

## High Level Requirements

### 1. *User must be able to create an account*

When the user clicks the "Sign Up" button on the login screen, they will be prompted to enter a user ID and password. They can click a button to complete the account registration, and their username and password will be stored in the system.

Importance: High

Dependencies: None

### 2. *User must be able to log in*

The user will be able to enter their user ID and password on the login screen, then click the "Login" button. The system will check whether their user ID and password are correct - if they are, the user will be taken to their home screen. If they are not, the system will display an error message.

Importance: High

Dependencies: 1

### 3. *User must be able to edit ingredients and set recipe preferences*

From their home screen, the user will be able to enter ingredients in a text field, and check off any recipe preferences they have (such as vegan/vegetarian, breakfast/lunch/dinner, cuisine, etc). They can also toggle the option to include recipes from other users in the results, or only recipes generated by the NLP model. After clicking the "Generate Recipes" button, the system will use an NLP model to generate a recipe using the ingredients and preferences the user selected. If the user selected the option to include recipes from other users, the system will also search those recipes and include any that match the search criteria.

Importance: High

Dependencies: 1,2

### 4. *User must be able to view recipes*

After generating recipes, the user will be taken to a new screen where they can scroll through the results. The results will be ordered by most relevant, and highest ranked by other users. The user will be able to view the title of each recipe, and can click on any recipe to go to the recipe screen, where they can view the full details, rank the recipe, or leave a comment.

Importance: High

Dependencies: 1,2,3

*5. User must be able to rank recipes*

On the recipe screen the user can view the average ranking, and select a ranking by choosing from the available options (such as selecting a number from 1 to 5). After a recipe is ranked, the system will update the average ranking to include the value the user selected.

Importance: Medium

Dependencies: 1,2,3,4

*6. User must be able to leave comments on recipes*

On the recipe screen there will be a comment section where the user can view any comments left by other users, sorted by most to least recent. There will be a textbox where the user can leave a comment. When the user clicks the submit button, the system will save the comment in the database.

Importance: Medium

Dependencies: 1,2,3,4

*7. Users must be able to save recipes.*

On the recipe screen, there will be a Save option the user can toggle to add or remove the recipe from their list of saved recipes. When this is turned on, the system will add that recipe to the user's list of saved recipes.

Importance: Medium

Dependencies: 1,2,3,4

*8. User must be able to view saved recipes*

On their home screen, the user will be able to click a button to view their saved recipes. This will take them to a new screen where they can scroll through the recipes they have saved. They can click on any of them to view the rankings and comments, and they can toggle the Saved button on or off (if it is turned off, the system will remove it from their list of saved recipes).

Importance: Medium

Dependencies: 1,2,3,5,7

*9. Users must be able to view uploaded recipes*

On their home screen, the user will be able to click the "Uploaded Recipes" button to go to the uploaded recipes screen, and view any recipes they have uploaded to the system. They will have the option to delete, or edit any existing recipes. The system will update the database with any changes made by the user.

Importance: Low

Dependencies: 1,2

10. *User must be able to upload recipes*

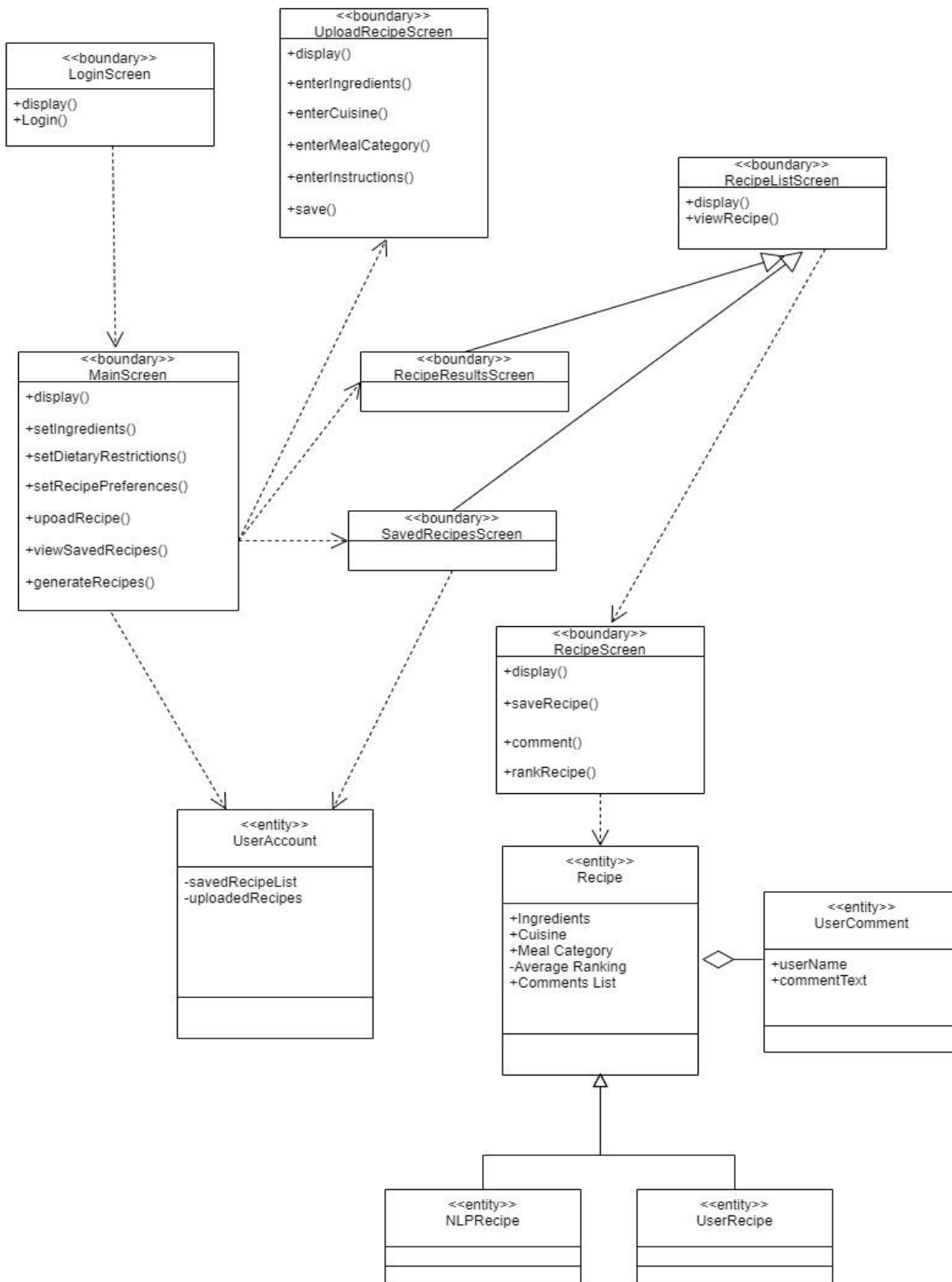
On the uploaded recipes screen, the user will be able to click a button to upload a new recipe.

This will take them to a screen where they can enter the ingredients, title, and instructions for the recipe. They will also have the option to add any other categories, such as vegan/vegetarian, breakfast/lunch/dinner, or cuisine. When they click the "Save" button, the system will save the recipe in the database, and it will be added to the user's list of uploaded recipes.

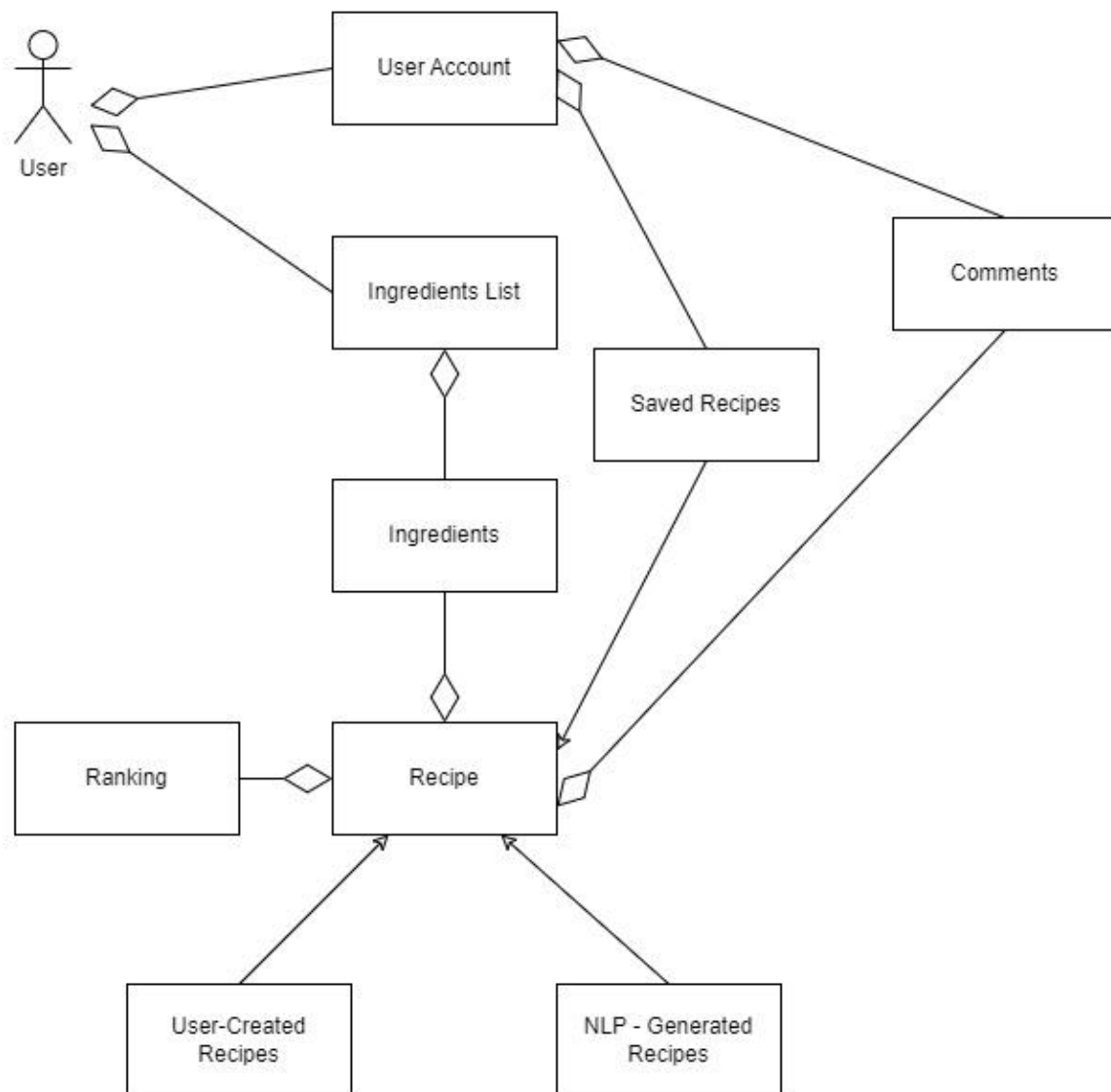
Importance: Medium

Dependencies: 1,2

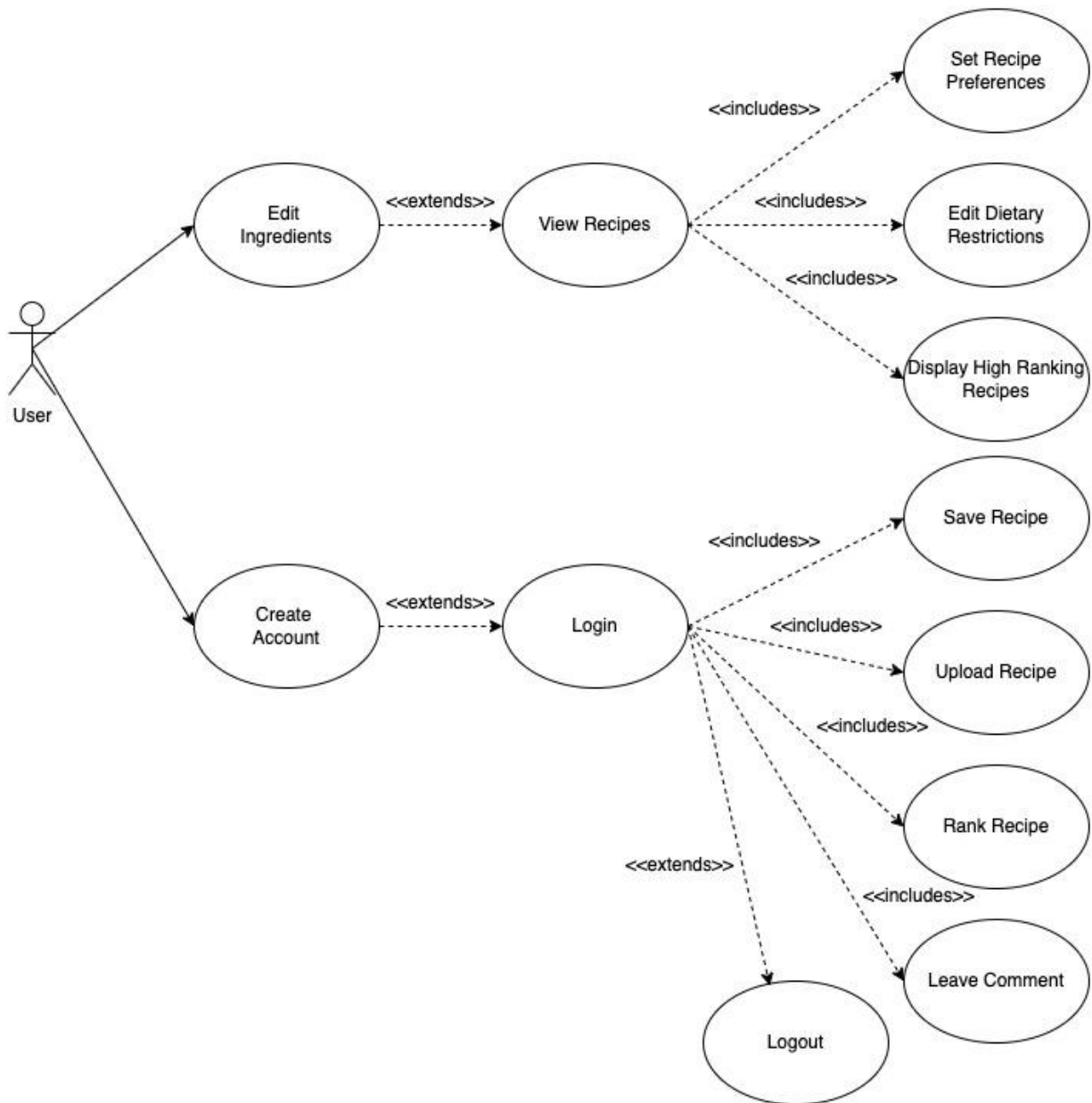
## Class Model



## Domain Model



## Use Case Diagram



## Use Case Text Descriptions

### Use Case: Edit Ingredients

#### **Basic Course:**

The system will display the Home Page, where the user will be able to enter their desired ingredients into the text box provided. From there, the system will generate recipes based on the ingredients entered and will present those recipes to the user, along with the website on which it was found.

#### **Alternate Courses:**

**Invalid input:** If the user enters an input that is not valid, such as numbers or symbols, they will be redirected to an invalid input Error Page. From there, they will be redirected to the Home Page to reenter the valid ingredients.

**Not enough ingredients:** If the user does not enter at least 2 ingredients, then they will be redirected to an Error Page that will notify the user that they have not added enough ingredients to generate a recipe. From there, they will be redirected to the Home Page to add the proper amount of ingredients.

### Use case: Log into Account

#### **Basic Course:**

On the Home Page there will be a button for the user to log in to their existing account. From there, they will be directed to the Login Page, where they can enter their valid credentials and will then be able to access their account information, saved recipes, and view their own uploaded recipes.

#### **Alternate Courses:**

**User enters invalid credentials:** If the user does not enter the correct username and password combination, they will be taken to a Login Error page that will notify the user their username or password is incorrect. They will then be redirected to the Login Page to re enter their credentials.

**User enters invalid input:** If the user enters invalid input, such as symbols in the username text area, they will be redirected to an Login Error page and then taken back to the Login Page to re enter their credentials

**Successive login errors:** If a user has three successive failed log-ins, the account will be temporarily suspended and the user will be redirected to an Login Error page that informs them that their account has been temporarily locked.

### Use Case: Create an Account

#### **Basic Course:**

On the Home Page there will be a button for the user to log in to their existing account. From there, they will be directed to the Login Page, from where they will have the option to log in to

an existing account or to create a new account. The user will choose the create a new account option which will redirect the user to the Create an Account page where they will enter a valid username and password and create a new account.

#### **Alternate Courses:**

**User enters taken username:** If the user enters a username that is already taken, they are redirected to Invalid Username Error page that will notify the user their username has already been taken by another user. They will then be redirected to the Create a new Account page to enter a different username.

**User enters invalid input:** If the user enters invalid input, such as symbols in the username text area, they will be redirected to a Login Error page and then taken back to the Login Page to re enter a valid username.

### Use Case: View Recipes

#### **Basic Course:**

The system will display the Home Page, where the user will be able to view the login button which upon pressing, the user will be redirected to the Login Page. Once the user has successfully logged into their account, they will be able to see a view account information button which will redirect them to the Account Information page. This will display account information as well as a saved recipes tab which will redirect them to the Saved Recipes page.

#### **Alternate Courses:**

**User enters invalid credentials:** If the user does not enter the correct username and password combination, they will be taken to a Login Error page that will notify the user their username or password is incorrect. They will then be redirected to the Login Page to re enter their credentials.

**User does not have any saved recipes:** If the user navigates to the Account Information Page and has not saved any previous recipes, the Saved Recipes page will be blank and the user will have the option to add new recipes to their saved list.

### Use Case: Set Recipe Preferences

#### **Basic Course:**

The webpage will display the Home page, from where the user presses the Get Started button which will lead them to the Enter Ingredients page. Once directed to the correct page, the user will be able to enter their desired ingredients as well as check off any recipe preferences they may have.

#### **Alternate Courses:**

**User does not enter any dietary restrictions/preferences:** If the user does not check off any recipe preferences, the application will display all possible recipes given the ingredients entered.



## Use Case: Upload Recipes

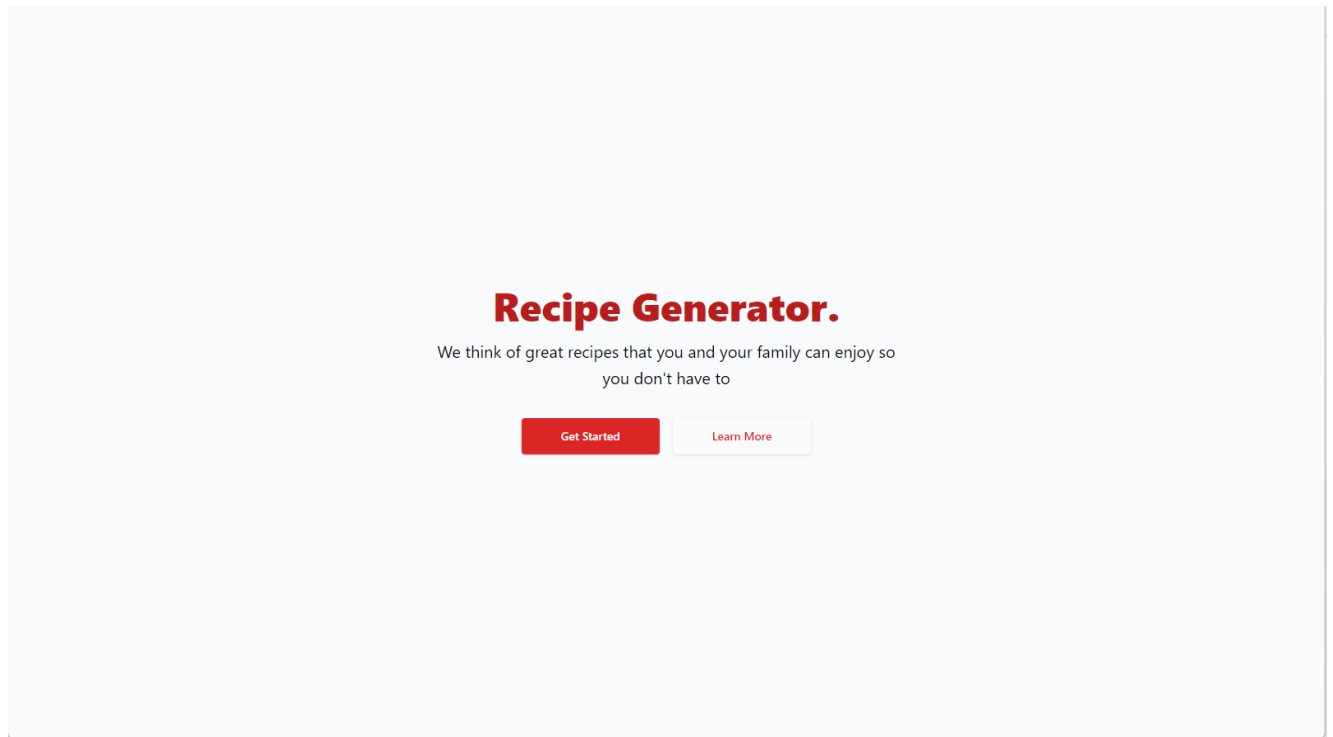
### **Basic Course:**

The system will display the Home Page, from where the user will successfully login and navigate to the Enter Ingredients page which will display a Add Your Recipe button towards the bottom of the page. After pressing the button, the user will be redirected to the Add A Recipe page, which will allow the user to enter valid ingredients and steps to creating the recipe.

### **Alternate Courses:**

**User enters invalid character in ingredients text space:** If the user enters invalid characters, such as symbols or incoherent text into the text space designated for the ingredients, the system will display an Error Page and redirect the user back to the Add A Recipe page where they will be prompted to enter a valid entry for the ingredients.

## GUI



### Get started today!

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## Enter Ingredients

Enter

Please fill out this field.