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| Library Book Loan System | Version: 1.0 |
| System-Wide Requirements Specification - Appendix A | Date: 21/03/2017 |

System-Wide Requirements Specification - Appendix A - Tabular Description of Use Cases

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| Use Case Number | 1 |
| Use Case Code | LBLS-UC-001 |
| Use Case Name | Login |
| Actor(s) | Customer, Librarian |
| Pre-condition | Actor is not logged in. |
| Post-condition | Actor is logged in. |
| Main path | <ol style="list-style-type: none"> 1. User enters his or her username and password. 2. User presses on the “Login” button. 3. The system checks the username and password. 4. The system shows the main window of the application according to the user type. 5. User will be able to use the operations of the main window. |
| Alternative path | <ol style="list-style-type: none"> 1. If the username or password are invalid, the system will show a message informing on login window. 2. User will be able to enter valid username or password. |

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| Use Case Number | 2 |
| Use Case Code | LBLS-UC-002 |
| Use Case Name | Logout |
| Actor(s) | Customer, Librarian |
| Pre-condition | Actor is logged in. |
| Post-condition | Actor is logged out. |
| Main path | <ol style="list-style-type: none"> 1. Actor clicks to “Gear” button which brings a menu. 2. From menu, actor clicks “Logout” button. 3. The system ends user’s session. 4. The system shows “Login” screen. |
| Alternative path | None |

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| Use Case Number | 3.1 |
| Use Case Code | LBLS-UC-003-1 |
| Use Case Name | Search for Books |
| Actor(s) | Customer, Librarian |
| Pre-condition | None |
| Post-condition | System shows list of books |
| Main path | <ol style="list-style-type: none"> 1. Actor clicks to “Search Books” button in Login screen. 2. The system shows “Search Books” window. 3. Actor fills some or all of the six fields he/she wants. 4. Actor clicks to “Search” button. 5. The system reads fields and creates a query. 6. The system gets list of search results. 7. The system shows list of search results in table inside Search Books window. |
| Alternative path | <ol style="list-style-type: none"> 1. Entering Fields in Wrong Format <ol style="list-style-type: none"> a. If actor enters fields that doesn’t fit to format, the system will show message to inform actor. b. User will be able to enter valid barcode in right format. 2. No Book Found <ol style="list-style-type: none"> a. If there is no book for the filled fields, then the system will show a message of no book found. |

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| Use Case Number | 3.2 |
| Use Case Code | LBLS-UC-003-2 |
| Use Case Name | Search for Books |
| Actor(s) | Customer |
| Pre-condition | Actor is logged in. |
| Post-condition | System shows list of books |
| Main path | <ol style="list-style-type: none"> 1. User clicks to “Search Books” button in Main Customer window. 2. The system shows “Search Books” window. 3. Actor fills some or all of the six fields he/she wants. 4. Actor clicks to “Search” button. 5. The system reads fields and creates a query. 6. The system gets list of search results. 7. The system shows list of search results in table inside Search Books window. |

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| Alternative path | <ol style="list-style-type: none"> 1. Entering Fields in Wrong Format <ol style="list-style-type: none"> a. If actor enters fields that doesn't fit to format, the system will show message to inform actor. b. User will be able to enter valid barcode in right format. 2. No Book Found <ol style="list-style-type: none"> a. If there is no book for the filled fields, then the system will show a message of no book found. |
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| Use Case Number | 4 |
| Use Case Code | LBLS-UC-004 |
| Use Case Name | Self Checkout |
| Actor(s) | Customer |
| Pre-condition | Actor is logged in and currently in Main Customer Window. |
| Post-condition | Book is taken |
| Main path | <ol style="list-style-type: none"> 1. Actor clicks to "Self Checkout or Return" button. 2. The system shows "Self Checkout or Return" window. 3. Actor enters barcode of the book he/she desires. 4. Actor clicks to "Checkout" button. 5. The system takes barcode and checks it. 6. The system adds the book to actor. 7. The system shows a message in same window. |
| Alternative path | <ol style="list-style-type: none"> 1. Entering Barcode in Wrong Format <ol style="list-style-type: none"> a. If actor enters barcode that doesn't fit to barcode format, the system will show message to inform actor. b. User will be able to enter valid barcode in right format. 2. Entering Wrong Barcode <ol style="list-style-type: none"> a. If actor enters a wrong barcode, the system will show appropriate message about actor's action. b. User will be able to enter valid barcode. |

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| Use Case Number | 5 |
| Use Case Code | LBLS-UC-005 |
| Use Case Name | Self Return |
| Actor(s) | Customer |
| Pre-condition | Actor is logged in and currently in Main Customer Window. |

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| Post-condition | Book is returned to library |
| Main path | <ol style="list-style-type: none"> 1. Actor clicks to “Self Check-out or Return” button. 2. The system shows “Self Checkout or Return” window. 3. Actor enters barcode of the book he/she desires. 4. Actor clicks to “Return” button. 5. The system takes barcode and checks it. 8. The system removes book from actor. 9. The system shows a message in same window. |
| Alternative path | <ol style="list-style-type: none"> 1. Entering Barcode in Wrong Format <ol style="list-style-type: none"> a. If actor enters barcode that doesn’t fit to barcode format, the system will show message to inform actor. b. User will be able to enter valid barcode in right format. 2. Entering Wrong Barcode <ol style="list-style-type: none"> a. If actor enters a wrong barcode, the system will show appropriate message about actor’s action. b. User will be able to enter valid barcode. |

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| Use Case Number | 6 |
| Use Case Code | LBLS-UC-006 |
| Use Case Name | View my books |
| Actor(s) | Customer |
| Pre-condition | Actor is logged in and in Main Customer Window currently. |
| Post-condition | The books of actor are viewed. |
| Main path | <ol style="list-style-type: none"> 1. User presses on the “My books and Book Reservations” button. 2. The system queries user book and reservations informations and returns table of them. 3. The system shows the “My books and Book Reservations” window of the application and opens the Current Books tab which is default. 4. User will be able to see the available books and the features that are ISBN, author and genre of the books. |
| Alternative path | None |

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| Use Case Number | 7 |
| Use Case Code | LBLS-UC-007 |
| Use Case Name | Pay fine |
| Actor(s) | Customer |

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| Pre-condition | Actor is logged in and currently in Main Customer Window. |
| Post-condition | Actor pays a fine belongs to him/her. |
| Main path | <ol style="list-style-type: none"> 1. Actor clicks to “View My Fines” button. 2. The system queries the fine information of user. 3. The system shows fines that belong to actor in a table of “View My Fines” window. 4. Actor clicks to any of the records in the table. 5. Actor clicks to “Pay Fine” button. 6. The system connects to external payment system. 7. The system shows payment window. 8. Actor enters information to pay. 9. The system checks information and accept payment. 10. The system removes fine from actor. |
| Alternative path | <ol style="list-style-type: none"> 1. If there are no fines to pay then system disables “Pay Fine” button. 2. If actor enters a wrong payment information, the system will not accept it and show appropriate message about actor’s action. |

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| Use Case Number | 8 |
| Use Case Code | LBLS-UC-008 |
| Use Case Name | Add name to book waiting list |
| Actor(s) | Customer |
| Pre-condition | Actor is logged in and in Main Customer Window currently. |
| Post-condition | The book is added to waiting list. |
| Main path | <ol style="list-style-type: none"> 1. Actor presses on the “Search Books” button. 2. The system shows “Search Books” window. 3. Actor fills some or all of the six fields he/she wants. 4. Actor clicks to “Search” button. 5. The system reads fields and creates a query. 6. The system gets list of search results. 7. The system shows list of search results in table inside Search Books window. 8. In the table, actor double-clicks the book that he/she desires. 9. If the book not available, the system shows a window to add the book to waitlist. 10. Actor approves the message and the system adds book to wait list for user. |
| Alternative path | <ol style="list-style-type: none"> 1. Actor doesn’t add book to waitlist <ol style="list-style-type: none"> a. If actor searches a book which is not available at that moment, double clicks to it and doesn’t add it to wait list, the system doesn’t add it to waitlist. 2. Actor double clicks to an available book. |

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| | a. It actor searches a book and it is available, the system doesn't add it to waitlist. |
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| Use Case Number | 9 |
| Use Case Code | LBLS-UC-009 |
| Use Case Name | Create Customer |
| Actor(s) | Librarian |
| Pre-condition | Actor is logged in and currently on Main Librarian Window. |
| Post-condition | User is created. |
| Main path | <ol style="list-style-type: none"> 1. Actor clicks to "User Operations" button. 2. The system shows "User Operations" window and "Create" tab by default. 3. Actor fills username, e-mail, password and confirm password fields. 4. Actor presses on the "Add User" button. 5. The system checks the entered fields. 6. The system creates user. 1. The system shows a operation successful message. 2. The system clears the fields. |
| Alternative path | <ol style="list-style-type: none"> 1. Entering Existing Information <ol style="list-style-type: none"> a. If the entered information exist in database then the system will show a message informing on Create User window. b. User will be able to enter valid information. 2. Matching Password <ol style="list-style-type: none"> a. If the passwords fields are not matching then, actor will be warned after resetting password fields. b. User will be able to enter valid information. 3. Entering Wrong Format <ol style="list-style-type: none"> a. If user fills fields with wrong format then the system will show a message to inform actor. b. User will be able to enter valid information in right format. |

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| Use Case Number | 10 |
| Use Case Code | LBLS-UC-010 |
| Use Case Name | Update Customer |
| Actor(s) | Librarian |
| Pre-condition | Actor is logged in and Main Librarian Window currently. |
| Post-condition | Customer is updated. |

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| Main path | <ol style="list-style-type: none"> 1. Actor presses on the “User Operations” button. 2. The system shows the User Operation Window of the application. 3. Actor presses on the “Update” tab button. 4. Actor fills username, e-mail, password and confirm password fields. 5. Actor presses on the “Get User” button. 6. The system checks the email. 7. The system shows username and email. 8. The system allows actor to change fields. 9. Actor changes fields he/she wants. 10. Actor presses on the “Update User” button. 11. The system updates user. 12. The system shows operation successful message. |
| Alternative path | <ol style="list-style-type: none"> 1. Entering Wrong Information <ol style="list-style-type: none"> a. If the entered fields are invalid, the system will show a message to inform on User Operation Window. b. Actor will be able to enter valid information to fields. |

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| Use Case Number | 11 |
| Use Case Code | LBLS-UC-011 |
| Use Case Name | Delete Customer |
| Actor(s) | Librarian |
| Pre-condition | Actor is logged in and Main Librarian Window currently. |
| Post-condition | Customer is deleted. |
| Main path | <ol style="list-style-type: none"> 1. Actor presses on the “User Operations” button. 2. The system shows the User Operation Window of the application. 3. Actor presses on the “Delete” tab button. 4. Actor enters user email. 5. Actor presses on the “Get User” button. 6. The system checks the email. 7. The system shows username and email. 8. Actor presses on the “Delete User” button. 9. The system deletes the user. 10. The system shows operation successful message. |
| Alternative path | <ol style="list-style-type: none"> 1. If the entered email is invalid, the system will show a message to inform on User Operation Window. 2. Actor will be able to enter valid email. |

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| Use Case Number | 12 |
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| Use Case Code | LBLS-UC-012 |
| Use Case Name | View Customer |
| Actor(s) | Librarian |
| Pre-condition | Actor is logged in and Main Librarian Window currently. |
| Post-condition | Customer information is viewed. |
| Main path | <ol style="list-style-type: none"> 1. Path One: One Customer <ol style="list-style-type: none"> a. Actor presses on the “User Operations” button. b. The system shows the User Operation Window of the application. c. Actor presses on the “View” tab button. d. Actor enters username and/or user email. e. Actor presses on the “Get User” button. f. The system queries user information. g. The system brings information about user. h. The system shows queried information on the table in the same window. 2. Path Two: All Customers <ol style="list-style-type: none"> a. Actor presses on “View All Users” button. b. The system queries all users and returns a result set. c. The system shows “View All Users” window. d. The system shows result set in the table. |
| Alternative path | <ol style="list-style-type: none"> 1. Entering wrong information in Path One: One Customer <ol style="list-style-type: none"> a. If entered username and/or email is wrong then the system will show a message to inform actor.. b. User will be able to enter valid username and/or user email . |

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| Use Case Number | 13 |
| Use Case Code | LBLS-UC-013 |
| Use Case Name | Create Book |
| Actor(s) | Librarian |
| Pre-condition | Actor is logged in and Main Librarian Window currently. |
| Post-condition | Book is created. |
| Main path | <ol style="list-style-type: none"> 1. Actor presses on the “Book Operations” button. 2. The system shows the Book Operation Window of the application and “Create” tab by default. 3. Actor fills every field. 4. Actor clicks to “Create Book” button. 5. The system queries given fields. 6. The system creates book. |

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| | 7. The system shows operation successful message. |
| Alternative path | <ol style="list-style-type: none"> 1. Form of fields <ol style="list-style-type: none"> a. If the entered fields is invalid form, the system will show a message to inform on Book Operation Window. b. Actor will be able to enter valid form for fields. 2. Book exists in database <ol style="list-style-type: none"> a. If the entered book are already in the database, book will not be created again or overwritten. b. Actor will be able to enter valid fields. |

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| Use Case Number | 14 |
| Use Case Code | LBLS-UC-014 |
| Use Case Name | Update Book |
| Actor(s) | Librarian |
| Pre-condition | Actor is logged in and Main Librarian Window currently. |
| Post-condition | Book is updated. |
| Main path | <ol style="list-style-type: none"> 1. Actor presses on the “Book Operations” button. 2. The system shows the Book Operation Window of the application. 3. Actor presses on the “Update” tab button. 4. Actor fills the ISBN, title, author and quantity fields. 5. Actor presses on the “Get Book” button. 6. The system checks the fields. 7. The system shows the book. 8. Actor fills the publisher, gender and keywords fields. 9. Actor presses on the “Update Book” button. 10. The system updates the book. 11. The system shows operation successful message. |
| Alternative path | <ol style="list-style-type: none"> 1. If the entered fields is invalid, the system will show a message to inform on Book Operation Window. 2. Actor will be able to enter valid the information to fields. |

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| Use Case Number | 15 |
| Use Case Code | LBLS-UC-015 |
| Use Case Name | Delete Book |
| Actor(s) | Librarian |

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| Pre-condition | Actor is logged in and Main Librarian Window currently. |
| Post-condition | Book is deleted. |
| Main path | <ol style="list-style-type: none"> 1. Actor presses on the “Book Operations” button. 2. The system shows the Book Operation Window of the application. 3. Actor presses on the “Delete” tab button. 4. Actor enters the ISBN. 5. Actor presses on the “Get Book” button. 6. The system checks the ISBN. 7. The system shows the book. 8. Actor presses on the “Delete Book” button. 9. The system deletes the book. 10. The system shows operation successful message. |
| Alternative path | <ol style="list-style-type: none"> 1. If the entered fields is invalid, the system will show a message to inform on Book Operation Window. 2. Actor will be able to enter valid the ISBN to field. |

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| Use Case Number | 16 |
| Use Case Code | LBLS-UC-016 |
| Use Case Name | View Book |
| Actor(s) | Librarian |
| Pre-condition | Actor is logged in and Main Librarian Window currently. |
| Post-condition | Book information is viewed. |
| Main path | <ol style="list-style-type: none"> 1. Path One: One Book <ol style="list-style-type: none"> a. Actor presses on the “Book Operations” button. b. The system shows the Book Operation Window of the application. c. Actor presses on the “View” tab button. d. Actor enters the ISBN. e. Actor presses on the “Get Book” button. f. The system checks the ISBN. g. The system queries information about book. h. The system shows the information about book. 2. Path Two: All Books <ol style="list-style-type: none"> a. Actor presses on “View All Books” button. b. The system queries all books and returns a result set. c. The system shows “View All Books” window. d. The system shows result set in the table. |
| Alternative path | <ol style="list-style-type: none"> 1. For Path One: One Book <ol style="list-style-type: none"> a. If the entered fields is invalid, the system will show a message to |

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| | inform on Book Operation Window. b. Actor will be able to enter valid the ISBN to field. |
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| Use Case Number | 17 |
| Use Case Code | LBLS-UC-017 |
| Use Case Name | Issue Late Fine |
| Actor(s) | System Agent |
| Pre-condition | Customer surpasses return time. |
| Post-condition | A fine to a user is applied. |
| Main path | <ol style="list-style-type: none"> 1. The system checks book information about user and the owned books. 2. The system informs the customer |
| Alternative path | None. |

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| Use Case Number | 18 |
| Use Case Code | LBLS-UC-018 |
| Use Case Name | Notify of book being available |
| Actor(s) | System Agent |
| Pre-condition | The book that the customer wants becomes available. |
| Post-condition | Customer is informed. |
| Main path | <ol style="list-style-type: none"> 1. The system checks book information about user's waitlist and the book on the waitlist. 2. The system informs the customer. |
| Alternative path | None. |