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| --- | --- | --- |
| Actor | Use case | Description |
| Borrower | Authenticate | - Using ID card  - Using Login Web/Mobile app  + Change password  + Forget password |
| Search | Borrowers can search the library’s collection database using:  - Title  - Author  - Keywords  - ISBN |
| Borrow | Borrowers with valid ID card and condition can check out book. |
| Return | Borrowers return books. If the book is damaged, the last borrower will be assessed a fine. |
| Request | In case a book is already checked out, user can get notified once the book is available |
| Pay fines | Borrower who violates any rule will have to pay fines, and can either pay via cash or web/mobile app |
| Library Manager | Add books | Add a new book (purchased book) to the collection, updating both database and physically |
| Remove books | Remove a book (damaged book) from the collection, updating both database and physically |
| System | Validate | Validate based on user type:  - Student database (student)  - Personal database (staff, faculty)  - Library database (guest) Using NFC chips |
| Email notifications | - Reminder e-mails to overdue books.  - Notified user that the book is requested now available |
| Update book status | Update book status: Checked out, returned, requested |