# Agile Scrum Project: Local Library System Implementation

Tasks for each role during the two-week sprint foreach Frontend and Backend Team are as follows.

**Product Backlog:**

The Product Backlog is all the Requirements and design provided by the clients which is discuss by all the stakeholders involved with the project.

**FrontEnd Team.**

* Designing the User Registration and Login Pages: Create responsive, good and user-friendly registration and login screens for users as needed by client.
* Implementing User Registration and Authentication: Develop the frontend components to handle user registration, authentication, and password reset functionalities.
* Designing the Search Interface: Design an intuitive search interface with appropriate filters and options for users to search for books as needed for fast searching.
* Implementing the Search Functionality: Develop the front-end components to send search queries to the backend and display the results to the user.
* Creating the Borrow and Return Interface: Design the user interface for borrowing and returning books, including appropriate forms and notifications.

**BackEnd Team.**

* Designing and Implementing the Database Schema: Plan the database structure and create the necessary tables for storing user information, books, borrowing records, etc.
* Creating User Registration and Authentication APIs: Develop API endpoints for user registration, login, authentication, and password management.
* Implementing the Search Functionality: Develop the necessary APIs to handle book search queries, applying filters and returning the appropriate results.
* Building the Borrow and Return System: Create API endpoints to handle book borrowing and returning, updating the relevant records in the database.
* Implementing the Librarian Dashboard APIs: Develop API endpoints for librarians to manage books, track borrowing records, and perform administrative tasks.

**Project Planning:**

To Start the Project first we need to all the functionalities need to achieve the bellow goals.

User Registration and Authentication.

* Create a user registration form.
* Implement user authentication using email and password.
* Store user credentials securely.
* Allow users to reset their passwords.
* Implement account activation via email verification.

Search functionality.

* Design and create a search interface.
* Implement search functionality based on book title, author, genre, and other criteria.
* Display search results with relevant book information.
* Implement sorting and filtering options for search results.

Borrow and Return System.

* Create a user interface for borrowing and returning books.
* Implement a book reservation system.
* Allow users to view their borrowed books and due dates.
* Send notifications for approaching due dates and overdue books.

Librarian Dashboard.

* Design and develop a dashboard for librarians.
* Implement book management features such as adding, updating, and deleting books.
* Track borrowing records and generate reports.
* Handle book reservations and queue managementt.

**Sprint Backlog:**

From the Product backlog **backend** needs to be developed first in which the below phases need to be develop

**User Registration and Authentication:**

* Create a user registration form.
* Implement user authentication using email and password.
* Store user credentials securely.
* Allow users to reset their passwords.
* Implement account activation via email verification.

**Search functionality:**

* Implement search functionality based on book title, author, genre, and other criteria given by the user.
* Display search results with relevant book information provided.
* Implement sorting and filtering options for search results.

**Borrow and Return of the Book to Library:**

* Implement a book reservation system.
* Allow users to view their borrowed books and due dates.
* Send notifications for approaching due dates and overdue books.

**Librarian Dashboard:**

* Implement book management features such as adding, updating, and deleting books.
* Track borrowing records and generate reports.
* Handle book reservations and queue management.
* Allow librarians to manage user accounts and issue fines if necessary.
* Mange and Monitor the Books Shared by the User. In which borrow start date and end date Presents which helps admin.

During the sprint, the team will focus on completing the tasks identified in the sprint backlog. It's important to break down these tasks into smaller, actionable items and estimate the effort required for each task. The team should collaborate and assign tasks based on each member's skills and availability. Throughout the sprint, the team should have regular meetings to track progress, address any obstacles, and make necessary adjustments to ensure successful completion of the sprint goals.

**Scrum Team:**

A Scrum team typically consists of the following roles on which the whole project revolves around:

**Product Owner:**

* Represents the stakeholders, customers, and users which use the system.
* Defines/ provides the requirements and prioritizes the product backlog.
* Works closely with the team to clarify requirements and provide feedback.
* Responsible for maximizing the value of the product and ensuring its success.
* Product owner is also a part of the team.

**Scrum Master:**

* Acts as a servant-leader for the team.
* Facilitates the Scrum process and ensures adherence to Scrum principles and practices.
* Helps remove any impediments or obstacles that the team may face.
* Guides and coaches the team in self-organization and continuous improvement.
* Also ensure if the certain skilled person required it also provides that resources to it.

**Development Team:**

* Cross-functional group of individuals responsible for delivering the product.
* Consists of software developers, designers, testers, and any other necessary roles.
* Collaborates to plan, develop, test, and deliver increments of working software.
* Self-organizes and determines the best way to accomplish their work.

In the context of your Local Library System project, Scrum team would be divided into front-end and back-end roles. This division can be based on the specific skill sets and expertise required for each area. The team members in each role would collaborate to complete the tasks identified in the sprint backlog. They would work together, following Scrum principles, to deliver working increments of the Local Library System at the end of each sprint.

**Sprint Review:**

After the development of the Sprint the Team again conduct a meeting of 4 hrs. in which the review and code functionality is check and other software quality is ensured on the behalf of the review that it is decide that to work on the next sprint if the code failed to pass the review then it is again shifted to the sprint planning and other things and redevelopment of that sprint goes on.

* Code review
* Code assessment
* Quality check
* Functional requirements validation

On all the Sprint Review behave if the Sprint Passes the next Sprint is plan for the further development phase and evaluates team performance and ensure that no delay and problem phase as the previous sprint.