# Requirement guide for class project

[Use cases](https://en.wikipedia.org/wiki/Use_case) will be used as requirements for this project.

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| ID and name | UC-1 Search | | |
| Primary actor | Subscriber | Secondary actors |  |
| Description | A subscriber checks the availability of the book they wish to lend and, if available, select one copy of it to lend. | | |
| Trigger | Subscriber wants to search for a book from the library. | | |
| Preconditions | PRE-1. Subscriber is authenticated. | | |
| Post conditions | - | | |
| Normal flow | 1. **Search a book** 2. Subscriber types book name/author/id. (see 1.0E1) 3. Subscriber presses “Search” button 4. Terminal displays whether the searched book has any available copies (see 1.0E2). 5. Return to step 1 or select “Lend book” (go to UC-2 2.1) | | |
| Alternative flows |  | | |
| Exceptions | **1.0.E1 Search query doesn’t return any books**  1.Terminal informs subscriber that their search did not return any entries  2a. If subscriber cancels the search process, then the Terminal terminates the use case.  2b. Else if the subscriber wants to do another search, then restart the use case.  **1.0.E2 No copies of the book are available**  1. Terminal informs subscriber that searched book does not have any available copies.  2a. If subscriber cancels the search process, then the Terminal terminates the use case.  2b. Else if the subscriber wants to do another search, then restart the use case | | |

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| ID and name | UC-2 Lend | | |
| Primary actor | Subscriber | Secondary actors |  |
| Description | A subscriber checks the availability of the book they wish to lend and, if available, select one copy of it to lend. | | |
| Trigger | Subscriber wants to lend a book from the library. | | |
| Preconditions | PRE-1. Subscriber is authenticated. | | |
| Post conditions | POST-1. One copy of the chosen book removed from available books list.  POST-2. The same copy of the chosen book added to the subscriber’s active lends list. | | |
| Normal flow | 1. **Lend a book using book ID** 2. Subscriber types in a selected book’s id. 3. Subscriber confirms lend (see E1). 4. Terminal displays return date for lend 5. Terminal updates available book information. | | |
| Alternative flows | **2.1 Lend a book using UC-1 search result**   1. Subscriber selects a copy of the book he wants to lend. 2. Subscriber confirms lend (continue normal flow) or request to change selected book (return to UC-1). 3. Terminal displays return date for lend. 4. Terminal updates available book information. | | |
| Exceptions | **2.0 E1 Book ID invalid or not available**   1. Terminal informs user that the entered book ID is either invalid or belongs to an already borrowed book. 2. Restart the use case. | | |

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| ID and name | UC-3 Return | | |
| Primary actor | Library Employee | Secondary actors |  |
| Description | A library employee checks the return date of the book to be returned and, if current date not past return date, completes return process. Else a penalty is given to book lender. | | |
| Trigger | Library Employee wants to process the return of a book. | | |
| Preconditions | PRE-1. Library Employee is authenticated. | | |
| Post conditions | POST-1. The returned copy of the book added to available books list.  POST-2. The copy of the book removed from the subscriber’s active lends list. | | |
| Normal flow | 1. **Return a book** 2. Library Employee types in book id. 3. Terminal displays the return date of the book. 4. Library Employee confirms return (continue normal flow) or applies late return penalty (go to UC-4). 5. Terminate the use case or restart the use case. | | |
| Alternative flows | - | | |
| Exceptions | - | | |

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| ID and name | UC-4 Apply Late return Penalty | | |
| Primary actor | Library Employee | Secondary actors |  |
| Description | At return the current date is past the return date of the lent book. The library employee records late return and/or applies a penalty to the lendee. | | |
| Trigger | Library Employee wants to apply a penalty to the lendee of a book. | | |
| Preconditions | PRE-1. Library Employee is authenticated.  PRE-2. Current date past return date.  PRE-3. “Apply penalty” selected from UC-3 | | |
| Post conditions | - | | |
| Normal flow | 1. **Apply late return penalty** 2. Terminal displays how many days late the return is. 3. Terminal displays whether the lender has had any late returns recently. 4. Library employee selects penalty to apply (continue normal flow) or does not apply penalty (see **2.1**) 5. Terminal generates penalty receipt. 6. Library Employee adds late return to subscriber history. | | |
| Alternative flows | **4.1**   1. Late return penalty is not applied. 2. Late return is added to subscriber history. | | |
| Exceptions |  | | |

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| ID and name | UC-5 Extend Lend | | |
| Primary actor | Library Employee | Secondary actors |  |
| Description | Library Employee wants to extend the return date of a lent book to a later date | | |
| Trigger | Library Employee wants to extend return date of lent book. | | |
| Preconditions | PRE-1. Library Employee is authenticated. | | |
| Post conditions | POST-1. The return date of lent book is changed. | | |
| Normal flow | 1. **Extend return date of book** 2. Library Employee types book id. 3. Terminal displays current return date (see **5.0E1**). 4. Library Employee selects new return date. 5. Return date of lent book is changed to selected date. | | |
| Alternative flows |  | | |
| Exceptions | **5.0.E1 Current date past return date**  1. Terminal informs library employee that the return date has passed.  2a. Accept extension. Return to normal flow step 3  2b. Reject extension. Terminate use case. | | |

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| ID and name | UC-6 Login | | |
| Primary actor | Library Employee / Subscriber | Secondary actors |  |
| Description | Library Employee / Subscriber wants to log into their account in order to use the terminal. | | |
| Trigger | Library Employee / Subscriber wants to enter their account. | | |
| Preconditions | - | | |
| Post conditions | POST-1. Library Employee / Subscriber is authenticated. | | |
| Normal flow | 1. **Login** 2. Library Employee / Subscriber enters username. 3. Library Employee / Subscriber enters password. 4. Library Employee selects Admin Login/ Subscriber selects Subscriber Login. 5. Library Employee / Subscriber is logged in. | | |
| Alternative flows |  | | |
| Exceptions | **6.0.E1 Wrong Username or Password**  1. Terminal informs Library Employee / Subscriber that their credentials are wrong.  2a. Library Employee / Subscriber can try to log in again. (Return to normal flow step 1)  2b. Terminate Use Case. | | |