

UNIVERSITY LIBRARY MANAGEMENT SYSTEM



Group no: 09

Introduction

This project is a library management System built with the MERN stack to streamline book borrowing, returning, and tracking. It features user authentication, role-based access, QR code scanning, and an admin dashboard for efficient management. The system enhances user experience with a responsive UI and modern technologies, ensuring seamless library operations.

Why this is important?

- Traditional library management systems require manual effort, leading to inefficiencies.
- Students face difficulties in searching for and accessing books.
- Lack of an online borrowing system results in unnecessary physical visits.
- Administrators struggle with tracking borrowed books and managing library inventory.
- Need for a digital solution that simplifies library operations for both users and admins.

Technologies

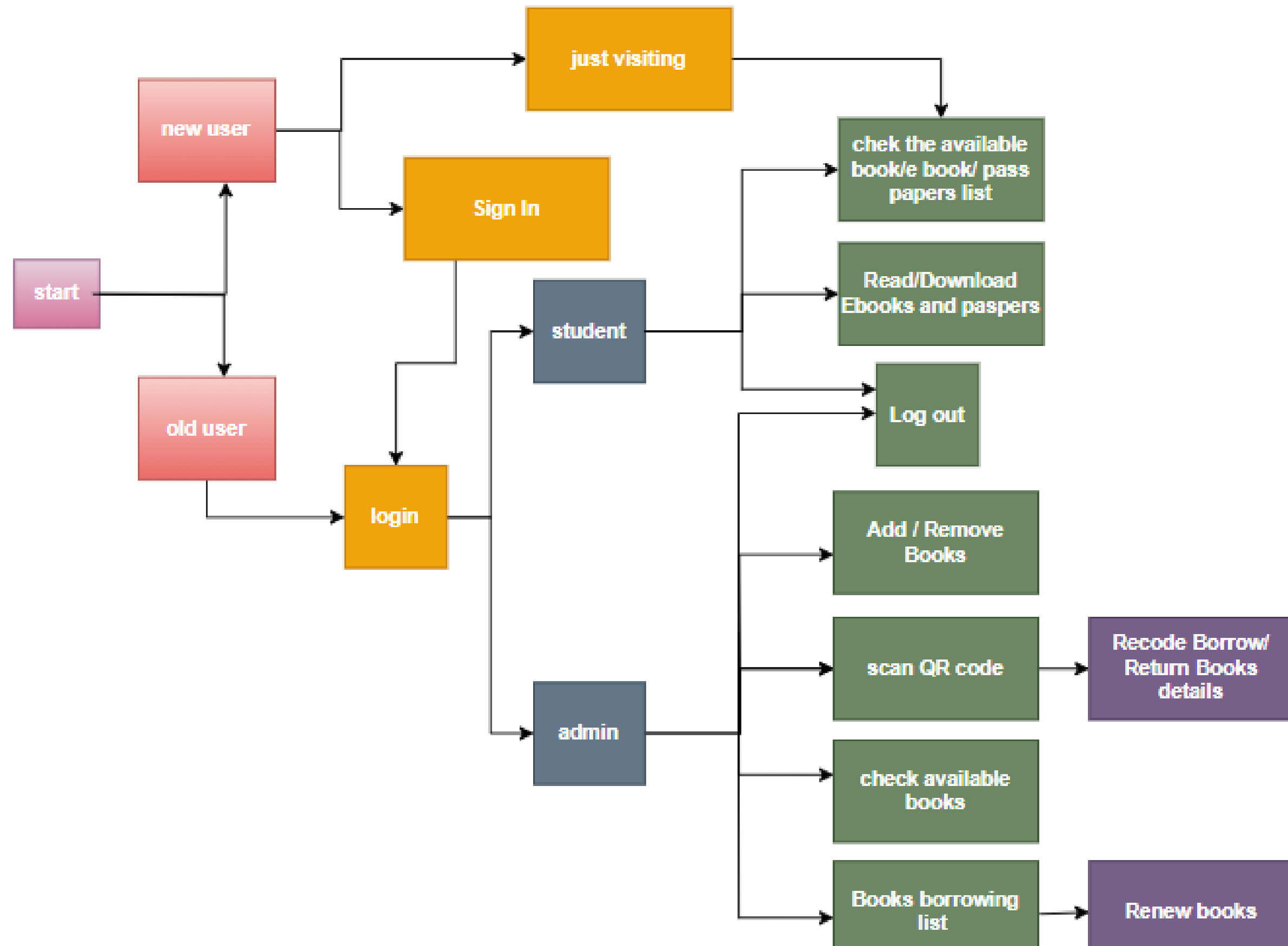
- Frontend: React.js (for interactive UI)
- Backend: Node.js & Express.js (for server-side operations)
- Database: MongoDB (to store users and books data)
- Authentication: JWT (for secure user authentication)
- QR Code System: QR Code Scanner (to manage book borrowing/returning)
- Cloud Storage: For e-books and past paper downloads



Objectives

- Streamline Library Operations—Simplify book borrowing, returning, and tracking.
- Implement Secure Authentication—Ensure safe access with JWT-based login and role-based permissions.
- Enhance User Experience—Provide an intuitive and responsive interface using Material-UI.
- Enable QR Code Integration—Speed up book transactions with QR scanning technology.
- Improve Administrative Control – Equip admins with tools to manage books, users, and borrowing records efficiently.
- Ensure Scalability—Develop a system that can expand with increasing users and books.

System architecture



Features

Features for UsersContent:

- User Registration & Login: Sign in with university email.
- Home Page: Displays about details, contact info, and links to book-related pages.
- Available Books: Search and borrow physical books.
- E-books Section: Read and download e-books.
- Past Papers: View and download previous exam papers.

Features con't

Features for AdminContent:

- Admin Login: Secure access with a special email and password.
- Admin Dashboard: Access to different management pages.
- Total Books: View all books with downloadable QR codes.
- Manage Books: Scan QR codes to issue or return books.
- Add New Books: Add books with images, authors, ISBN, and descriptions.
- Released Books: Track borrowed books with student details and deadlines.
- Extend Borrowing: Allow students a one-time extension of one week.

THANK YOU!

2021/T/01127- A.V.W.Jayawardena
2021/T/01179 -G.M.Vithanage
2021/T/01126 -M.H.D.M.Jayasinghe



Git --- <https://github.com/AvishkaVishwa/FOT-Library-Management-System.git>

Drive -- https://drive.google.com/drive/folders/1Up42ofYsYVXxAKzo5bBt_wk9reiyVzRJ?usp=sharing