

ID and name	Log in
Primary actor	Subscriber
Description	The subscriber logs in into the library borrowing system.
Trigger	A subscriber tries to log in into the library terminal.
Preconditions	The subscriber has access to the library terminal.
Postconditions	The subscriber is logged in into the library borrowing system.
Normal flow	<ol style="list-style-type: none"> 1. The subscriber powers on the library terminal. 2. The system is asking for username and password. 3. The subscriber introduce the correct credentials. 4. The system logs the subscriber into the library program.
Alternative flows	<ol style="list-style-type: none"> 3*. The subscriber introduce the wrong credentials. 4*. The system writes the message “Incorrect credentials” and asks for the credentials again. 5*. We continue from 3 in the normal flow.
Exceptions	<ol style="list-style-type: none"> 1. Username and password doesn’t match any account in the system. <ol style="list-style-type: none"> 1. The system informs the user that the credentials are incorrect. 2. The user can retry the connection.

ID and name	Borrow books
Primary actor	Subscriber
Description	The subscriber borrows a book.
Trigger	The subscriber clicks on the “borrow book” button.
Preconditions	The subscriber has access to the library terminal and is logged in.
Postconditions	The system shows the message: “The books have been borrowed.”
Normal flow	<ol style="list-style-type: none"> 1. The subscriber selects the books he wants to borrow and clicks the “borrow books” button. 2. The system shows the message “The books have been borrowed.”.
Alternative flows	<ol style="list-style-type: none"> 1.* The subscriber doesn’t select any books and clicks the “borrow books” button. 2.* The system warns him that there aren’t any books selected. 3.* Continue to 1 into the normal flow.
Exceptions	No exceptions.

ID and name	Filter books
Primary actor	Subscriber
Description	The subscriber wants to filter the list of books.
Trigger	The subscriber clicks on the “filter books book” button.
Preconditions	The subscriber has access to the library terminal and is logged in.
Postconditions	The system shows the books filtered.
Normal flow	<ol style="list-style-type: none"> 1. The subscriber selected the “Filter books” option. 2. The system shows him the options to filter. 3. The subscriber selects an option from the list and press the “Filter” button. 4. The system shows the books filtered.
Alternative flows	No alternative flows.
Exceptions	<ol style="list-style-type: none"> 1. There are no available books with the selected filtered. <ol style="list-style-type: none"> 1. The system displays a message to warn the subscriber that there are no available books that match the filter.

ID and name	Search books
Primary actor	Subscriber
Description	The subscriber wants to search a book.
Trigger	The subscriber clicks on the search bar and types the name of a book or of an author.
Preconditions	The subscriber has access to the library terminal and is logged in.
Postconditions	The system shows the searched books.
Normal flow.	<ol style="list-style-type: none"> 1. The subscriber types into the search bar the name of a book or of an author. 2. The system shows all the books that match the name.
Alternative flows	No alternative flows.
Exceptions	<ol style="list-style-type: none"> 1. There are no books that match the name. <ol style="list-style-type: none"> 1. The systems displays a message to warn the user that there are no books with that author or name.

ID and name	Add subscriber
Primary actor	Librarian
Description	The librarian want to add a new subscriber into the system.
Trigger	The librarian click on to the “Add subscriber” menu.
Preconditions	The librarian has access to the library terminal and is logged in.
Postconditions	The new subscriber is added to the system.
Normal flow.	<ol style="list-style-type: none"> 1. The librarian click on to the “Add subscriber” button. 2. The system show the fields that need to be completed. 3. The librarian completes the fields and presses the “Save” button. 4. The system shows the message: “Save completed.”
Alternative flows	<ol style="list-style-type: none"> 4.* The system shows a message to inform that the subscriber already has an account. 5.* The completes the fields with the correct credentials. 6.* Continues with the 4 into the normal flow.
Exceptions	<ol style="list-style-type: none"> 1. The subscriber already has an account at the library.

ID and name	Return books.		
Primary actor	Librarian	Secondary Actor	Subscriber
Description	The librarian sets a book as returned.		
Trigger	The librarian click on to the “Return book” menu.		
Preconditions	The librarian has access to the library terminal and is logged in.		
Postconditions	The book is set as returned.		
Normal flow.	<ol style="list-style-type: none"> 1. The librarian click on to the “Return book” button. 2. The system shows all the borrowed books. 3. The librarian sets the book that needs to be returned and clicks the “returned” button. 4. The system shows the message: “Returned.” 		
Alternative flows	No alternative flows.		
Exceptions	No exceptions.		

ID and name	Extend loan.
Primary actor	Librarian
Description	The librarian extend a loan for a book.
Trigger	The librarian click on to the “Extend loan book” menu.
Preconditions	The librarian has access to the library terminal and is logged in.
Postconditions	The books loan is extended.
Normal flow.	<ol style="list-style-type: none"> 1. The librarian click on to the “Extend loan” button. 2. The system shows all the borrowed books. 3. The librarian sets the book that needs the loan extension, sets how much it needs to be extended and clicks the “Extend loan” button. 4. The system shows the message: “Extended.”
Alternative flows	<ol style="list-style-type: none"> 3.* The librarian sets negative time for the extension. 4.* The systems shows a message to warn that the time can’t be negative. 5.* Continue to 3 in the normal flow.
Exceptions	No exceptions.

ID and name	Add book.
Primary actor	Librarian
Description	The librarian adds a book.
Trigger	The librarian click on to the “Add book” menu.
Preconditions	The librarian has access to the library terminal and is logged in.
Postconditions	The book is added.
Normal flow.	<ol style="list-style-type: none"> 1. The librarian click on to the “Add book” button. 2. The system shows fields that need to be completed. 3. The librarian completes the fields and presses the add button. 4. The system shows the message: “Added.”
Alternative flows	No alternative flows.
Exceptions	No exceptions.

ID and name	Remove book.
Primary actor	Librarian
Description	The librarian removed a book from the system.
Trigger	The librarian click on to the “Remove book” menu.
Preconditions	The librarian has access to the library terminal and is logged in.
Postconditions	The book is removed.
Normal flow.	<ol style="list-style-type: none"> 1. The librarian click on to the “Remove book” button. 2. The system shows all the books. 3. The librarian selects a boot to be removed and presses the remove button. 4. The system shows the message: “Removed.”
Alternative flows	<ol style="list-style-type: none"> 3.* The librarian doesn’t select a book and presses the “Remove” button. 4.* The system shows a message to warn the librarian that there are no books selected. 5.* Continue to 3 in to the normal flow.
Exceptions	No exceptions.

ID and name	Find book.
Primary actor	Librarian
Description	The librarian search for a book.
Trigger	The librarian click on to the search bar.
Preconditions	The librarian has access to the library terminal and is logged in.
Postconditions	The searched books are shown.
Normal flow.	<ol style="list-style-type: none"> 1. The librarian types a book name into the search bar. 2. The system shows all the books that contain that name in the title or author.
Alternative flows	<ol style="list-style-type: none"> 1.* The librarian types a book name that doesn't exist in the system. 2.* The system shows a message to inform that there are no books with that name.
Exceptions	<p>The book doesn't exist.</p> <p>The systems shows a message to inform the librarian that the book doesn't exist.</p>

ID and name	Update book.
Primary actor	Librarian
Description	The librarian updates a book.
Trigger	The librarian click on to the "Update book" menu.
Preconditions	The librarian has access to the library terminal and is logged in.
Postconditions	The book is updated.
Normal flow.	<ol style="list-style-type: none"> 5. The librarian click on to the "Update book" button. 6. The system shows fields that need to be completed. 7. The librarian completes the fields and presses the update button. 8. The system shows the book.
Alternative flows	<ol style="list-style-type: none"> 4.* The system shows a message to inform that the book doesn't exist. 5.* The librarian completes the fields with a valid book. 6.* Return to 4 in the normal flow.
Exceptions	<p>The book doesn't exist.</p> <p>The systems shows a message to inform the librarian that the book doesn't exist.</p>

Iterations:

1st iteration:

1. Log in for subscriber and librarian.
 1. Create database and users table.
 2. Create repository for user.
 3. Add a function to check credentials.
 4. Set up the interface for log in.
 5. Create service for users.
 6. Connect the interface to the repository.
2. Add subscriber.
 1. Create table for subscribers.
 2. Create repository for subscribers.
 3. Add a save function that saves subscribers into the database.
 4. Create service for subscribers.
 5. Create and connect the interface to the service.
3. Check availability.
 1. Create table for books.
 2. Create repository with CRUD functions for books.
 3. Create a service for book repository.
 4. Create and connect the interface to the service.

2nd iteration:

1. Borrow books.
 1. Add borrow books function to the book repository.
 2. Create the interface for the borrow books menu.
 3. Connect it to the service.
2. Filter books.
 1. Add filter function in the books repository.
 2. Create the interface for the filter books option.
 3. Connect the interface to the service.
3. Search books.
 1. Add search function in the books repository.
 2. Create the interface for the search books option.
 3. Connect the interface to the service.
4. Create CRUD for books.
 1. Add add, remove, save and find into the book repository.
 2. Add the same functions into the user service.
 3. Connect them to the interface.

3rd iteration:

1. Return books.
 1. Create return function in the books repository.
 2. Create interface for the return books menu.
 3. Connect the interface to the service.
2. Extend loan.
 1. Create extend loan function in books repository.
 2. Create interface for the extend loan option.
 3. Connect the interface to the service.