

SOFTWARE REQUIREMENTS SPECIFICATION

**For**

**Recipe Management System**

**Prepared by:-**

*Team 8*

# Introduction

## Purpose

The main objective of this document is to illustrate the requirements of the project. Recipe Management System. The document gives a detailed description of the both functional and non-functional requirements proposed by the client. The main purpose of this project is to provide a friendly environment to explore new recipes and also create new dishes for other users to implement in their cooking. This project describes the hardware and software interface requirements using ER diagrams and UML diagrams.

## Document Conventions

* Entire document should be justified.
* Convention for Main title:

Font face: Times New Roman Font style: Bold

Font Size: 14

* Convention for Sub title:

Font face: Times New Roman Font style: Bold

Font Size: 12

* Convention for body:

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## Scope of Development Project

The Recipe Management System is a user-friendly platform designed to streamline the organization and sharing of recipes. Its user-friendly interface allows users to create, modify, and delete recipes, ensuring a hassle-free experience regardless of their technical expertise. The system prioritizes flexibility, allowing users to update or remove recipes as their preferences evolve. It also includes a recipe-sharing and rating system, fostering a sense of community and culinary exploration.

The system also includes access control and sharing options, allowing users to define who has access to their recipes. The system prioritizes scalability and flexibility to accommodate future feature additions and user feedback. Security is a priority, with authentication and authorization mechanisms. Thorough testing procedures validate the system's functionality and security. The Recipe Management System aims to be a versatile and indispensable tool for culinary enthusiasts, combining user-friendly design, detailed recipe management features, and social interaction elements.

The language used for developing the project is Java as it is quite advantageous to other languages in terms of performance, tools available, cross-platform compatibility, libraries, cost (freely available), and development process.

## Definitions, Acronyms and Abbreviations

JAVA -> platform independence SQL-> Structured query Language ER-> Entity Relationship

UML -> Unified Modeling Language

IDE-> Integrated Development Environment SRS-> Software Requirement Specification

## References

* + - Books

 Software Requirements and Specifications: A Lexicon of Practice, Principles and Prejudices (ACM Press) by Michael Jackson

Software Requirements (Microsoft) Second EditionBy Karl E. Wiegers

Software Engineering: A Practitioner’s Approach Fifth Edition By Roger S. Pressman

* + - Websites

[**http://www.slideshare.net/**](http://www.slideshare.net/)

[**http://ebookily.net/doc/srs-library-management-system**](http://ebookily.net/doc/srs-library-management-system)

# Overall Descriptions

## Product Perspective

Use Case Diagram of Library Management System

*searches*

1

1 *requests*

1

1

1..\*

\*

search\_book

1..\*



check\_limit

check\_availability

User 1

issue\_book

*request\_renew*

<<include>>

*monitors\_request*

1

*monitors\_renew* 1

*performs*

*give\_book*

<<include>>

0..\*

1..\*

renew\_book

verify\_member

<<include>>

*take\_book*

1

1 Librarian

Student

0..\*

1..\*

*adds\_new\_book*

*perform\_transaction\_updation*

Staff

\*

\*

return\_book

View\_logs

<<extend>>

add\_book

\*

calculate\_fine

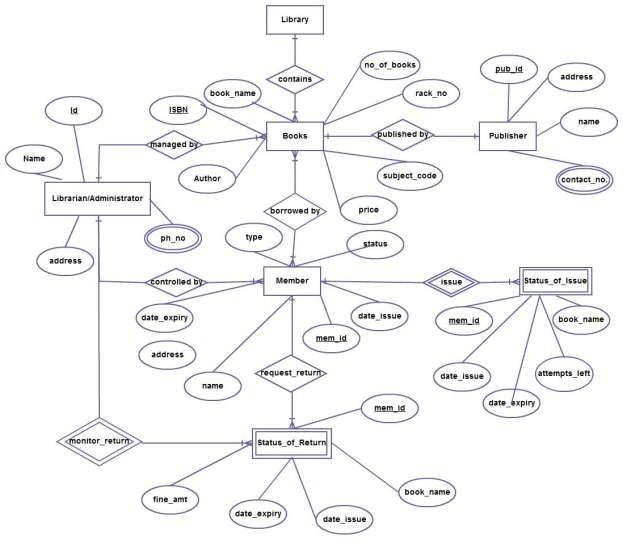
update\_record

This is a broad level diagram of the project showing a basic overview. The users can be either staff or student.. This System will provide a search functionality to facilitate the search of resources. This search will be based on various categories viz. book name or the ISBN. Further the library staff personnel can add/update the resources and the resource users from the

system. The users of the system can request issue/renew/return of books for which they would have to follow certain criteria.

## Product Function

Entity Relationship Diagram of Library Management System



The Online Library System provides online real time information about the books available in the Library and the user information. The main purpose of this project is to reduce the manual work. This software is capable of managing Book Issues, Returns, Calculating/Managing Fine, Generating various Reports for Record-Keeping according to end user requirements. The Librarian will act as the administrator to control members and manage books. The member’s status of issue/return is maintained in the library database. The member’s details can be fetched by the librarian from the database as and when required. The valid members are also allowed to view their account information.

## User Classes and Characteristics

The system provides different types of services based on the type of users. The User will play as the controller and he will have some of the privileges of an administrator. He will be able to create, update, and delete their own recipes.

The features that are available to the Administrator are:-

* + - User management i.e. create, edit or delete user accounts if necessary.
    - Manage user access levels.
    - Manage recipe categories and tags.
    - Rollback to previous versions if necessary.
    - Restrict access to specific features or areas within the system.
    - Implement security measures to protect sensitive data.
    - Regularly update and patch the system to address potential vulnerabilities.
    - Communicate with the users through announcements.
    - Plan or execute recovery procedures in case of data loss.
    - Provide support to users and address issues as soon as possible.

The features that are available to the Users/Members are:-

* + - Create and manage a user profile.
    - Customize or alter profile settings.
    - Create new recipes.
    - Alter or delete their own recipes.
    - Search and browse recipes based on various criteria.
    - Save favorite recipes.
    - Rate recipes based on personal preferences.
    - Share recipes with the community.

## Operating Environment

The product will be operating in Windows environment. The Library Management System is a website and shall operate in all famous browsers, for a model we are taking Microsoft Internet Explorer, Google Chrome, and Mozilla Firefox. Also it will be compatible with the IE 6.0. Most of the features will be compatible with the Mozilla Firefox & Opera 7.0 or higher version. The only requirement to use this online product would be the internet connection.

The hardware configuration include Hard Disk: 40 GB, Monitor: 15” Color monitor, Keyboard: 122 keys. The basic input devices required are keyboard, mouse and output devices are monitor, printer etc.

## Assumptions and Dependencies

The assumptions are:-

* + - The coding for the Recipe Management System is assumed to be error-free to ensure the smooth functionality of the system.
    - The system is expected to have a user-friendly interface, prioritizing ease of use for both recipe creators and consumers.
    - A database will be used to store recipes, ingredients, and user accounts, with the capacity to accommodate a growing repository of recipes and users.
    - The system should have more storage capacity and provide fast access to the database
    - The system should provide a search facility.
    - The Recipe Management System is assumed to operate 24 hours a day, allowing users to access and interact with the platform at any time.
    - Users may access from any computer that has Internet browsing capabilities and an

Internet connection

* + - To enhance security, users are required to have correct usernames and passwords for accessing their online accounts.

The dependencies are:-

* + - The specific hardware and software configurations necessary for running the Recipe Management System are considered dependencies.
    - The development and execution of the project are dependent on the listed requirements and specifications.
    - End users, particularly administrators, are assumed to have a proper understanding of the Recipe Management System.
    - The system should have the general report stored
    - The information of all users and recipes is stored in a database accessible by the Recipe Management System.
    - The system relies on correct information being recorded in the database to ensure the reliability and relevance of the recipes available to users.

## Requirement

Software Configuration:-

This software package is developed using java as front end which is supported by sun micro system. Microsoft SQL Server as the back end to store the database.

Operating System: Windows NT, windows 98, Windows XP Language: Java Runtime Environment, Net beans 7.0.1 (front end) Database: MS SQL Server (back end)

Hardware Configuration:- Processor: Pentium(R)Dual-core CPU Hard Disk: 40GB

RAM: 256 MB or more

## Data Requirement

The Recipe Management System uses user-generated queries for recipe creation, modification, deletion, ingredient input, sharing requests, and rating. The system processes these queries, providing solutions and user account details. The dynamic recipe database is maintained by the system, which outputs recipes, including names, ingredients, and cooking instructions, and provides insights into user activity and associated recipes. This seamless interaction ensures a user-friendly experience.

# External Interface Requirement

## GUI

The software provides good graphical interface for the user and the administrator can operate on the system, performing the required task such as create, update, viewing the details of the book.

* + - It allows user to view quick reports like Book Issued/Returned in between particular time.
    - It provides stock verification and search facility based on different criteria.
    - The user interface must be customizable by the administrator
    - All the modules provided with the software must fit into this graphical user interface and accomplish to the standard defined
    - The design should be simple and all the different interfaces should follow a standard

template

* + - The user interface should be able to interact with the user management module and a part of the interface must be dedicated to the login/logout module

Login Interface:-

In case the user is not yet registered, he can enter the details and register to create his account. Once his account is created he can ‘Login’ which asks the user to type his username and password. If the user entered either his username or password incorrectly then an error message appears.

Search:-

The member or librarian can enter the type of book he is looking for and the title he is interested in, then he can search for the required book by entering the book name.

Categories View:-

Categories view shows the categories of books available and provides ability to the librarian to add/edit or delete category from the list.

Librarian’s Control Panel:-

This control panel will allow librarian to add/remove users; add, edit, or remove a resource. And manage lending options.

# System Features

The Recipe Management System prioritizes the security and accountability of user accounts through the implementation of key features:-

* User authentication and validation of members using their unique member ID
* User IDs are unique, secure identifiers assigned to each user, used in authentication processes to verify their identity, providing an additional layer of security.
* The system offers administrators real-time account status updates, allowing them to monitor activities.

# Other Non-functional Requirements

## Performance Requirement

The Recipe Management System is designed to meet high-performance standards for optimal functionality and user satisfaction. It prioritizes efficiency and responsiveness for recipe management, delivering fast and accurate performance for seamless creation, editing, and deletion. It maintains data integrity, optimizes resource utilization, and adapts to user loads.

* + - The performance of the system should be fast and accurate
    - The system is designed to efficiently manage large amounts of data, recipes, ingredients, and users, ensuring efficient handling of culinary content and user interactions.

## Safety Requirement

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup so that the database is not lost. Proper UPS/inverter facility should be there in case of power supply failure.

## Security Requirement

* + - System will use secured database
    - Normal users can just read information but they cannot edit or modify anything except their personal and some other information.
    - System will have different types of users and every user has access constraints
    - Proper user authentication should be provided
    - No one should be able to hack users’ password

## Requirement attributes

* + - There may be multiple admins creating the project, all of them will have the right to create changes to the system. But the members or other users cannot do changes
    - The project should be open source
    - The Quality of the database is maintained in such a way so that it can be very user friendly to all the users of the database
    - The user be able to easily download and install the system

## Business Rules

A business rule is anything that captures and implements business policies and practices. A rule can enforce business policy, make a decision, or infer new data from existing data.This includes the rules and regulations that the System users should abide by. This includes the cost of the project and the discount offers provided. The users should avoid illegal rules and protocols. Neither admin nor member should cross the rules and regulations.

## User Requirement

The system users are the members who use the system and the administrator who maintains the system. The members are assumed to have basic knowledge of the computers and internet browsing. The administrators of the system should have more knowledge of the internals of the system and can rectify the small problems that may arise due to disk crashes, power failures, and other catastrophes to maintain the system. The proper user interface, user manual, online help and the guide to install and maintain the system must be sufficient to educate the users on how to use the system without any problems.

The admin provides certain facilities to the users in the form of:-

* + - Backup and Recovery
    - Forgot Password
    - Data migration i.e. whenever user registers for the first time then the data is stored in the server
    - Data replication i.e. if the data is lost in one branch, it is still stored with the server
    - Auto Recovery i.e. frequently auto saving the information
    - Maintaining files i.e. File Organization
    - The server must be maintained regularly and it has to be updated from time to time

# Other Requirements

## Data and Category Requirement

The Recipe Management System prioritizes user categories and data organization, with distinct access rights for different user roles. Members have full control over their own recipes, while contributors can add new ones but not modify existing ones. Viewers can only retrieve information without altering or adding recipes. The system uses a structured data format, coding recipes with essential details, for a user-friendly approach.

## Appendix

A: Admin, Abbreviation, Acronym, Assumptions; B: Books, Business rules; C: Class, Client, Conventions; D: Data requirement, Dependencies; G: GUI; K: Key; L: Library, Librarian; M: Member; N: Non-functional Requirement; O: Operating environment; P: Performance,Perspective,Purpose; R: Requirement, Requirement attributes; S: Safety, Scope, Security, System features; U: User, User class and characteristics, User requirement;

## Glossary

The following are the list of conventions and acronyms used in this document and the project as well:

* + - Administrator: A login id representing a user with user administration privileges to the software
    - User: A general login id assigned to most users
    - Client: Intended users for the software
    - SQL: Structured Query Language; used to retrieve information from a database
    - SQL Server: A server used to store data in an organized format
    - Layer: Represents a section of the project
    - User Interface Layer: The section of the assignment referring to what the user interacts with directly
    - Application Logic Layer: The section of the assignment referring to the Web Server. This is where all computations are completed
    - Data Storage Layer: The section of the assignment referring to where all data is recorded
    - Use Case: A broad level diagram of the project showing a basic overview
    - Class diagram: It is a type of static structure diagram that describes the structure of a system by showing the system’s cases, their attributes, and the relationships between the classes
    - Interface: Something used to communicate across different mediums
    - Unique Key: Used to differentiate entries in a database

## Class Diagram

A class is an abstract, user-defined description of a type of data. It identifies the attributes of the data and the operations that can be performed on instances (i.e. objects) of the data. A class of data has a name, a set of attributes that describes its characteristics, and a set of operations that can be performed on the objects of that class. The classes’ structure and their relationships to each other frozen in time represent the static model. In this project there are certain main classes

which are related to other classes required for their working. There are different kinds of relationships between the classes as shown in the diagram like normal association, aggregation, and generalization. The relationships are depicted using a role name and multiplicities. Here ‘Librarian’, ‘Member’ and ‘Books’ are the most important classes which are related to other classes.

