| **Test Name** | | | Test Scan Book | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Use Case Tested:** | | | Borrow Book | | | |
| **Test Description:** | | | Testing the system operations involved with scanning a book, and seeing how the system will behave and respond when given a variety of different test data.  Test case involves user scanning book, it being added to loan. Alternative flows include post-conditions such as scanning multiple books, book already scanned, book unavailable and book not found, loan limit reached.  The post-conditions will determine what type of test data to use, each test will test a different post-condition. | | | |
| **Pre-conditions** | | | * BorrowBookCTL class exists * scanner exists * BorrowBookCTL added as listener to scanner * BorrowBookCTL state == SCANNING\_BOOKS | | | |
| **Post-conditions** | | | * (book not found)   + BorrowBookUI is displayed   + Scanning panel of BorrowBookUI displayed   + Cancel button enabled   + cardReader is disabled   + scanner is enabled   + book not found error message displayed   + BorrowBookCTL state == SCANNING\_BOOKS * (book not available)   + BorrowBookUI is displayed   + Scanning panel of BorrowBookUI displayed   + Cancel button enabled   + cardReader is disabled   + scanner is enabled   + book not available error message displayed   + BorrowBookCTL state == SCANNING\_BOOKS * (book already scanned)   + BorrowBookUI is displayed   + Scanning panel of BorrowBookUI displayed   + Cancel button enabled   + cardReader is disabled   + scanner is enabled   + book already scanned error message   + displayed   + BorrowBookCTL state == SCANNING\_BOOKS * (scan count < loan limit)   + BorrowBookUI is displayed   + Scanning panel of BorrowBookUI displayed   + Cancel button enabled   + cardReader is disabled   + scanner is enabled   + scanCount incremented by 1   + scanned books details displayed   + new (pending) loan created   + (pending) loan added to pending loan list   + Current pending loan list displayed   + BorrowBookCTL state == SCANNING\_BOOKS * (scan count == loan limit)   + BorrowBookUI is displayed   + ConfirmingLoans panel of BorrowBookUI displayed   + final pending loan list displayed   + Cancel button enabled   + Reject button enabled   + cardReader is disabled   + scanner is disabled   + scanCount incremented by 1   + BorrowBookCTL state == CONFIRMING\_LOANS | | | |
| **Notes:** | | **All tests meted the expected user acceptable outcome. All system processes behaved and resulted as expected.** | | | | |
| **Result (Pass/Fail/Warning/Incomplete)** | | **Pass** | | | | |
|  | **TEST STEP** | | | **EXPECTED TEST RESULTS** | **P** | **F** |
| **Test 1 – Book not found** | | | | | | |
|  | Click Borrow Books | | | BorrowBookUI is displayed  Scanning panel of BorrowBookUI displayed  Cancel button enabled |  |  |
|  | Enter Member Id 1 | | |  |  |  |
|  | Click Swipe Card | | | cardReader is disabled  scanner is enabled |  |  |
|  | Enter Book ID 198 | | | book not found error message displayed |  |  |
|  |  | | |  |  |  |
|  |  | | |  |  |  |
| **Test 2 – Book not available** | | | | | | |
|  | Click Borrow Books | | | BorrowBookUI is displayed  Scanning panel of BorrowBookUI displayed  Cancel button enabled |  |  |
|  | Enter Member Id 1 | | |  |  |  |
|  | Click Swipe Card | | | cardReader is disabled  scanner is enabled |  |  |
|  | Enter Book ID 1 | | | book not available error message displayed |  |  |
| **Test 3 – Book already scanned** | | | | | | |
| Click Borrow Books | | | | BorrowBookUI is displayed  Scanning panel of BorrowBookUI displayed  Cancel button enabled | | |
| Enter Member Id 1 | | | |  | | |
| Click Swipe Card | | | | cardReader is disabled  scanner is enabled | | |
| Enter Book ID 10 | | | | Book scanned | | |
| Enter Book ID 10 | | | | book already scanned error message displayed | | |
| **Test 4 – Multiple books (includes (scan count < loan limit))** | | | | | | |
| Click Borrow Books | | | | BorrowBookUI is displayed  Scanning panel of BorrowBookUI displayed  Cancel button enabled | | |
| Enter Member Id 1 | | | |  | | |
| Click Swipe Card | | | | cardReader is disabled  scanner is enabled | | |
| Enter Book ID 10 | | | | Book scanned | | |
| Enter Book ID 11 | | | | Book scanned | | |
| **Test 5 – (scan count == loan limit)** | | | | | | |
| Click Borrow Books | | | | BorrowBookUI is displayed  Scanning panel of BorrowBookUI displayed  Cancel button enabled | | |
| Enter Member Id 1 | | | |  | | |
| Click Swipe Card | | | | cardReader is disabled  scanner is enabled | | |
| Enter Book ID 10 | | | | Book scanned | | |
| Enter Book ID 11 | | | | Book scanned | | |
| Enter Book ID 12 | | | | Book scanned | | |
| Enter Book ID 13 | | | | Book scanned | | |
| Enter Book ID 14 | | | | Book scanned  ConfirmingLoans panel of BorrowBookUI displayed  final pending loan list displayed  Cancel button enabled  Reject button enabled  cardReader is disabled  scanner is disabled | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Data Table** | | | | | |
|  | **1** | **2** | **3** | **4** | **5** |
| Member ID | 1 | 1 | 1 | 1 | 1 |
| Book Barcode | 198 | 1 | 10, 10 | 10, 11 | 10, 11, 12, 13, 14 |
|  |  |  |  |  |  |