Library Book Borrowing System (LBMS)

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Course / Project: <Library management system>

Date: 15 September 2025

One-line summary: A Salesforce-based system to manage books, borrowing, reminders, and reports for college libraries.

1. Problem Statement

Currently the college library tracks book lending using manual registers and spreadsheets. This causes misplaced books, missed return deadlines, and labour-intensive reporting. The Library Book Borrowing System (LBMS) will automate borrowing/return workflows, enforce borrowing limits, send automated due-date reminders, and provide actionable reports to reduce loss and improve compliance.

2. Objectives & Success Criteria

1. Reduce overdue incidents by 60% within first 3 months (measure: overdue count).

2. Eliminate double-booking of items (measure: zero overlapping borrows).

3. Provide monthly report of top 10 borrowed titles (measure: generated reports).

3. Stakeholder Analysis

Role	Responsibilities	What they need from system
Admin (You)	System setup, security	Full access to configure objects, users
Librarian	Manage borrow/return	Create Borrow Records, receive overdue alerts
Assistant Librarian	Help returns	View borrower list, mark returns
Library Manager	Oversee library	Dashboards, reports, export data

Students	Borrow books	Search books, receive due-date emails

4. Functional Requirements

- FR1: Book catalog with Title, Author, ISBN, Category, Status.
- FR2: Student records with Name, Roll No., Email.
- FR3: Borrow_Record object linking Student and Book with Borrow Date and Return Date.
- FR4: Validation to prevent >3 active borrows per student.
- FR5: Automated email reminders 2 days before due and on overdue.
- FR6: Reports: Overdue Books, Most Borrowed Books, Student Borrow History.

5. Non-Functional Requirements

- NFR1: Performance: Search for books must return results within 2 seconds.
- NFR2: Security: Student email field must be visible only to Librarian & Manager roles.
- NFR3: Availability: System available during library hours (9AM–6PM) with backups weekly.

6. User Stories & Acceptance Criteria

- US1: As a Librarian, I want to create a Borrow Record for a student so that the system tracks which book is borrowed and when it's due.
- US2: As a Student, I want to receive an email 2 days before due so that I can return books on time.
- US3: As a Manager, I want a dashboard showing overdue book count so I can monitor library performance.

Acceptance Criteria Example:
Given a student has 3 active borrowed books,
When librarian attempts to create a 4th borrow record,
Then system blocks action with error "Borrow limit exceeded (max 3 books)."

7. Business Process Flow

Student requests → Librarian checks availability → Borrow Record created → Reminder sent → Book returned → Report generated.

[Placeholder for process flow diagram - insert image here]

8. Business Rules, Constraints & Assumptions

Business Rules:
- Students can borrow maximum 3 books at any time.
- Standard borrow period = 14 days; extension allowed only with manager approval.

Constraints:
- No SMS integration initially (email only).
- Use Developer Edition org for build & demo.

Assumptions:
- Student emails are valid and reachable.
- Librarian will manually perform returns in system.

9. Risks & Mitigation

Risk: Student emails invalid → Mitigation: Validate email input & use fallback contact.

Risk: Librarian resistance to change → Mitigation: Train and provide cheat-sheet.