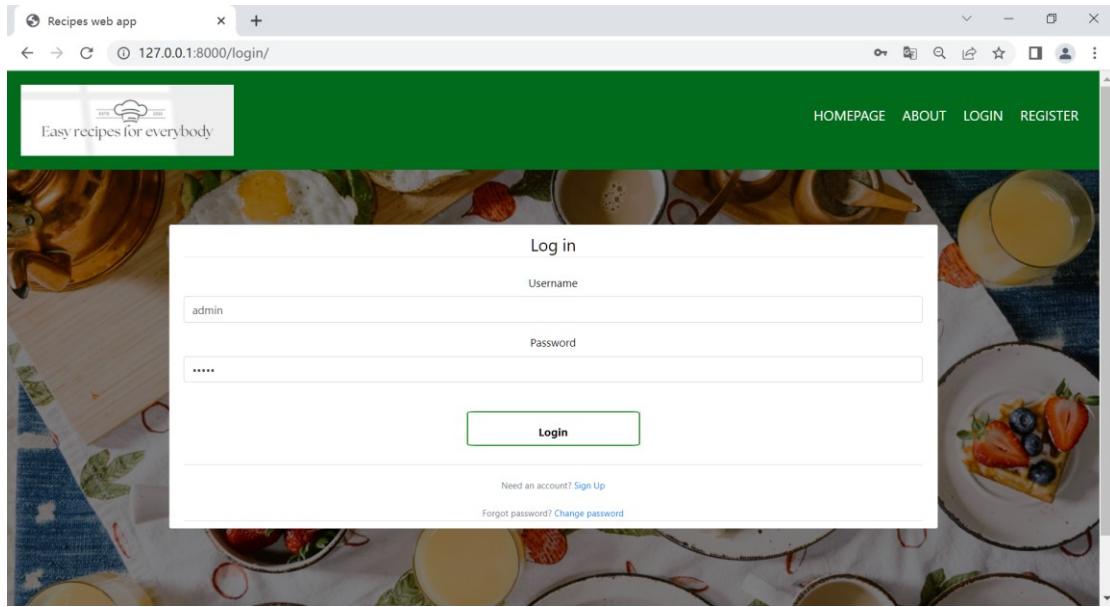
## 2.7 Register

Follow the instruction to input the proper username, email address and password, then click “Sign up”, creating an account to use.



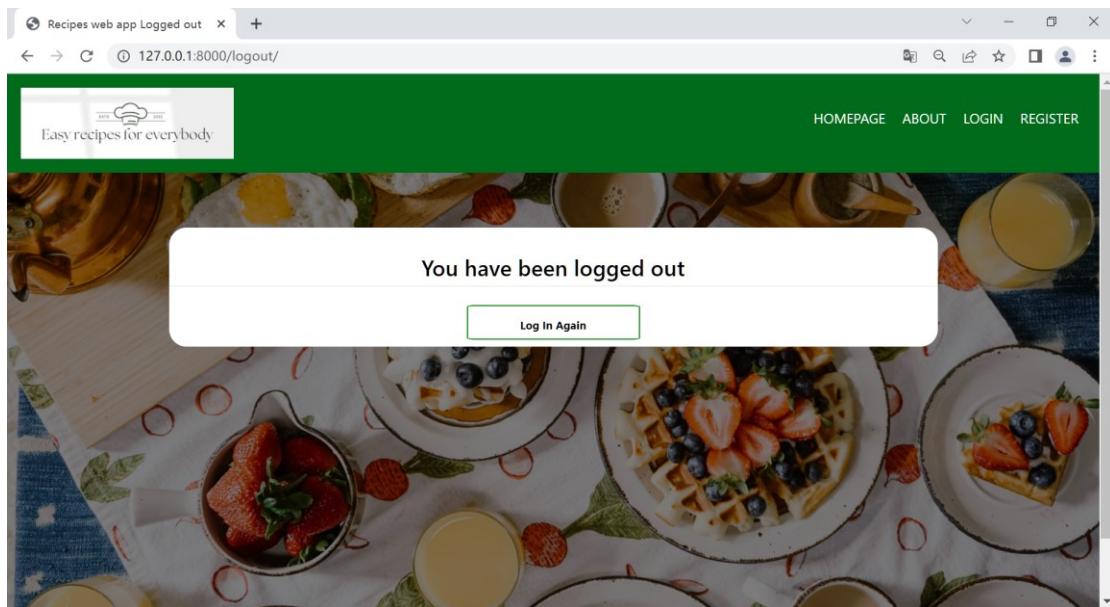
## 2.8 Log In

Input registered username and password, then click Login button. If the user doesn't have an account, the user could click the “sign up” below the Login button or the register button on the navigation bar. If forgot the password, the user can click the “Change password” to reset the password.



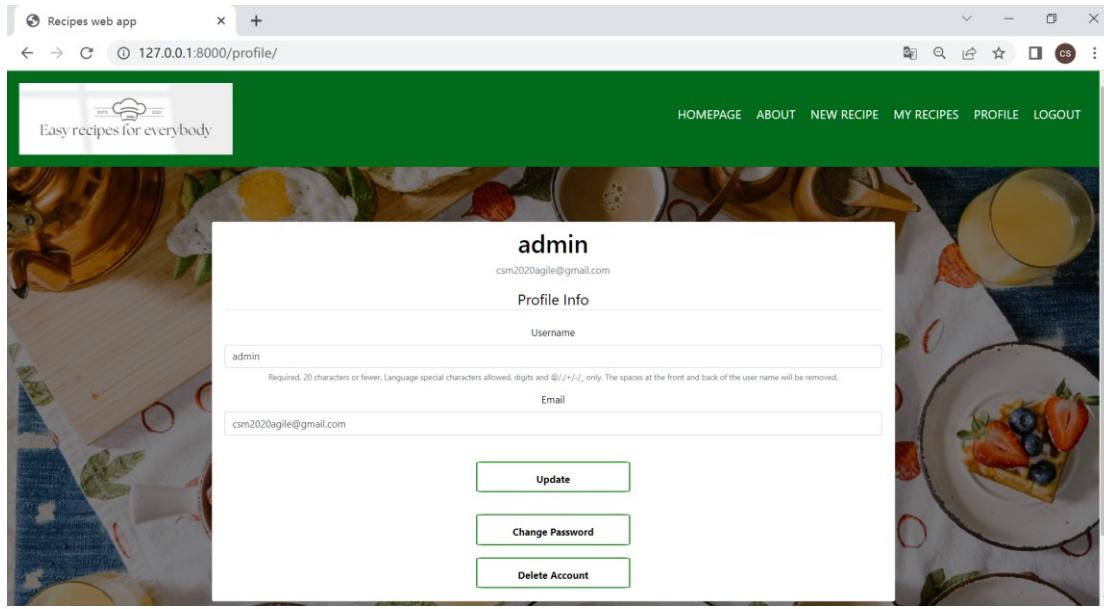
## 2.9 Log Out

After logging in, click the Logout button on the navigation bar. Then the user will be transferred to the logout page and can see the logout message.



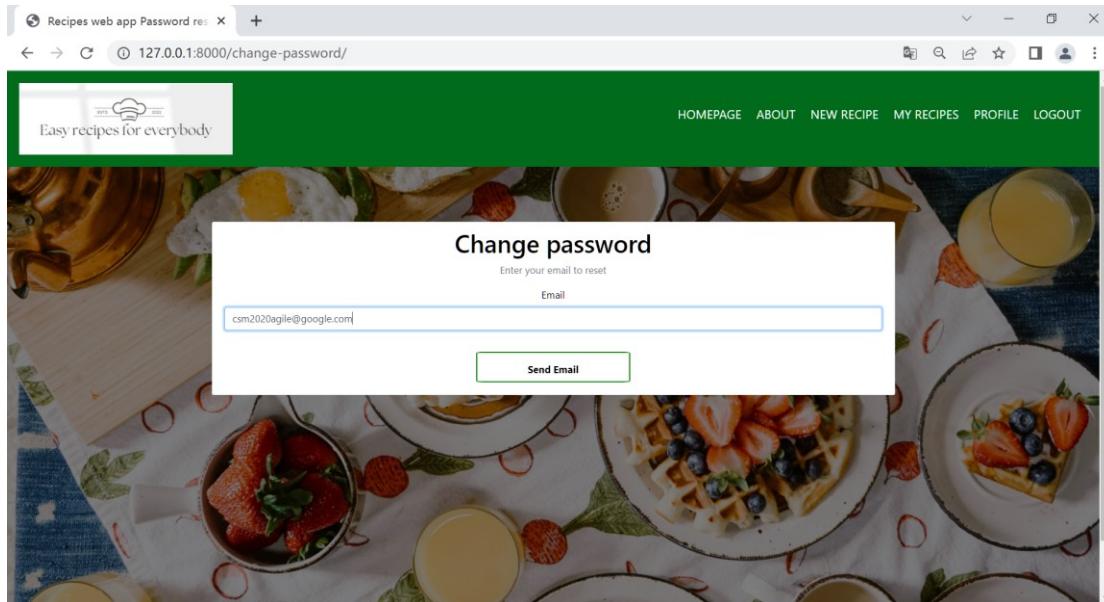
## 2.10 Profile

On Profile page, the user can follow the instruction to update the username and email address. Also, the user can click the change password button to change password, and delete account button to cancel the account.



## 2.11 Change Password

1. Input the registered email address and click “send email”
2. If it is the correct email address, the system will send an email to this email address.
3. Check the email box, there should be an email from csm2020agile@gmail.com.
4. Access the link in that email.
5. Enter new password and confirm password, then click “submit”
6. If the password that matches the criteria is entered, the user has successfully changed the password.

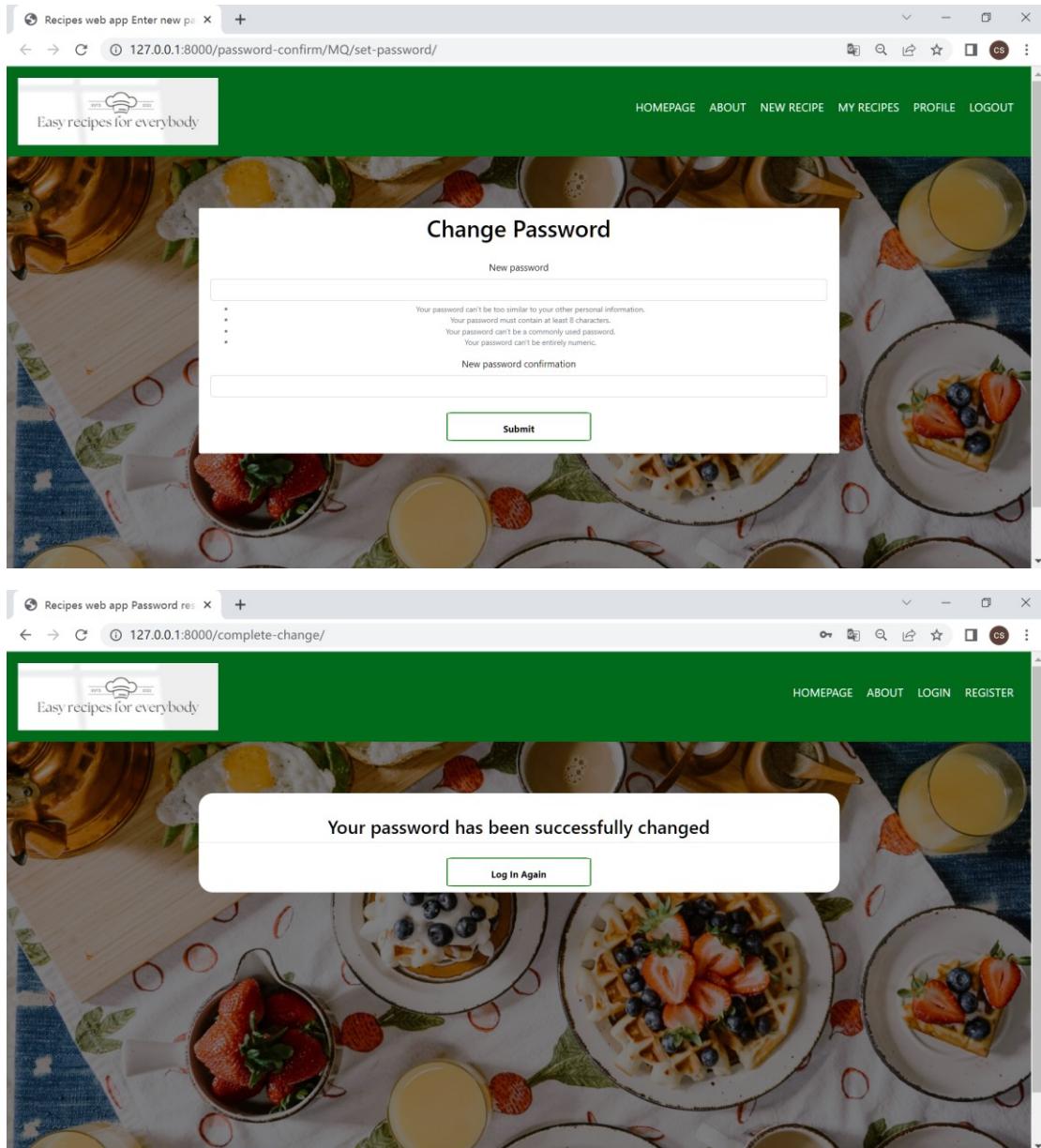


The screenshot shows a web browser window with two tabs open. The active tab is titled "Recipes web app Password res..." and displays a confirmation message: "EMAIL SEND". It says, "If an account exists with the email address you submitted, you should receive an email soon. If you haven't received the email, please make sure you've entered the correct email address and check spam folder." Below this message is a photograph of a breakfast spread with waffles, fruit, and juice.

The second tab is titled "Password reset on 127.0.0.1:8000" and shows an email from "csm2020agile@gmail.com" to "me". The subject is "Password reset on 127.0.0.1:8000". The email body contains instructions and a password reset link:

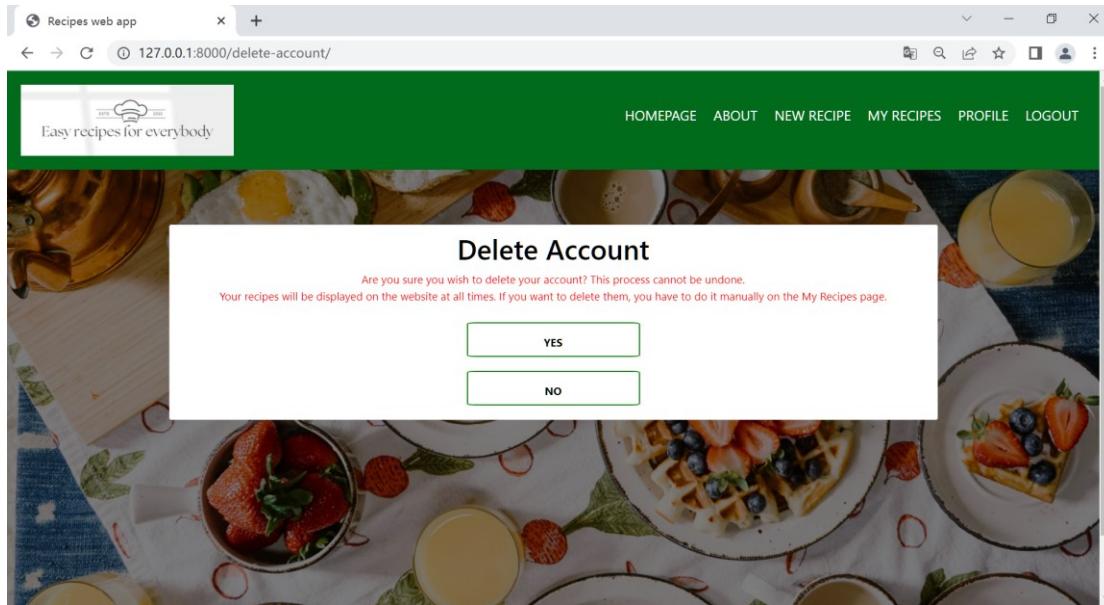
You're receiving this email because you requested a password reset for your user account at [127.0.0.1:8000](http://127.0.0.1:8000).  
Please go to the following page and choose a new password:  
<http://127.0.0.1:8000/password-confirm/MQzb2sd35-c1af21143881ae8bf89685e0ae5aeba3/>

Your username, in case you've forgotten: admin  
Thanks for using our site!  
The [127.0.0.1:8000](http://127.0.0.1:8000) team



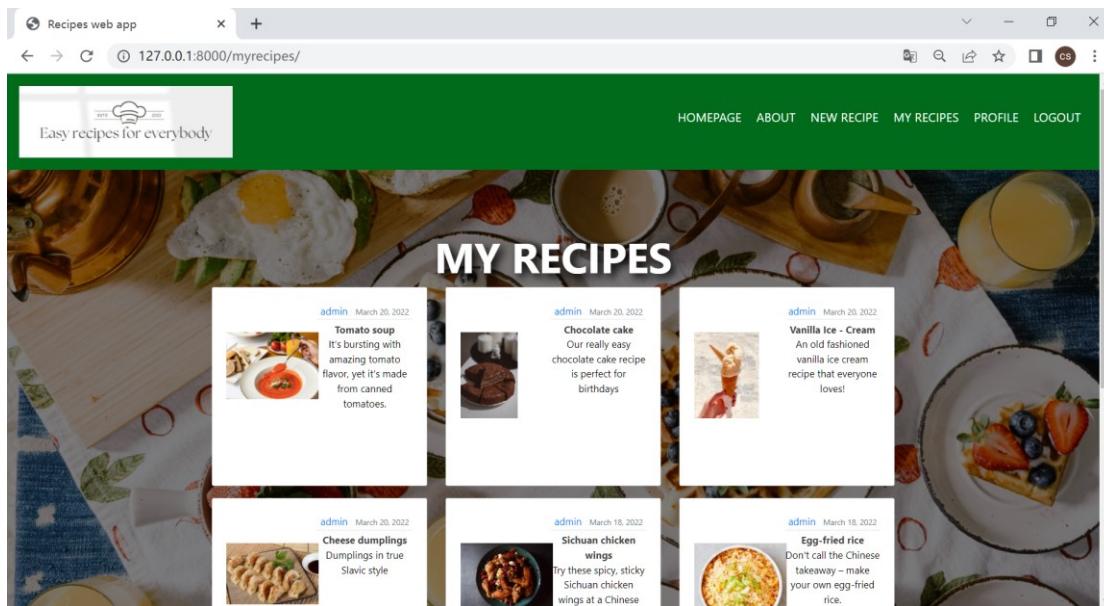
## 2.12 Delete Account

There is a warning on this page, users who want to delete their account should read it carefully. When clicking “YES”, the account will be deleted immediately. When clicking “NO”, the user will go back to Profile page



## 2.13 My Recipe

Click “My Recipes” button on the navigation bar, user can access to My Recipe page, to look at all the recipes that are uploaded. And can make some changes when accessing the Recipe Detail pages.



## 2.14 New Recipe

When uploading a new recipe, in step one, input the recipe name, description, instruction, total cost, portion and cooking time, and choose category and skill level, then click “Next” to step two.

It is not mandatory to upload recipe images, if don't upload, the default image will be used, if uploaded, the uploaded image will be displayed.

**Step 1**

Recipe name: Boiled eggs

Description: Original taste of eggs!

Instruction:

1. Put 4 eggs into the pot with cold water
2. Start the stove and boil eggs for 12 minutes
3. take out eggs and cold them in the cold water
4. peel the shell and eat

Recipe category: Other

Total cost (£): 0.5

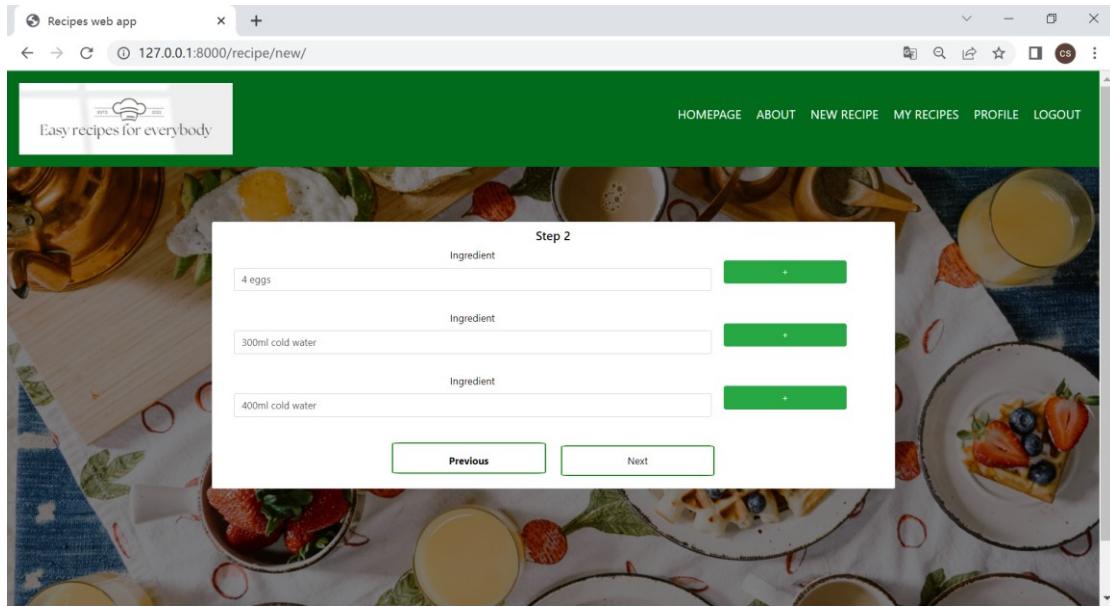
Cooking time (mins): 15

Portion: 4

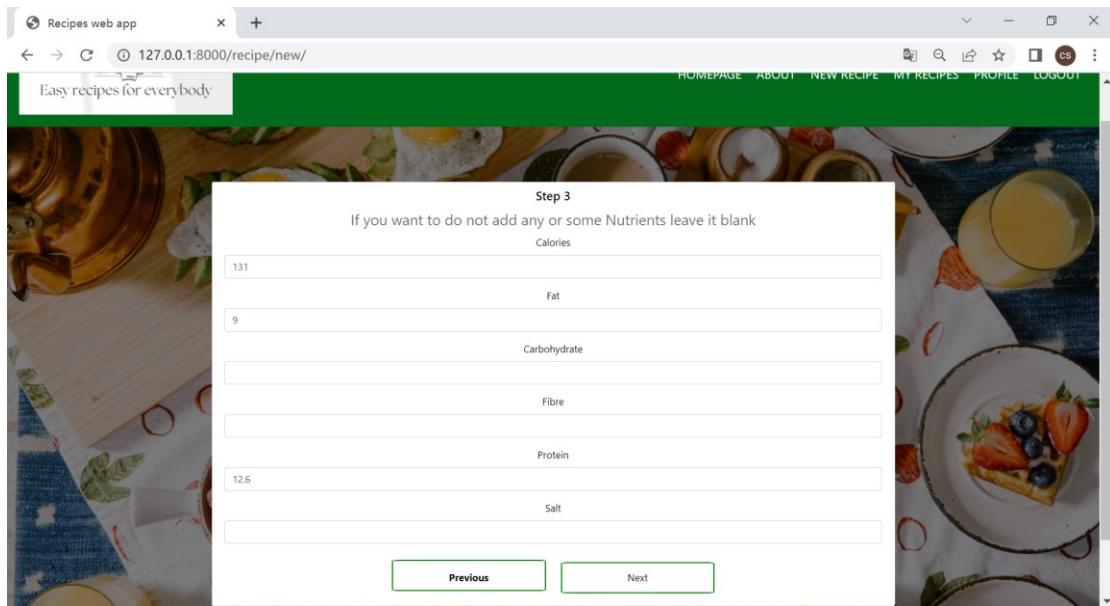
Skills level: Easy

Image: 选择文件 未选择任何文件

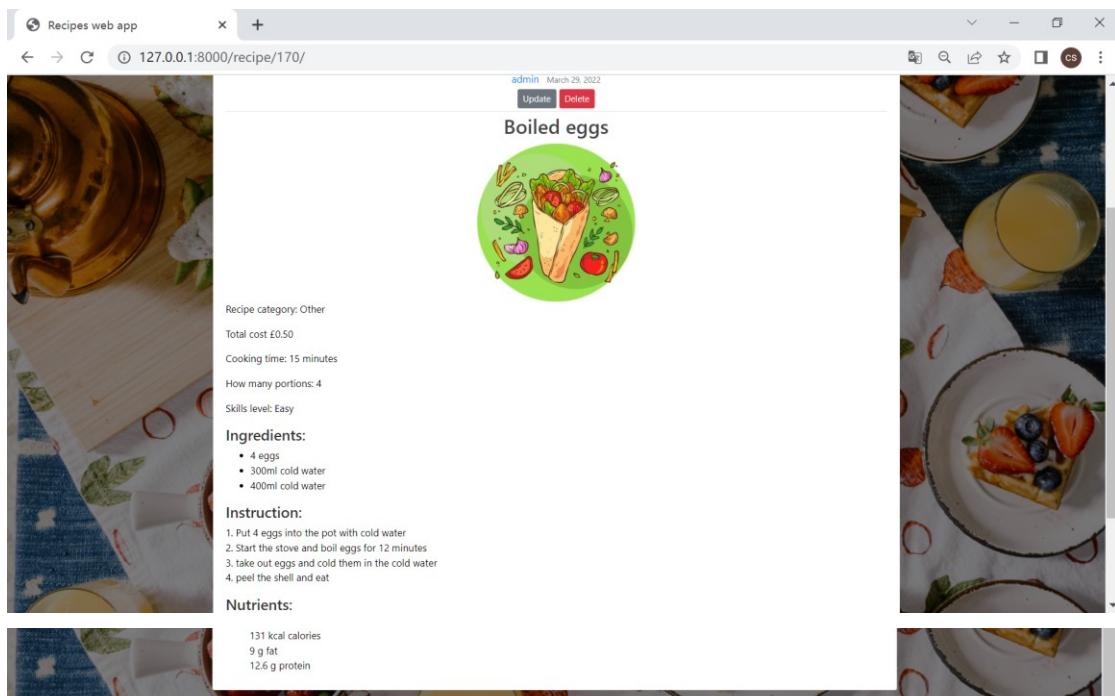
In step two, input proper ingredients then click “Next”. Users can add ingredients items by clicking on the plus sign and go back to step one by clicking “Previous”.



In step three, follow the instruction to input nutrients, then click “Next”.



Finally, the recipe is successfully uploaded.



## 2.15 Edit Recipe

Click the Update button, it will go to recipe update subpage, just the same as the steps of New recipe section to update details of the recipe. For example, click Update button and change the description of this recipe.

Step 1  
Recipe name: Boiled eggs

Description

Boiled eggs are eggs, typically from a chicken, cooked with their shells unbroken

Instruction

1. Put 4 eggs into the pot with cold water  
2. Start the stove and boil eggs for 12 minutes  
3. take out eggs and cold them in the cold water  
4. peel the shell and eat

**Before:**

**After:**

## 2.16 Delete Recipe

Click the delete button, the user will be moved to the Delete Recipe subpage. Click “cancel” will go back to the Recipe detail page, click “Yes, delete” will delete the recipe immediately and go back to homepage.

The top screenshot displays the 'Cheese dumplings' recipe detail page. The URL is 127.0.0.1:8000/recipe/116/. The page includes a header with 'admin' and 'Logout', and a sub-header 'Cheese dumplings'. Below the title is a photograph of cheese dumplings. The left sidebar contains a large image of a cooking scene and a list of recipe details: Category: Other, Total cost: £7.00, Cooking time: 40 minutes, Portions: 5, Skills level: Medium. The 'Ingredients:' section lists various items like cottage cheese, vanilla sugar, cane sugar, egg yolks, butter, flour, salt, and warm water. The bottom of the page has a 'Instruction:' section. The top right of the page has a 'Delete' button, which is circled in red in the screenshot. The bottom screenshot shows a confirmation dialog box titled 'Delete Recipe' with the message 'Are you sure you want to delete this recipe? "Cheese dumplings"' and two buttons: 'Yes, Delete' and 'Cancel'.

## 3 Database Design

### 3.1 Introduction

#### 3.1.1 Purpose of the design

This document describes and lays out the implementation of a normalised relational database for the project. This document provides an implementation of the database with example data.

#### 3.1.2 Scope

Everything which is persistently stored for the project will be included within the document.

### 3.2 Body of the design

The user table and password table are subject to change depending on Django's implementation of user login storage. The following tables are an initial design of the database to ensure the data follows at least 3<sup>rd</sup> Normal Form.

#### 3.2.1 Auth\_user Table

The user table is responsible for storing the user's login information. This table is essential for uniquely identifying a user within application and database. Some sensitive information is stored within this table, so it is required that it follows any legal requirements relating to storing personal information as outlined by the Data Protection Act. Passwords are required to be hashed to ensure they are kept securely; this document will not cover the hashing of passwords.

- Id: PRIMARY KEY, INTEGER – Uniquely identifies a user, auto-assigned by Django. Is used as the primary key for the auth\_user table.
- Password: VARCHAR(128) – A hashed password.
- Last\_login: TIMESTAMP WITH TIME ZONE – Records the last login time.
- Is\_superuser: BOOLEAN – Determines whether the user has super user permissions.
- Username: VARCHAR(150) – The alias by which the user is displayed.
- First\_name: VARCHAR(150) – The user's first name.
- Last\_name: VARCHAR(150) – The user's last name.
- Email: VARCHAR(254) – The user's email address.
- Is\_staff: BOOLEAN – Determines whether the user has staff permissions.
- Is\_active: BOOLEAN – Determines whether the user's account is active or not. It is preferred to make a user's account inactive rather than deleting it to maintain foreign key dependencies and maintaining their data.
- Date\_joined: TIMESTAMP WITH TIME ZONE – The date on which the user's account was created and added to the database.

### 3.2.2 Recipe Table

The recipe table is responsible for storing the recipes which the user created. This table holds most of the information for a recipe bar information that would otherwise stop the table from conforming to 3<sup>rd</sup> Normal Form. The Ingredient and Nutrient table are where data absent from this table is located.

- Id: PRIMARY KEY, FOREIGN KEY, INTEGER - Uniquely identifies a user, auto-assigned by Django. Is part of the composite primary key for the recipe table, is a foreign key from the auth\_user table.
- Recipe\_Name: PRIMARY KEY, VARCHAR(120) – The name of the recipe. Is part of the composite primary key for the recipe table.
- Cost: MONEY – How much the money the recipe will cost to make in GBP.
- Portion: SMALLINT – The number of portions the recipe will serve.
- Description: TEXT – A description of what the recipe is.
- Instructions: TEXT – A guide containing the steps to making the recipe.
- Cooking\_time: SMALLINT – The amount of time the recipe will take to cook.
- Skill\_level: ENUM(“Easy”, “Medium”, “Difficult”) – Categorises the recipe on how difficult it will be to make.
- Skill\_level: ENUM(“Party”, “Dinner”, “Picnic”, “Desert”, “Drink”, “Other”) – Categorises the recipe on how difficult it will be to make.
- Date\_added: TIMESTAMP – When the recipe was created and added into the database.

### 3.2.3 Ingredient Table

The ingredient table is responsible for storing the ingredients used within a recipe. To keep the database in 3<sup>rd</sup> Normal Form all fields must be atomic, so each ingredient has its own entry into this table.

- Id: PRIMARY KEY, FOREIGN KEY, INTEGER - Uniquely identifies a user, auto-assigned by Django. Is part of the composite primary key for the recipe table, is a foreign key from the auth\_user table.
- Recipe\_Name: PRIMARY KEY, FOREIGN KEY, VARCHAR(120) - The name of the recipe. Is part of the composite primary key for the recipe table, is a foreign key from the recipe table.
- Ingredient: PRIMARY KEY, VARCHAR(120) – The ingredient used in the recipe, this also includes the amount of the ingredient.

### 3.2.4 Nutrient Table

The nutrient table is responsible for storing all the nutrients of a recipe. This table has a one-to-one relationship with the recipe table and could be included inside it, it was separated out for clarity.

- Id: PRIMARY KEY, FOREIGN KEY, INTEGER - Uniquely identifies a user, auto assigned by Django. Is part of the composite primary key for the recipe table, is a foreign key from the auth\_user table.
- Recipe\_Name: PRIMARY KEY, FOREIGN KEY, VARCHAR(120) - The name of the recipe. Is part of the composite primary key for the recipe table, is a foreign key from the recipe table.
- Fat: PRIMARY KEY, DECIMAL(5, 2) – The amount of fat in the recipe.
- Carbohydrate: PRIMARY KEY, DECIMAL(5, 2) - The amount of carbohydrates in the recipe.
- Fibre: PRIMARY KEY, DECIMAL(5, 2) - The amount of fibre in the recipe.
- Protein: PRIMARY KEY, DECIMAL(5, 2) - The amount of protein in the recipe.
- Salt: PRIMARY KEY, DECIMAL(5, 2) - The amount of salt in the recipe.

### 3.2.5 Database UML

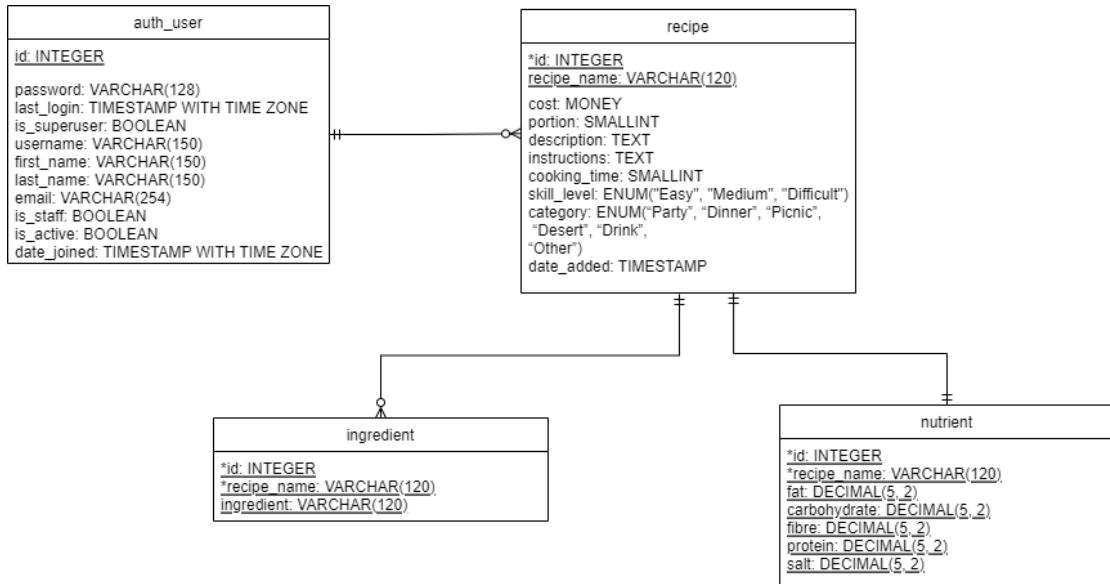


Figure 1: Database UML Diagram

## 4 Technical Design

### 4.1 Introduction

#### 4.1.1 Purpose of the design

This document describes all the interfaces, design of the pages which we used to create this project. Each page will be described carefully writing what the user is able to see on the page, the URL diagram of the page, pseudocode, user story and Acceptance Criteria for each of the pages.

#### 4.1.2 Scope

Everything which is persistently stored for the project will be included within the document.

### 4.2 Body of the design

Each page will be presented separately, taking into account two potential users - a person who has an account on the site and a person who does not.

#### 4.2.1 Typical Users

On the website we have two types of typical users:

- Users without accounts
- Users with accounts

The main assumption of the website is to promote among students that cooking does not have to be expensive, time-consuming, and demanding. The website aims to create a database of cheap recipes, which will be divided into 6 categories - picnic, party, dinner, dessert, drink and more - so that users can easily find something special for themselves. Users without an account will be able to search for any recipes or by a specific category. After finding a recipe for himself for dinner, at a party, the user is able to see the recipe details with all nutritional values, suggested price and how long it may take.

When the user wants to become one of the authors of the recipes and become a larger part of the community in the group, he can create an account that will give the user many more functions, such as adding their own recipes, editing their recipes.

#### 4.2.2 Use Cases

Use cases for users without an account:

- Navigation bar on the top of the screen
- Register Page
- Login Page
- Homepage:
  - Display a list of recipes
  - Sort recipes by category
  - Recipe List searched by keyword
  - Display a list of recipes by the author

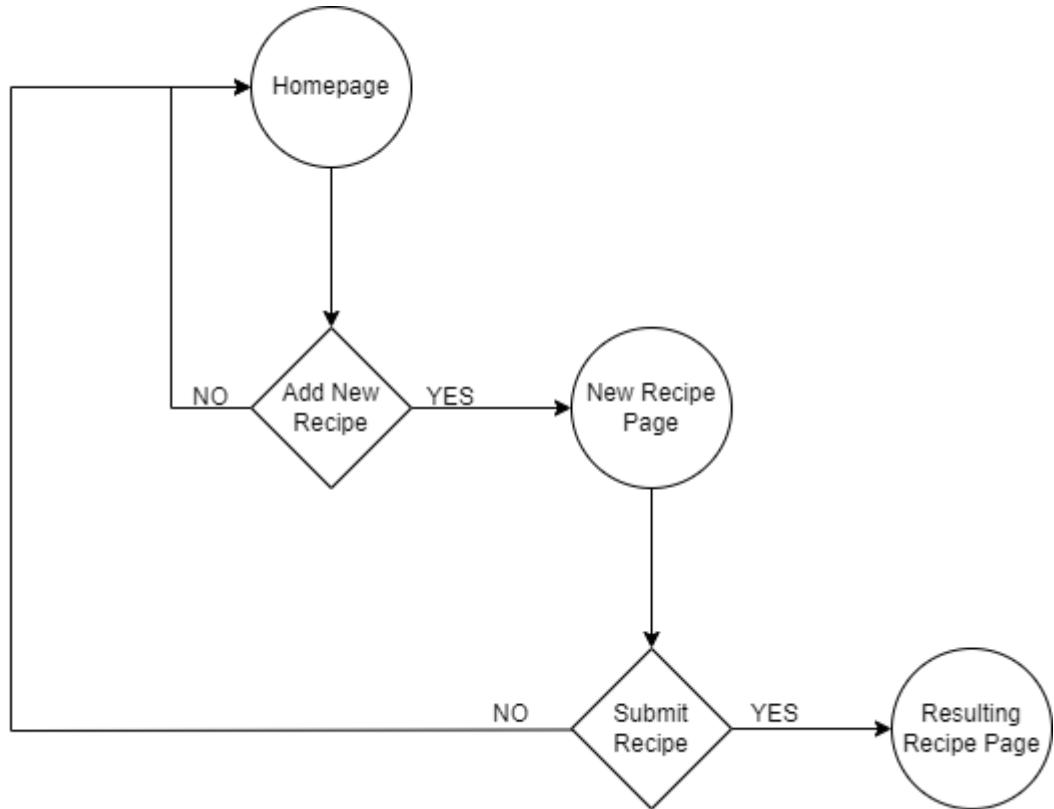
- Display concrete recipe:
  - Time of cooking
  - Skills for cooking
  - Ingredients
  - Instruction
  - Price
  - For how many portions are this recipe
  - Category
  - Nutrients

Use cases for users with accounts:

- Create account
- Change the password if the user forgot the password
- Navigation bar on the top of the screen
- Login to the website
- Profile page:
  - Change password
  - Delete account
  - Update account details
- My recipe page:
  - Change your recipe
  - Delete your recipe
- New recipe page:
  - Add recipe
- Homepage:
  - Display a list of recipes
  - Sort recipes by category
  - Recipe List searched by keyword
  - Display a list of recipes by the author
- Display concrete recipe:
  - Time of cooking
  - Skills for cooking
  - Ingredients
  - Instruction
  - Price
  - For how many portions are this recipe
  - Category

#### 4.2.3 Add Recipe

On this page, the user is able to add their own recipe to the website by filling out the relevant form sections and submitting the form. The page itself is made up of three distinct steps, when the user has filled out the basic information for their recipe they can proceed to the next step, which allows them to enter the ingredients for their recipe, after which they can proceed to the next step, which allows them to input the nutritional information for their recipe. Each of the steps after the first features a “previous” button, so that you can return to your previously entered information and amend it if necessary. During the second step, there are “+” buttons next to the ingredient fields so that more ingredients can be added if necessary. There are also “-” buttons present to remove ingredients if too many were added. The “next” button featured on the third step submits the recipe. As with all our webpages, the navigation bar is displayed at the top of the page, featuring HOMEPAGE, ABOUT, NEW RECIPES, MY RECIPES, PROFILE and LOGOUT, as the user must be logged in to add a recipe, the navigation bar will differ from the one that is viewed while not logged in.



##### 4.2.3.1 User story

As a user, I want to share recipes on this website, including ingredients and nutrition information.

Detail: If the user wants to add a recipe, then they must first be logged in to the website. Once they are successfully logged in, they can add a recipe by navigating to the add recipe page via the “NEW RECIPE” option on the navigation bar. They can then fill in the details of the recipe that they wish to add and submit the form, leading to the recipe being available to view on the website.

#### 4.2.3.2 Acceptance Criteria

The page should be able to take user input for the fields required to create a recipe: Recipe Name, Description, Instructions, Recipe Category, Total Cost, Cooking Time, Portions, Skill Level, Optional Recipe Image, Ingredients and Optional Nutritional Information. It should allow users to return to previous steps of the recipe creating process via the “Previous” and “Next” buttons. The page should also feature the “Logged in” Navigation bar, with options to go to the following pages;

- “HOMEPAGE” to Homepage
- “ABOUT” to About Page
- “NEW RECIPE” to Add Recipe Page
- “MY RECIPES” to My Recipe Page
- “PROFILE” to the Profile Page
- “LOGOUT” to Logout Page

#### 4.2.3.3 User interface

The screenshot shows a web application for creating a new recipe. The background features a collage of food-related images, including a waffle with fruit, a kettle, and various fruits. At the top, there's a navigation bar with icons for a chef's hat, a person, and a search function, followed by the text "Easy recipes for everybody". To the right of the navigation bar are links for HOMEPAGE, ABOUT, NEW RECIPE, MY RECIPES, PROFILE, and LOGOUT. The main content area is titled "Step 1" and "Recipe name", with a large text input field below it. Below that is a "Description" section with a large text input field. Further down is an "Instruction" section with another large text input field. The next section is "Recipe category", with a dropdown menu currently set to "Other". Below that are fields for "Total cost (€)" and "Cooking time (mins)". There's also a "Portion" field containing the number "1". The "Skills level" field is set to "Easy". A "Choose file" button is present, with the message "No file chosen". An "Image" section follows, which includes a placeholder for a uploaded image and a "Next" button at the bottom.

The image consists of two vertically stacked screenshots of a web-based recipe creation tool. Both screenshots feature a background of a breakfast spread on a table with waffles, fruit, and juice.

**Top Screenshot (Step 2):**

- Header: "Easy recipes for everybody" logo and navigation bar with links: HOMEPAGE, ABOUT, NEW RECIPE, MY RECIPES, PROFILE, LOGOUT.
- Title: "Step 2"
- Form: Three input fields labeled "Ingredient" with corresponding red progress bars below them.
- Buttons: "Previous" and "Next".

**Bottom Screenshot (Step 3):**

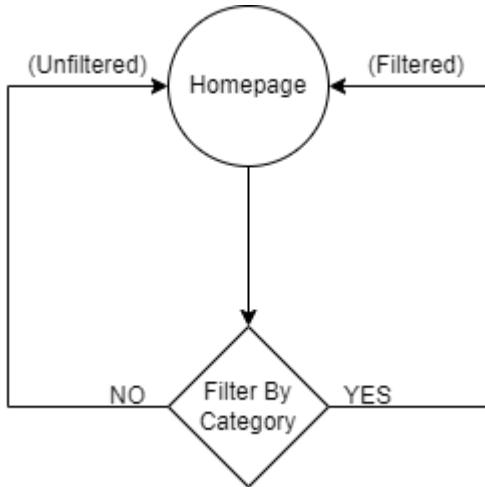
- Header: "Easy recipes for everybody" logo and navigation bar with links: HOMEPAGE, ABOUT, NEW RECIPE, MY RECIPES, PROFILE, LOGOUT.
- Title: "Step 3"
- Text: "If you want to do not add any or some Nutrients leave it blank"
- Form: Six input fields for "Calories", "Fat", "Carbohydrate", "Fibre", "Protein", and "Salt", each with a corresponding nutrient-specific progress bar.
- Buttons: "Previous" and "Next".

On the client side, the user can view the “NEW RECIPE” option in the navigation bar after successfully logging in. Upon clicking the “NEW RECIPE” option, they are taken to the webpage that handles the inputting of new recipes, where they can fill in the empty forms to submit their recipe to the website.

On the server side, checks are run to ensure that the user being sent to the webpage for handling new recipes is in fact logged in, in which case they are served the appropriate webpage. When the user has completed the new recipe form, the server then inputs the recipe in the database, tying the recipe to the user who submitted it. The server then redirects the user to the webpage specific to the recipe they just submitted.

#### 4.2.4 Category filter

The user is able to filter the displayed recipes by their category through the use of a form at the top of the website homepage. By selecting the category they want to view from the drop down and clicking the “Filter” button, the webpage refreshes, displaying only the recipes that fall under the selected category.



#### 4.2.4.1 User story

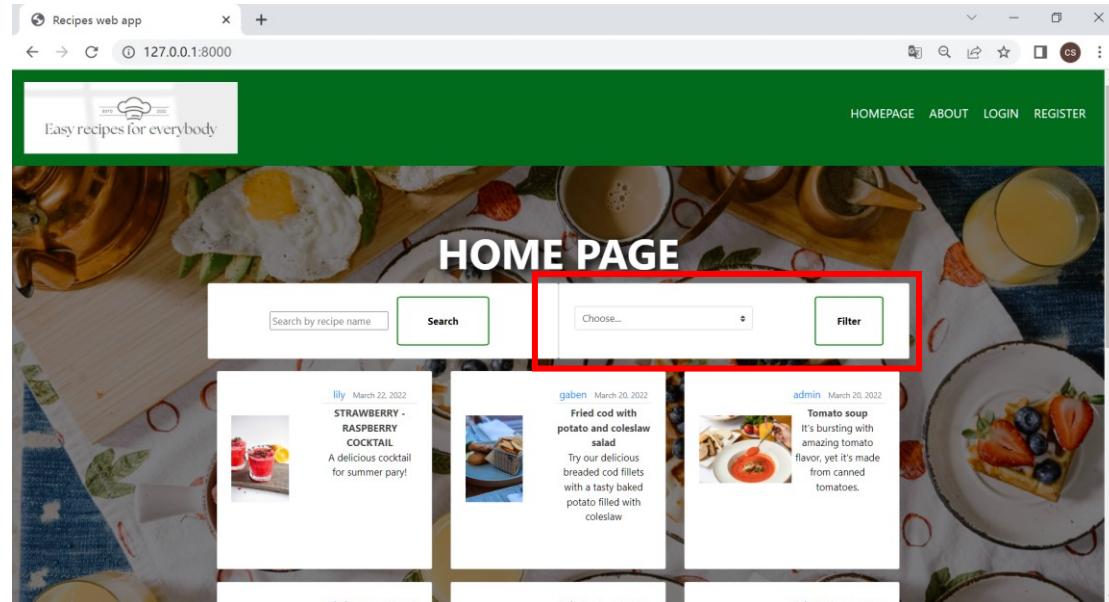
As a user, I want to filter the recipe list by choosing different categories.

**Detail:** The user is able to view recipes filtered by category. The user is able to do that by going to the Homepage and selecting the category they would like to filter by from the provided dropdown. The User can then click the “Filter” button refreshing the webpage and displaying it again, now featuring only the recipes fitting the specified category.

#### 4.2.4.2 Acceptance Criteria

The Category filter should be capable of filtering all recipes by their category.

#### 4.2.4.3 User interface

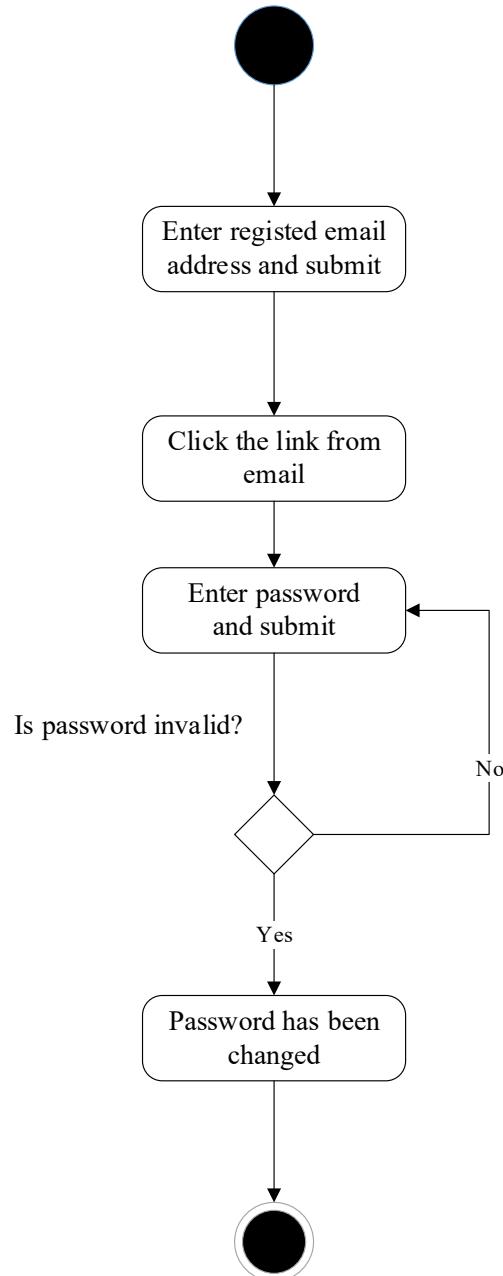


This feature should appear for all users whether they are logged in or not. On the client side, the client selects the category of the recipe they would like to view and submits the form. On the server side, the query set of recipes is narrowed to only recipes that are from the specified category. The server then serves the client the homepage, but with only the specified recipes.

#### 4.2.5 Change Password

The registered user is able to change the account password. There are two situations: one is that

the user has forgotten the password when logging in, and the other is that the user wants to change the password after logging in. On the login page or account page, click the "Change Password" button to move to the Change Account Password page. The following is the process of changing the password.



#### 4.2.5.1 User story

As a user, I want to change the password when I forgot it or change it for security reasons.

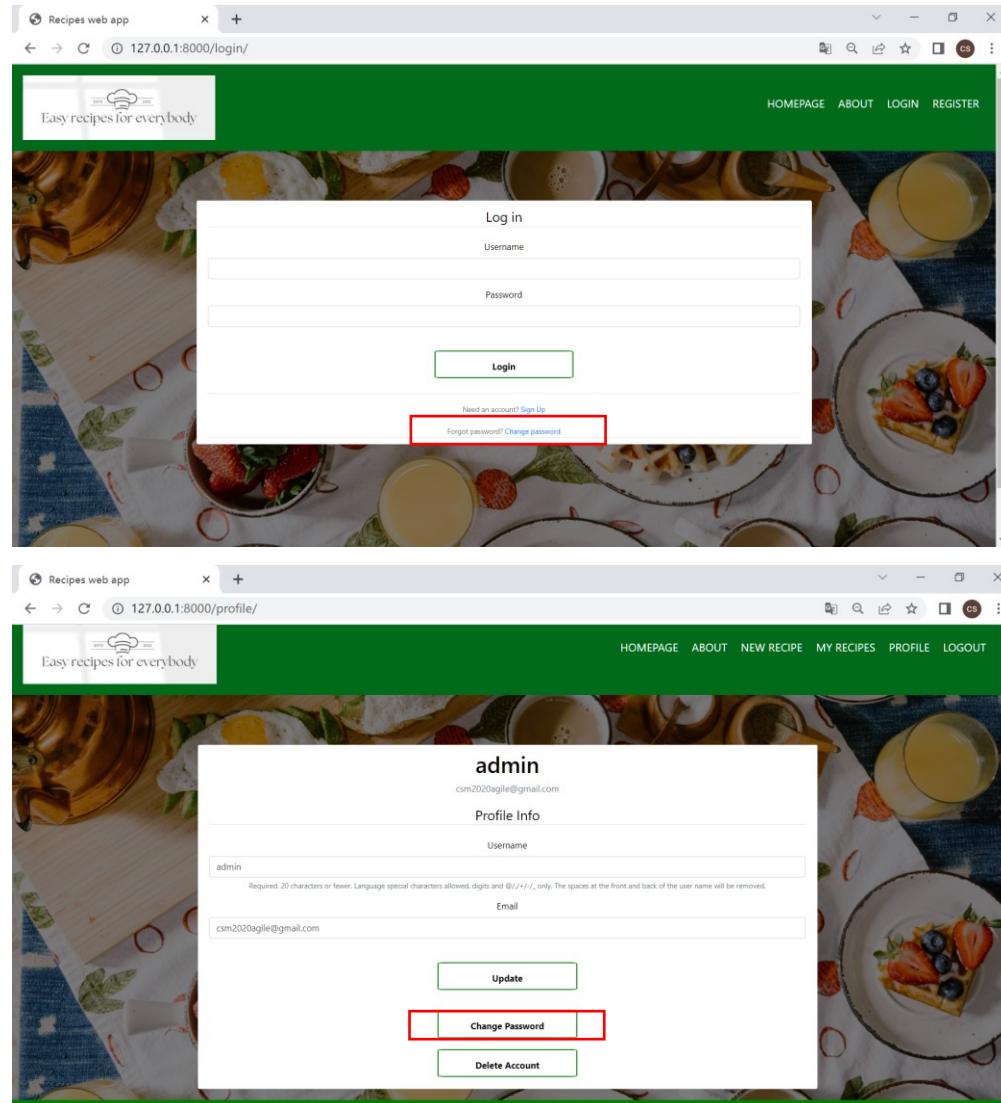
**Detail:** In order to maintain the security of the system, use the registered email to receive the link to change the password. When confirming the password, the password should be verified to protect the security of the user account. For two different situations, both the login page and the account page need to have the button to change password.

#### 4.2.5.2 Acceptance Criteria

The password can't be too similar to the username, must contain at least 8 characters, cannot be a commonly used password and entirely numeric. The new password and new password confirm should be identical. During these steps of changing password, the pages should display normally.

After submitting the registered email address, there should be a message to let the user know the email with a link has been sent. After changing password, there should be a message to let the user know password has been modified successfully and there is a button "Log in again", clicking this button should be moved to Login page.

#### 4.2.5.3 User interface



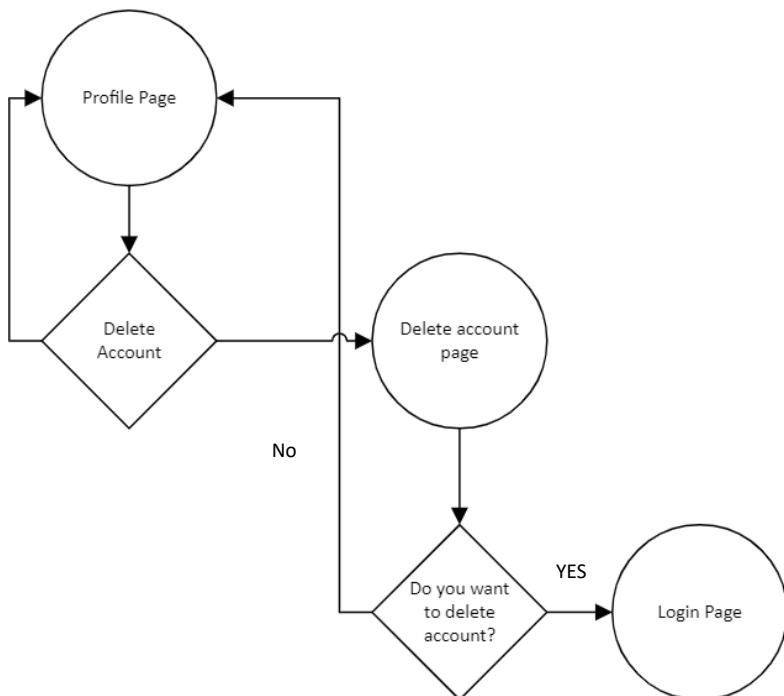
Only registered users can use the change password function. On the client side, on the login page, the user clicks on the "Change password" link at the bottom of the page and the user begins the process of changing their password. Or on the account page, the user starts the process of changing his/her password by clicking on the "Change password" button.

On the server side, an email with a link will be sent to the user's email address after they have submitted their email address, which will take them to the password confirmation subpage. Once the password has been submitted, the system will verify the password and if it is entered

legally, the corresponding account password will be changed in the database and the login status will be logged out.

#### 4.2.6 Delete Account

When the user is successfully logged in to the website, he/she is able to delete his/her own account. The user needs to go to Profile Page and then click the button DELETE ACCOUNT. After this, he/she is moved to the Delete account page. On the top of the screen, the user is able to see the navigation bar with six buttons and the website logo. All the buttons are moving the user to the dedicated pages. On the screen user is able to see the message – Are you sure you wish to delete your account? This process cannot be undone. Your recipes will be always displayed on the website. If you want to delete them, you have to do it manually on the My Recipes page. – and two buttons – YES and NO. Button NO is moving ser to the Profile page again and button YES is deleting the user account and moving the user to Login Page.



##### 4.2.6.1 User Story

As a registered user, I want to delete my account.

Detail: The user is able to delete the account only when he/she is successfully logged in to the website and he/she will go to Profile Page. When the user does that, he/she pressed the button Delete Account and the user is moved to Delete Account Page. Then he/she needs to answer the question - Are you sure you wish to delete your account? This process cannot be undone. Your recipes will be displayed on the website at all times. If you want to delete them, you have to do it manually on the My Recipes page. If the user wants to delete all recipes too, he/she needs to press button NO and go to My Recipes Page and delete each of the recipes manually and then come back to Profile Page, press button – Delete Account and after he/she is moving to Delete Account Page, user needs to press button YES. If the user wants to leave all the recipes

on the website, he/she can press the button YES right away.

#### 4.2.6.2 Acceptance Criteria

The page should display the message, two buttons and a navigation bar. Each button should be clearly named. The following buttons should move the user to the connecting pages:

- “HOMEPAGE” to Homepage
- “ABOUT” to About Page
- “NEW RECIPE” to Add recipe Page
- “MY RECIPES” to My Recipe Page
- “PROFILE” to Profile Page
- “LOGOUT” to Logout Page
- “NO” to Profile Page

YES button should change the active status of the user who wants to delete the account and then the user is no longer able to login to the website. After the user pressed it, he/she should be moved to Login page and ultimately log out from the website.

#### 4.2.6.3 User interface

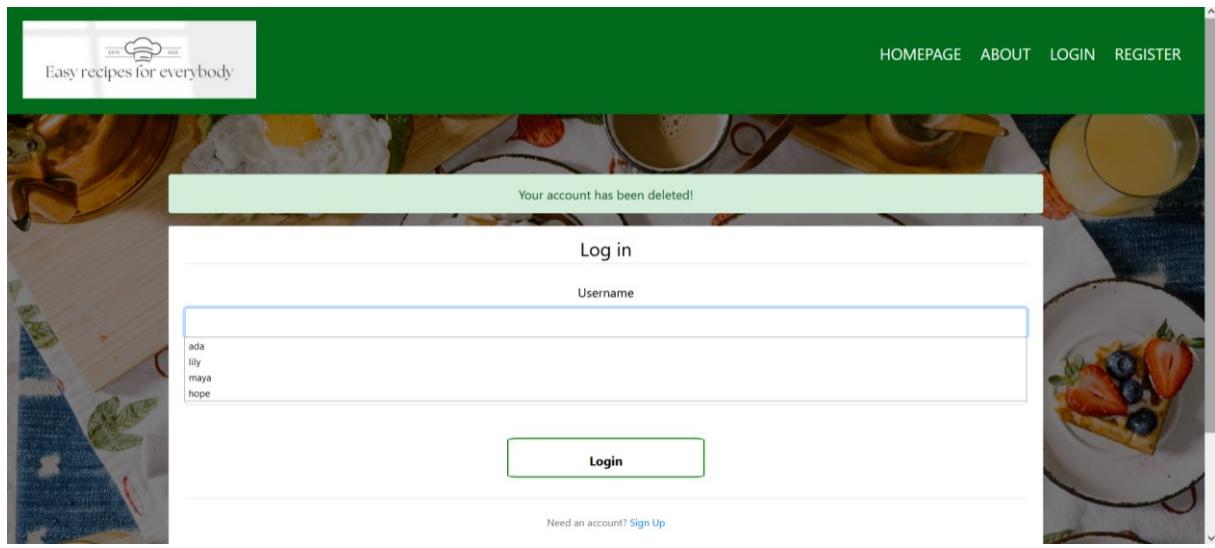
The image consists of two screenshots of a web application. Both screenshots show a header with a logo and the text "Easy recipes for everybody". On the right side of the header are links for HOMEPAGE, ABOUT, NEW RECIPE, MY RECIPES, PROFILE, and LOGOUT. The background of both screenshots is a photograph of various food items like waffles, fruit, and juice.

**Screenshot 1: Profile Info (Top)**

This screenshot shows a user profile for "admin". The profile information includes the name "admin" and the email "csm2020agile@gmail.com". Below this is a "Profile Info" section with fields for "Username" (containing "admin") and "Email" (containing "csm2020agile@gmail.com"). At the bottom of this section are three buttons: "Update", "Change Password", and "Delete Account".

**Screenshot 2: Delete Account (Bottom)**

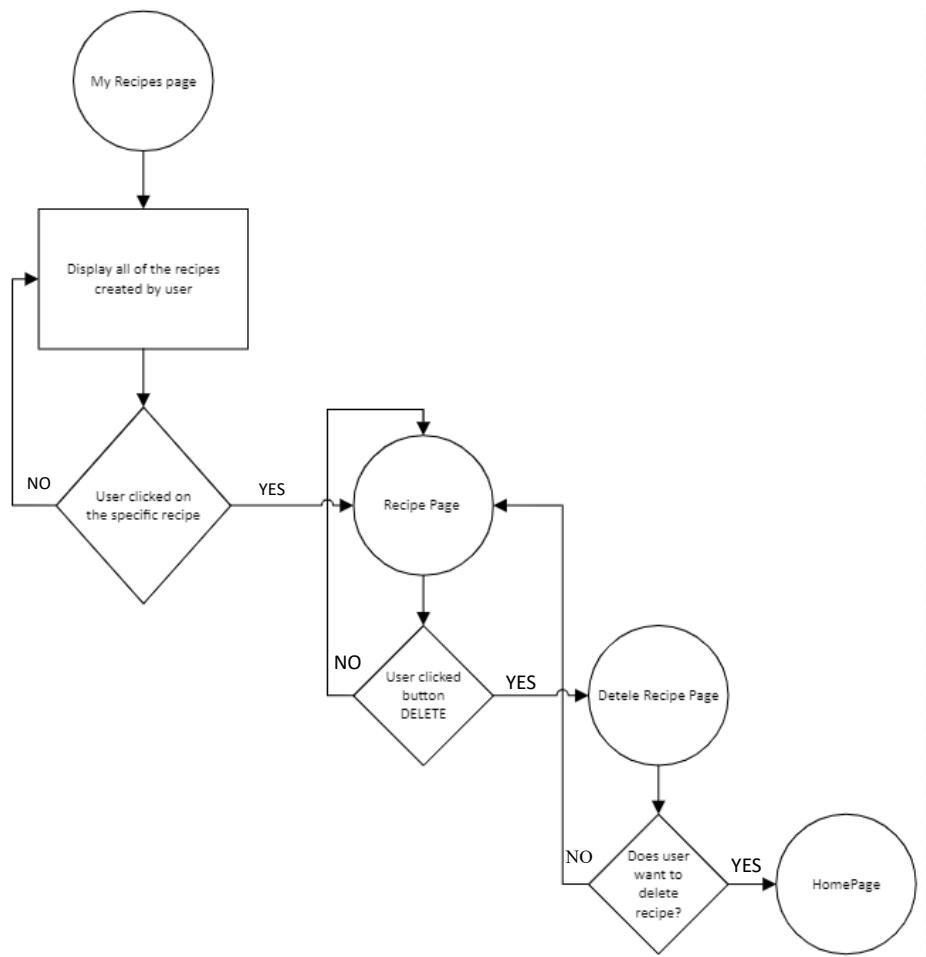
This screenshot shows a confirmation dialog titled "Delete Account". It contains a message asking if the user is sure they wish to delete their account, stating that this process cannot be undone and that their recipes will be displayed on the website at all times. If they want to delete them, they must do it manually on the My Recipes page. At the bottom are two buttons: "YES" and "NO".



The Delete Account page appears for the user when he/she is successfully logged in to the website and after he/she went to the profile page and he/she pressed the button – Delete Account. On the client-side is to press the button YES or NO. On the server-side is when the user press button NO – move him to the profile page, when the user press YES – logout him from the page, change the active value in the database to false next to his/her username and move the user to Login page.

#### 4.2.7 Delete Recipe

When the user is successfully logged in to the website, he/she is able to add recipes, edit recipes and delete recipes. To delete recipes user needs to go to My Recipe page and click on the recipe that he/she wants to delete. Then on the screen is appear all details about the recipe with the red button DELETE on the top of the recipe. When the user will click on this button, he/she is moving to Delete Recipe Page. On the screen appear the message – Are You sure, you want to delete this recipe? – and two buttons – “Yes, delete” and “Cancel”. On the top of the screen is the navigation bar with 6 buttons – Homepage, About, New Recipe, My Recipes, Profile and Logout. All the buttons are moving the user to the dedicated pages.



#### 4.2.7.1 User Story

As a user, I want to delete the recipes I created.

**Detail:** The user is able to delete only the recipes which he/she created. He/she wants to do it, so the user is going first to the My Recipe Page, choosing the recipe which he/she wants to delete, clicking on this recipe and then on the top of the recipe user is able to see red button DELETE. The user is clicking the red button DELETE and he/she is moving to Delete Recipe Page. On the screen, he/she see a message is he/she sure that the user wants to delete the recipe. Because the user wants to delete it, he/she is clicking the Yes, Delete button. Once the recipe is deleted. nobody is no longer able to see this recipe.

#### 4.2.7.2 Acceptance Criteria

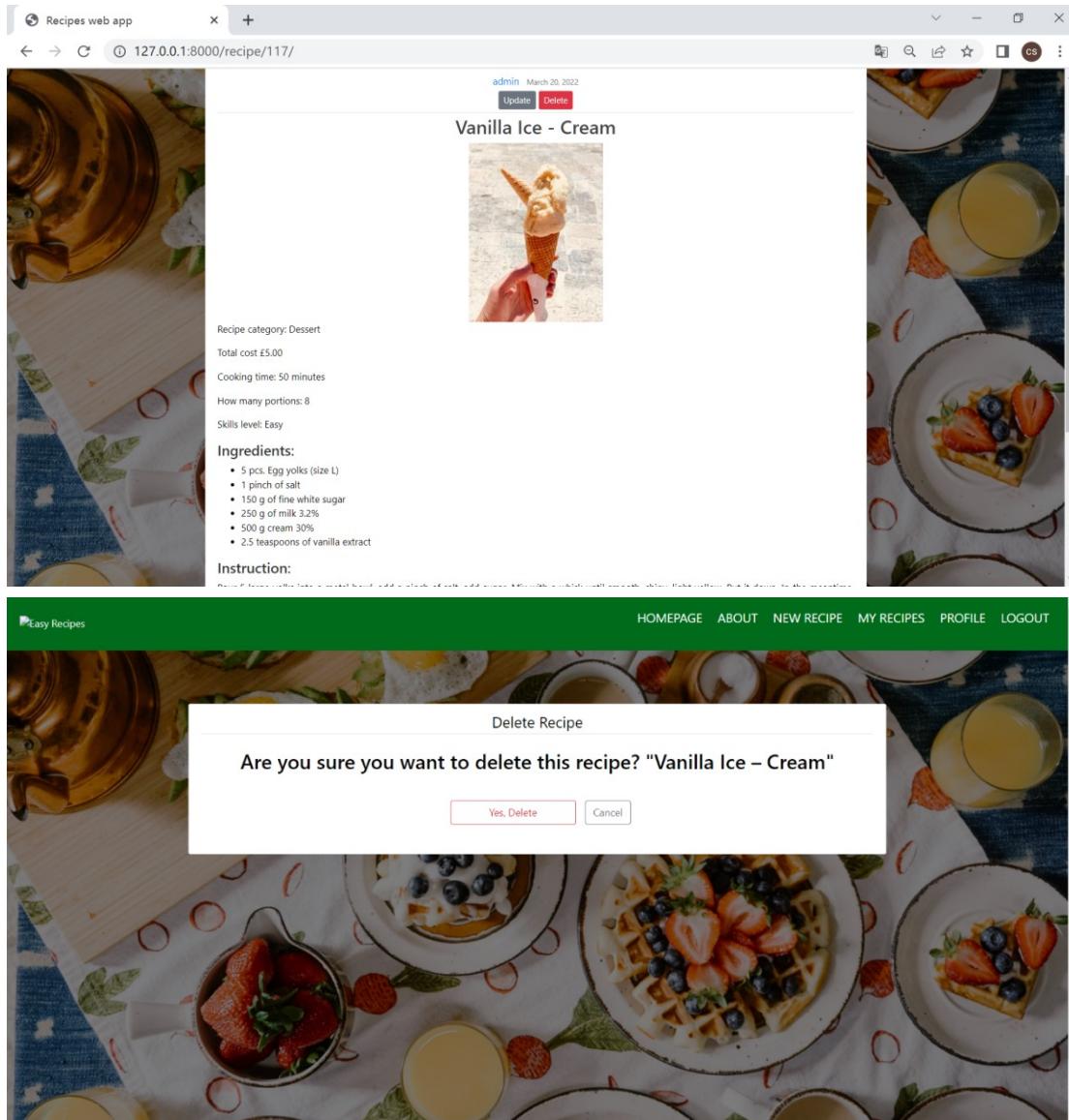
The page should display a message, two buttons and the navigation bar. Each button should be clearly named. Seven of eight buttons should move the user to connecting pages:

- “HOMEPAGE” to Homepage
- “ABOUT” to About Page
- “NEW RECIPE” to Add Recipe Page
- “MY RECIPES” to My Recipe Page
- “PROFILE” to Profile Page

- “LOGOUT” to Logout Page
- “Cancel” to Recipe Detail Page

“Yes, delete” button should delete the recipe from the database and move the user to the Homepage.

#### 4.2.7.3 User interface

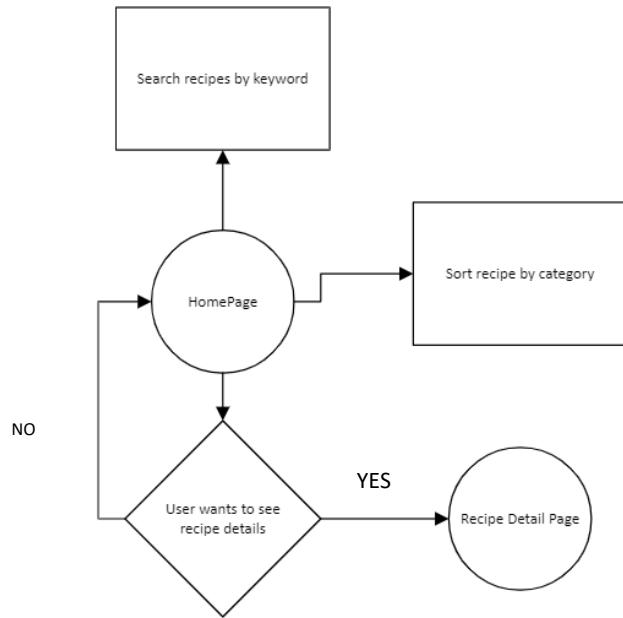


The Delete Recipe page appears for the user when he/she is successfully logged in to the website and when the user chose the recipe that the user wants to delete. On the client side, the user chooses the next action dealing with the recipe by clicking the button “Yes, delete” or the button “Cancel”. On the server side is to delete a recipe from the database if the user will press the button Yes, delete or move the user to the specific site which the user chose on the navigation bar or by clicking the button cancel.

#### 4.2.8 Homepage

On the screen, the user is able to see all the recipes which been added to the websites. Recipes are displayed in the white block with author, date, recipe name, recipe description and photo.

Above then is search and sort by category functions that the user is able to use. On the top of the screen is the navigation bar on which is located the logo of the website and depending on whether the user is logged in or not 6 or 4 buttons that move users to the dedicated pages.



#### 4.2.8.1 User Story

As a user, I want to see recipes when accessing the website. I want to host a party tomorrow and I want to find recipes especially for that, and I also want to check some salad recipes.

**Detail:** The user is able to see homepage when he/she has and hasn't got an account. The user is able to choose "Party" category to sort recipes. The user is able to use the search function, using the keyword "salad" to search and then all of the recipes whose names include the word "salad" will appear on the homepage.

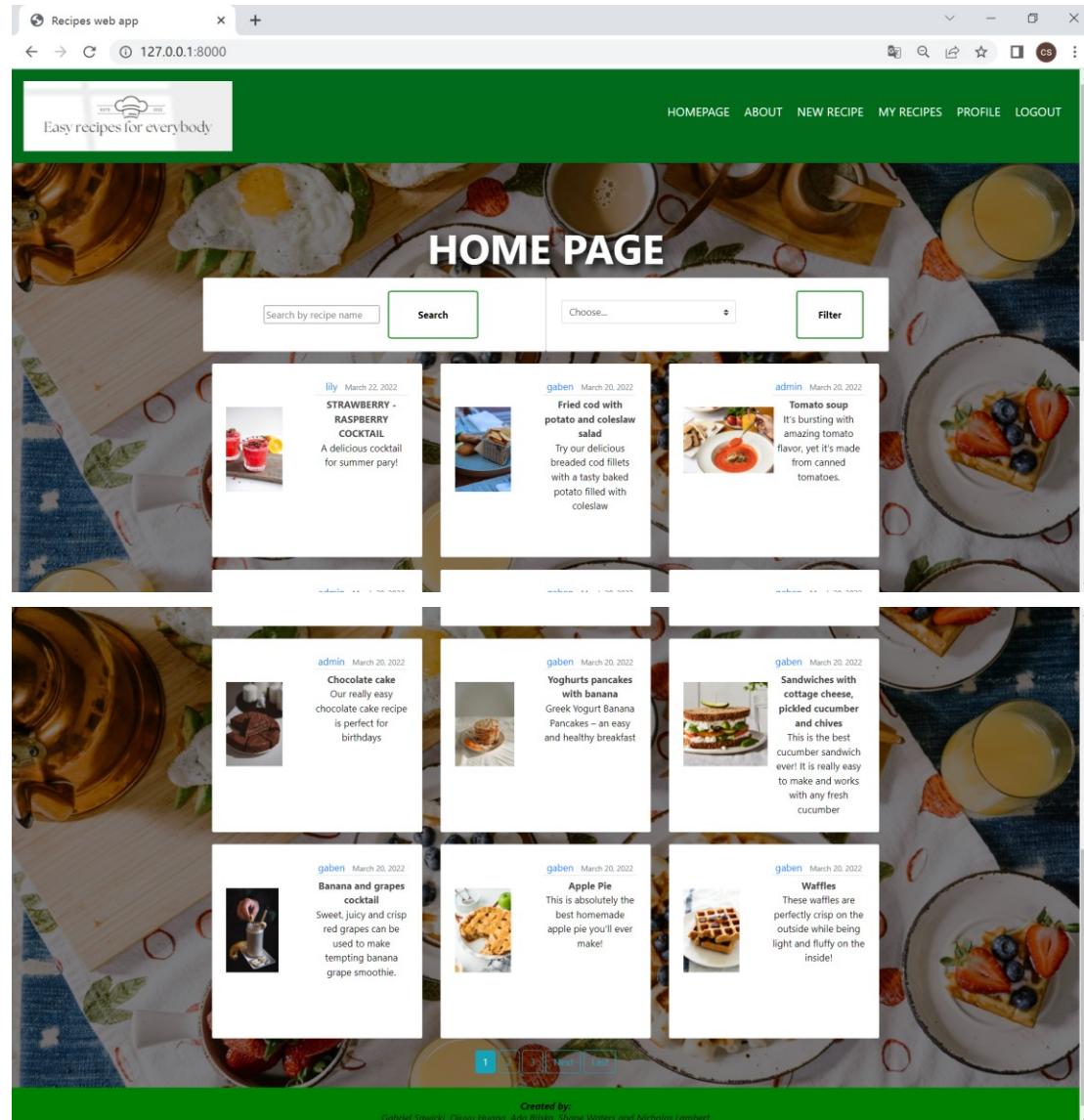
#### 4.2.8.2 Acceptance Criteria

Homepage should display all the recipes from the database with white small boxes – three in a row. All the recipes should have an author, date, name, description, and photo. Filter by category should work after the user choose category and press button "Filter", the page should reload and display only recipes from this category. The same with the search function. When the user will put the word and press the button Search, the page should reload and display only recipes with this word in the recipe name. All the recipes on the home page after clicking the name of the recipe should move the user to the recipe detail page. All the buttons on the navigation bar menu should move the user to the dedicated pages:

- "HOMEPAGE" to Homepage
- "ABOUT" to About Page
- "NEW RECIPE" to Add Recipe Page
- "MY RECIPES" to My Recipe Page

- “PROFILE” to the Profile Page
- “LOGOUT” to Logout Page
- “REGISTER” to Register Page
- “LOG IN” to Log in Page

#### 4.2.8.3 User interface

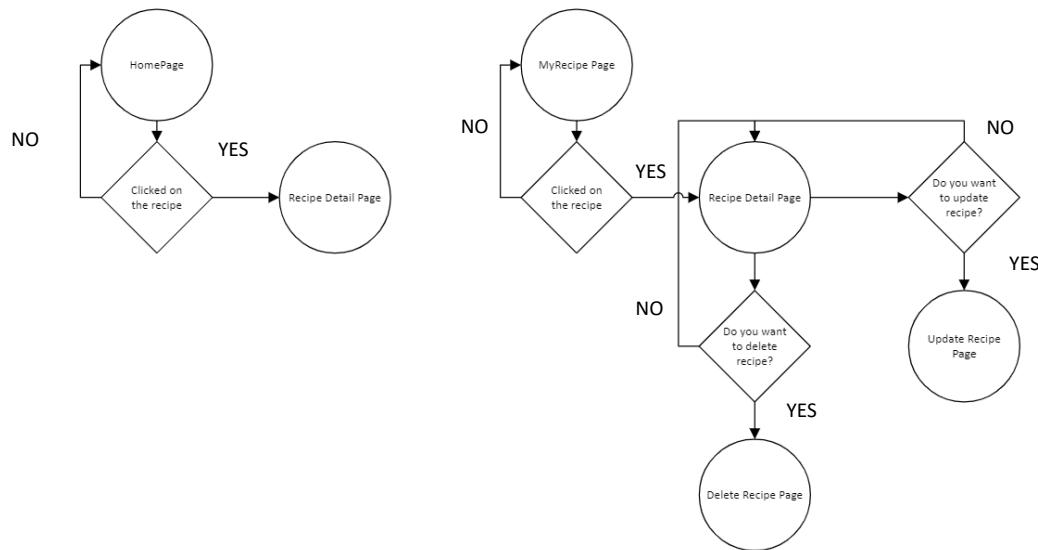


On the client side, the user chooses a category if he/she wants to filter recipes by category, write a word in the search box if he/she wants to find the recipes with this word in the name, click on the recipe name if he/she wants to see the recipe detail. On the server side is display all the recipes from the database or display recipes with selected category or selected word in the recipe name. On the top of the screen display the navigation bar menu. Different login states display a different list of buttons.

#### 4.2.9 Recipe Detail page

The user doesn't need to be login to the website to go to Recipe Detail page. On the screen, the user is able to see the whole recipe detail for the recipe which he/she chose on the Homepage

or My recipe page. He/she is able to see a very important warning – “This recipe can contain allergens, please check it before cooking!” – to make sure that the user will check carefully the whole ingredients before he/she will eat it. Then the user is able to see the name of the person who create this recipe and the date when the recipe was created. If the user is login to the website and he/she chose his/her recipe, the user is able to see two buttons – UPDATE and DELETE – to update and delete the recipe. Under this user is able to see – the name of the recipe, photo, Ingredients, Instructions and Nutrients. On the top of the screen is located the navigation bar menu with buttons to dedicate their pages and the logo of the website.



#### 4.2.9.1 User Story

As a user, I want to check the details of specific recipes.

**Detail:** The user is able to view details of all the recipes. He/she is able to do that by going to the Homepage and clicking on the recipe name or going to the My Recipe Page and doing the same. The user doesn't need to be login to the website to see the recipe details. The user wants to find the recipe for himself/herself and he/she wants to see all details. The user needs to go to the homepage, find the recipe and clicks on the recipe and then he/she will be moved to Recipe Detail page.

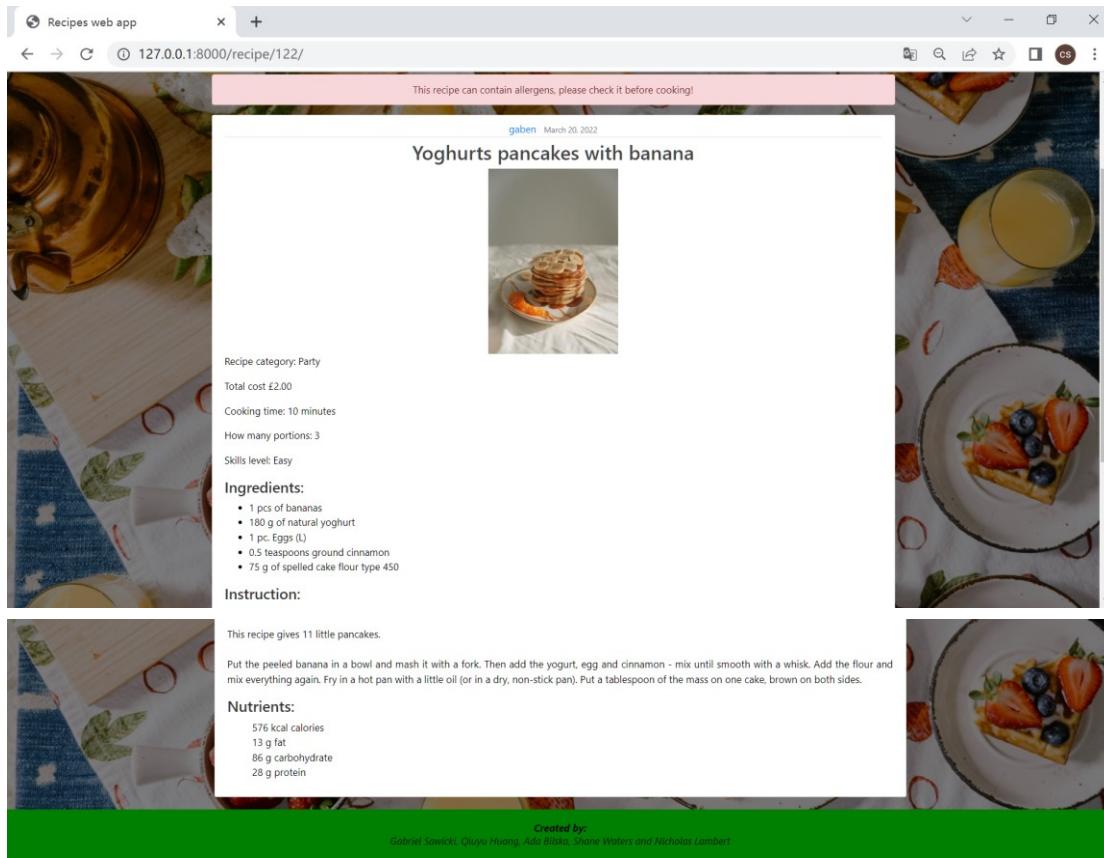
#### 4.2.9.2 Acceptance Criteria

The page should display all the recipe detail, the name of the recipe, picture, ingredients, nutrients, and instructions. If the user is login to the website and he/she clicked on his/her recipe server should display two buttons – Update and Delete recipe. Eight buttons should move the user to connecting pages:

- “HOMEPAGE” to Homepage
- “ABOUT” to About Page
- “NEW RECIPE” to Add Recipe Page
- “MY RECIPES” to My Recipe Page
- “PROFILE” to the Profile Page
- “LOGOUT” to Logout Page
- “Update” to Edit Recipe Page

- “Delete” to Delete Recipe Page

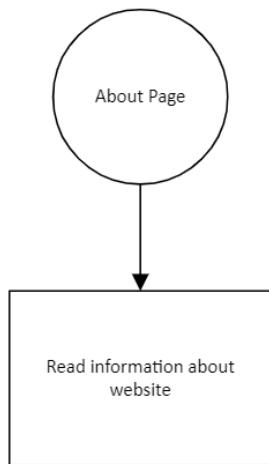
#### 4.2.9.3 User interface



Recipe Detail Page appears for all types of users. On the client-side is chose the recipe. On the server-side it displays all the recipe details from all the tables, display buttons Update and Delete when the user is logged in to the website and he/she chose his/her recipe.

#### 4.2.10 About Page

On the About Page user is able to see the message which describes to the user what exactly this page was created for, what is on it, how the user can use this page. At the top of the page is located the navigation bar with four buttons – HOMEPAGE, ABOUT, LOGIN and REGISTER. All these buttons are moving the user to the dedicated pages.



#### 4.2.10.1 User Story

As a user, I want to know about this website.

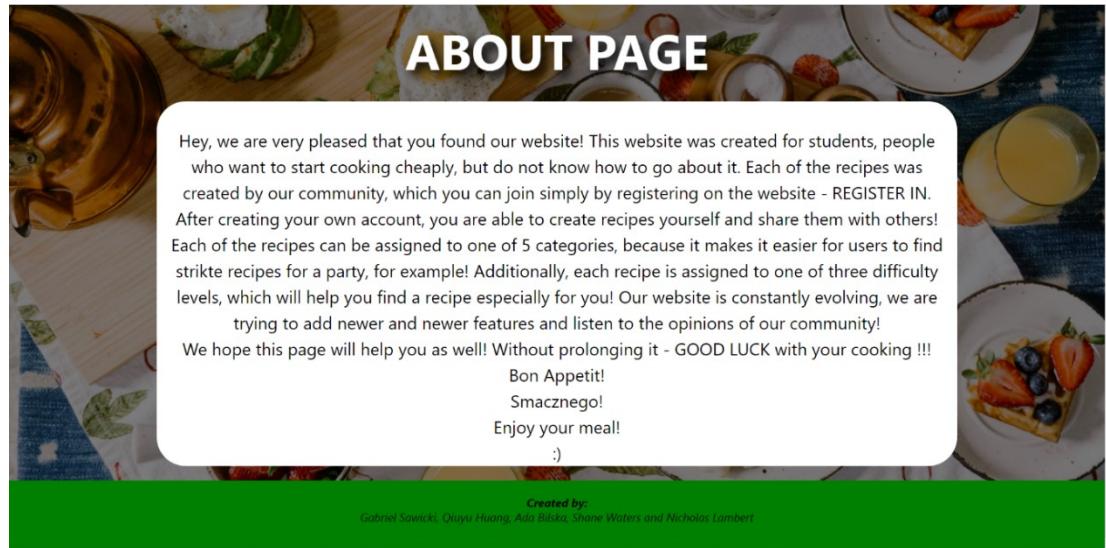
Detail: When the user first finds the page, he/she does not know what it is for, what it was created for and so on. To find out this information, just press the ABOUT button at the top of the screen and the user will be taken to the ABOUT Page, where the user will find answers to these questions.

#### 4.2.10.2 Acceptance Criteria

The page should display the white box with all the information about the website and the navigation bar with four buttons. Buttons should move the user to connecting pages:

- “HOMEPAGE” to Homepage
- “ABOUT” to About Page
- “NEW RECIPE” to Add Recipe Page
- “MY RECIPES” to My Recipe Page
- “PROFILE” to the Profile Page
- “LOGOUT” to Logout Page

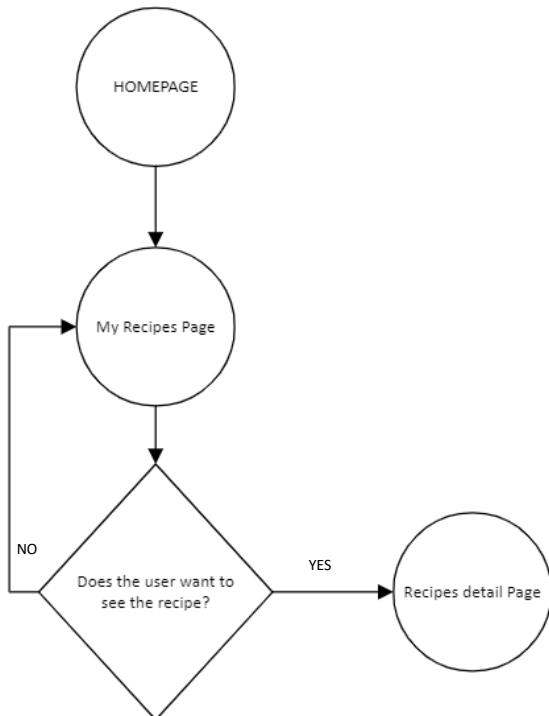
#### 4.2.10.3 User interface



On the client side is only click the button ABOUT to move to the about Page. On the server side is to move the user to the About Page and display all the information which should appear on this page.

#### 4.2.11 My Recipe

When the user is successfully log in to the website, he/she is able to see My Recipes Page. On the screen, the user can see all the recipes which he/she made. On the top of the screen user is able to see the navigation bar with 6 buttons – HOMEPAGE, ABOUT, NEW RECIPES, MY RECIPES, PROFILE, LOGOUT, and the website logo.



##### 4.2.11.1 User Story

As a registered and logged in user, I want to check all the recipes I created.

**Detail:** The user is able to view all the recipes which he/she created by clicking the button “My Recipes”, which is located on the top of the screen on the navigation bar. On the screen appear a list of user recipes. If the user wants to change them, delete them, or view them, the user needs to click on the specific recipe name and then he/she is moved to Recipe Detail page.

#### 4.2.11.2 Acceptance Criteria

The page should display a list of recipes created by the user and the navigation bar. Each button should be clearly named. The following buttons should move the user to connecting pages:

- “HOMEPAGE” to Homepage
- “ABOUT” to About Page
- “NEW RECIPE” to Add Recipe Page
- “MY RECIPES” to My Recipes Page
- “PROFILE” to the Profile Page
- “LOGOUT” to Logout Page

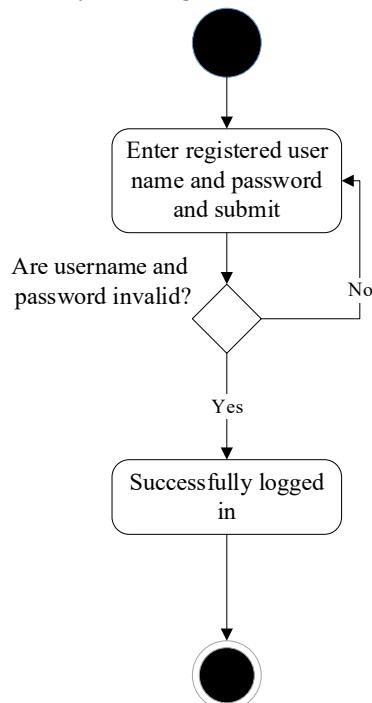
The title of each recipe should be a button. If the user clicked on this, it will move the user to Recipe Detail page of the selected recipe.

#### 4.2.11.3 User interface

The My Recipes page appears for the user when he/she is successfully logged in to the website. On the client side is to press the button My Recipes on the top screen navigation bar. On the server side is when the user presses this button, move him/her to My Recipes page. When the user will press any of the titles to view details about the recipe – the server needs to move the user to the Recipes detail page.

#### 4.2.12 Log In

This page will be used only by users who have an account already. The user can access Login page at any time, by clicking the LOGIN button on the navigation bar.



#### 4.2.12.1 User Story

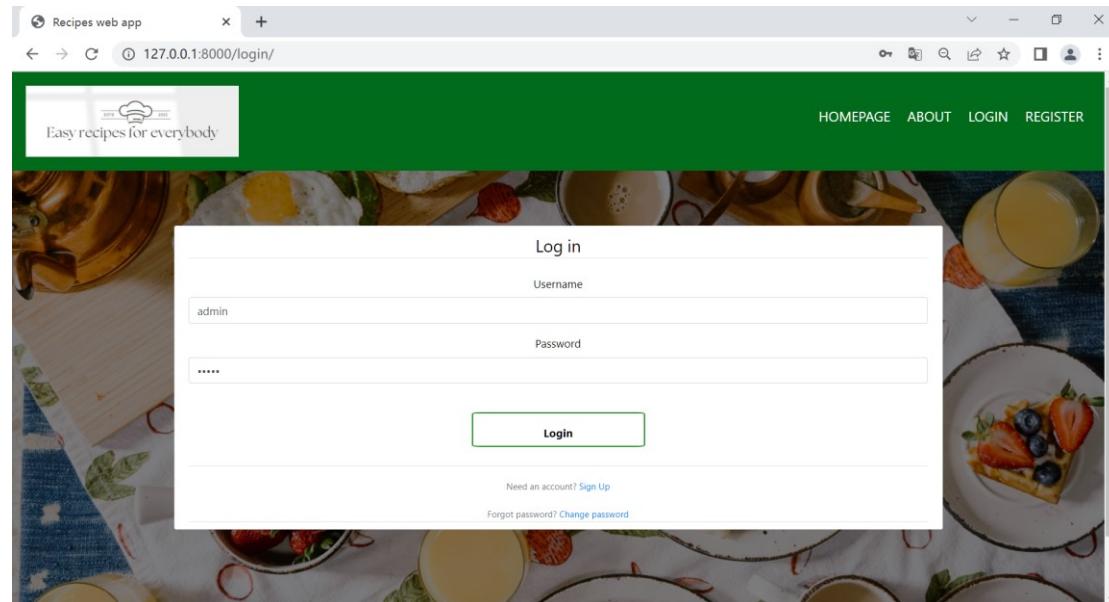
As a registered user, I want to log in to this website.

Detail: The user is able to log in to this website by submitting the registered correct username and password.

#### 4.2.12.2 Acceptance Criteria

Page “Login” has a form and a button to submit user information to log in. There should be links to Register page and Change Password page. The page should display normally. There should be a validation to check if the correct password and username are submitted.

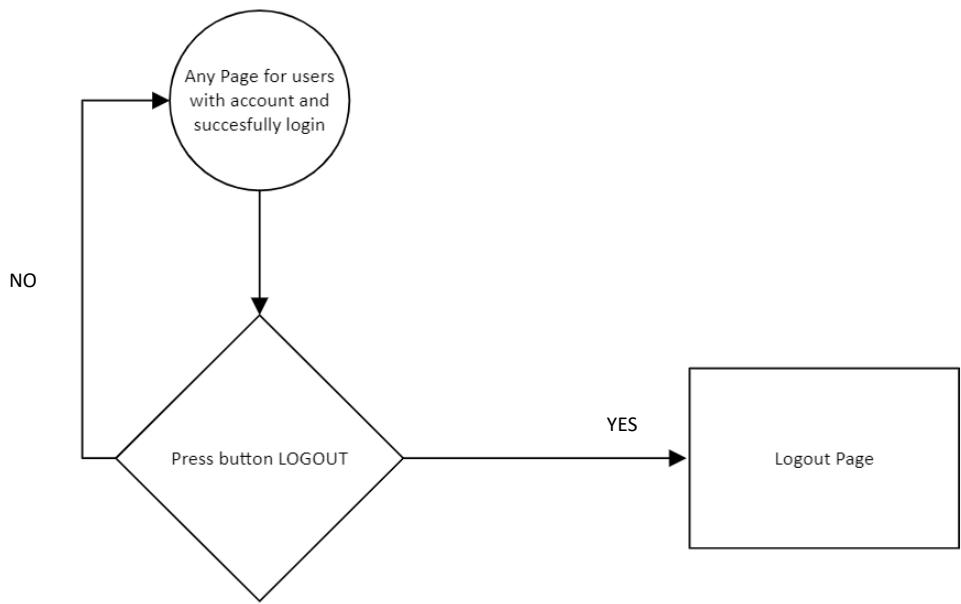
#### 4.2.12.3 User Interface



On the client side, Login page has a form and a button to submit user information, and there are two hyperlinks leading to Register page and Change Password page respectively. When the user submits the correct information and clicks the "login" button, the server will verify that the username and password are correct. If correct, the user logs in and the site automatically moves the user to the home. The navigation bar will appear with “my recipes” and “new recipe” these two buttons.

#### 4.2.13 Log Out

On the screen, the user is able to see the message when he/she is successfully logged out and the button “Log In Again” moves the user to the Login Page. The button changes its colour when the user puts the pointer on the button. On the top of the screen is the navigation bar which is able to move the user to Homepage, About page, Login page and register page. When the user is pointing the mouse at any of the buttons on the navigation bar then the button is underlined.



#### 4.2.13.1 User Story

As a user, I want to log out when logged in.

**Detail:** This page will be able to use only by users which have accounts already. The user after logging in to the website will be able to log out and move to Log out page at any time. The button to move to this page is appear in the right corner, on the navigation bar on the top of the screen. The button will be always there to make sure that the user will always find it. The position of the button is really intuitive and clear.

When the user clicks Log out button, he/she will log out from the website. That means that he/she is no longer able to see the pages that he/she was able to see when he/she was logged in to the website. When the process of logging out will end successfully the user is able to see the message on the screen – “You have been logged”. This is really important to inform users about it, to make a good and clear connection on the line user-website.

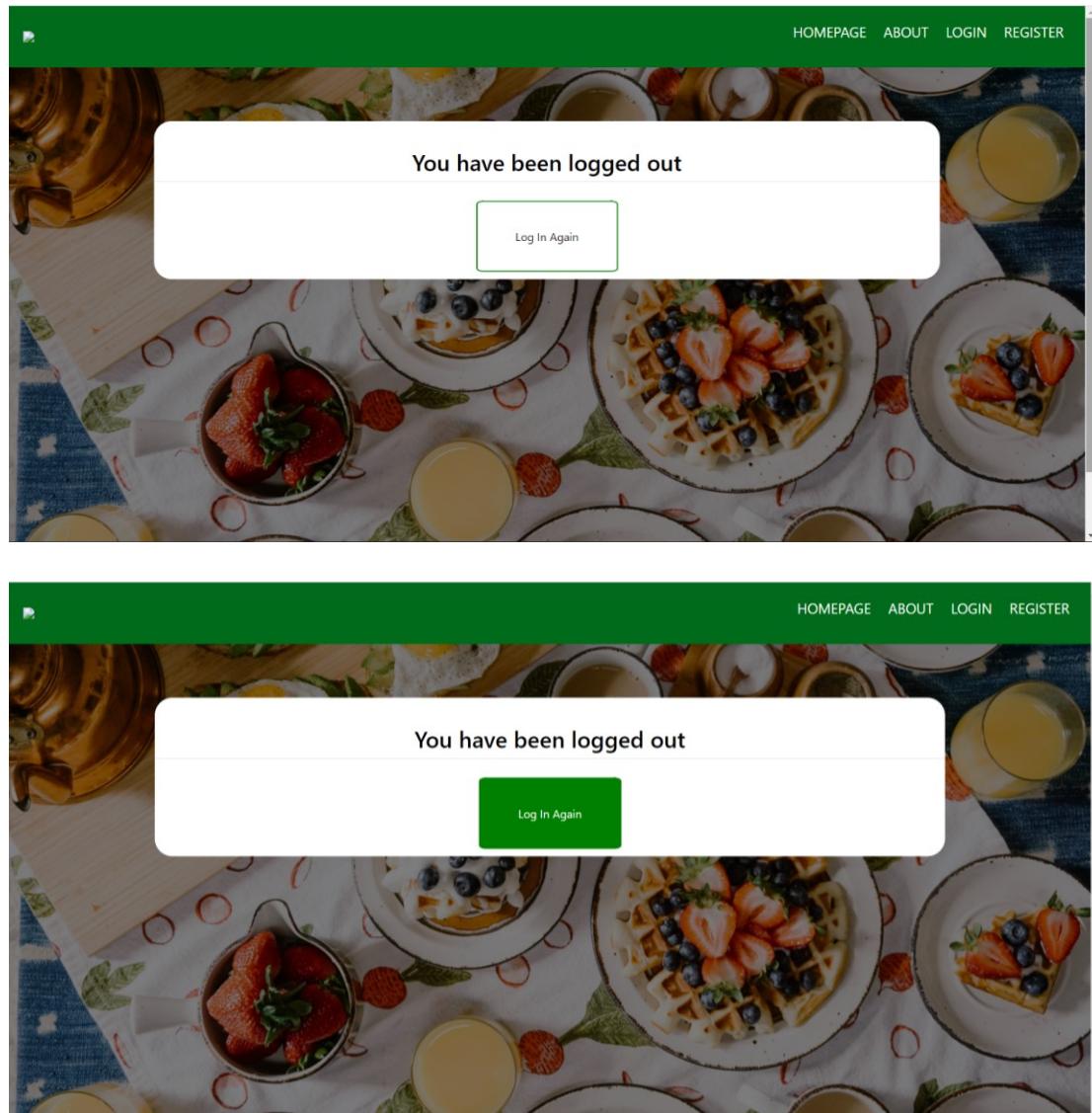
If the user wants to come back to the homepage, he/she is able to click the button HOME PAGE, which is in the top right corner on the top of the screen.

#### 4.2.13.2 Acceptance Criteria

When the user is successfully logged out from the website, on the screen is appear the message – “You have been logged”. Before the server print the message, the server needs to close the user. After successfully logging out from the website, the user is no longer able to see the pages that he/she is able to see after he/she is logged in to the website, for example, Profile page

Users can't go back to the previous page using the back arrow on the web browser. If he/she clicks the button “Log in again”, he/she should be moved to Login page.

#### 4.2.13.3 User Interface



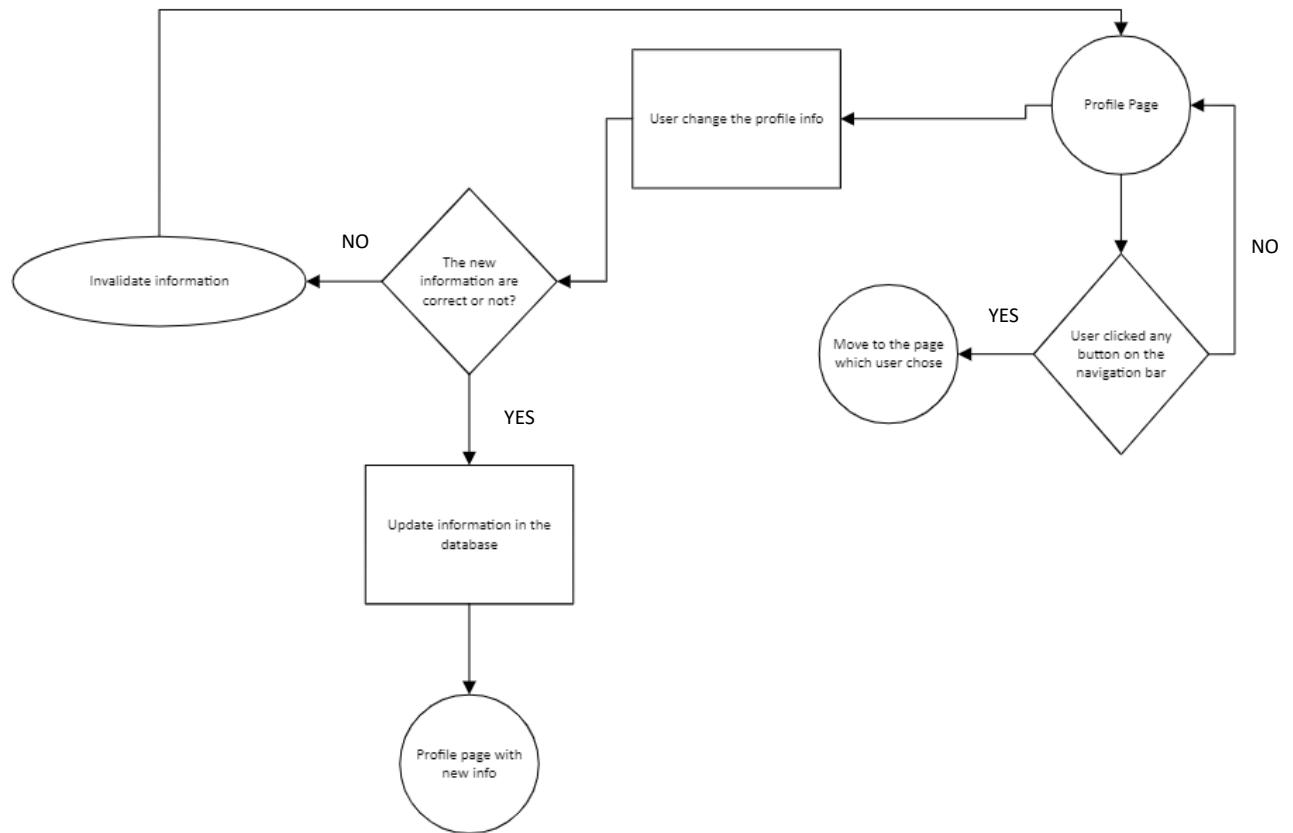
The Log out page appears for the user after he/she presses the button LOG OUT which is located on the top of the screen, on the navigation bar in the right, top corner. The button appears on all the pages after the user is successfully logged in to the website in the same place.

The main part of the page is working on the background. On the client side is only press the button. The server side is closing all the connections between the user account and page. when it is finished, on the screen the server will print a message that the user was successfully logged out.

#### 4.2.14 Profile

When the user successfully registers on the website, the server will create a profile for this user. The user needs to log in to the website and click Profile button which is located on the navigation bar at the top of the screen. After he/she presses this button, the user is moved to the Profile page. On this page, the user is able to see profile info like username and email address and he/she is able to update this information, change password or delete account. On the top of the screen, he/she is able to see the navigation bar with 6 buttons – HOMEPAGE, ABOUT,

NEW RECIPES, MY RECIPES, PROFILE and LOGOUT. The user is able to move to any of these pages by clicking the corresponding button on the navigation bar at the top of the screen.



#### 4.2.14.1 User Story

As a user, I want to change my username and registered email address.

Detail: The user is able to see this website only when he/she is successfully logged in to the page – he/she already has an account on the website. On the Profile page, the user is able to update account information, and access Change Password page, Delete Account page.

All the buttons are displayed normally and legibly and clearly described to make sure that website is intuitive and clear for users.

#### 4.2.14.2 Acceptance Criteria

The page should display a form of profile information, three buttons and the navigation bar. Each button should be clearly named. The buttons of the navigation bar should move the user to connecting pages:

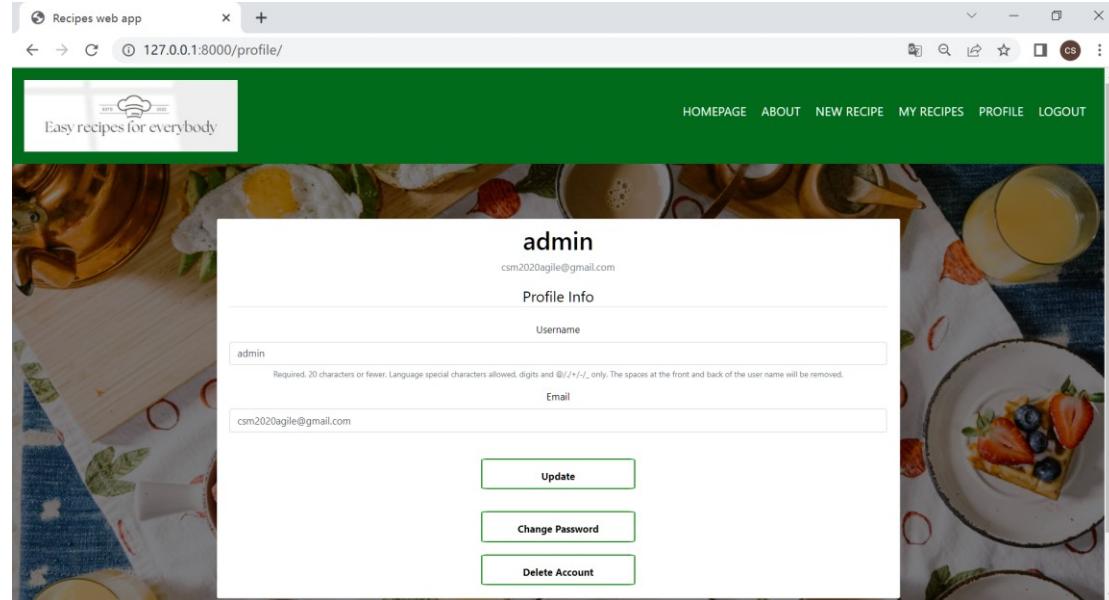
- “HOMEPAGE” to Homepage
- “ABOUT” to About Page
- “NEW RECIPE” to Add Recipe Page
- “MY RECIPES” to My Recipes Page
- “PROFILE” to the Profile Page
- “LOGOUT” to Logout Page

On Profile page, “UPDATE” is to submit a form of account information to update. Submit button should submit the profile information and reload the whole page. The user is able to

change the username and email address and after pressing the button SUBMIT the server validate the submitted data, if valid, the server will update the user table.

“Change password” is going to Change Password page, “Delete account” is going to Delete Account page.

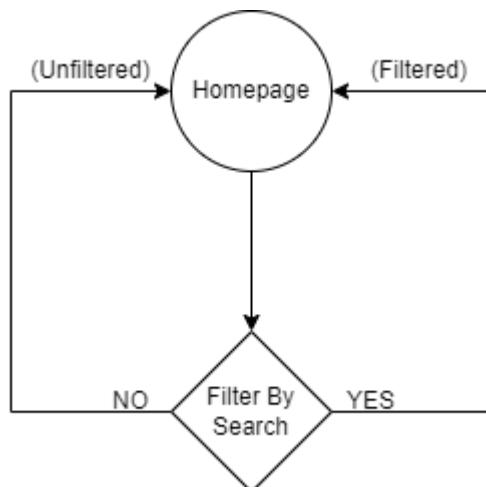
#### 4.2.14.3 User Interface



The profile page appears for the user when he/she is successfully logged in to the website. On the client side, the user follows instructions, inputs data, and submits. On the server side, the server moves the user to the corresponding webpage after he/she presses the button. The user is able to change the username or email address if the server side checked all the information are correct.

#### 4.2.15 Search filter

The user is able to filter the displayed recipes by their input using a form at the top of the website homepage. By entering the text, they wish to filter using in the text field and clicking the “Search” button, the webpage refreshes, displaying only the recipes with titles that contain the entered text.



#### 4.2.15.1 User Story

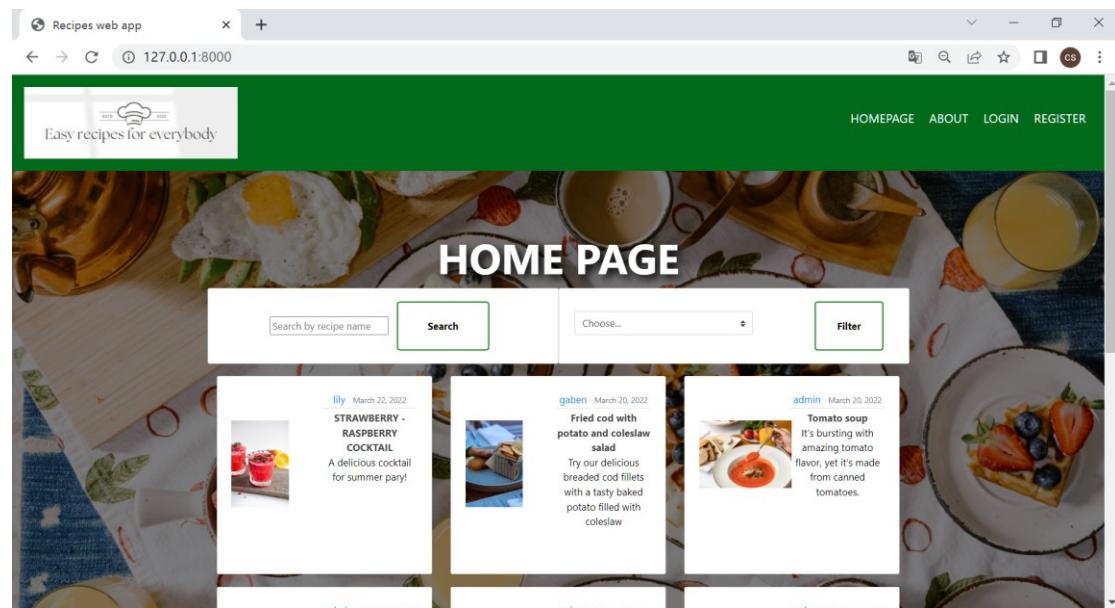
As a user, I want to use some keywords to look for recipes.

Detail: The user is able to view recipes filtered by their inputted text. The user is able to do that by going to the Homepage and entering the text they would like to filter by in the provided text field. The User can then click the “Search” button refreshing the webpage and displaying it again, now featuring only the recipes containing the inputted text in their titles.

#### 4.2.15.2 Acceptance Criteria

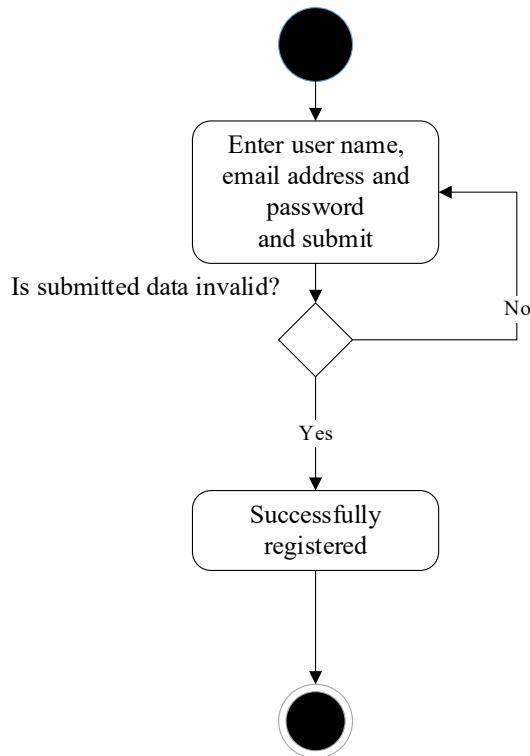
The Search filter should be capable of filtering all recipes by the contents of their title.

#### 4.2.15.3 User Interface



This feature should appear for all users whether they are logged in or not. On the client side, the client enters the text they would like to filter by and submits the form. On the server side, the query set of recipes is narrowed to only recipes with titles containing the specified text. The server then serves the client the homepage, but with only the specified recipes.

#### 4.2.16 Register



##### 4.2.16.1 User Story

As a new user, I want to sign up for a new account.

**Detail:** The user is able to register on the website by using Register page which was created especially for that. The user who successfully registered for the website has got own account. The user is able to additionally add recipes, edit recipes, change password, delete account, and log out from the website.

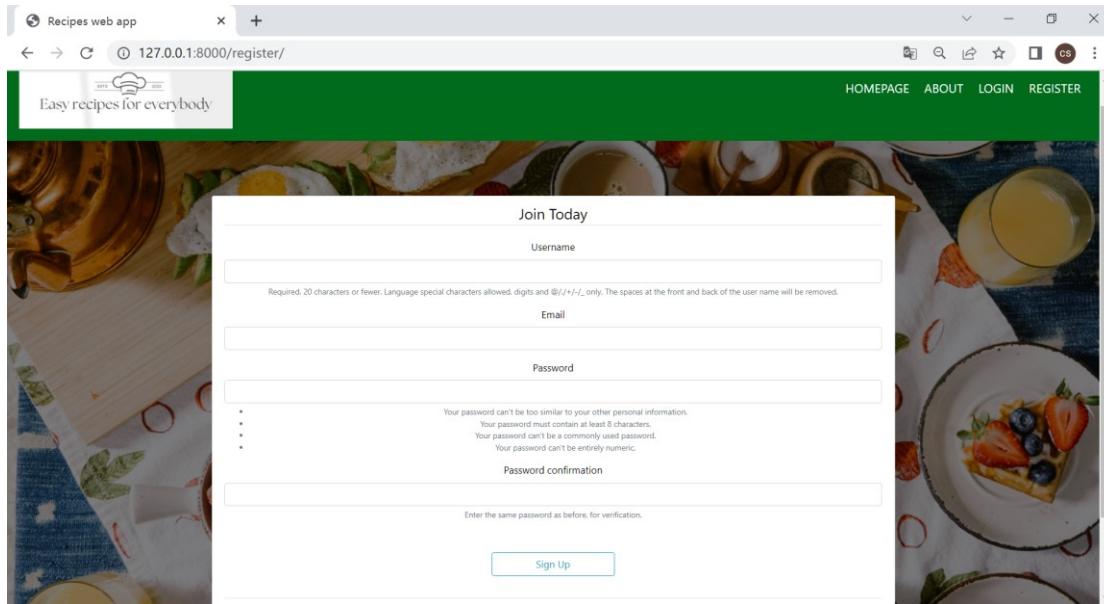
To successfully register to the website user needs to press the button Login on the homepage which is located on the navigation bar in right, top corner on the top of the screen and write information – email address, username, and password. Password needs to be written two times for confirmation. When the user put all of this information, he/she needs to press the button Sign UP. If the information is correct, the server will add the user to the database and move the user to the homepage.

##### 4.2.16.2 Acceptance Criteria

To successfully register, the user needs to give information like email address, username, and password. Email address needs to have @, have the domain name. Username needs to be less than 20 characters. Special characters @/.+\_- only, and spaces are now allowed. Password cannot be similar to the username, completely numbers, and must be more than 8 characters. Password and confirm password need to be the same.

The website shouldn't register the user if any of these above criteria are not met. If any of the criteria are not met, there should be a warning showing which value the user needs to change. Click on the "Sign in" button at the bottom and should be redirected to the login page.

#### 4.2.16.3 User Interface



On the client side, there is a form on Register page for users to fill.

- username
- email address
- password
- confirm password

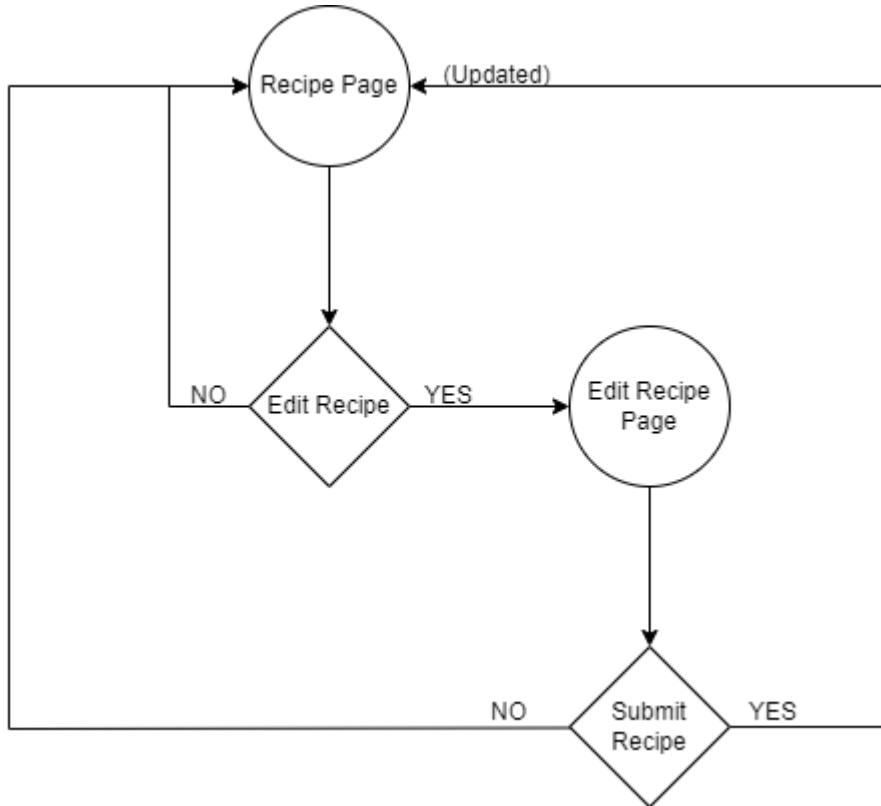
On the server side, the system does the following work.

- validate email address
- validate username
- validate password
- confirm that password and confirm password are the same
- inform the user if any of the validation failed
- when all validations are passed, the system should update the database table to add this user.

#### 4.2.17 Edit Recipe

On this page the user is able to edit their own recipe by filling out/editing the relevant form sections and submitting the form. The page itself is made up of three distinct steps, when the user has filled out the basic information for their recipe they can proceed to the next step, which allows them to enter/edit the ingredients for their recipe, after which they can proceed to the next step, which allows them to input/edit the nutritional information for their recipe. Each of the steps after the first features a “previous” button, so that you can return to your previously entered information and amend it if necessary. During the second step there are “+” buttons next to the ingredient fields so that more ingredients can be added if necessary. There are also “-” buttons present to remove ingredients if too many were added. The “next” button featured

on the third step submits the recipe. As with all our webpages, the navigation bar is displayed at the top of the page, featuring HOMEPAGE, ABOUT, NEW RECIPES, MY RECIPES, PROFILE and LOGOUT, as the user must be logged in to edit their recipe, the navigation bar will differ from the one that is viewed while not logged in.



#### 4.2.17.1 User Story

As a user, I want to edit my created recipes.

**Detail:** If the user wants to edit a recipe, then they must first be logged in to the website. Once they are successfully logged in, they can edit a recipe by navigating to their personal recipes page via the “MY RECIPES” option on the navigation bar. There, they can select the recipe that they wish to edit, which will take them to that recipe’s specific page. Then they can select the “Update” button to update their existing recipe. They can then change the details of the recipe that they wish to edit and submit the form, leading to the recipe being updated when viewed on the website.

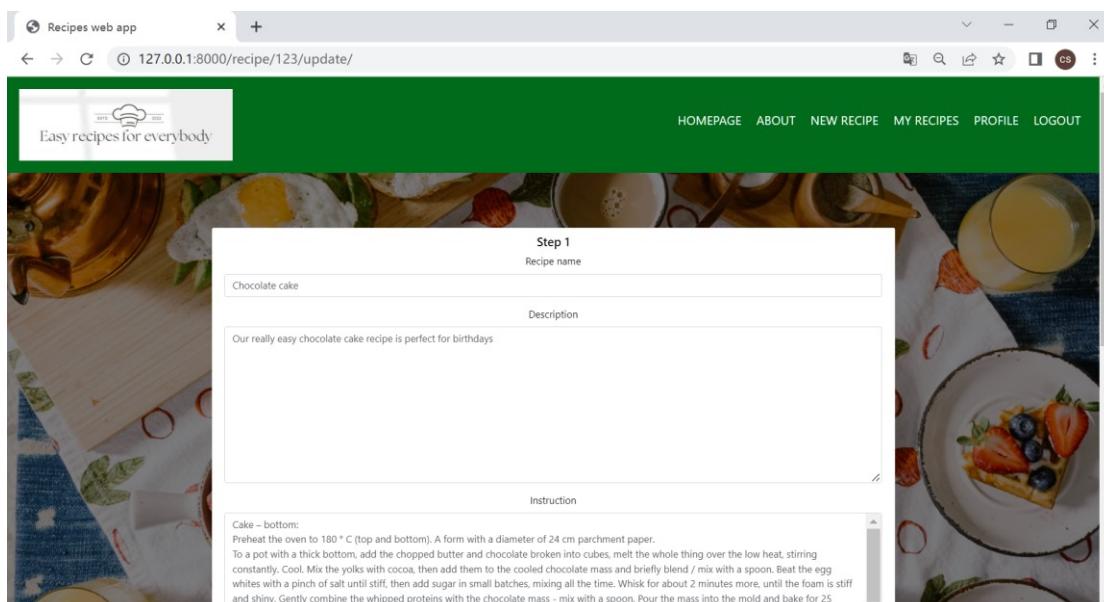
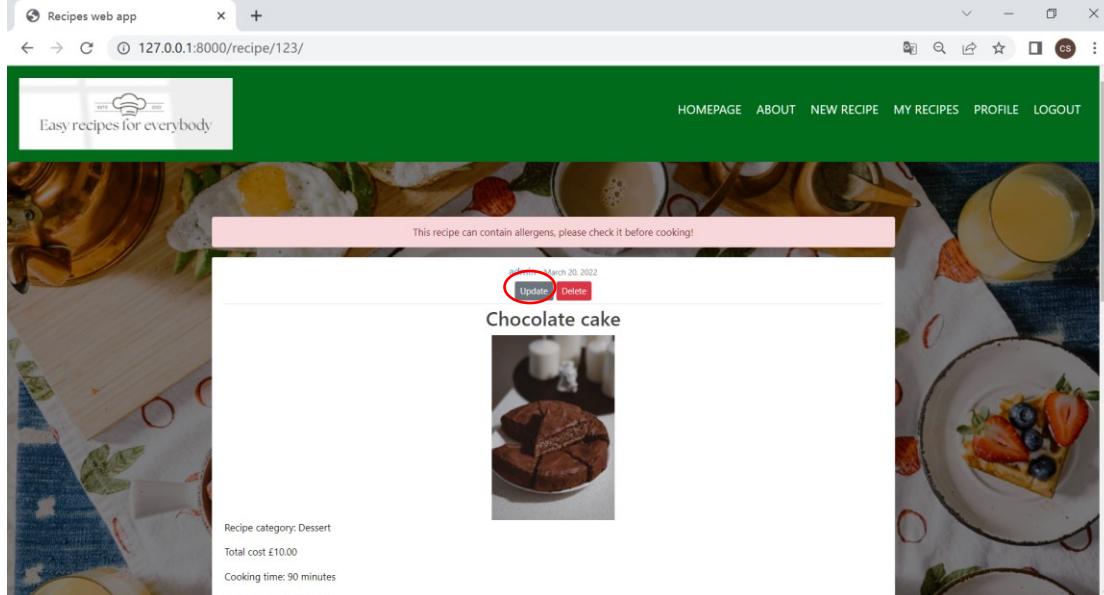
#### 4.2.17.2 Acceptance Criteria

The page should be able to load a pre-existing recipe and allow the user to edit the fields that are required for a recipe: Recipe Name, Description, Instructions, Recipe Category, Total Cost, Cooking Time, Portions, Skill Level, Optional Recipe Image, Ingredients and Optional Nutritional Information. It should allow users to return to previous steps of the recipe editing process via the “Previous” and “Next” buttons. The page should also feature the “Logged in” Navigation bar, with options to go to the following pages;

- “HOMEPAGE” to Homepage
- “ABOUT” to About Page

- “NEW RECIPE” to Add recipe Page
- “MY RECIPES” to My Recipes Page
- “PROFILE” to Profile Page
- “LOGOUT” to Logout Page

#### 4.2.17.3 User Interface



On the client side, the user can view the “Update” option on the relevant recipe page after successfully logging in. Upon clicking the “Update” option, they are taken to the webpage that handles the editing of recipes, where they can change the already present values within the forms to submit their edited recipe to the website.

On the server side, checks are run to ensure that the user being sent to the webpage for editing the recipe is logged in and is the right user that’s associated with the recipe, in which case they are served the appropriate webpage. When the user has completed the amended recipe form, the server then updates the existing recipe in the database. The server then redirects the user to the webpage specific to the recipe they just submitted.

## **5 Verification and Testing**

The testing on this site is split into two types, one for unit testing and one for testing functionality from the front end. The testing on this site is split into two types, one for unit testing and one for testing functionality from the front end. The test cases for the latter can be found in Testing Document.pdf.

The code for the unit tests is in the tests folder of the project directory, while the coverage reports for the web version are in the htmlcov folder. Our unit test coverage is 87%.

## 6 Future work and Improvements

From a functional point of view, in the future, firstly the website could add the function of collections. On the recipe detail page, users can click on a button to bookmark their favourite recipes, and on the My Recipe page, screen users can go to the favourite recipes page to view them, making it easier for them to learn. Secondly, the website could also import the google translate API to design a translation button for users from different countries. Thirdly, our current search function is just searching recipes by recipe names. We can then refine this search to allow it to search for other keywords, such as ingredients.

From a design perspective, the development team could develop a corresponding Android version and an IOS version. The page and layout can be made more accessible for screen-reading software users in the subsequent front-end development.

For the second release, codes of the Favourite Recipe page will be updated to this system. And there are some small improvements: changing the way to upload food pictures to adapt to the production environment, making the unit of cooking time optional. Due to the lack of development time, we still have bugs on this site that will be addressed.