

ZAD Library Management System

Welcome to ZAD, the comprehensive Library Management System designed to streamline operations and enhance user experience in modern libraries. This system offers a complete solution for library members, librarians, and administrators, combining powerful features with robust non-functional capabilities to ensure a seamless, efficient, and secure library experience for all users.

Functional Requirements

Library Member Features

1. View Catalog: Browse available books and search by title, author, or genre.
2. Reserve Books: Place reservations on books that are currently checked out.
3. Borrow and Return: View borrowing history and return deadlines.
4. Notifications: Receive alerts for due dates, overdue books, or availability of reserved books.

Librarian Features

- Manage Books: Add, edit, delete, and update book status (e.g., available, borrowed, lost).
- Manage Members: Register new members, update member details, and manage memberships.
- Handle Borrowing and Returning: Process book check-outs and check-ins, apply late fees if necessary.
- Generate Reports: Create reports on borrowing trends, popular books, and overdue items.

Library Admin Responsibilities

1. User and Role Management: Add, edit, and delete user accounts and assign roles (member, librarian).
2. System Configuration: Set system rules such as borrowing limits, late fees, and notification settings.
3. Monitor System Usage: Review system logs and activity reports.
4. Manage Librarians: Add, edit, and remove librarians, assigning them specific tasks or permissions.

Non-Functional Requirements

Usability: Easy to use and navigate for library staff and members, with a user-friendly interface.

Performance: Fast and reliable in handling library transactions, generating reports, and providing search results.

Security: Ensure safety and security of user data, with access controls and encryption mechanisms.

Scalability: The system should be scalable to handle an expanding database of library materials and users.

Compatibility: The system should be compatible with different hardware and software platforms, including mobile devices.

Future-Proofing: Designed to accommodate future technological advancements and library needs.

System Requirements

- Programming Languages:

- Backend: C# (Build backend services and manage system operations)

- Frontend: HTML, CSS, JavaScript (Develop the website's user interface)

- Frameworks:

- Backend Framework: ASP.NET Core will be used to build robust and scalable backend services for the library management system.

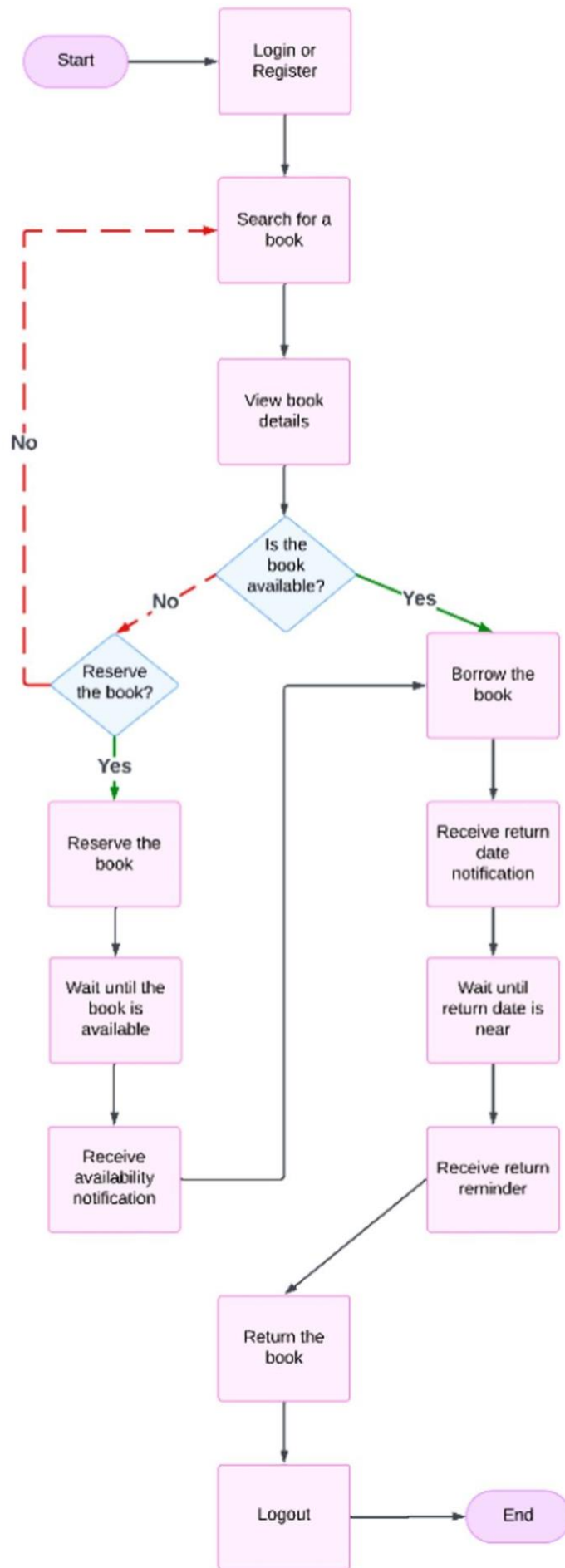
- Frontend Framework: A modern JavaScript framework like Angular or React will be used to create a responsive and interactive user interface.

Conclusion

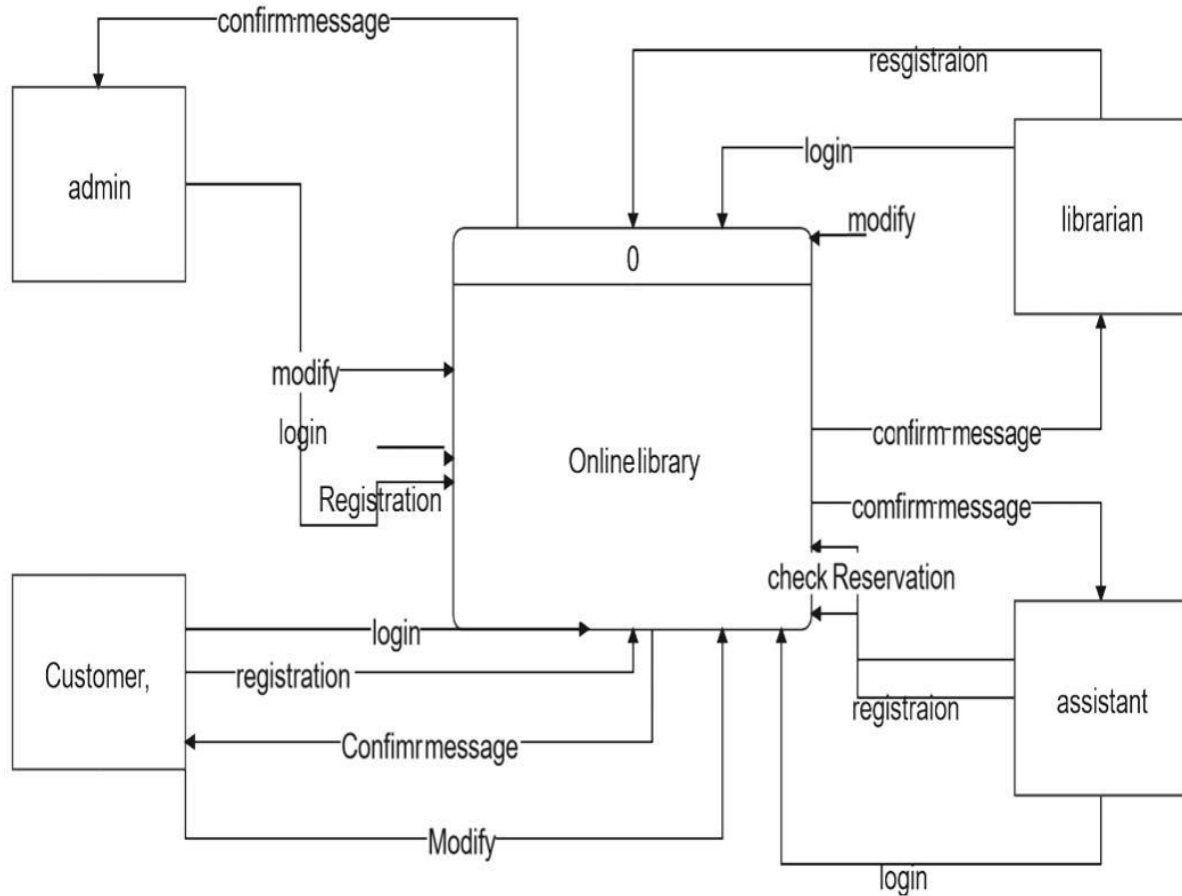
The ZAD Library Management System offers a comprehensive solution for modern libraries, combining powerful features for members, librarians, and administrators with robust non-functional capabilities. Our system ensures a seamless, efficient, and secure library experience for all users, from catalog browsing to system administration.

With its scalable architecture, user-friendly interface, and future-proof design, ZAD is poised to meet the evolving needs of libraries in the digital age. Experience the future of library management with ZAD.

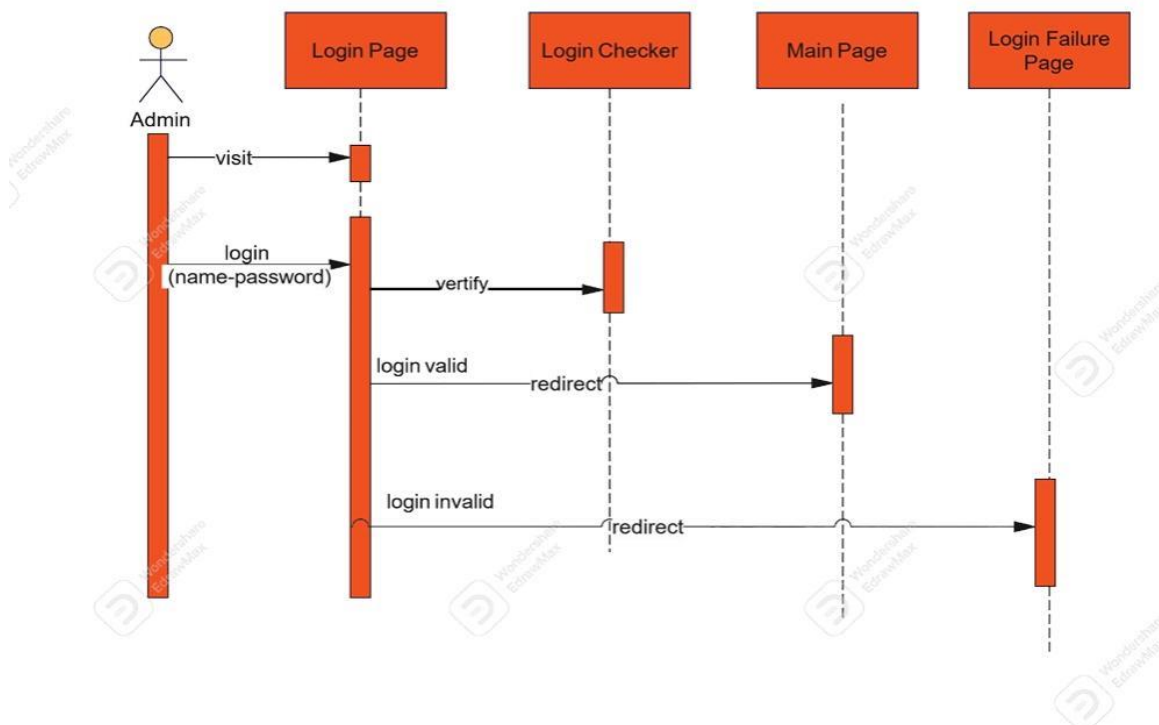
User Activity diagram



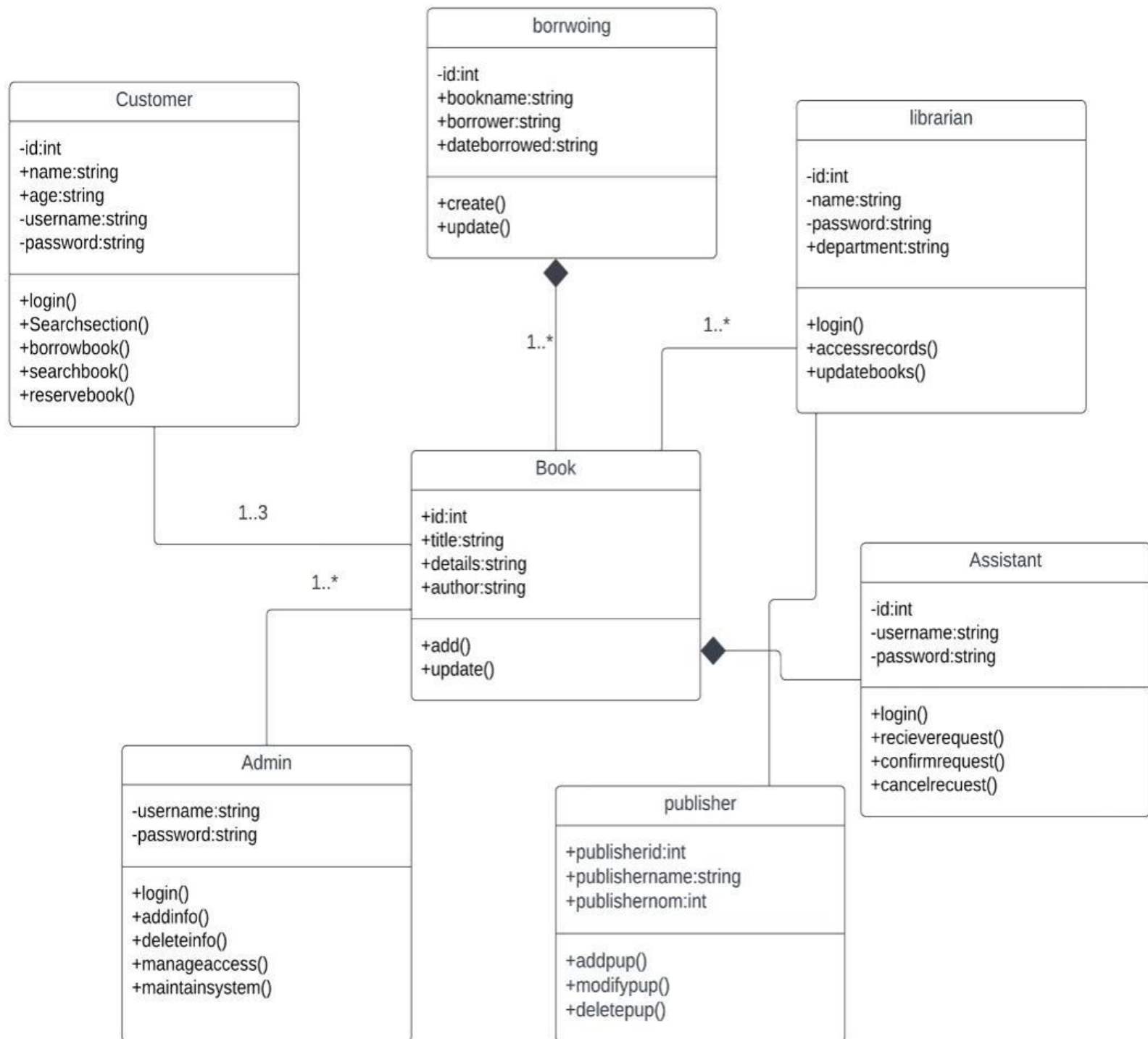
Context Diagram



Sequence Diagram



Class Diagram



Use case diagram

