

Library System Design and Implementation

Members : Magdy Edwar, Ngoc Cuong Nguyen



Objective:

To create a system for a library that allows librarians to check out books and administrators to manage library collections and member information.

Key Features:

User Authentication
(Librarian, Admin)

01

02

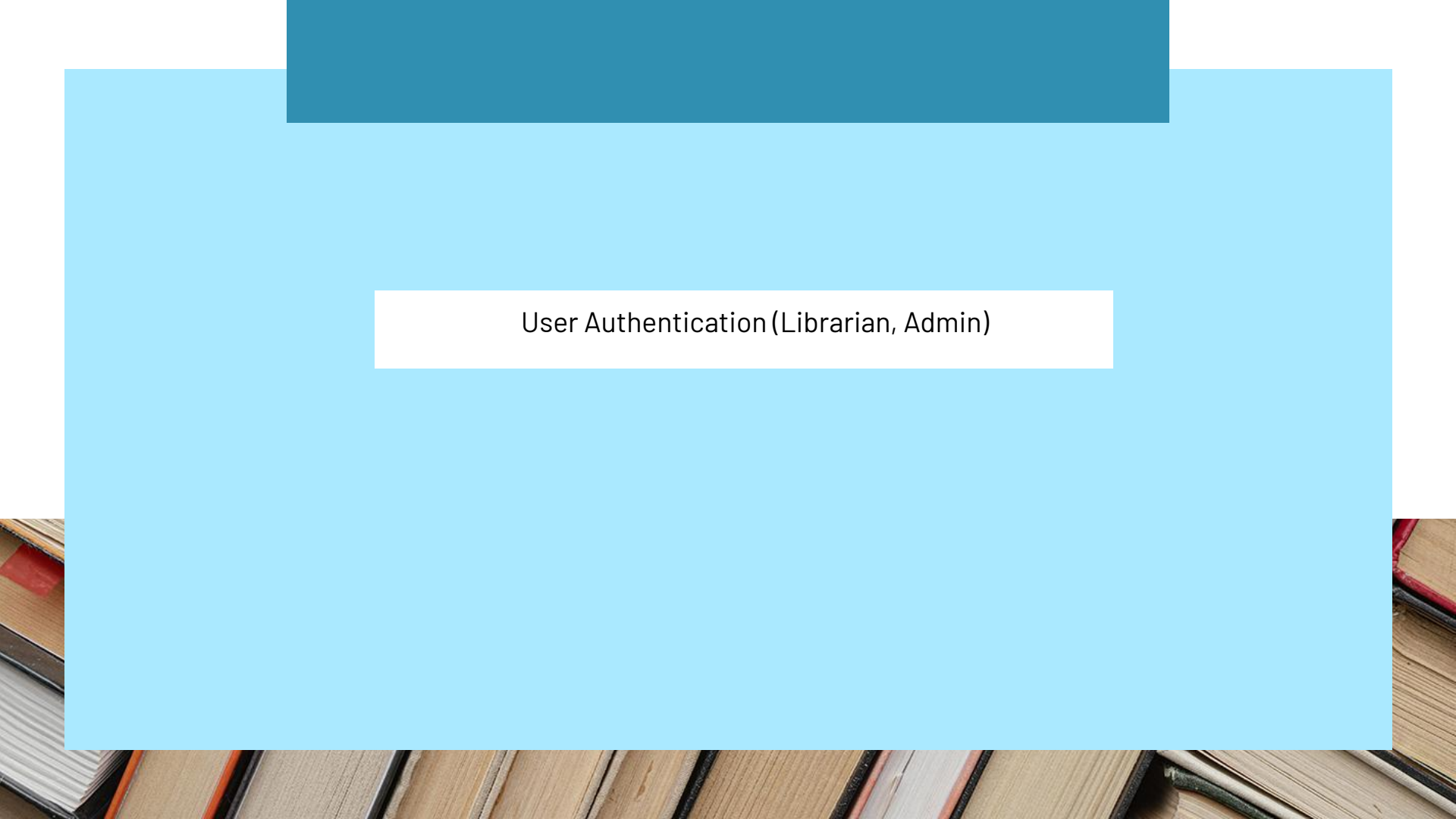
Book Checkout and
Management

Add Library Members

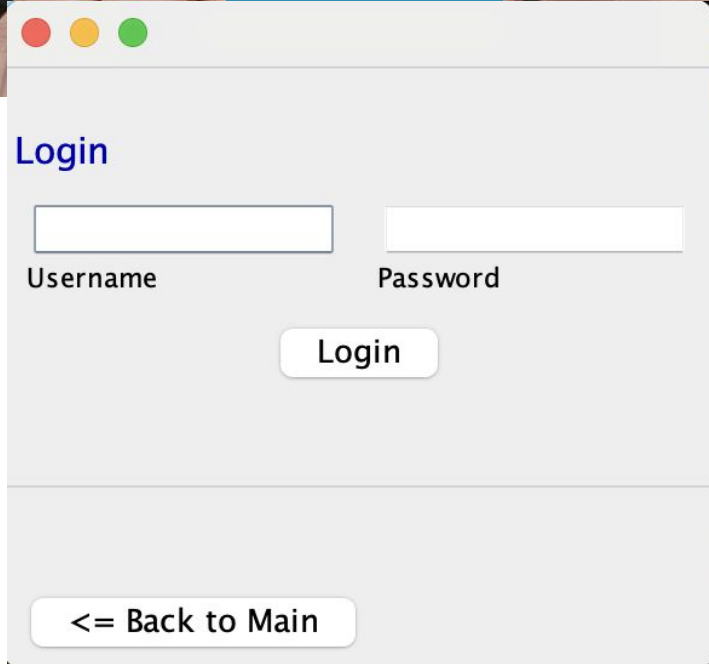
03

04

Use of Object Serialization for
Data Persistence



User Authentication (Librarian, Admin)



Login

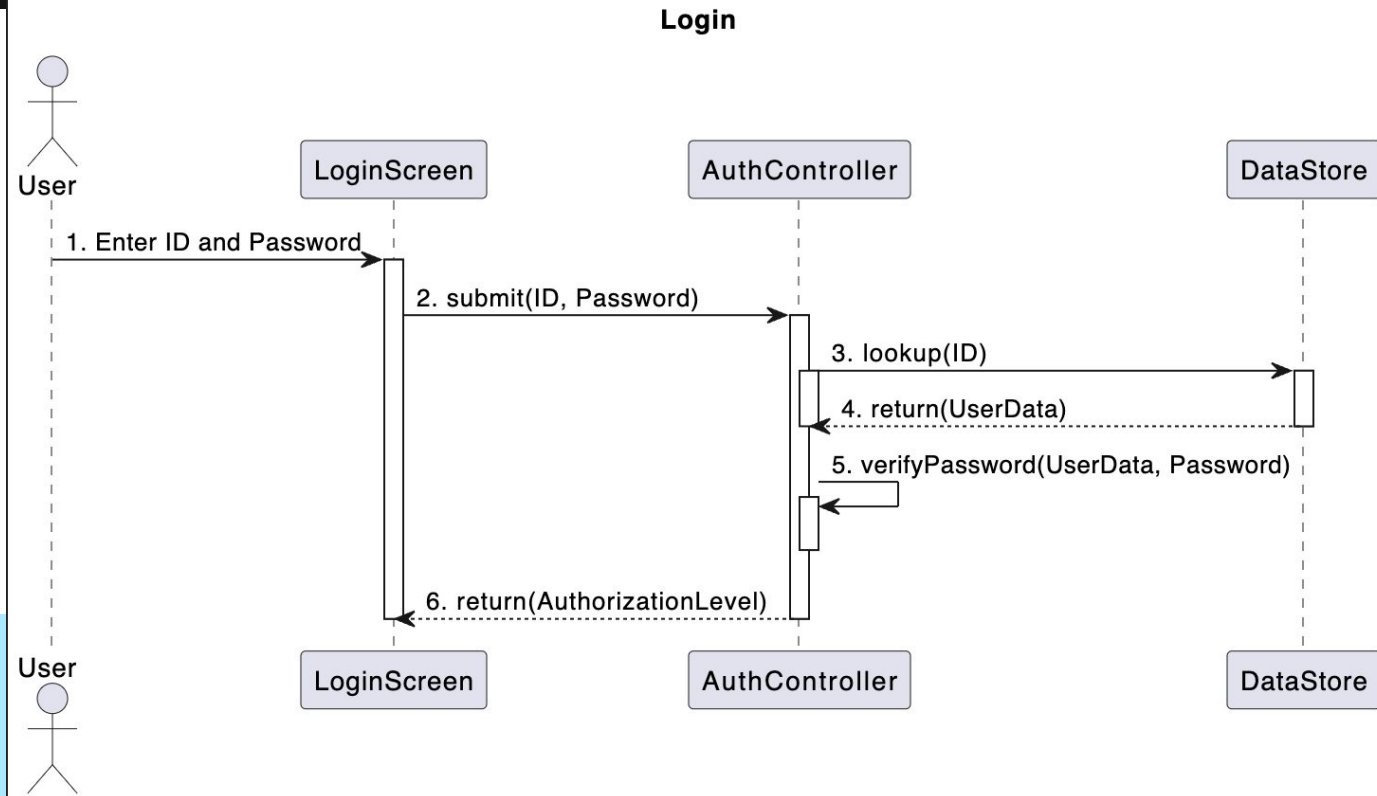
Username

Password

Login

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Sequence diagram for the "Login" functionality





Book Checkout and Management



Checkout

1001

23-11451

Member ID

ISBN

Checkout

Member ID	ISBN	Book Title	Checkout Date	Due Date
1002	28-12331	Antartica	2024-07-02	2024-07-09
1001	23-11451	The Big Fish	2024-07-02	2024-07-23
1001	23-11451	The Big Fish	2024-07-02	2024-07-23

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Add Library Members

Add New Member

First Name

Ngoc Cuong

Last Name

Nguyen

Telephone

123456

City

Fairfield

ZIP

52557

State

Iowa


Street

1000 N 4th Street

Add Member

Cancel

Message

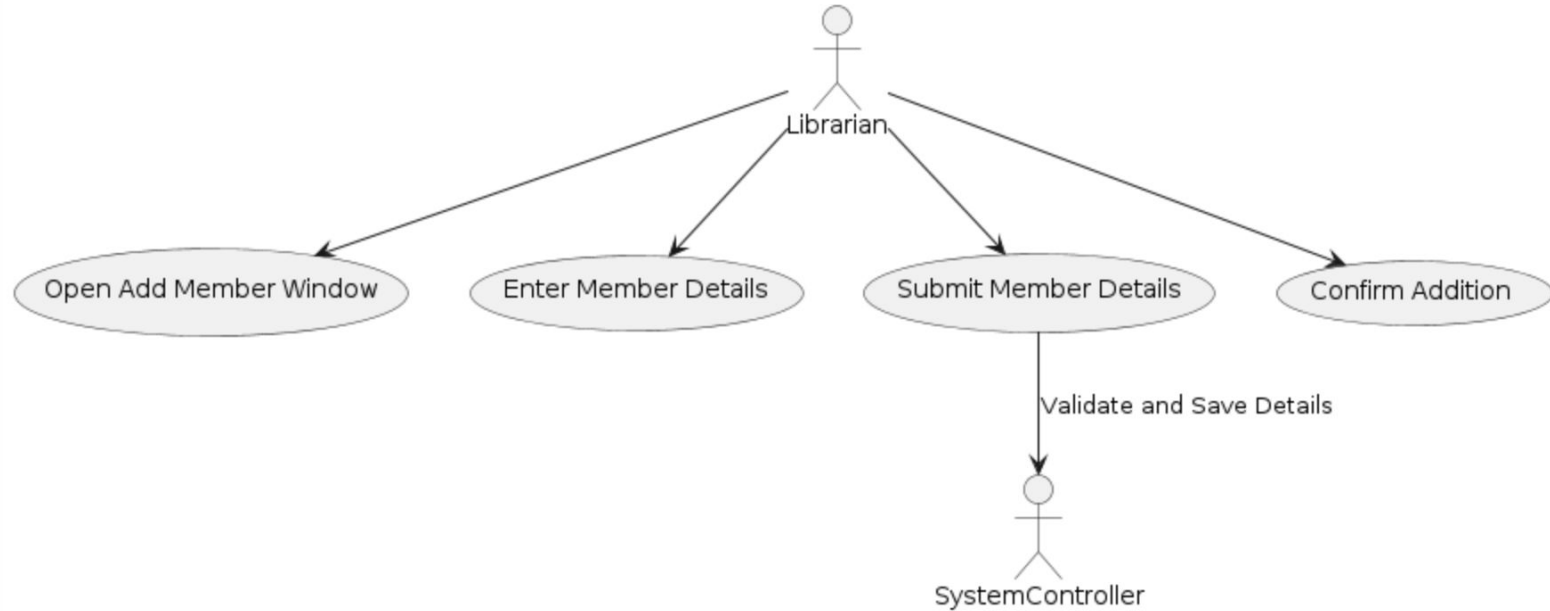


Member added successfully...

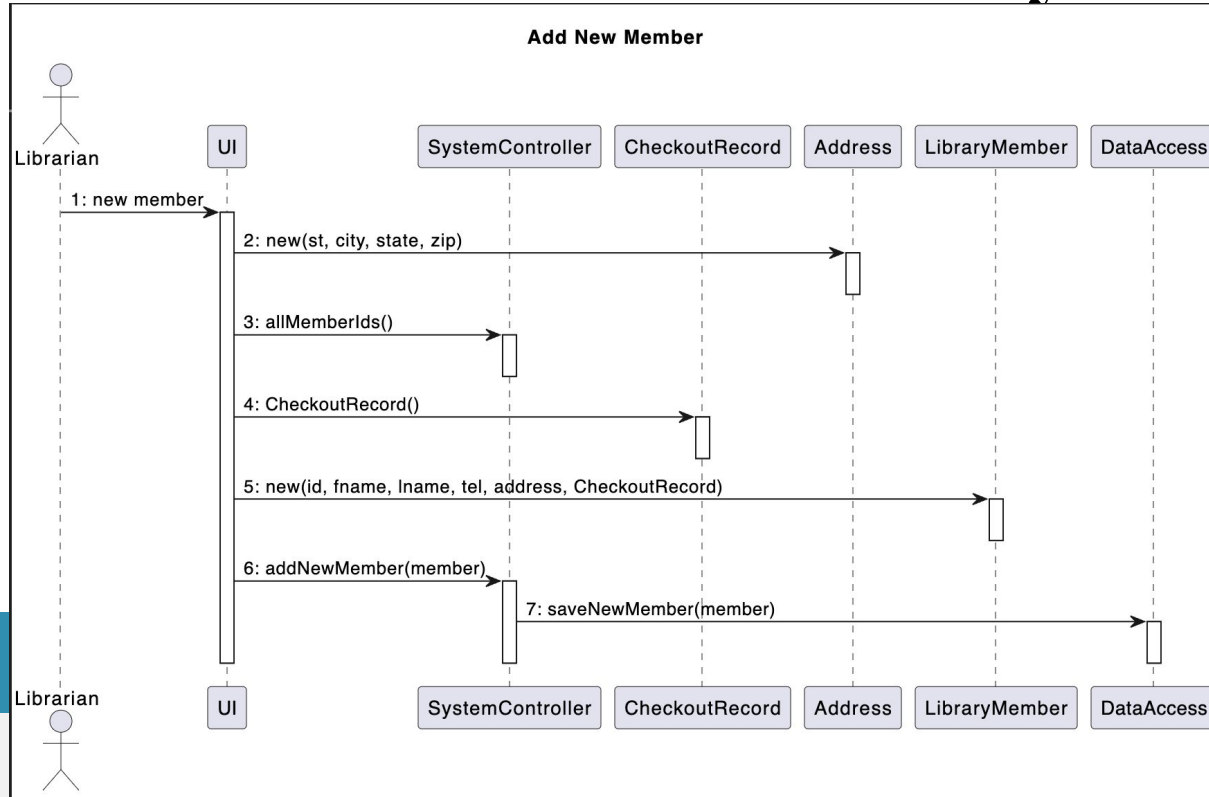
OK

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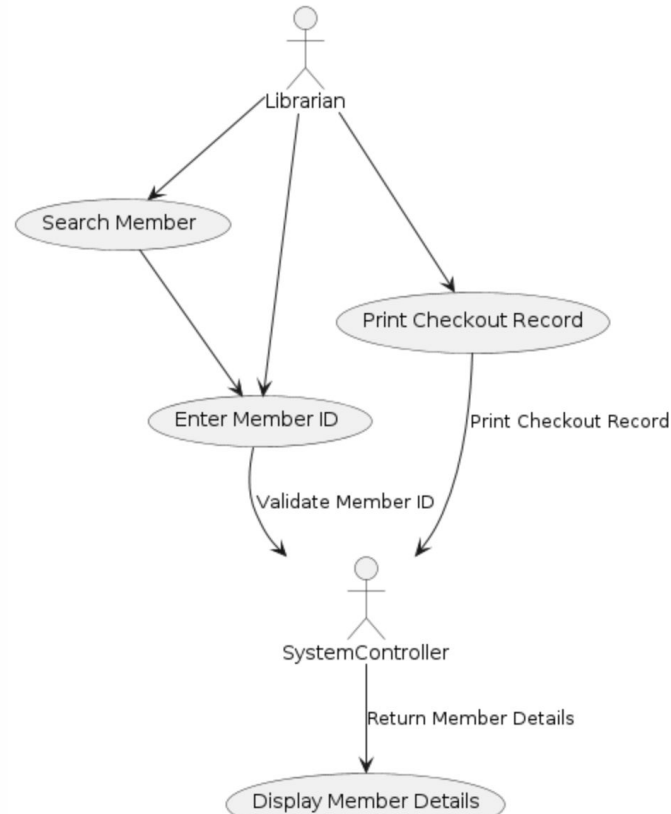
Use case diagram for the "Add New Member" functionality



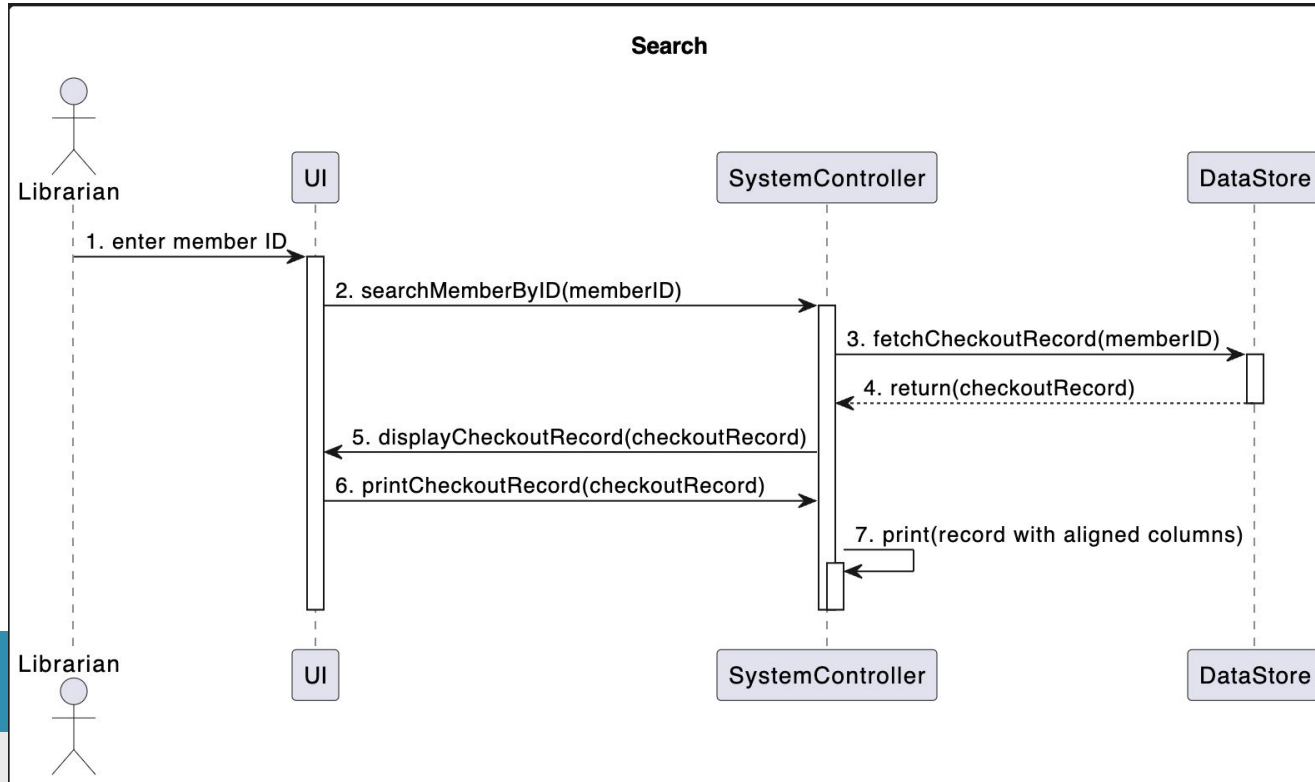
Sequence diagram for the "Add New Member" functionality



Use case diagram for the "Search Member" functionality



Sequence diagram for the "Search Member" functionality



Key Features:

Add New Book

01

02

Check Out Book

Overdue Book

03

04

List All Books



Method 1 : Add New Book

Add New Book Demo

Add New Book

ISBN

12345

Title

The New Book Name

Maximum Checkout Len...

21


Copies Number

3

Add Book

Cancel

Message

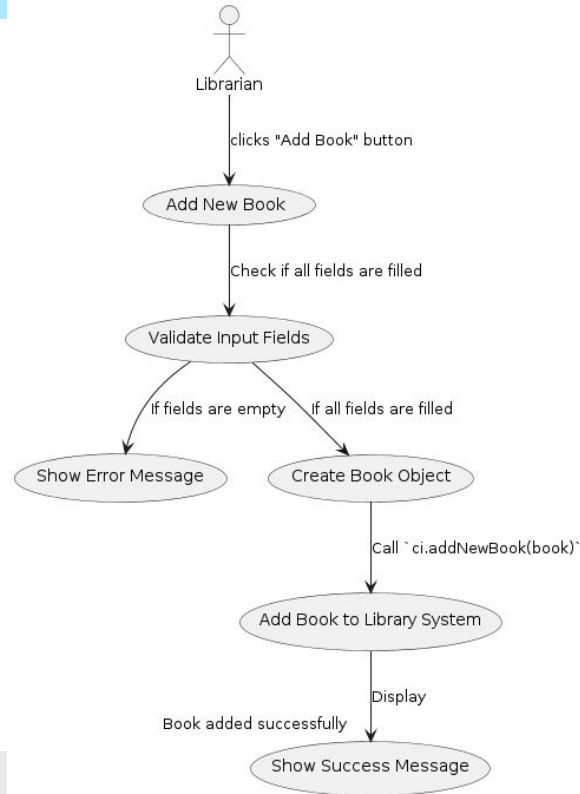


Book added successfully...

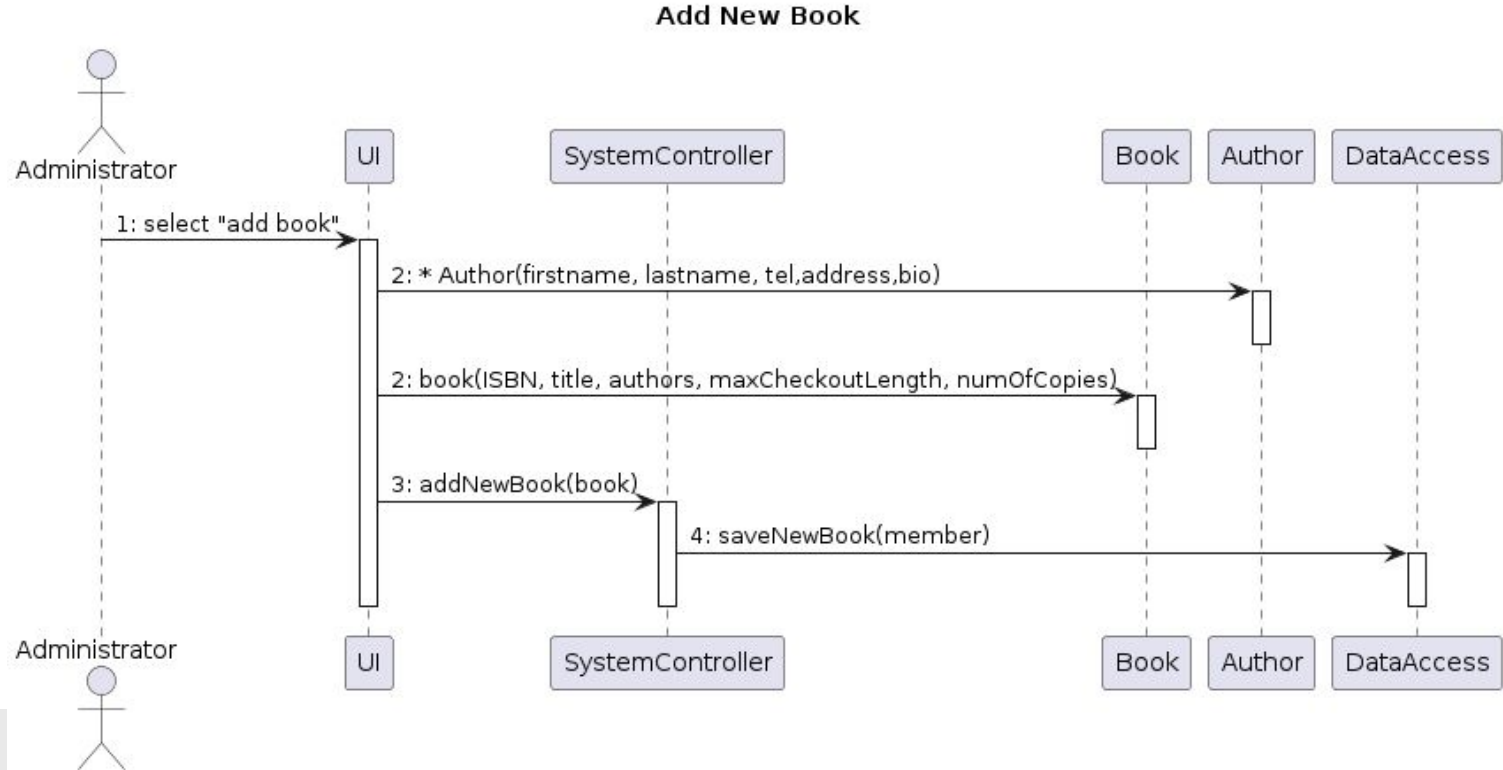
OK

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Add new Book (Use Case)



Add New Book (Sequence Diagram)





Method 2 : Checkout Book

Checkout Book Demo

Checkout

1002

Member ID


23-11451

ISBN

Checkout

Member ID	ISBN	Book Title	Checkout Date	Due Date
1002	23-11451	The Big Fish	2024-07-03	2024-07-24

Success

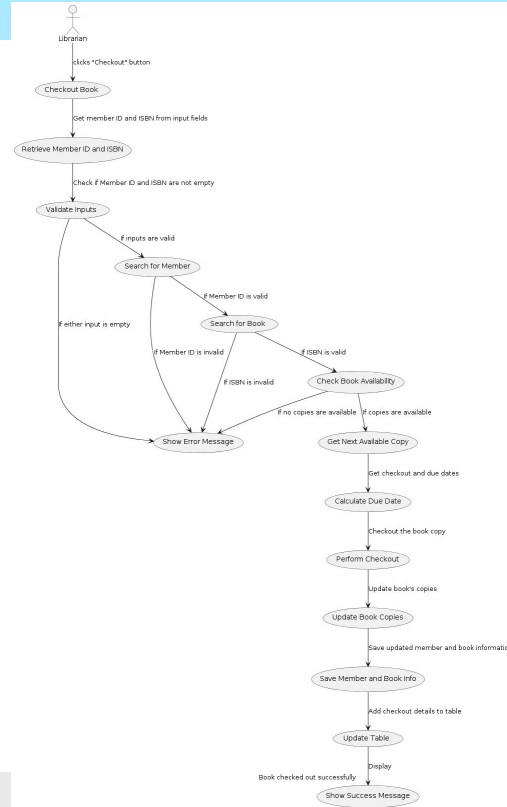


Book checked out successfully

OK

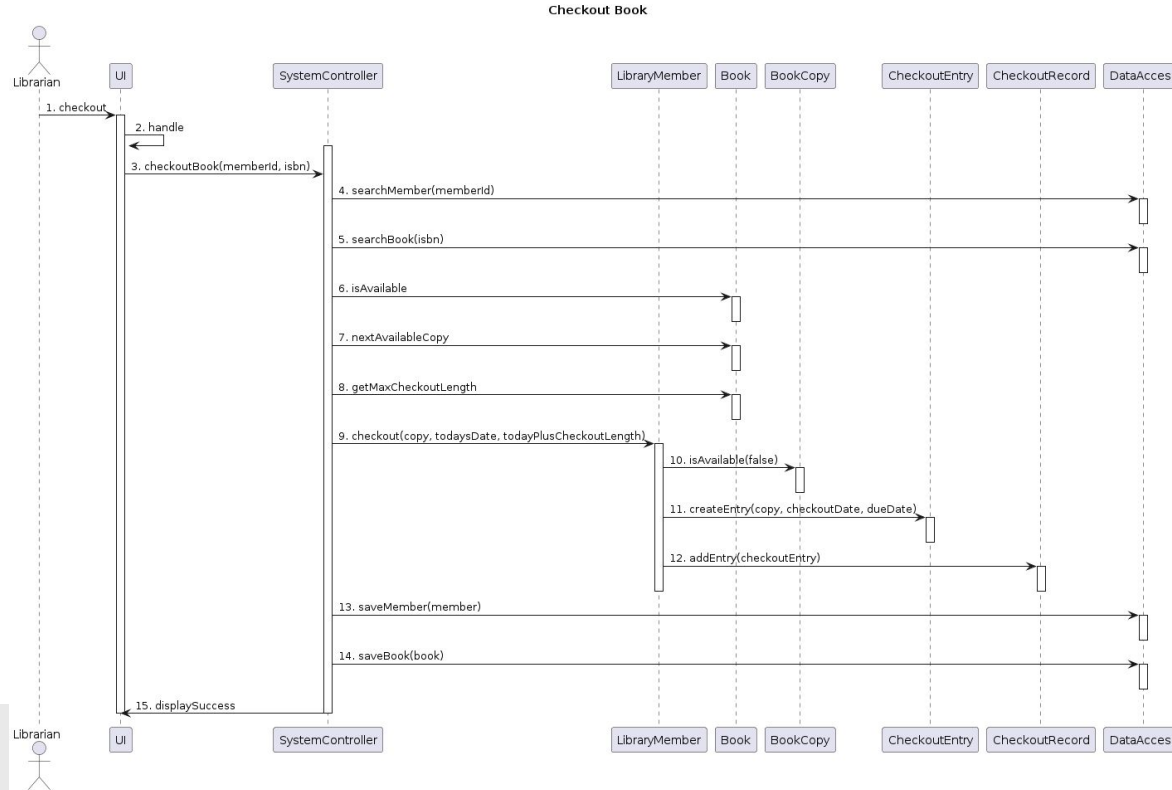
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Checkout Book (Use Case)



[link](#)

Checkout Book (Sequence Diagram)

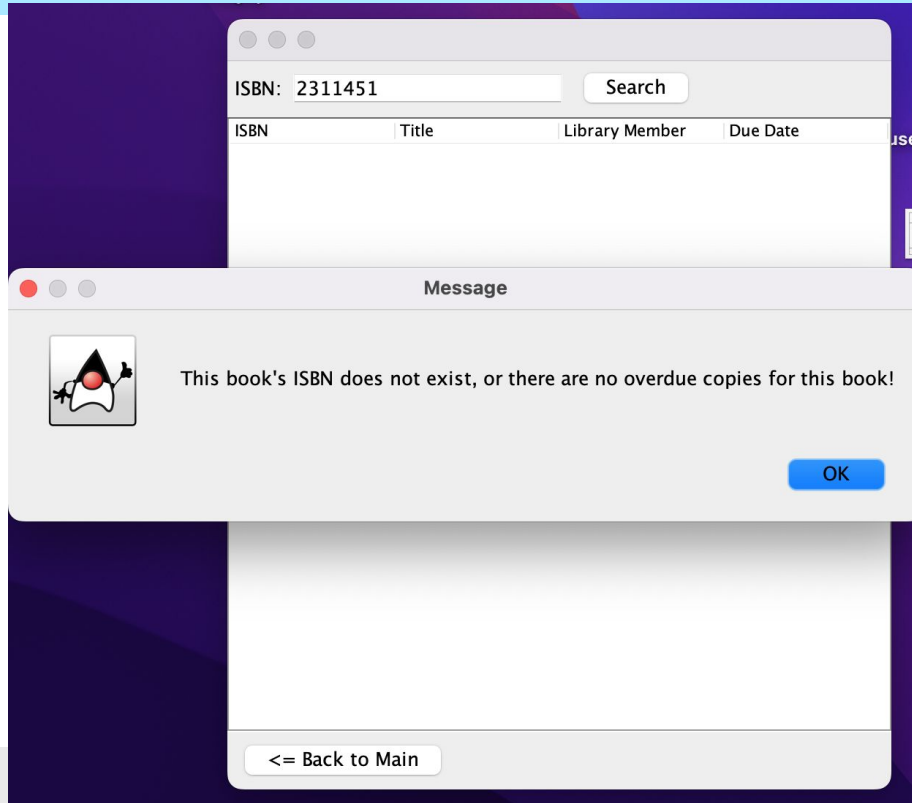


[link](#)

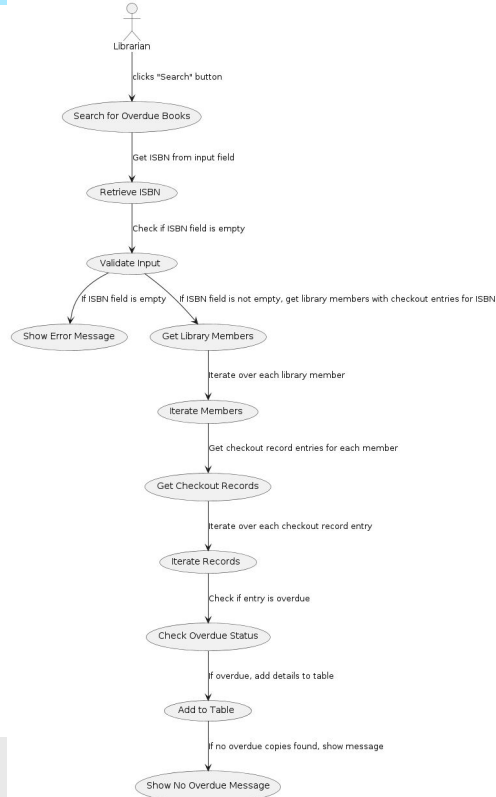


Method 3 : Overdue Books

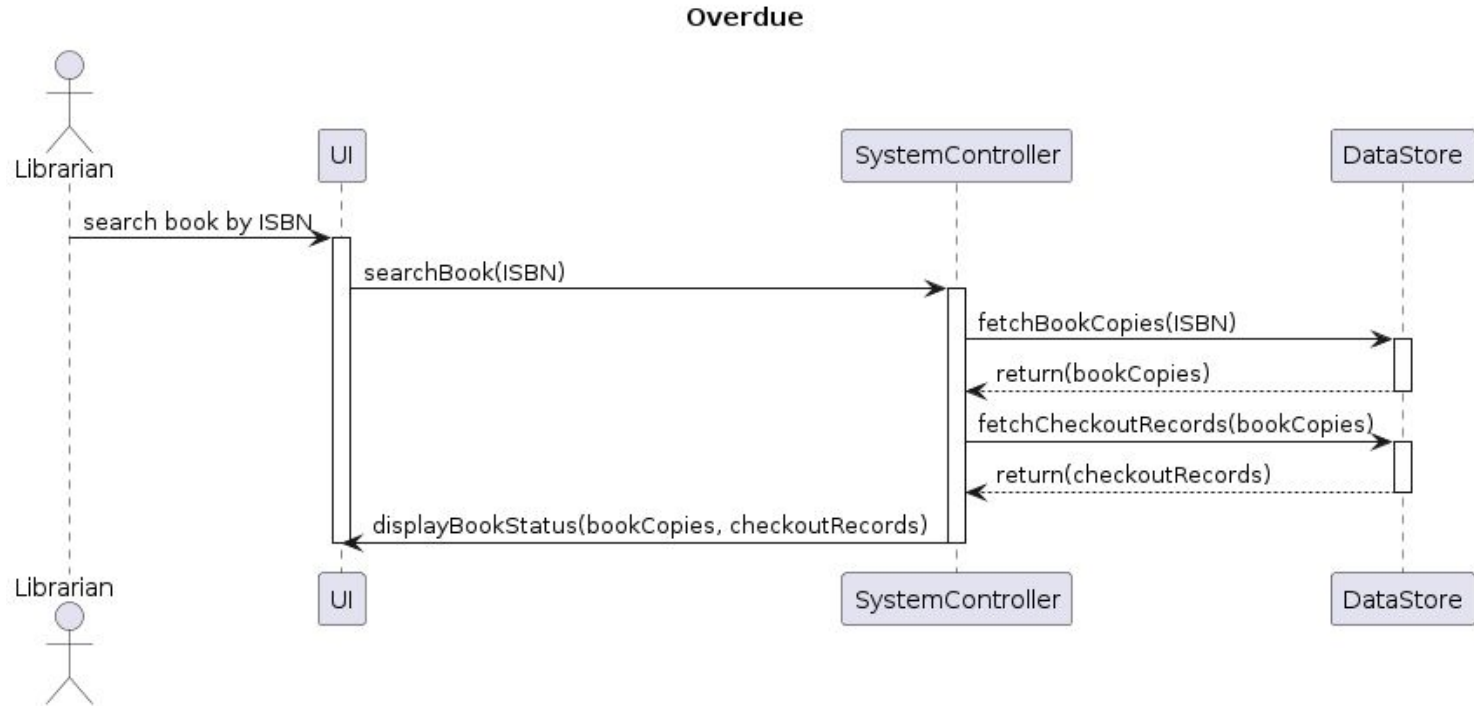
Overdue Books Demo



Overdue Books (Use Case)



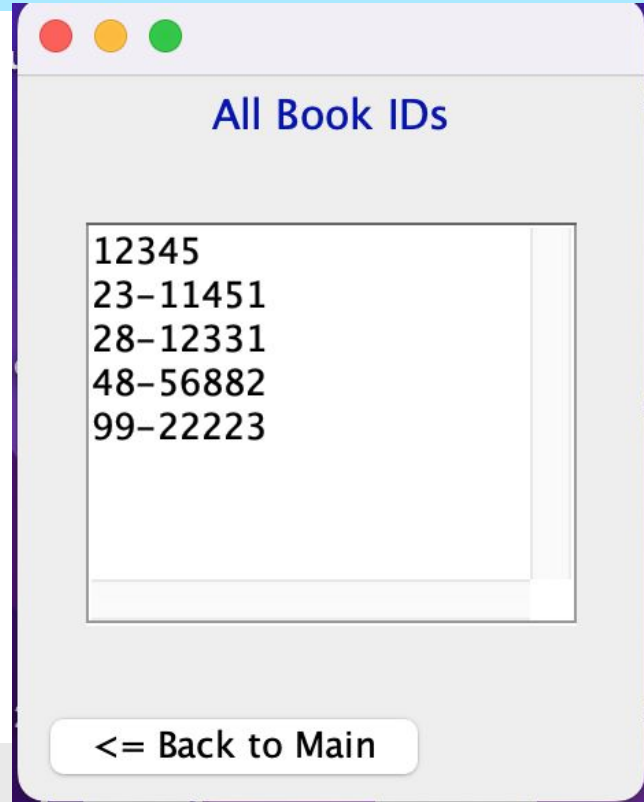
Overdue books(Sequence Diagram)



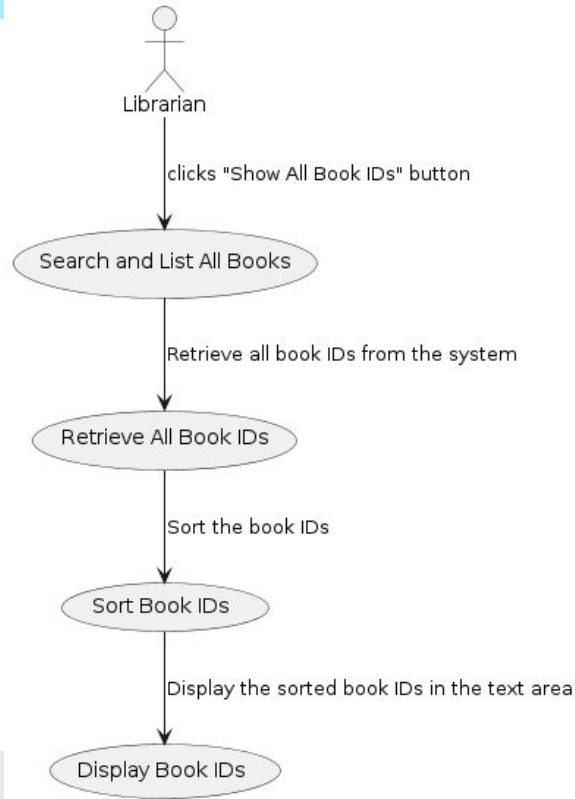


Method 3 : List All Books

List All Books Demo

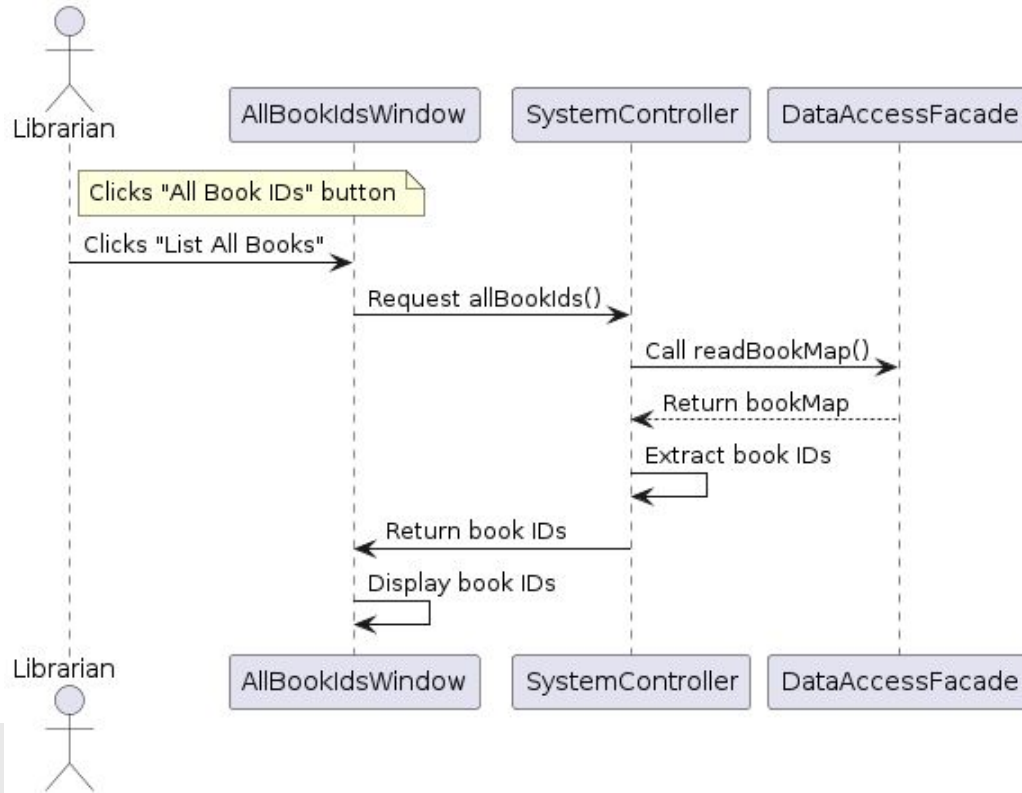


List All Books (Use Case)



[link](#)

List All Books(Sequence Diagram)



The background of the slide features a close-up photograph of a person's hand turning the pages of a thick, old book. The pages are aged and yellowed. A large, semi-transparent light blue rectangle is centered over the image, containing the text 'Thank you' in a bold, black, serif font. Below the blue rectangle, there is a solid dark blue square on a light gray background.

Thank you