# System Testing

# Scenario: Borrow Book

## Scenario Description

* The intent of the test scenario is to enable valid patron to borrow book while restricting unqualified patrons.

## Test Scripts

The following scripts will cover this scenario:

1.1 Borrow Book, No Restrictions

1.2 Borrow Book, Restrictions

1.3 Borrow Book, Book Reserved

1.4 Borrow Book, hit limit

1.5 Borrow Book, Invalid Member

## Use Case

* Borrow Book

## Test Components/Requirement

* Unrestricted, restricted (withstanding fine, overdue, too many books), user created
* Availability of the book and reserved book

### Testing Requirements

Test scripts covers the following specific testing requirements:

Borrow a book in the cases when the borrower is unrestricted and the book is available.

### Setup

* Create unrestricted members
* Member 1 – no existing loans, no fines
* Member 2 – 1 loans, fine under limit
* Create available books
* Book1 – available, not reserved
* Book1 – available, not reserved
* System should be at general menu

## Script:

### Script Description

* 1. Borrow Book, No Restrictions

The patron is unrestricted to borrow book.

* 1. Borrow Book, Restrictions

The patron is restricted to borrow book.

* 1. Borrow Book, Book Reserved

The book is in reserved state and cannot be borrowed.

* 1. Borrow Book, hit limit

A borrow limit restriction is incurred to the user.

* 1. Borrow Book, Invalid Member

The user is illegitimate.

### Testing Requirements

This test script covers the following specific testing requirements:

* The patron is to request book and upon it’s availability in wholesome condition, the system will let the user borrow the book if the patron does not possess any withstanding fines or has overdue books.

### Setup

1. Generate patron with no restriction; Patron 1: no withstanding fines and overdue books.
2. Generate book availability status; Book 1: Book available, unreserved and undamaged.

### Teardown

### Course of action after test case execution:

1. Stop the program.
2. Enlist all the steps that is to be taken after execution of the test case

### Script Steps

| **Step #** | **Test Action** | **Expected Results** | **Pass/ Fail** |
| --- | --- | --- | --- |
| 1 | Choose borrow function | Displays borrow menu | P |
| 2 | Swipe borrow function | Book scan  Patron swipe | P |
| 3 | Scan book’s barcode | Display book details | P |
| 4 | Confirm borrow | Book eligible for borrowing, | P |
| 5 | Confirm loan | Loan slip printed | P |

### Test Execution

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date/Time | Tester | Test ID | Test Phase | Status |
| 29/9/2019 10:36 am | Anubodh Karki | Anubodhkarki1 | System Cycle 1 | Failed |
| 01/10/2019 4:45 pm | Anubodh Karki | Anubodhkarki1 | System Cycle 2 | Passed |

# Scenario #: Patron

## Scenario Description

* The intent of the test scenario is to enable valid patron to borrow book while restricting unqualified patrons.

## Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| Version # | Date | Author | Description |
| 0.1 | 01/10/2019 | Anubodh Karki | Initial Draft |
| 1.0 | 01/10/2019 | Anubodh Karki | Initial Version |

## Test Scripts

The following scripts will cover this scenario:

* 1. Invalid Member
  2. Unrestricted Member
  3. Borrow Limit Restriction
  4. Abort Borrow
  5. Restriction for withstanding fine
  6. Restriction for overdue loan

## Use Case

* The patron is to request book and upon it’s availability in wholesome condition, the system will let the user borrow the book if the patron does not possess any withstanding fines or has overdue books.

## Test Components/Requirement

* Validity of the user
* Unrestricted user without any withstanding fines or overdue books
* Cancellation of the borrowing

## User Groups

* User group/responsibility 1
* User group/responsibility 2

## Script: Unrestricted

### Script Description

* 1. Invalid Member

The user is illegitimate.

* 1. Unrestricted Member

The member is valid.

* 1. Borrow Limit Restriction

A borrow limit restriction is incurred to the user.

* 1. Abort Borrow

The borrowing is cancelled.

* 1. Restriction for withstanding fine.

The patron has a pending fine and is to be restricted from borrowing book.

* 1. Restriction for overdue loan

The patron has a load overdue and is to be restricted from borrowing book.

### Testing Requirements

This test script covers the following specific testing requirements:

* The patron is to request book, the system will let the user borrow the book if the patron does not possess any withstanding fines or has overdue books.

### Setup

* Enter patron
* Assess patron in the filesystem.

### Teardown

### Course of action after test case execution:

* Program termination.
* Fresh menu

### Script Steps

| **Step #** | **Test Action** | **Expected Results** | **Pass/ Fail** |
| --- | --- | --- | --- |
| 1 | Patron swipes borrow function | Book scan  Patron swipe | P |
| 2 | Swipe borrow function | Book scan  Patron swipe | P |
| 3 | Scan book’s barcode | Display book details | P |
| 4 | Confirm borrow | Book eligible for borrowing, | P |
| 5 | Confirm loan | Loan slip printed | P |

### Test Execution

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date/Time | Tester | Test ID | Test Phase | Status |
| 29/9/2019 10:36 am | Anubodh Karki | Anubodhkarki1 | System Cycle 1 | Failed |
| 01/10/2019 4:45 pm | Anubodh Karki | Anubodhkarki1 | System Cycle 2 | Passed |

# Scenario #: Borrow

## Scenario Description

* The intent of the test scenario is to disable invalid patron to borrow book.

## Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| Version # | Date | Author | Description |
| 0.1 | 01/10/2019 | Anubodh Karki | Initial Draft |
| 1.0 | 01/10/2019 | Anubodh Karki | Initial Version |

## Test Scripts

The following scripts will cover this scenario:

* + Invalid Member
  + Invalid Book
  + Damaged Book
  + Unrestricted Member
  + Multiple Borrow
  + Reserved Book
  + Borrow Limit Restriction
  + Abort Borrow
  + Restriction for withstanding fine
  + Restriction for overdue loan

## Use Case

* The patron is to request book and upon it’s availability in wholesome condition, the system will let the user borrow the book if the patron does not possess any withstanding fines or has overdue books.

## Test Components/Requirement

* Validity of the user
* Unrestricted user without any withstanding fines or overdue books
* Availability of the book with an undamaged status
* Cancellation of the borrowing
* Commit borrow

## User Groups

* User group/responsibility 1
* User group/responsibility 2

## Script #: Restricted

### Script Description

* + Invalid Member
    - The user is illegitimate.
  + Invalid Book
    - The book requested by the user is unavailable.
  + Damaged Book
    - The book requested by the patron is unavailable because of damage.
  + Unrestricted Member
    - The member is valid.
  + Multiple Borrow
    - Multiple book borrow is requested by the user.
  + Reserved Book
    - The requested book is already reserved by another member and is unavailable.
  + Borrow Limit Restriction
    - A borrow limit restriction is incurred to the user.
  + Abort Borrow
    - The borrowing is cancelled.
  + Restriction for withstanding fine.
    - The patron has a pending fine and is to be restricted from borrowing book.
  + Restriction for overdue loan
    - The patron has a load overdue and is to be restricted from borrowing book.

### Testing Requirements

This test script covers the following specific testing requirements:

* The patron is to request book and upon it’s availability in wholesome condition, the system will let the user borrow the book if the patron does not possess any withstanding fines or has overdue books.

### Setup

* Generate patron with no restriction; Patron 1: no withstanding fines and overdue books.
* Generate book availability status; Book 1: Book available, unreserved and undamaged.

### Teardown

### Course of action after test case execution:

* Stop the program.
* Program termination.
* Deletion of created 3D model format (*\*.obj*) from root directory.

### Script Steps

| **Step #** | **Test Action** | **Expected Results** | **Pass/ Fail** |
| --- | --- | --- | --- |
| 1 | Choose borrow function | Displays borrow menu | P |
| 2 | Swipe borrow function | Book scan  Patron swipe | F |
| 3 | Scan book’s barcode | Display book details | P |
| 4 | Confirm borrow | Book eligible for borrowing, | F |
| 5 | Confirm loan | Loan slip printed | F |

### Test Execution

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date/Time | Tester | Test ID | Test Phase | Status |
| 29/9/2019 10:36 am | Anubodh Karki | Anubodhkarki1 | System Cycle 1 | Failed |