8. Preliminary schedules and budget:
- Estimated timeline : 9 months
- Budget : ₹ 5,00,000.

III. Library Management System

Problem statement: A library management system should automate circulation, patron management and resource tracking, enhancing operation efficiency user experience.

1. Introduction:

1.1 Purpose: The document outlines the requirements and specifications 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 reporting functionalities.

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

2. General description:
- With cater to needs of librarians and patrons.
- Some features are:
  * Cataloging: Allows librarians to catalog 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, user ID, name, positioning privileges, uses a GUI which allows librarians to change the info.

* Book record: List of books available, ISBN, title

* Book borrowing system: Check out books, show books, borrowing information.

4. Interface requirements:

* User interface : Intuitive interface for librarians and patrons.

* Book display and detailed view: Display of books information, access to the 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 check out in less than 5-10 seconds.

* Search function shall work in less than 12 seconds

6. Design constraints:

* Each user must have an ID used for book issuing, payments etc.

* Compatibility with multiple platforms & databases.

* Scalability to accomodate growth, adherence 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, etc

* Estimated cost: ₹ 40,000/-