



Network Nerds

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Learning Outcomes

Technologies Used:

We have learned MERN stack (MongoDB, Express, React, Node.js) and other tools like bcrypt for authentication and CSS for styling.

Skills Acquired:

We have learned skills like full-stack development, role-based access control, implementing CRUD operations, and handling front-end and back-end integrations.

We have also got to know about github features.

Challenges Faced

Database Management:

Ensuring efficient data retrieval and storage using MongoDB.

Authentication:

Implementing secure user authentication and role-based access control.

State Management:

Managing the state in a React application for a seamless user experience.

User Interface Design:

Creating an intuitive and responsive UI with animations and custom styles.

Book Issuance Logic:

Implementing logic to track issued books, enforce return deadlines, and manage the availability count of books. This involved :

- Matching variables between the book and student models.
- Decreasing the count of available books when issued.
- Adding a return date to track the due date for each issued book.

Specifications

We have implemented the following pages :

For student :

- Home
- Login
- Dashboard
- MyBooks : books he/she has borrowed, deadline for returning
- Books to explore
- Logout

For admin :

- Home
- Login
- Dashboard
- Add student
- Add/Delete/edit books
- Logout

Future Work and Scope of Improvement

Enhanced Security:

Implement features like two-factor authentication and stricter validation rules..

Conclusion

We have successfully implemented the library management system and have uploaded the same in the github repository. We have got to learn about MERN stack and frontend, database, and backend.