1) Library management system:

* Problem statement:

Traditional library management is prone to errors like losing of books, misplaced records, delay in issuing books. A centralized system is required to do the operations.

SRS document:

Introduction:

* purpose of the document:

To develop a efficient library management system that automates book issuing, returning, catalog management, member registration, fine calculation

* scope of the document:

In scope: Book catalog, member management, borrowing / returning, fine calculation

Out of scope: Digital ebook management, inter-library networking, AI recommendations to the user

* Overview:

A web-based library software with module for admin (librarian) & users to search and borrow books.

* General Description:

→ Users: Librarian, Students/staff

→ System environment: web-app, database

→ Assumptions: books have unique ids, internet & computer availability in library

* Functional requirements:

→ Member: Borrow / Return book, search books, Register / login, view borrow/return history

→ Librarian: Add / remove books, Issue / collect books, manage members.

→ System: Auto fine calculation upon delay, assign unique ids for books.

* Interface requirements:

→ UI: simple to use, search & dashboard

→ Hardware: Library PCs

→ Software: MySQL DB, Node.js for backend

* ~~Reqmnt~~ Performance requirements:

→ Handle 500+ members at a time

→ Able to issue or collect thousands of book at a time

→ concurrent access by 50+ users

→ Data backup daily

* Design constraints:

→ Must support barcode/QR code scanning of books

→ Budget limits to add AI features

→ compliance with IT / security policies

* Non functional attributes

→ Security: Role based access, encrypt user credentials

→ Usability: Simple UI easy to understand & use

→ Reliability: Ensuring no data lost in transactions

→ Scalability: Support growing book inventory & members

→ Maintainability: Easy to update book records & UI features

* Preliminary schedule and budget:

→ Requirement analysis - 2 weeks

→ Design - 2 weeks

→ Development - 5 weeks

→ Testing - 1.5 weeks

→ Deployment - 1 week

→ Budget estimation: 4 - 5 lakhs

19/8/25