



LIBcore

Library
Management
Software

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Group 2 Introduction

- Kartik (KT), Junior, from New Delhi, India. Fun Fact: I used to play badminton professionally.
- Alejandro (Alex), Junior from Seaside, CA.
- Steven, Junior from CA
- Thomas, Junior from Union City, CA.

Our Project

The system aims to provide an organized and user-friendly platform for library resource management, allowing members to **search, borrow, return, and reserve resources** across multiple public libraries. It will also enable library staff to **monitor inventory, track transactions, and manage reservations** efficiently.

Since multiple libraries are part of the same network, the system will **ensure seamless communication between libraries** to provide up-to-date availability of resources.

Project Requirements #1

User Management – Library Members and Staff Authentication

- The system should support two types of users: **library members** and **library staff**.
- Library members should be able to register by providing details such as name, address, contact number, and a unique membership ID.
- Staff should have administrative privileges to manage the system, including adding, modifying, and deleting library resources.
- Authentication should be implemented using a username and password system to ensure secure access.
- User sessions should be maintained to prevent unauthorized access while using the system.

Project Requirements #2

Resource Lending & Returns – Track Borrowed and Returned Resources

- Library members should be able to search for available resources (books, magazines, journals, etc.) and request to borrow them.
- Each loan transaction should record details such as the **resource ID, member ID, issue date, and due date**.
- The system should allow members to return borrowed resources before or on the due date.
- If a resource is overdue, the system should flag the transaction and notify the member.
- Staff members should have the ability to override loans in case of special circumstances, such as extending due dates or manually returning resources.

Project Requirements #3

Inventory Management – Monitor Available Resources

- The system should maintain a list of all resources available in the library, including books, magazines, research papers, and digital media.
- Each resource should have unique attributes such as **title, author, publication date, category, and availability status.**
- When a resource is borrowed, its status should be updated to "Checked Out," and when returned, it should be marked as "Available."
- Staff should have access to add, edit, and remove resources from the system.

Project Requirements #4

Loan History – View Past and Current Checkouts

- The system should maintain a **transaction log** that records all loan activities.
- Library members should be able to view their personal **borrowing history**, including the details of currently borrowed resources and previously returned ones.
- Staff should be able to view the loan history of all members, including overdue resources and frequently borrowed items.
- The system should support filtering and sorting of loan records based on parameters like **member ID, resource title, checkout date, and return status**.

Project Requirements #5

Basic Reports – Summarize Library Usage

- The system should generate simple reports to provide insights into library usage patterns.
- Reports should include **total checkouts per month, most borrowed resources, overdue loans, and active library members.**
- Staff should be able to export or view reports for decision-making and resource management.
- The reports should be accessible through the GUI with basic visualization options, such as tables or charts.

Technical Requirements

- **Language:** Java (with GUI)
- **Communication:** TCP/IP (Client-Server)
- **Testing:** JUnit for unit testing
- **Version Control:** Git repository
- **No Databases or External Frameworks**

