

# CS1103 Project Proposal

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Application: University Library Management System

## Application Overview

This project focuses on designing a university library management system to optimize the borrowing and returning processes for library users. The database will store critical data, including user profiles, book details, loan histories, and category classifications. By integrating these components, the platform aims to improve the accuracy of tracking book availability, simplify resource management for the university library.

### Database Schema:

- a) Users Table: Stores user details (user\_id, name, role).
- b) Books Table: Contains book metadata (book\_id, title, author).
- c) Loans History Table: Tracks borrowing history (book\_id, loan\_date, due\_date, return\_date).
- d) Loans Status Table: Record loan status (book\_id, loan\_status).
- e) Categories Table: Defines different book categories (book\_id, category\_name).

### Technical Implementation:

- DDL/DML: Define tables with constraints (e.g., foreign keys, uniqueness).
- Java Application: GUI for adding/deleting users/books, categorizing books via JDBC.

## Expected Deliverables

- Functional database with sample records
- Java application that supports inserting/deleting users and books, categorizing books

## GitHub repository:

Link: <https://github.com/Hongbo-L-i/CS1103-Project.git>