Internship .Net Siemens 2025

Library Management System

As a library administrator, I need a robust application to efficiently manage the book collection. The system must allow adding new titles, removing worn-out ones, and facilitating the borrowing process. The administrator should be able to search for books using given filters and check their availability for lending.

Requirements:

1. **Backend Implementation**: Develop a backend application using C#. The architecture should follow a multi-layer model to enhance modularity and future scalability.
2. **Data Model Definition**: Design the "Book" entity to incorporate book details such as ID, title, author, and quantity (feel free to shape the class whichever you want).
3. **Data Persistence**: Implement a data storage mechanism using a format of your choice (XML, JSON, relational database, text files).
4. **Basic Functionalities**: Provide logic for performing CRUD operations (Create, Read, Update, Delete) on book records.
5. **Search Functionality**: The administrator should have the ability to search for books based on specific filters (title, author, etc.).
6. **Book Lending Management Process**: Facilitate book lending transactions, incorporating sufficient business logic to prevent loans when stock is depleted or preventing book returns when all books have been returned.
7. **New Functionality Development**: Think of an innovative functionality for this application and implement it.

Running Instructions:

Upon project completion, you need to create a file with detailed instructions for running the application. These instructions should include the necessary steps for configuration and how to start the application, ensuring that we can properly evaluate the complete functionality of your developed application. In this file, please also describe the functionality from point 7 that you added.

Please submit the solution as a compressed archive or through a Git repository link. Ensure that all files necessary for running the application are included and that the configuration and usage instructions are clearly defined. This will allow us to efficiently and correctly evaluate your proposed solution.

Good luck!