

Project: ITC515_assignment03

Library Book Loan Program

Use case scenarios to drive the 'borrow book' control class

Test Case Name: Swipe Card, Borrowing Restricted = No

Test Case ID: 001

Description of Test:

- The borrowing process is initiated. The user swipes his/her card. The system checks the borrowing record of the user (the first logic gate in the borrowing activity). The user is recognized by the system and their details are displayed on screen (including their existing loans). The borrowing record is found to be unrestricted. The user is prompted to scan a book from the "Scanning Screen". The test ends.

Preconditions for Test:

- The member must exist in the system. It is assumed if the user has a card to swipe then they have an account in the system.
- The card scanner must be present and functioning.
- EmemberState allows borrowing

Postconditions for Test:

- The system displays the scanning enabled screen.
- The system displays the borrower's details.
- The system displays the borrower's existing loans.

Data Required for Test:

- Member object (firstName, lastName, contactPhone, emailAddress, id, loanList, totalFines, state). EmemberState allows borrowing

Test Script

Date Completed: 11/11/15

Result (Pass/Fail/Warning/Incomplete): Incomplete

Test Data:

- Member (firstName = "First Name", lastName = "Last Name", contactPhone = "212 555

5555”, emailAddress = “email@address.com”, id = “001”, totalFines = “0.00”, state = EMemberState.**BORROWING_ALLOWED**

Step	Step Description	Expected Test Results	Pass?	Fail?
01	System is turned on	Display is activated.	P	
		Scanner is initialized	P	
		Card reader is initialized	P	
02	User is prompted to swipe card		P	
03	User swipes card	System reads card and validates that member profile exists	P	
04	System checks borrowing record	EmemberState allows borrowing	P	
05	User is prompted to scan book	The system displays the scanning enabled screen.	P	
		The system displays the borrower’s details.	P	
		The system displays the borrower's existing loans.	P	
07	Test ends		P	

Test Case Name: Swipe Card, Borrowing Restricted = Yes

Test Case ID: 002

Description of Test:

- The borrowing process is initiated. The user swipes his/her card. The system checks the borrowing record of the user (the first logic gate in the borrowing activity). The user is recognized by the system but their borrowing record is found to be restricted. The user is shown the “Restricted” screen. The test ends.

Preconditions for Test:

- The member must exist in the system. It is assumed if the user has a card to swipe then they have an account in the system.
- The card scanner must be present and functioning.

Postconditions for Test:

- The system displays the restricted screen.
- The system displays the borrower’s details.
- The system displays the borrower's existing loans.
- The borrowing process is canceled.
 - No new loans are recorded.
 - No books status is changed.
 - The borrower’s loan record is not updated.

Data Required for Test:

- Member object (firstName, lastName, contactPhone, emailAddress, id, loanList, totalFines, state)
- EmemberState does not allow borrowing
 - hasReachedLoanLimit = yes OR
 - hasReachedFineLimit = yes

Test Script

Date Completed: 11/11/15

Result (Pass/Fail/Warning/Incomplete): Incomplete

Test Data:

- Member (firstName = “First Name”, lastName = “Last Name”, contactPhone = “212 555 5555”, emailAddress = “email@address.com”, id = “001”, totalFines = “0.00”, state = EmemberState.**BORROWING_DISALLOWED**

Step	Step Description	Expected Test Results	Pass?	Fail?
01	System is turned on	Display is activated.	P	
		Scanner is initialized	P	
		Card reader is initialized	P	
02	User is prompted to swipe card		P	
03	User swipes card	System reads card and validates that member profile exists	P	
04	System checks borrowing record	Borrowing is disallowed	P	
05	Loan is canceled.	The system displays the restricted screen	P	
		The system displays the borrower's details.	P	
		The system displays the borrower's existing loans.	P	
07	Test ends		P	

Test Case Name: Card Swiped, Borrowing Allowed, Books Scanned, Then Loan Limit is Reached

Test Case ID: 003

Description of Test:

- The user is validated. He/she swipes their book. The book details are displayed. The loan list is displayed. The loan is incomplete. Another book is scanned. The loan limit is checked. The user is at his/her limit. The scan is rejected. The Confirmation screen is displayed. The test ends.

Preconditions for Test:

- The member must exist in the system. It is assumed if the user has a card to swipe then they have an account in the system.
- The card scanner must be present and functioning.
- Book(s) with a valid barcode and record must exist.
- EmemberState allows borrowing
- The book(s) must be available.
- Loan limit must be known.

Postconditions for Test:

- Display Confirmation screen

Data Required for Test:

- Member object (firstName, lastName, contactPhone, emailAddress, id, loanList, totalFines, state)
- Book object (author, title, callNumber, id, state, loan)
- Loan limit

Test Script

Date Completed: 11/11/15

Result (Pass/Fail/Warning/Incomplete): Incomplete

Test Data:

- Member (firstName = "First Name", lastName = "Last Name", contactPhone = "212 555 5555", emailAddress = "email@address.com", id = "001", totalFines = "0.00", state = EmemberState.**BORROWING_ALLOWED**)
- Book01 (author = "Author01", title = "Title01", callNumber = "callNumber01", id = "001")
- Book02 (author = "Author02", title = "Title02", callNumber = "callNumber02", id = "002")

- LOAN_LIMIT = 1;

Step	Step Description	Expected Test Results	Pass?	Fail?
01	System is turned on	Display is activated.	P	
		Scanner is initialized	P	
		Card reader is initialized	P	
02	User is prompted to swipe card		P	
03	User swipes card	System reads card and validates that member profile exists	P	
04	System checks borrowing record	EmemberState allows borrowing	P	
05	User is prompted to scan book	The system displays the scanning enabled screen.	P	
		The system displays the borrower's details.	P	
		The system displays the borrower's existing loans.	P	
07	User scans book01	The details for book01 are displayed	P	
		The current loan list is displayed	P	
		User is prompted to scan book02 or confirm loan	P	
08	User scans book02	System checks Imember Loan limit.	P	
		Loan list exceeds loan limit.	P	
09	Book02 is rejected.	Confirmation screen is displayed.	P	
10	Test Ends		P	

Test Case Name: Card Swiped, Borrowing Allowed, Books Scanned, Loan Completed

Test Case ID: 004

Description of Test:

- The user is validated. He/she swipes their book. The book details are displayed. The loan list is displayed. Scans are complete. The Confirmation screen is displayed. Loans are confirmed. Loan slip is printed. Test ends.

Preconditions for Test:

- The member must exist in the system. It is assumed if the user has a card to swipe then they have an account in the system.
- The card scanner must be present and functioning.
- Book(s) with a valid barcode and record must exist.
- EmemberState allows borrowing
- The book(s) must be available.
- Functioning loan slip printer

Postconditions for Test:

- Loan slip is printed.
- Successful Completion – Books Borrowed
 - All loans are recorded.
 - The borrowed books status is updated to ON_LOAN.
 - The borrower's loan record is updated with the new loans.

Data Required for Test:

- Member object (firstName, lastName, contactPhone, emailAddress, id, loanList, totalFines, state)
- Book object (author, title, callNumber, id, state, loan)

Test Script

Date Completed: 11/11/15

Result (Pass/Fail/Warning/Incomplete): Incomplete

Test Data:

- Member (firstName = "First Name", lastName = "Last Name", contactPhone = "212 555 5555", emailAddress = "email@address.com", id = "001", totalFines = "0.00", state = EmemberState.**BORROWING_ALLOWED**)

- Book01 (author = “Author01”, title = “Title01”, callNumber = “callNumber01”, id = “001”)

Step	Step Description	Expected Test Results	Pass?	Fail?
01	System is turned on	Display is activated.	P	
		Scanner is initialized	P	
		Card reader is initialized	P	
02	User is prompted to swipe card		P	
03	User swipes card	System reads card and validates that member profile exists	P	
04	System checks borrowing record	EmemberState allows borrowing	P	
05	User is prompted to scan book	The system displays the scanning enabled screen.	P	
		The system displays the borrower’s details.	P	
		The system displays the borrower's existing loans.	P	
07	User scans book01	The details for book01 are displayed	P	
08	User is prompted to confirm loan or scan additional books.	The current loan list is displayed	P	
09	User confirms loan	Confirmation screen is displayed	P	
		Loan slip is printed.	P	
10	Test ends		P	