# III Library Management System

**1] Introduction:**

Problem statement : A Library Management system should automate cataloging, circulation, patron management and resource tracking, enhancing operational efficiency, user experience.

Introduction:

1.1. purpose : The document outlines the requirements and specification of a library management system. It acts as a guide to developers and outlines functionalities, objectives and constraints.

1.2. Scope of the document : The document of a comprehensive library management system including catalog, circulation, patron management and repository functionalities.

1.3. Overview : The system is designed to streamline operations such as book aquisition, cataloging, circulation etc.

2. General description :
   - Will cater to the needs of librarians and patrons
   - Some features are :
     * catelloging : Allows librarians to catelog books and media including metadata.
     * circulation : facilitates borrowing and returning of library materials
     * Patron management : Maintains patron records such as registration and borrowing history
     * Reporting : Generating regular periodic reports

3. Functional Requirements:

* User interface: UI and how information is presented to the user.

* Library user account Management System. Display account information, userID, name, positioning, privileges, uses a GUI which allows librarians to change the info

* Book Record:
  List of available books, ISBN, title.

* Book borrowing system:
  check out books, show book borrowing information.

4. Interface Requirements

* User interface: Intuitive interface for librarians and patrons.

* Book display and detailed view: Display of books information, access to history and reviews.

* User profile: user friendly interfaces for registration, login, access to history.

* Notifications: System for alerts on overdue books, recommendations.

5. Performance Requirements:

* Response time: check in and out in less than 5-10 seconds.

* Search function should work for less than 12 seconds.

6. Design constraints:

* Each user has an ID used for book issuing, time payment etc.

* compatibility with multiple platforms and databases.
* scalability to accomodate growth, adherance to security standards, accessibility for all users.

7. Non-functional Requirements.
* Minimal latency, reliability to operate without crashes or errors, user friendly interfaces.

8. Preliminary Budget:
* costs for development: Infrastructure, maintenance, training, beta testing, integration, security.
* Estimated cost: ₹ 20,000/-