



PROJECT OOP

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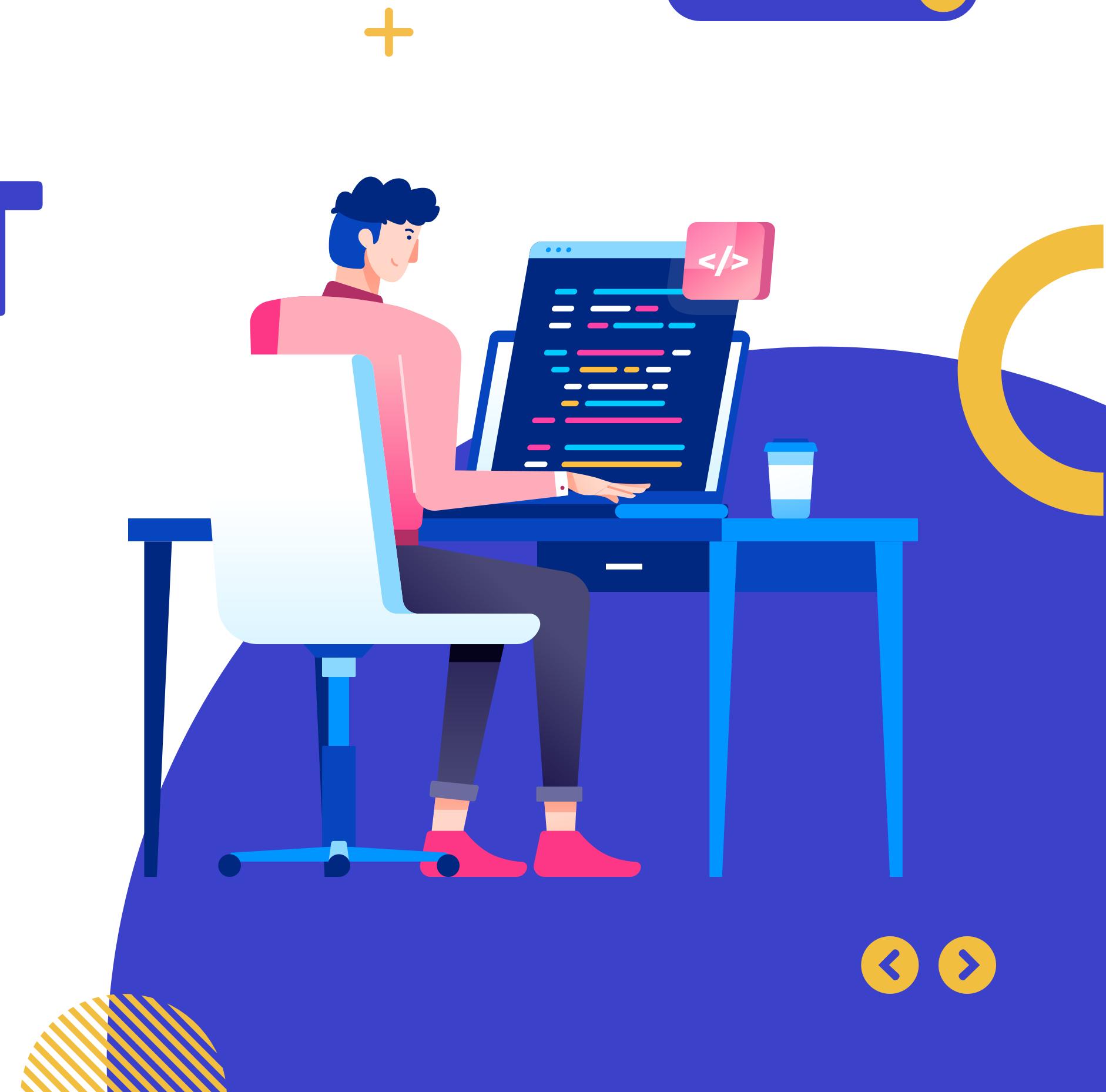
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BACKGROUND & OBJECTIVES

BACKGROUND

- Traditional libraries rely on paper-based systems to track books, which often leads to misplaced records and outdated information.
- The absence of an automated system means late returns frequently go unnoticed, with no penalties enforced.
- Without a centralized digital database, duplicate member registrations occur, and tracking overdue books per student becomes a tedious manual task.

OBJECTIVES

- Eliminates paper-based errors
- Saves time with automated processes
- Provides insights through digital records
- Enforces consistency with validation rules

Universitas Muhammadiyah Malang

Login

EMAIL

PASSWORD

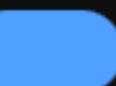
Login

Sign up

Forgot Password?

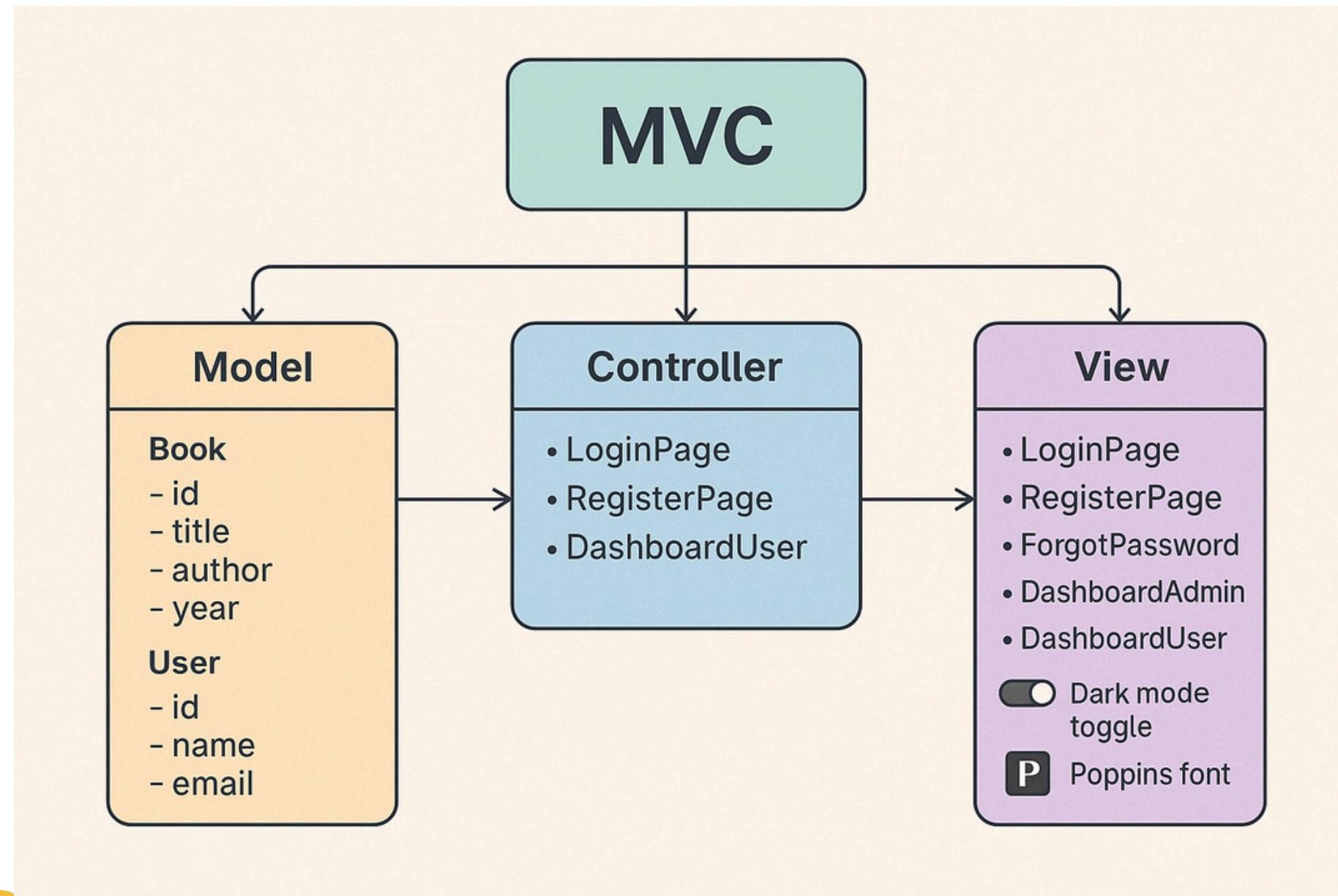


Dark Mode





SYSTEM ARCHITECTURE & CLASS DIAGRAM



Model (Data Core)

- Book and User classes form the foundation
- Stores all critical data (titles, user details)
- Maintains business rules independently

Controller (System Brain)

- LoginPage, RegisterPage, DashboardUser
- Processes user actions (logins, registrations)
- Bridges Model and View seamlessly

View (User Interface)

- Clean screens for authentication and dashboards
- Features dark mode toggle and Poppins font
- Focuses purely on presentation



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FEATURE DEMO: CRUD & BORROWING

Search ...



The login page features fields for 'EMAIL' and 'PASSWORD'. Below these are 'Login', 'Sign up', and 'Forgot Password?' links. A 'Dark Mode' toggle switch is at the bottom right. A blue '+' icon is located to the left of the form.

LOGINPAGE.JAVA

Login Authentication

The login page provides secure role-based access for admins and users.

The registration page has fields for 'NAME', 'EMAIL', 'PASSWORD', and 'DATE OF BIRTH'. It includes a 'sign up' button and a 'Already Registered? Login' link. A yellow '+' icon is located to the left of the form.

REGISTERPAGE.JAVA

Register User Account

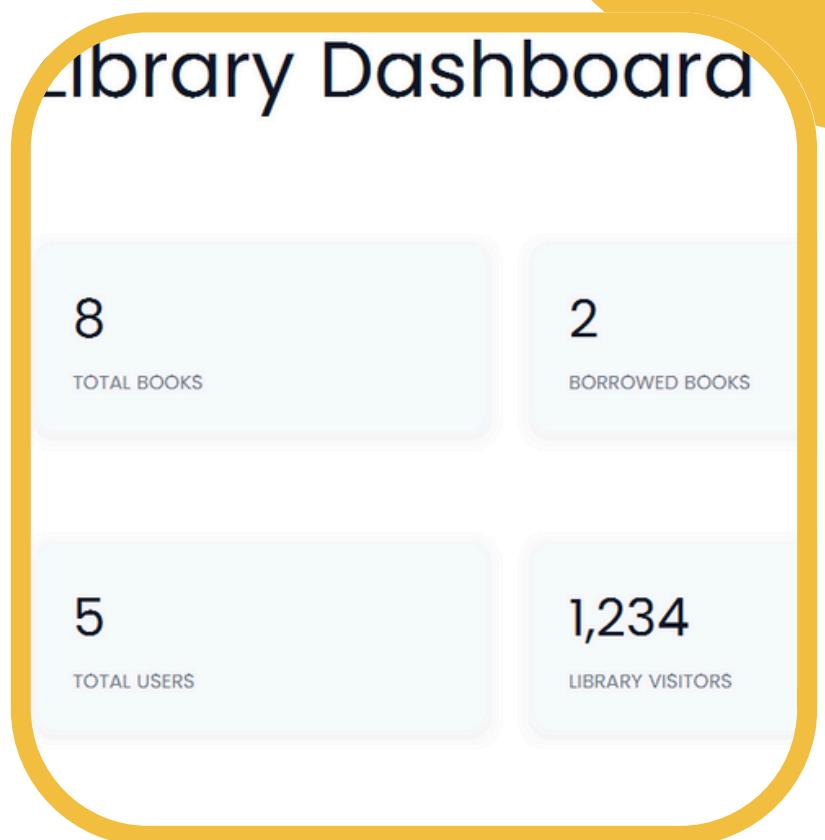
The registration page allows new users to create an account by entering their personal details including name, email address and password.

The forgot password page has an 'EMAIL' field and a 'Send Reset Link' button. A 'Back to Login' link is at the bottom. A blue '+' icon is located to the left of the form.

FORGOTPASSWORD.JAVA

User Forgot Password

When users forget their credentials, they can securely reset their password through this page. The system verifies their identity via email before allowing them to set a new password.



DASHBOARDADMIN.JAVA

Library Dashboard

This comprehensive overview presents librarians with key statistics including total book inventory, currently borrowed items, etc.





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FEATURE DEMO: CRUD & BORROWING

Search ...



Books Management

Search Books + Add Book Refresh

Book ID	Title	Author	Genre	Status
B001	To Kill a Mockingbird	Harper Lee	Fiction	Available
B002	1984	George Orwell	Fiction	Borrowed
B003	Pride and Prejudice	Jane Austen	Romance	Available
B004	The Catcher in the Rye	J.D. Salinger	Fiction	Overdue
B005	Lord of the Flies	William Golding	Fiction	Borrowed
B006	The Great Gatsby	F. Scott Fitzgerald	Fiction	Available
B007	Moby Dick	Herman Melville	Adventure	Overdue
B008	War and Peace	Leo Tolstoy	Historical	Available

Users Management

+ Add User Refresh Search by User ID... Search Clear

4 Active Users 1 Inactive Users 5 Total Users

User ID	Name	Email	Status
U001	John Doe	john@email.com	Active
U002	Jane Smith	jane@email.com	Active
U003	Bob Johnson	bob@email.com	Inactive
U004	Alice Brown	alice@email.com	Active
U005	Charlie Wilson	charlie@email.com	Active

Transactions & Fines

+ Add Transaction Refresh Search by User ID... Search

2 Active Loans 2 Overdue Loans Rp 4,000 Total Fines

Transaction ID	User ID	Book ID	Borrow Date	Due Date	Status	Fee
T001	U001	B002	2025-06-14	2025-06-28	Active	Rp 0
T002	U004	B004	2025-06-09	2025-06-16	Overdue	Rp 1
T003	U002	B005	2025-06-16	2025-06-30	Active	Rp 0
T004	U001	B007	2025-06-07	2025-06-14	Overdue	Rp 2

Reports & Analytics

1467 Total Visitors 406 Total Borrows

Daily Activity



DASHBOARDADMIN.JAVA

Books Management

Librarians maintain the entire book collection through this centralized control panel where they can add new titles, update existing book information, or remove

DASHBOARDADMIN.JAVA

Users Management

The user administration section enables staff to register new members, review existing accounts, update user profiles or deactivate access

DASHBOARDADMIN.JAVA

Transaction and Fines

This dedicated workspace allows librarians to process book returns, track overdue items, calculate applicable fines, and update payment status

DASHBOARDADMIN.JAVA

Reports and Analytics

Advanced reporting tools generate visual charts and exportable documents that reveal borrowing patterns, peak usage times





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FEATURE DEMO: CRUD & BORROWING

Search ...



Welcome back, User

Overview of your library and personal activity.

Check In

6	0	0	5
TOTAL BOOKS	BORROWED BOOKS	FAVOURITES	CHECK-IN

Search books by title... Search books by genre...

Books Catalog

The Great Gatsby Fiction <input type="button" value="Borrow"/>	1984 Fiction <input type="button" value="Borrow"/>	Clean Code Education <input type="button" value="Borrow"/>	Effective Java Education <input type="button" value="Borrow"/>
Pride and Prejudice			

DASHBOARDUSER.JAVA

User Main Dashboard

Members access their personalized homepage showing current loan counts, recent check-ins and quick search tools to explore the catalog

Your Books

Books Catalog

The Great Gatsby Fiction <input type="button" value="Borrow"/>	1984 Fiction <input type="button" value="Borrow"/>	Clean Code Education <input type="button" value="Borrow"/>	Effective Java Education <input type="button" value="Borrow"/>
Pride and Prejudice			

Borrowed Books

You have no borrowed books currently.

DASHBOARDUSER.JAVA

Books Dashboard

The interactive book browser lets users view the complete available collection, check detailed information about each title, and manage their borrowing activity

Loan History

Title	Borrow Date	Due Date
The Great Gatsby	2025-06-19	2025-07-17
1984	2025-06-21	2025-07-29
Clean Code	2025-06-23	2025-07-31
Effective Java	2025-06-25	2025-08-02

DASHBOARDUSER.JAVA

Loan History

A complete chronological record displays all past and current loans with clear due date reminders and fine status updates to help users track their borrowing history

User Profile

Name: John Doe

Email: johndoe@example.com

Member Since: January 2022

Change Password

Current Password
New Password
Confirm New Password

DASHBOARDUSER.JAVA

User Profile

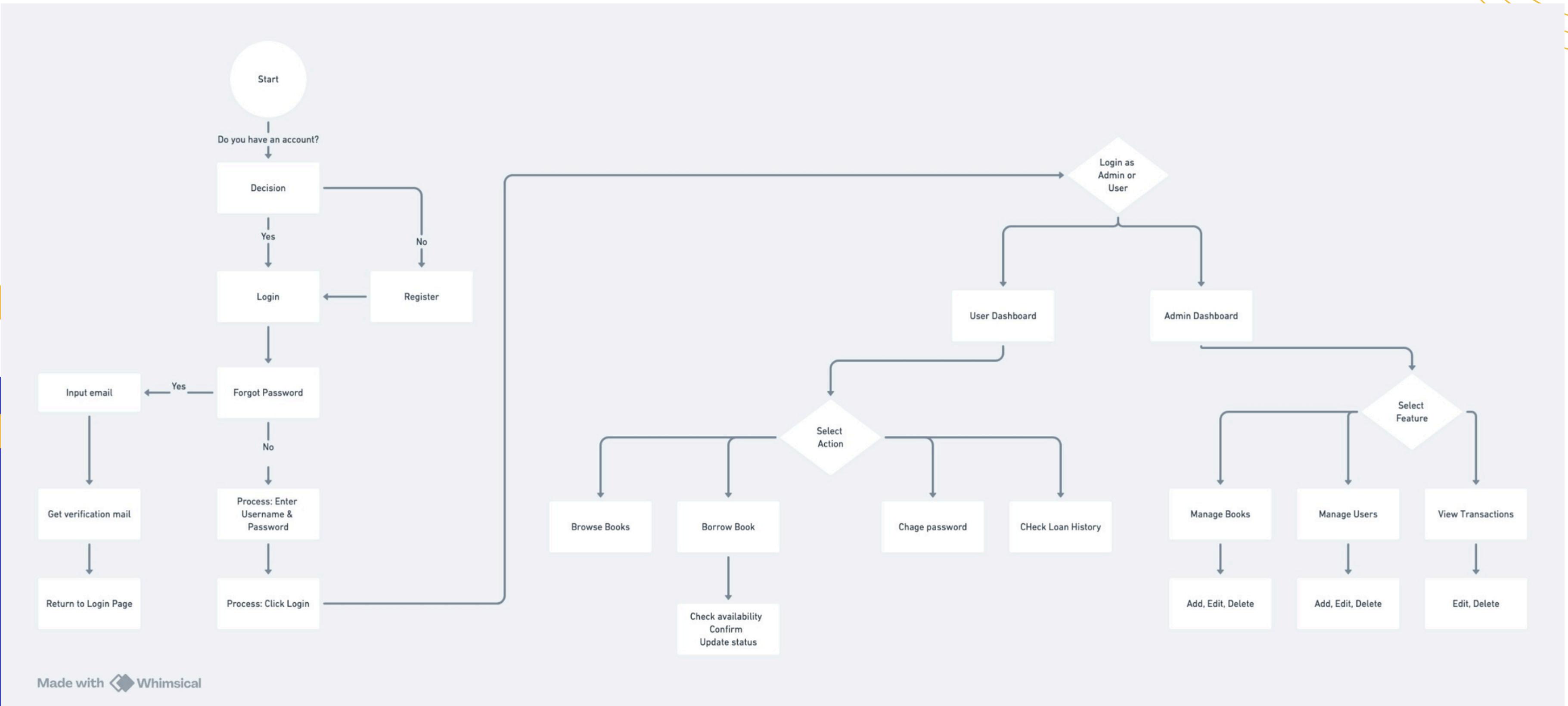
This personal management area allows members to update their contact information like change their login password at any time





PROGRAM FLOW

Search ...

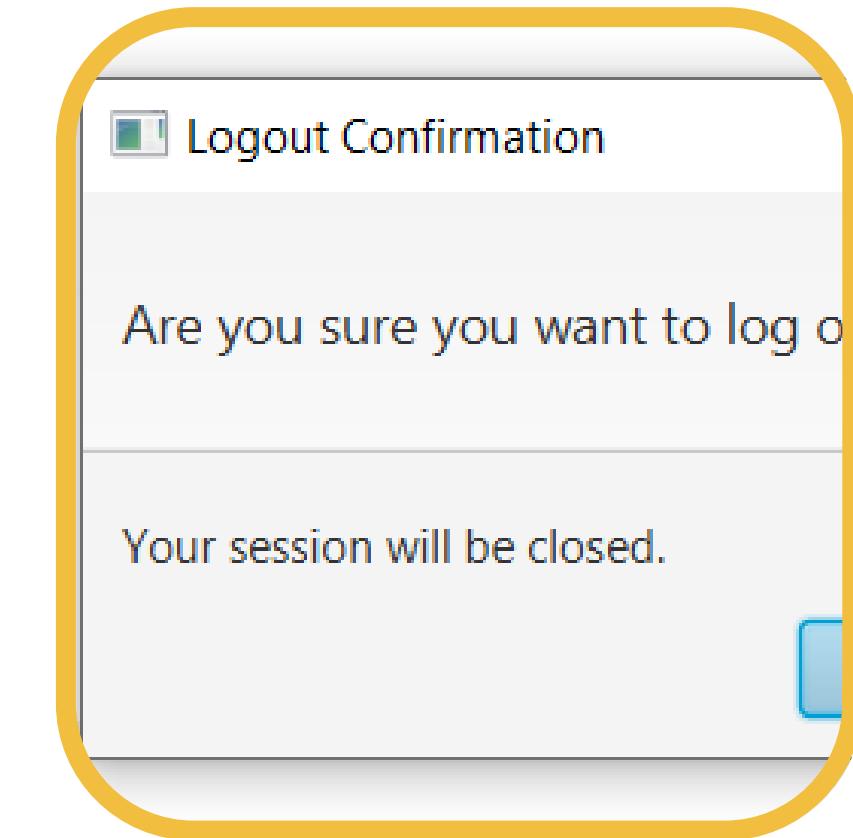




TESTING RESULTS & CHALLENGES

The login page features fields for EMAIL and PASSWORD, both containing placeholder text ('asdf' and '.....'). A large black 'Login' button is at the bottom. Below it, a red error message reads 'Email atau password salah!'. At the bottom right are 'Sign up' and 'Forgot Password?' links.

The login page provides secure role-based access for admins and users.



When users attempt to log out, a clear alert message appears to confirm their action.

The Books Catalog page shows a book entry for 'Quantity: 122' with a 'Borrow' button. A modal window displays a message: 'You have already borrowed this book.' with an 'OK' button. Below the catalog are sections for 'Borrowed Books' and another book entry for 'Quantity: 3' with a 'Borrow' button.

When users attempt to borrow a book that out of stock, a clear alert message appears to show the users that you can't



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Search ...



THANK YOU

Any Questions?

CIHUY

