Use Case

1- One Use Case

UC1: Check out Copies to Patron

Scope: Textbook Rental Library system

Level: User goal

Primary Actor: Rental worker

Stakeholder and Interest

* Rental Staff (worker): wants to assist Patrons (in a most efficient way) with locating the correct textbooks for a given class, and assisting them with the smooth check-out process.
* Student (Patron) wants to have the required text books checkout to themselves.
* Library: Wants to accurately record circulation transactions and satisfied the interest of each patron
* Check-out authorization: wants to receive a digital confirmation of successful check outs, and accurately account for inventories

Pre-conditions: Rental Worker is identified and authenticated. Patron arrives to the check-out station with required textbooks.

Success guarantee: Books checked are saved. Due date is assigned. Patron’s record is updated.

Main success scenario:

1. Rental worker starts a transaction.

2. Rental worker scans patron’s university ID.

3. System display current patron’s record and rental worker validates the record.

4. System alerts if Patrons has hold on account due to outstanding fines or exceptional circumstances

5. Rental worker scans textbook copy.

Worker repeats step 2-4 until textbooks’ copies are all scanned

6. Worker completes session

7. System assigns due date

8. System saves textbooks copies to the given patron’s record

9. Rental worker complete transaction

10. System updates inventory

Extensions:

1a) System won’t start and froze or crashes.

1. Rental worker restart the system

2. Worker starts a new transaction

1b) Patron changes his/her mind and wanted to cancel the transaction

1. Worker cancels the transaction
2. System removes all entered copies from transaction
3. System displays a message validating that transaction is cancelled

2a) System fails to start a session

1. System rejects entry
2. Worker enters the patron’s ID manually
3. System accepts entry

2b) System fails to identify patron

1. System shows a message indicating that Patron does not exist, and ends transaction
2. Worker starts a new transaction and reenter Patron’s ID

3a) System indicates a hold in Patron’s record

1. System alerts worker of the hold

2. Worker notifies Patron of the hold

3b) System displays a record for different patron

1. Worker notices that the displayed record is not the correct one
2. Worker end the transaction
3. Worker starts a new checkout transaction and reenter Patron’s ID

4a) System fails to scan a copy ID

1. System rejects record entry
2. Worker manually enters copy ID
3. System accepts entry

4b) Worker enters unknown copy ID

1. System shows a message indicating that copy is not in the system, and requests to reenter copy ID
2. Worker enters another copy ID

UC2: Check in Copies from Patron

Scope: Text Book Rental Library (TRL): Check-In Copies from Patron

Level: User Goal

Primary Actor: Student/Patron

Stakeholder and Interest

* Rental Staff (worker): wants to assist Patrons (in a most efficient way) with ensuring that all returned materials (books) are checked in accurately
* Student (Patron) wants to have the checked-out text books checked-in accurately, to avoid a special hold and subsequent fine assessed to their account
* Library: Wants to accurately record circulation transactions and satisfied the interest of each patron (student)
* Audit: System will keep an audit trail of patrons that have checked out a given textbook

Preconditions:

Worker has logged in to the Check-in station. Student is enrolled for the current semester or were enrolled on previous semester, Rental Library System has a record of rented books for the student.

Success Guarantee (Post Condition):

All returning books are scanned and removed from students’ record. Fine is collected for lost, damaged, and overdue books. Holds are removed from Patron's record. Check-in session is completed successfully and books are returned to the proper location.

Main Success Scenario (Basic Flow):

1. Patron arrives at “check in” station with checked-out books.

2. Worker enters Patron’s ID card to begin transaction

3. Worker scan book barcode

4. System processes barcode scan and record each scanned item as “ready to check in”

Process 3 and 4 are repeated for all items

4. System updates inventory and student record

5. Worker checks all checked-in books for damages and any other fines needed. (To be removed)

6. Worker updates system on books conditions. (To be removed)

7. System removes each book from patron's record that are now checked in.

Repeat 2-7 until all books are checked.

8- If this is proper Location, no fine. If not, a special hold is placed on Patron’s record, and a fine assessed against it.

9. Patron is given a receipt of transaction.

1) Patron arrives at “check in” station with checked-out books.

2) Worker scans each book and System removes each book from patron's record.

3) Worker checks all checked in books and collects fine for damages, overdue, and lost books.

4) Worker removes holds from patron's record.

5) Patron returns all checked-in books to the proper location within the Rental stacks.

Extensions (Alternative Flow):

3a) Rental book copy won't scan (text book is not recognized by the system).

1. Worker responds to scan error.

1a. Worker enters copy's bar code manually

1b. Worker requests for manager help to check if the book is on TRL database.

2. System error copy not found.

2a. Worker checks for checked out books on patron's rental record (system).

2b. Worker checks pending holds in the system.

2c. Worker notify patron that the copy was not rented through TRL.

2d. Worker should restart system and resume

4a) System does not remove successfully checked in (scanned) book from patron's record.

1. Worker checks for patron’s record for holds.

1a. there is no hold for the copy scanned.

1b. Book is removed from patron's record manually.

2. Worker collects fines and resumes session.

3. Worker checks if book if removed from patron's record.

3a. Book is removed from patron's record manually.

5a) System fails to alert worker for holds due to overdue books.

1. Worker checks patron's record for check-out date.

2. Worker calculates amount to fee and collects.

3. Notify manager about the error occurred.

6a) System failed to remove holds from patron's record.

1. Worker verifies if payment is applied to patron's record for that copy.

1a. Collected payment is not applied to patron's account.

2. Worker restarts a payment session

1b. Worker verifies payment is applied.

3. Worker asks manager for permission to remove holds manually.

7a) Patron fails to dump books to the proper location.

1. Patron is contacted to find out if copies are still out.

1a. Copies are not with Patron.

1b. TRL system is checked if another patron has the copies.

1c. Special hold is placed patron's record and fine is assessed.

2. Patron is notified that overdue charges are incurring and requested to dump copies properly.

2- Domain Class Diagram

