

National University of Computer & Emerging Sciences

Karachi Campus



THE ULTIMATE RECIPE BOOK

Project Submission Report
Programming Fundamentals
Section: CY-A

Group Members:

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23K–2015 Amaan Jaffri

Lab Instructor:

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Introduction:

The Recipe Book is your culinary companion, designed to simplify your cooking experience. Tailored for enthusiasts, it helps you find the perfect recipe based on the ingredients you have. Let's embark on a journey to make cooking convenient and enjoyable

Background:

Cooking should be a pleasure, not a puzzle. The Recipe Book solves the dilemma of choosing a recipe with a limited set of ingredients. It's your personalized chef, suggesting recipes that match your available ingredients and preferences.

Project Specification:

Language: C

Data Structures:

Structures for Ingredients, Recipes, and Instructions

Functionality:

Ingredient selection by the user

Matching algorithm for recipe suggestions

Displaying detailed recipe information

User-friendly interface

Problem Analysis:

User Scenario:

Users want to cook a meal but are unsure which recipe to choose.

Users have specific ingredients and want recipes that include those.

Challenges:

Efficiently matching user-selected ingredients.

Displaying relevant details for matched recipes.

Ensuring a user-friendly interface.

Solution Design:

Project Detail:

Ingredients, Recipes, Instructions: Structures for a seamless representation.

Functionality and Features:

Ingredient selection by number.

Dynamic matching of selected ingredients with recipes.

Display of matched recipes with details.

Additional details and instructions for specific recipes.

Implementation & Testing:

Implementation Steps:

Create structures for ingredients, recipes, and instructions.

Implement functions for ingredient selection, recipe matching, and details display.

Test each function independently.

Integrate functions for a complete system.

Testing:

Test with various sets of selected ingredients.

Verify the accuracy of matched recipes.

Ensure proper display of recipe details.

Graceful handling of edge cases.

Project Breakdown Structure:

Muhammad Hammad

Role: Project Designing & Problem Solving

Additional: Responsible for the visual appearance and blueprint of the program.
Ensuring a user-friendly design alongside handling logical problems.

Amaan Jaffri

Role: Problem Solving & Data Handling

Additional: Actively working on the logical issues and errors. Contributing to the project's innovation, suggesting creative ideas for features and improvements.

Vishal Dodeja

Role: Bug Testing and Documentation Support

Additional: Providing essential support in the testing phase, and reporting bugs. Furthermore, assisting in documentation tasks to ensure comprehensive project records.

Result:

```
C:\Users\hp\Downloads\TheUltimateRecipeBook.exe
=====
* Ingredients *
=====
1. Beef
2. Rice
3. Potato
4. Oil
5. Pulses
6. Onion
7. Tomatoes
8. Home Spices
Enter the number of ingredients you want to select: 5
Select Ingredient: 1
Select Ingredient: 2
Select Ingredient: 3
Select Ingredient: 4
Select Ingredient: 5
~~~~~
Selected Ingredients: *Beef *Rice *Potato *Oil *Pulses
~~~~~
Possible Recipes:
~~~~~
1. Sindhi Biryani
2. Nihari
3. Haleem
4. Curry
5. Pulao
6. Beef Biryani
Enter 1 to view all the recipes or enter anything else to exit:
```

Enter 1 to view all the recipes or enter anything else to exit: 1

Recipe 1: Sindhi Biryani

Ingredients required: Beef, Rice, Potato, Oil,
Cuisine Type: Pakistani
Category: Main Course
Cooking Time: 2.5 hours
Calories: 500 cal
Rating: 4.8

Steps Of Cooking:

1. Wash and soak 2 cups of basmati rice in water for 30 minutes.
2. In a pot, heat 1/4 cup of cooking oil over medium heat.
3. Add 1 kg of beef, cut into pieces, and saut0 until browned on all sides.
4. Add sliced onions and cook until golden brown.
5. Stir in 2 tablespoons of ginger-garlic paste until aromatic.
6. Add Sindhi Biryani masala, including cumin, coriander, and red chili powder.
7. Peel and slice 2 potatoes, fry them until golden, and set aside.
8. Parboil the soaked rice and layer it over the beef mixture.
9. Arrange the fried potatoes on top and drizzle with saffron-infused milk.
10. Cover and cook on low heat until the rice is tender. Serve hot with raita.

Recipe 2: Nihari

Ingredients required: Beef, Oil,
Cuisine Type: Pakistani
Category: Main Course
Cooking Time: 4 hours
Calories: 480 cal
Rating: 4.7

Steps Of Cooking:

1. In a pot, heat 1/2 cup of cooking oil over medium heat.
2. Add 1 kg of beef, cut into pieces, and sear until browned on all sides.
3. Add 3 tablespoons of ginger-garlic paste and saut0 until fragrant.
4. Pour in 8 cups of water, bring to a boil, and then simmer on low heat.
5. Add Nihari masala, including coriander, cumin, fennel, and other spices.
6. Allow the beef to cook on low heat for at least 3 hours until it's tender.
7. In a separate pan, heat additional oil and saut0 sliced onions until golden brown.
8. Add the fried onions to the simmering beef, enhancing flavor and thickness.
9. Adjust salt and continue simmering until the Nihari reaches a rich consistency.
10. Garnish with fresh ginger slices and serve hot with naan or rice.

Recipe 3: Haleem

Ingredients required: Beef, Pulses,
Cuisine Type: Pakistani
Category: Main Course
Cooking Time: 3 hours
Calories: 600 cal
Rating: 4.7

Steps Of Cooking:

1. Cook a mix of lentils, barley, and wheat until soft.
2. In a separate pot, cook shredded beef until tender.
3. Combine the cooked lentils, barley, wheat, and beef in a large pot.
4. Use a hand blender to blend the mixture into a thick, creamy consistency.
5. In a pan, saut0 chopped onions, garlic, and ginger until golden.
6. Add home spices (cumin, coriander, turmeric, etc.) and stir.
7. Mix the saut0ed spices with the blended haleem mixture.
8. Simmer on low heat, stirring occasionally, until the haleem thickens.
9. Adjust salt and spices to taste.
10. Garnish with fried onions, mint leaves, and ginger slices.
11. Serve hot with naan or paratha.
12. Experience the rich and hearty flavor of Haleem!

Recipe 4: Curry

Ingredients required: Pulses,
Cuisine Type: Various
Category: Main Course
Cooking Time: 1 hour
Calories: 300 cal
Rating: 4.0

Steps Of Cooking:

1. Wash and soak a mix of lentils and chickpeas in water for at least 2 hours.
2. In a pot, heat 1/4 cup of cooking oil over medium heat.
3. Saut0 finely chopped onions until golden brown.
4. Add 2 tablespoons of ginger-garlic paste and saut0 until aromatic.
5. Add a mix of soaked pulses to the pot and stir well.
6. Pour in enough water to cover the pulses and bring to a boil.
7. Add ground spices like cumin, coriander, and turmeric, adjusting to taste.
8. Simmer on low heat until pulses are tender and the curry thickens.
9. Season with salt according to taste.
10. Garnish with fresh cilantro and serve hot with rice or bread.

Recipe 5: Pulao

Ingredients required: Beef, Rice,
Cuisine Type: Pakistani
Category: Main Course
Cooking Time: 1.5 hours
Calories: 380 cal
Rating: 4.2

1. Wash and soak 2 cups of rice in water for 30 minutes.
2. Cut 500g beef into cubes.
4. Saut0 sliced onions until golden brown.
5. Add cubed beef and brown on all sides.
6. Stir in 2 tablespoons of ginger-garlic paste until fragrant.
7. Add whole spices like cinnamon, cardamom, and cloves.
8. Drain soaked rice and add it to the pot. Stir gently.

Recipe 6: Beef Biryani

Ingredients required: Beef, Rice, Potato, Oil,
Cuisine Type: Pakistani
Category: Main Course
Cooking Time: 1.5 hours
Calories: 500 cal
Rating: 4.5

Steps Of Cooking:

1. Marinate the beef with yogurt, spices, and a pinch of saffron.
2. Cook basmati rice separately with whole spices and parboil.
3. Layer the marinated beef and partially cooked rice in a pot.
4. Add fried onions, mint, and coriander leaves between the layers.
5. Cook on low heat until the beef is tender and the rice is fully cooked.
6. Garnish with additional fried onions and serve hot.
7. Enjoy your flavorful Beef Biryani!
8. Serve with raita or salad on the side.
9. Pair with your favorite drink for a complete meal.
10. Share the deliciousness with family and friends.

Do you want to continue? (Y/N):

Case where user decides to exit the program without viewing all the recipes.

```
~~~~~
Possible Recipes:
~~~~~
    1. Sindhi Biryani
    2. Nihari
    3. Haleem
    4. Curry
    5. Pulao
    6. Beef Biryani

Enter 1 to view all the recipes or enter anything else to exit: 2
The program has exit. Thank you for using our software.
-----
Process exited after 11.38 seconds with return value 1
Press any key to continue . . .
```

Case where user wants to continue using the program

```
Do you want to continue? (Y/N): Y
=====
* Ingredients *
=====
1. Beef
2. Rice
3. Potato
4. Oil
5. Pulses
6. Onion
7. Tomatoes
8. Home Spices
Enter the number of ingredients you want to select: _
```

```
=====
* Ingredients *
=====
1. Beef
2. Rice
3. Potato
4. Oil
5. Pulses
6. Onion
7. Tomatoes
8. Home Spices
Enter the number of ingredients you want to select: 9

Invalid input.Please select from the above.

-----
Process exited after 54.28 seconds with return value 1
Press any key to continue . . . _
```

Case where user does not want to continue using the program.

```
Do you want to continue? (Y/N): N
The program has exited. Thank you for using our software!
-----
Process exited after 11.98 seconds with return value 1
Press any key to continue . . . █
```

Case where user enters invalid selection of ingredients.

```
=====
* Ingredients *
=====
1. Beef
2. Rice
3. Potato
4. Oil
5. Pulses
6. Onion
7. Tomatoes
8. Home Spices
Enter the number of ingredients you want to select: 9

Invalid input.Please select from the above.

-----
Process exited after 54.28 seconds with return value 1
Press any key to continue . . . █
```

Conclusion:

The Recipe Matching System is the ultimate companion for cooking enthusiasts, providing a convenient way to discover and explore new recipes based on ingredient preferences. The project successfully implements a matching algorithm and a user-friendly interface, making it a valuable tool for every kitchen. Future enhancements could include expanding the recipe database and incorporating user feedback for further improvements.