Library Management System

By

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Introduction

Library Management System is an application that helps a librarian manage books in a library. It provides basic features for the librarian like adding/updating the books and members of a library. It becomes easy for the librarian to track due dates and send follow-up emails with a single click to members whose due dates are near or whose borrow is overdue. It allows the librarian to check the availability of a book through the search feature. While issuing a book to a member, the system automatically checks the borrow limit of the member. While taking a return, the system, the system automatically checks if the return is overdue, and applies an overdue fee according to the number of days it is past the due date. The librarian is provided an option to waive the overdue fee if a reasonable explanation is provided by the member.

Project Tracking

https://prod.teamgantt.com/gantt/schedule/?ids=2843038#&ids=2843038&user=&custom=&company=&hide_completed=false&date_filter=&color_filter=

Activity Diagram

[Click here](#) for Activity Diagram

Use-case Description

Use Case Name: Return Books	ID: 2	Importance Level: 2
Primary Actor: Customer		**Use Case Type:** Details Essential

Stakeholders and Interests:
Customer – wants to return the books
Librarian – wants to take return the books borrowed by customer and apply overdue fee

Brief Description: This use case describes how books borrowed by the customer are returned to the library.

Trigger: Customer brings already borrowed books to the librarian.
Type: External

Relationships:
    Association: Customer, Library, Librarian
    Include:
    Extend:
    Generalization:

Normal Flow of Events:
1. The customer brings the borrowed books to the librarian at the desk.
2. The customer provides Librarian their ID card.
3. The Librarian checks the validity of the customer's ID.
4. If the borrowed books are overdue, librarian applies overdue fee to the customer.
5. The customer returns the books by paying any overdue fee if applies.

Sub Flows:

Alternative/Exceptional Flows:
  3a. The customer is invalid, or customers ID is expired.
  4a. The books returned may not be borrowed from the same library then return request will be rejected.

Implementation Details

Front-End: WPF, XAML

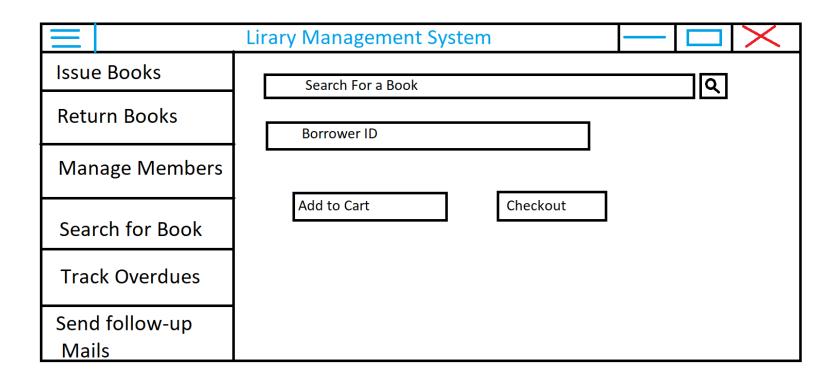**Back-End, Middle:** C#

Database Server: SQL Server

DB Management Tool: SSMS(SQL Server Management Studio)

IDE: Visual Studio 2019

Source Control: GitHub

Design Architecture: MVVM

Mock UI

Questions?