

II Library Management System

Problem Statement: Manual library operations such as issuing, returning & tracking books are inefficient. An automated system is required to manage records quickly & accurately.

1) Introduction

1.1) Purpose: To build the library management system that streamlines book issuance, returns, & inventory tracking.

1.2) Scope:

- BOOK search & catalog management
- Issuing & returning books
- Student & staff account management
- Fine calculator.

1.3) Overview

The system ensure quick book & user, reduces errors, & maintains accurate library records.

2) General Description

The system is a web-based app that automates library process, manages members, books, and provides real-time availability of resources.

3) User classes & characteristics

- Admin: Manage books, user, system settings
- Librarian: handle book transaction & issues
- Member (student/faculty): search, borrow, & return books.

4) Functional Requirements

- Add, update, delete book records.
- Issue & return books.
- Search book by title / author / ID
- Calculate fine for late return.
- Generate reports on usage.

5) Interface Requirements

- Web & desktop interface
- Login system with different roles
- Search & filter option for books

6) Performance Requirements.

- Support 200+ simultaneous users
- Book search results within 2 sec
- Database can store thousands of book entries

7) Design Constraints

- Run on standard browsers / computer
- Database: MySQL / Oracle / ...
- Language: Java / python

8) Non functional Requirements.

- Security : Role-based access & data protection
- Usability : Easy-to-use interface for all users
- Reliability : System back-up & recovery support
- Scalability : Ability to manage multiple branches.

9) Schedule & Budget

- Schedule : 2-3 months - development time
- Budget : 1-2 lacs depending on features