

# Library Management System

By

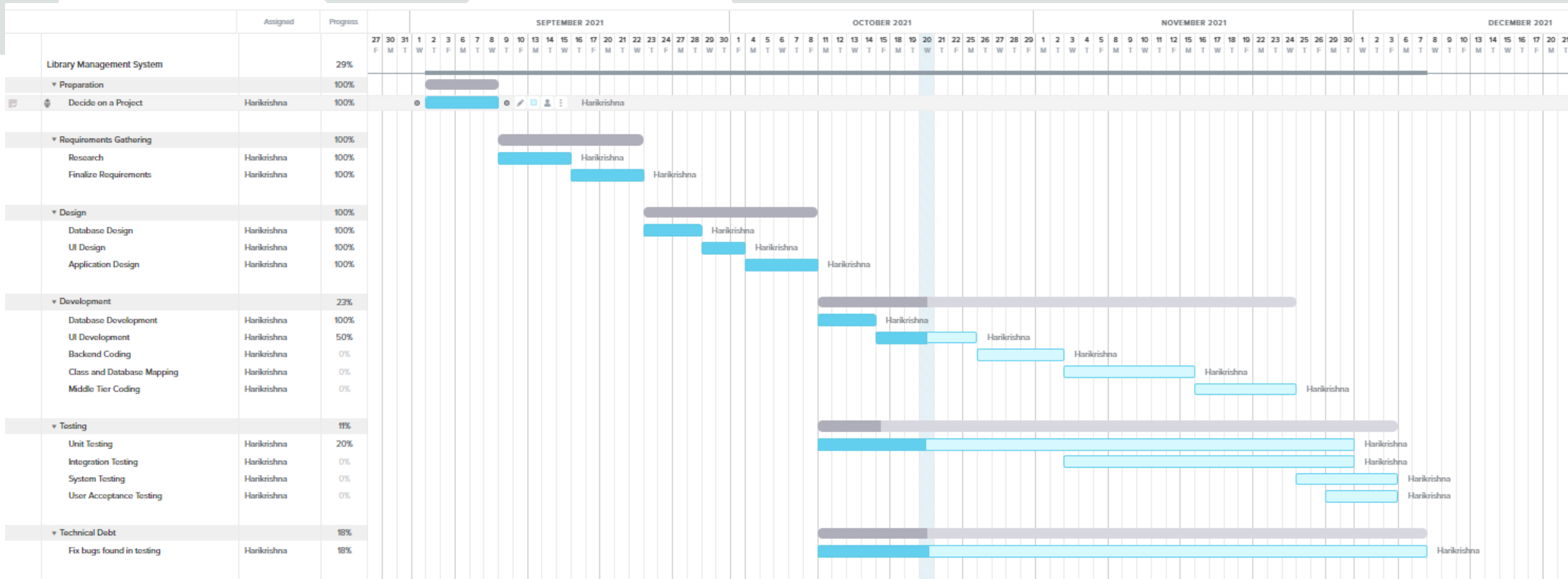
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# Introduction

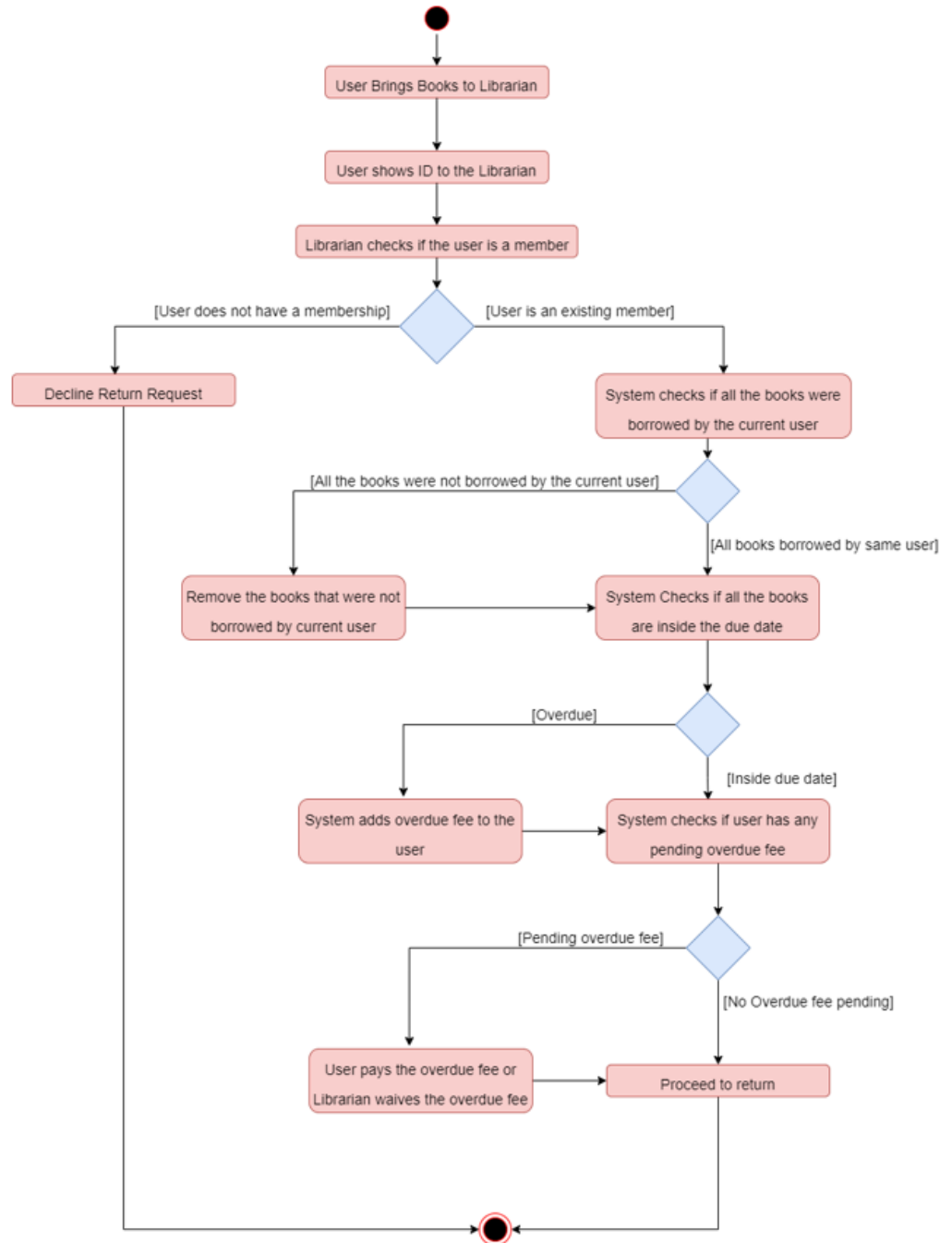
Library Management System is an application that helps a librarian manage books in a library. It provides basic features for the librarian like adding/updating the books and members of a library. It becomes easy for the librarian to track due dates and send follow-up emails with a single click to members 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



# Activity Diagram

Activity Diagram to Return Books



# Use-case Description

<b>Use Case Name:</b> Return Books	<b>ID:</b> 2	<b>Importance Level:</b> 2
<b>Primary Actor:</b> Customer		<b>Use Case Type:</b> Details Essential
<b>Stakeholders and Interests:</b> Customer – wants to return the books Librarian – wants to take return the books borrowed by customer and apply overdue fee		
<b>Brief Description:</b> This use case describes how books borrowed by the customer are returned to the library.		
<b>Trigger:</b> Customer brings already borrowed books to the librarian. <b>Type:</b> External		
<b>Relationships:</b> Association: Customer, Library, Librarian Include: Extend: Generalization:		
<b>Normal Flow of Events:</b> <ol style="list-style-type: none"><li>1. The customer brings the borrowed books to the librarian at the desk.</li><li>2. The customer provides Librarian their ID card.</li><li>3. The Librarian checks the validity of the customer's ID.</li><li>4. If the borrowed books are overdue, librarian applies overdue fee to the customer.</li><li>5. The customer returns the books by paying any overdue fee if applies.</li></ol>		
<b>Sub Flows:</b>		
<b>Alternative/Exceptional Flows:</b> <ol style="list-style-type: none"><li>3a. The customer is invalid, or customers ID is expired.</li><li>4a. The books returned may not be borrowed from the same library then return request will be rejected.</li></ol>		

# 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

Library Management System	
Issue Books	<input type="text" value="Search For a Book"/> <input type="button" value="Q"/>
Return Books	<input type="text" value="Borrower ID"/>
Manage Members	<input type="button" value="Add to Cart"/> <input type="button" value="Checkout"/>
Search for Book	
Track Overdues	
Send follow-up Mails	



Questions?