

Software Requirements Specification

Meal Manager Application

1. Introduction

The Meal Manager application is a desktop-based software system designed to simplify and manage the meal activities a mess. It provides functionality for handling user registrations, recording meals, deposits, expenses, and calculating individual and collective balances. The system leverages **Java Swing** for the front-end and **SQLite** for database management, employing Object-Oriented Programming (OOP) principles for scalability and maintainability.

1.1 Purpose

The purpose of this system is to:

- Enable mess administrators to manage members, meals, and expenses effectively.
- Provide real-time updates on meal activities and balances.
- Ensure a secure, user-friendly, and efficient management process.

1.2 Scope

The application supports two roles:

- **Admin:** Can manage members, meals, expenses, and generate reports.
- **Regular User:** Can only view mess records.

The application streamlines mess meal activities and provides insights into financial and meal-related activities, reducing manual workload and errors.

2. Functional Requirements

Requirement ID	Name	Description	Stakeholder(s)
FR01	Login	Users must log in with a valid username and password. Role-based access is enforced.	Admin, Regular Users
FR02	Register User	Allow new users to register with a username, password, and name.	Admin, Regular Users

FR03	Add Member	Add members from registered users only.	Admin
FR04	Add Meal	Add meals to the members and update individual costs automatically.	Admin
FR05	Add Deposit	Add deposits to the members and calculate balances automatically.	Admin
FR06	Add Expense	Add mess expenses and calculate the meal rate automatically.	Admin
FR07	View Member Records	Display live updates of member deposits, balances, meal counts and individual costs.	Admin, Regular Users
FR08	View Mess Records	Display live Mess status including total deposit, current balance, total meal count and meal rate.	Admin, Regular Users
FR09	Generate Report	Generate detailed reports on deposits, balances, and meal statistics.	Admin
FR10	View Report	Allow users to view the mess report generated by the manager/admin.	Admin, Regular Users
FR11	Logout	Allow users to securely log out of the system.	Admin, Regular Users

3. Non-Functional Requirements

- **Performance:** The system should respond to user actions within 2 seconds under normal load conditions.
- **Usability:** Provide a user-friendly GUI using Java Swing. Ensure intuitive navigation.
- **Reliability:** The application should be available 99% of the time and handle errors gracefully.
- **Security:** Encrypt user passwords and restrict access to admin-only features.
- **Scalability:** Ensure the database accommodates up to 500 users without performance degradation.

4. Conclusion: Summary

The Meal Manager application is a comprehensive solution for managing mess meal activities efficiently. By automating member management, meal recording, and expense tracking, the system reduces administrative workload and ensures accuracy. The use of OOP principles ensures scalability and maintainability, making it adaptable for future enhancements. The application's focus on usability, reliability, and security ensures a seamless experience for all users.