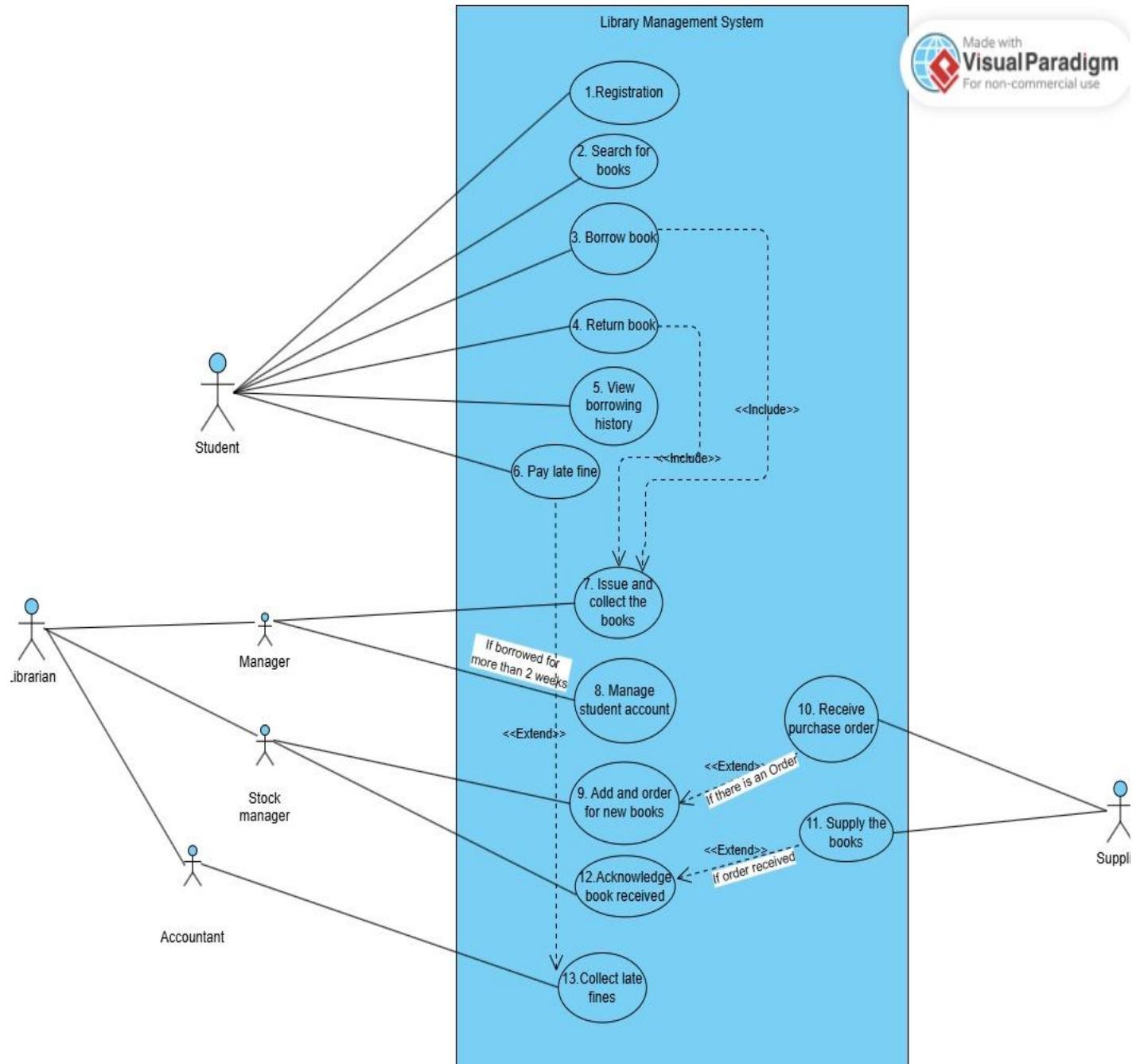


GROUP PROJECT – LIBRARY MANAGEMENT SYSTEM

Efficient Access to Knowledge Resources

USE CASE DIAGRAM



ACTORS :

STUDENT / MEMBER – This actor searches, borrows, returns books, pays fines, and views history.

LIBRARIAN – This actor has 3 sub actors.

- **Manager** :- This actor will add/remove books in the stock and will manage the student account.
- **Accountant** :- This actor will keep the records of fines and will collect the fines along with the implementation of blockage of Student due to uncleared fine and unblock the student after clearing the fine.
- **Stock Manager** :- This actor will generate the purchase order and acknowledge after receiving the order from supplier.

SUPPLIER – Provides requested books to the library upon receiving purchase orders.

USE CASES

1. REGISTRATION

The student registers with the library to access services. The system creates a profile, assigns borrowing limits, and records contact information. This ensures only authorized members can use library resources.

2. SEARCH FOR BOOKS

The student can search books by title, author, subject or Book ID. The system displays availability within the library. This helps members quickly check if the desired resource is available for borrowing or reference.

3. BORROW BOOK

Students borrow books if available. The librarian records the borrowing, updates the due date, and reduces the inventory count. Borrowing ensures systematic record-keeping and avoids re-issuing the same book.

4. RETURN BOOK

Students return books to the library. The system updates inventory records, checks for overdue status, and restores availability. This ensures circulation of books and fair usage among members.

5. VIEW BORROWING HISTORY

Students can access a list of all borrowed and returned books, including overdue records. This provides transparency and allows tracking of personal reading activity.

6. PAY LATE FINE

If a student returns books late, a fine is calculated, payment is recorded, and the student account is updated. This encourages timely return of books and ensures accountability.

7. ISSUE AND COLLECT BOOKS

The librarian issues books to students and collects them upon return. This involves checking availability, validating student details, and updating the system records accordingly.

8. MANAGE STUDENT ACCOUNT

The manager manages student profiles including borrowing limits, and account suspension in case of repeated violations. This ensures fair access to resources.

9. ADD AND ORDER NEW BOOKS

The stock manager requests and orders new books from the supplier. Once received, books are added to the system inventory, making them available for student use.

10. ACKNOWLEDGE RECEIVED BOOKS: Stock Manager will acknowledge the order receipt .

11. COLLECT LATE FINES

The accountant is responsible for collecting overdue fines from students and blockage of student due to uncleared fine and unblock the student after clearing the fine. Updating the payment records. This ensures financial records remain accurate.

12. RECEIVE PURCHASE ORDER

The supplier receives a purchase order from the stock manager. The order includes details like book titles, authors, quantities, and required editions.

The supplier reviews availability and confirms the order for processing. This ensures that the library's request is officially acknowledged and books are prepared for delivery.

13. SUPPLY THE BOOKS

Once a purchase order is confirmed, the supplier delivers the requested books to the library. The supply process ensures the library's inventory is updated with new collections, supporting academic requirements and maintaining resource availability for students.

EXTENDS / INCLUDES

<<Include>> Return Book → Issue and Collect Books :
Returning a book always includes the librarian's action of collecting and updating the records.

<<Include>> Borrow Book → Issue and Collect Books –
Borrowing a book always includes the issuing process managed by the librarian.

<<Include>> Pay late fine → Collect late fines –
Late fines must be collected from the students by the accountant after the student's late fee payment

<<Extend>> Receive Purchase Order → Add and Order for new Books
(If there is an order)
Receiving the purchase order is an extended step that occurs when the librarian requests new books, handled by the supplier.

<<Extend>> Return Book → Pay Late Fine
(If returning after more than 2 weeks)
If the book is returned after the due date, the fine calculation use case is triggered.

<<Extend>> Supply The books → Acknowledge book received
(If order received)
Stock manager must acknowledge the receiving of the books after the successful delivery of the supplier