

Introduction

The Recipe Management Application is a user-friendly program designed to streamline the process of storing, searching, and managing recipes. Developed in C, the project utilizes modular programming and interactive features to cater to culinary enthusiasts and professionals. It incorporates essential functionalities like user registration, recipe addition, and recipe categorization, making it a robust and practical application.

Features and Functionalities

1. User Management:

- Registration: New users can register by providing a username and password, stored securely in a text file.
- Login: Existing users can log in to access personalized recipe management features.
- Input validation ensures secure and smooth user interaction.

2. Recipe Management:

- Search Recipes:

- Users can search recipes by name or apply filters such as "Snack," "Main Course," "Dessert," or "Beverage."
- Recipes are read from categorized text files and displayed with ingredients, preparation steps, and other details.

- Add Recipes:

- Users can add new recipes by specifying attributes like type (vegetarian or non-vegetarian),

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category, ingredients,

and preparation steps.

- Recipes are stored as text files for easy retrieval and modification.

3. Interactive Interface:

- Typing Effects and Spinners: Animations like typing effects and loading spinners enhance the user experience by adding a dynamic feel to operations.
- Color-Coded Output: The application uses ANSI color codes to differentiate messages and improve readability.

4. File Management:

- Recipes are stored in a structured directory, ensuring organized storage and efficient retrieval.
- Dynamic memory allocation for managing lists of recipes in each category.

5. Cross-Platform Compatibility:

- Includes platform-specific commands for clearing the screen, ensuring compatibility with both Windows and Unix-like systems.

Technical Highlights

- Dynamic Arrays: Used to manage recipes and user inputs effectively.
- Structs for Recipes: Recipes are stored as structured data, capturing all relevant details.
- Error Handling: Includes checks for invalid inputs, file errors, and memory allocation failures to maintain stability.

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Conclusion

The Recipe Management Application is a versatile tool for managing recipes with ease and efficiency. It combines practical functionality with an interactive interface to deliver a seamless user experience. The modular structure ensures scalability, enabling future enhancements like recipe sharing or integration with external databases. This project demonstrates proficiency in C programming and problem-solving through its structured approach and user-centric design.

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