LSP CERTIFICATION

My Library

Created by:

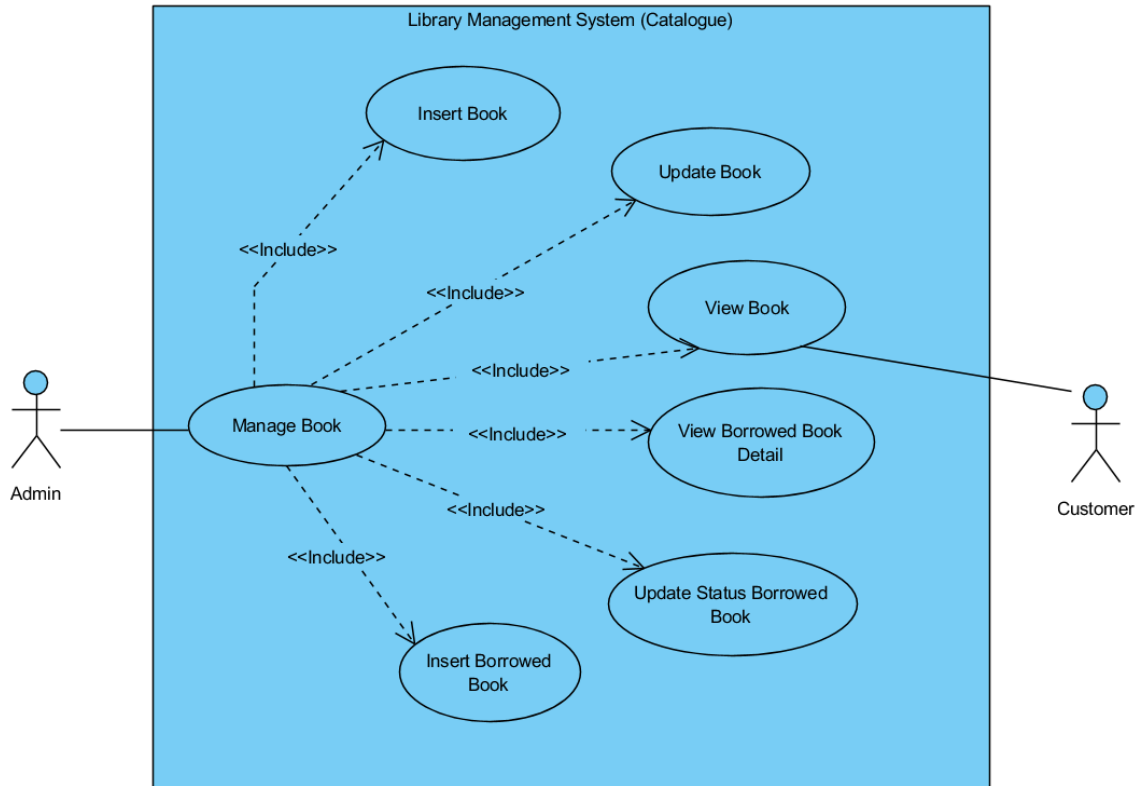**Kent Lee Tjandra (0706022129001)**

Information System for Business

Universitas Ciputra Surabaya

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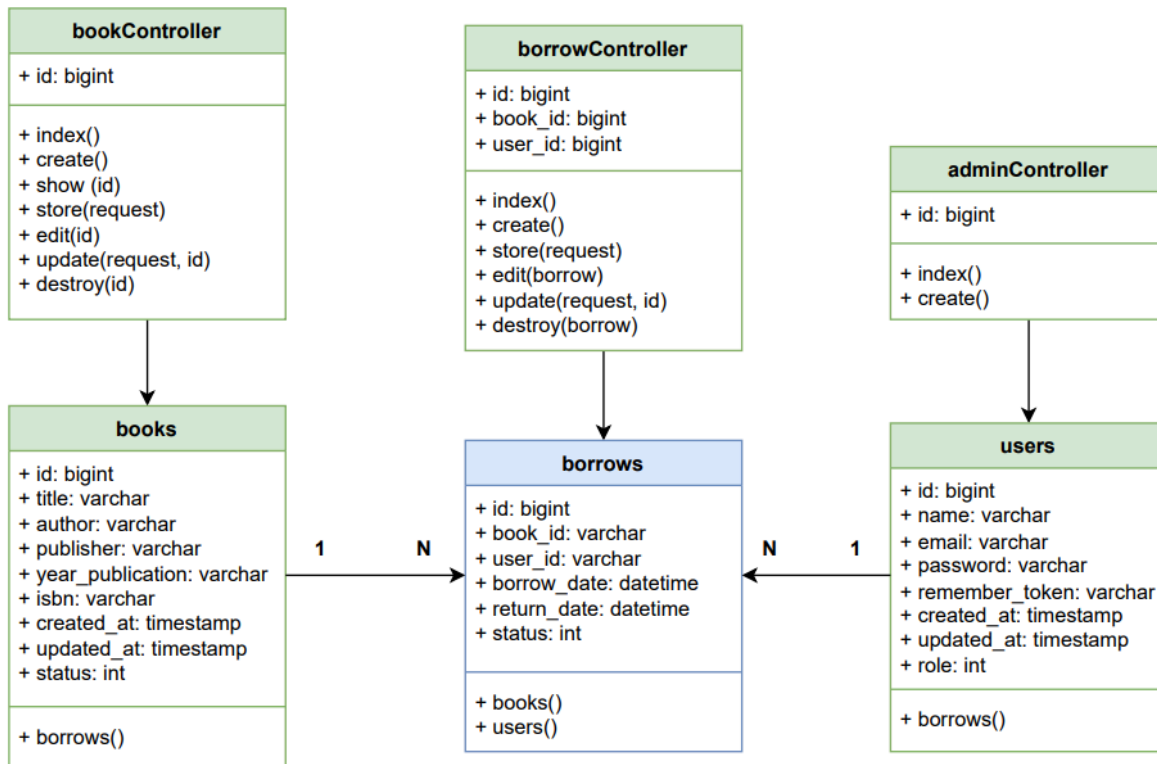
Chapter I
Unified Modelling Language (UML) Diagram

1.1. Use Case Diagram

Use Case Explanation:
1. View Book: to see list of available and not available books in library
2. Insert Book: to input new book catalogue into library
3. Update Book: to update information of the book
4. View Borrowed Book Detail: to see borrowed book by borrower and theirs return date
5. Update Status Borrowed Book: to update status of borrowed book to finish
6. Insert Borrowed Book: to input book that will be borrowed by borrower

1.2. Class Diagram

Class Diagram Explanation:

Cardinality: Many to Many

1. **Class Users**
    a. Attribute: id, name, email, password, role, created_at, update_at,
    b. Method: borrows()
2. **Class adminController**
    a. Attribute: id
    b. Method: index(), create()
3. **Class Books**
    a. Attribute: id, title, author, publisher, publication_year, isbn, created_at, updated_at, status
    b. Method: borrows()
4. **Class bookController**
    a. Attribute: id
    b. Method: index(). create(), show(id), store(request), edit(id), update(request,id), destroy(id)
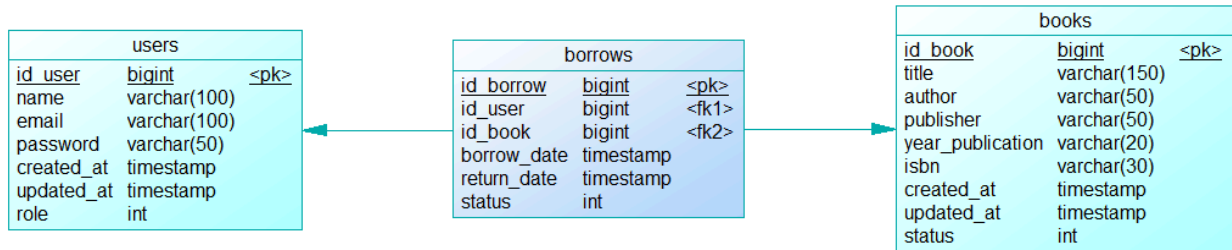5. **Class Borrows**
    a. Attribute: id, user_id, book_id, created_at, updated_at, status
    b. Method: books(), users()

6. **Class borrowController**
   a. Attribute: id, book_id, user_id
   b. Method: index(). create(), store(request), edit(borrow), update(request,id), destroy(borrow)

Chapter II
Database

2.1. Database Design

users

id_user	bigint	<pk>
name	varchar(100)	
email	varchar(100)	
password	varchar(50)	
created_at	timestamp	
updated_at	timestamp	
role	int	

borrows

id_borrow	bigint	<pk>
id_user	bigint	<fk1>
id_book	bigint	<fk2>
borrow_date	timestamp	
return_date	timestamp	
status	int	

books

id_book	bigint	<pk>
title	varchar(150)	
author	varchar(50)	
publisher	varchar(50)	
year_publication	varchar(20)	
isbn	varchar(30)	
created_at	timestamp	
updated_at	timestamp	
status	int	

Database Design Explanation:
1. **Users**

Key	Data Type	Length
id	bigint	
name	varchar	100
email	varchar	100
password	varchar	50
created_at	timestamp	
updated_at	timestamp	
role	int	

2. **Books**

Key	Data Type	Length
id	bigint	
title	varchar	150
author	varchar	50

publisher	varchar	50
publication_year	varchar	20
isbn	varchar	30
created_at	timestamp	
updated_at	timestamp	
status	int	

3. Borrows

Key	Data Type	Length
id	bigint	
user_id	bigint	
book_id	bigint	
borrow_date	datetime	
return_date	datetime	
status	int	

Chapter III
User Testing Scenario

3.1. Testing Design

No.	Scenario	Steps	Data	Expected Result	Actual Result
1.	Register account	1. User register account by clicking register button on the header page 2. Register page pop-up on the top of page 3. Fill name, email,	● Name: abc ● Email: abc@gmail.com ● Password: 12345678 (minimum 8 character) ● Confirm Password: 12345678	Register successful	Register successful as expected

		password, confirm password 4. Click submit button			
2.	Login account	1. User and Admin login account by clicking login button on the header page 2. Login page pop-up on the top of page 3. Fill email & password 4. Click login button	● User: admin@gmail.com ● Password: 12345678 ● User: abc@gmail.com ● Password: 12345678	Login successful	Login successful as expected
3.	Forgot password	1. User and Admin login account by clicking login button on the header page 2. Login page pop-up on the top of page 3. Click forgot your password hyperlink 4. Reset password via email pop-up on the top of page 5. Open mailhog (localhost:8025) and click reset password link via mailhog 6. Fill new		Password reset successfully	Password reset successfully as expected

		password and password confirmation 7. Click submit for reset password			
4.	Remember me	1. User and Admin login account by clicking login button on the header page 2. Login page pop-up on the top of page 3. Click remember me checkbox 4. Open new browser 5. Textbox email and password filled automatically on the other browser because of remember token		Textbox filled automatically	Textbox filled automatically as expected
5.	View list book for admin and user	1. After login, list book appear on the top of page and it shows all information of book in library		List book appeared successfully	List book appeared successfully
6.	Add new book catalogue	1. After login, click home icon on the top left corner of	● Title: abc ● Author: abc ● Publisher: abc	New book inserted successfully and showed	New book inserted successfully and showed

		header 2. Click add new book catalogue 3. Fill all the blank textbox or requirement 4. Click save and it'll redirect to admin view page and it'll show new added book on list book	● Publication Year: 2022 ● ISBN: 1-111-1111-1111	on list book	on list book as expected
7.	Edit book catalogue	1. After login, click home icon on the top left corner of header 2. Click edit button on the specified book that you want to update on actions column 3. All of the textbox will be filled automatically based on the data that the user chooses 4. Update the information that you want 5. Lastly, click edit for saving it		Information updated successfully	Information updated successfully as expected
8.	Add borrower's book	1. After login, click home icon on the top left corner of header 2. Click borrower's book input button 3. Choose the book and the	● Title:Amadi ketu (2024) ● User: abc@gmail.com (abc)	1. Borr ower 's data inser ted succ essfu lly 2. Borr ow	1. Borr ower 's data inser ted succ essfu lly 2. Borr ow

		user that you want (only available book will be shown on the dropdown) 4. Borrow date and return date will be automatically filled (borrow date using current date and return date will be automatically filled/calculated +7 days from borrow date) 5. Click save for input borrower's book		date filled automatically 3. Return date filled /calculated 7 days from borrows date	date filled automatically 3. Return date filled /calculated 7 days from borrows date
9.	View borrower's book data	1. After login, click home icon on the top left corner of header 2. Click view borrower's book data button 3. List of borrower's book data page will be shown on the top of page		List borrower's book data shown all of the information	List borrower's book data shown all of the information as expected
10.	Edit borrower's book data	1. After login, click home icon on the top left corner of header 2. Click view borrower's book data button 3. Choose		Status of specified data changed successfully to reservation done from reservation on going status	Status of specified data changed successfully to reservation done from reservation on going as expected

		specified borrower's book data and click finish button on the actions column 4. After click finish button, the column status of the user chooses will be updated from reservation on going to reservation done			