LIBRARY MANAGEMENT SYSTEM

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CONTENTS

		Page No.
CHAPTER 1	**INTRODUCTION**	**4**
	1.1 Overview……	4
	1.2 Research……..	5
	1.3 Cost…….	5
	1.4 Time……	5
	1.5 Features……...	5
CHAPTER 2	**REQUIREMENTS AND SPECIFICATIONS**	**6**
	2.1 Hardware Requirements…….	6
	2.2 Software Requirements……...	6
CHAPTER 3	**SYSTEM DESIGN AND ANALYSIS**	**7**
	3.1 System Design……	7
	3.2 Architecture……	7
	3.2.1 Behaviour Diagram……..	7-9
	3.2.2 System Design…….	9-11
CHAPTER 4	**TESTING**	**12-13**
CHAPTER 5	**RESULTS AND SCREENSHOTS**	**14-16**
	RERENCES	**17**

LIST OF FIGURES

Page No.

Figure 3.1 System Design……... 7

Figure 3.2 High Level Behaviour Diagram –Admin……... 7
Figure 3.3 Low Level Behaviour Diagram –Admin…… 8
Figure 3.4 High Level Behaviour Diagram –Student…….. 8
Figure 3.5 Low Level Behaviour Diagram –Student…… 9
Figure 3.6 High Level System Diagram –Admin…… 9
Figure 3.7 Low Level System Diagram –Admin……. 10
Figure 3.8 High Level System Diagram –Student……... 11
Figure 3.9 Low Level System Diagram –Student…… 11
Figure 5.1 Login Page……... 14

Figure 5.2 Home page…… 14

Figure 5.3 Add Students Page…….. 15

Figure 5.4 Add Books Page…….. 15

Figure 5.5 Assign Books Page…….. 15

Figure 5.6 Overdue Page……..... 16

Figure 5.7 Update Penalty Page…… 16

Figure 5.8 Student Page…… 16

CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

Library management is a sub-discipline of institutional management that focuses on specific issues faced by libraries and library management professionals. Library management normal managerial tasks, as well as intellectual freedom and fundraising responsibilities. Issues faced in library management frequently overlap with those faced in managing non-profit organizations.

Library Management System is an application which refers to library systems which are generally small or medium in size. It is used by librarian to manage the library using a computerized system where he/she can record various transactions like issue of books, return of books, addition of new books, addition of new students etc. Books and student maintenance modules are also included in this system which would keep track of the students using the library and also a detailed description about the books a library contains. With this computerized system there will be no loss of book record or member record which generally happens when a non-computerized system is used.

1.2 Research

- The history of libraries began with the first efforts to organize collections of documents. The first libraries consisted of archives of the earliest form of writing—the clay tablets in cuneiform script discovered in Sumer, some dating back to 2600 BC.
- Private or personal libraries made up of written books appeared in classical Greece in the 5th century BC.
- The Fatimids (r. 909-1171) also possessed many great libraries within their domains. The historian Ibn Abi Tayyi' describes their palace library, which probably contained the largest collection of literature on earth at the time, as a "wonder of the world".

1.3 Cost

Library automation software has been created for educational institutions to help them campus management, academic administrative tasks effectively comparing with the cost it would start around Rs.20,000 and increases based on the customer requirements.

1.4 Time

The essence of time management involves increasing efficiency and effectiveness in a limited time period.

1.5 Features

- Can create a computerized management system for a library
- Has the capability to issue books
- Has the capability to return books
- Has an administrator account
- Tracks the books that users have issued
- Keeps the databases correct and up-to-date

CHAPTER 2

REQUIREMENT AND SPECIFICATIONS

Software Requirement Specification (SRS) is a description of a software system to be developed, laying out functional and non-functional requirements, and may include a set of use cases that describe interactions the users will have with the software. The purpose of this SRS document is to collect and analyze all assorted ideas that have come up to define the system, its requirements with respect to consumers and also to provide a detailed overview of our software product, its parameters and goals. SRS provides an overview of the entire system with purpose, scope, definitions, acronyms, abbreviations, references. The aim of this document is to gather and analyze and give an in-depth insight of the system by defining the problem statement in detail. Also, we shall predict and sort out how we hope this product will be used in order to gain a better understanding of the project, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the product develops.

2.1 HARDWARE REQUIREMENTS

Processor	:	core i7
RAM	:	8GB
Hard Disk	:	20GB
Speed	:	1.2 GHz+

2.2 SOFTWARE REQUIREMENTS

Operating System	:	Windows 10
IDE	:	Visual Studio 2015
Language	:	C# and HTML
Framework	:	ASP.NET 4.0
Back End	:	MS SQL Server

CHAPTER 3

SYSTEM DESIGN AND ANALYSES

3.1 System Design

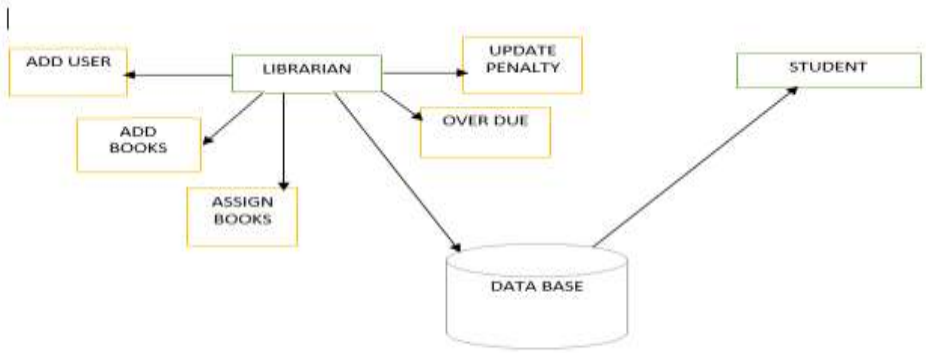

Figure 3.1 System Design

3.2 Architecture

3.2.1 Behaviour Design

ADMIN

High Level Behaviour Diagram- ADMIN

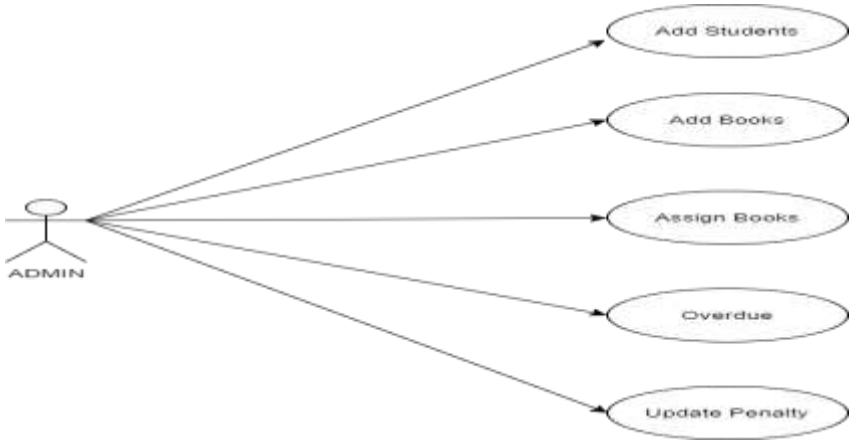

Figure 3.2 High Level Behaviour Diagram-Admin

Low Level Behavioural Diagram- ADMIN

Figure 3.3 Low Level Behavioural Diagram-ADMIN

STUDENT

High Level Behavioural Diagram- STUDENT

Figure 3.4 High Level Behavioural Diagram- STUDENT

Low Level Behavioural Diagram- STUDENT

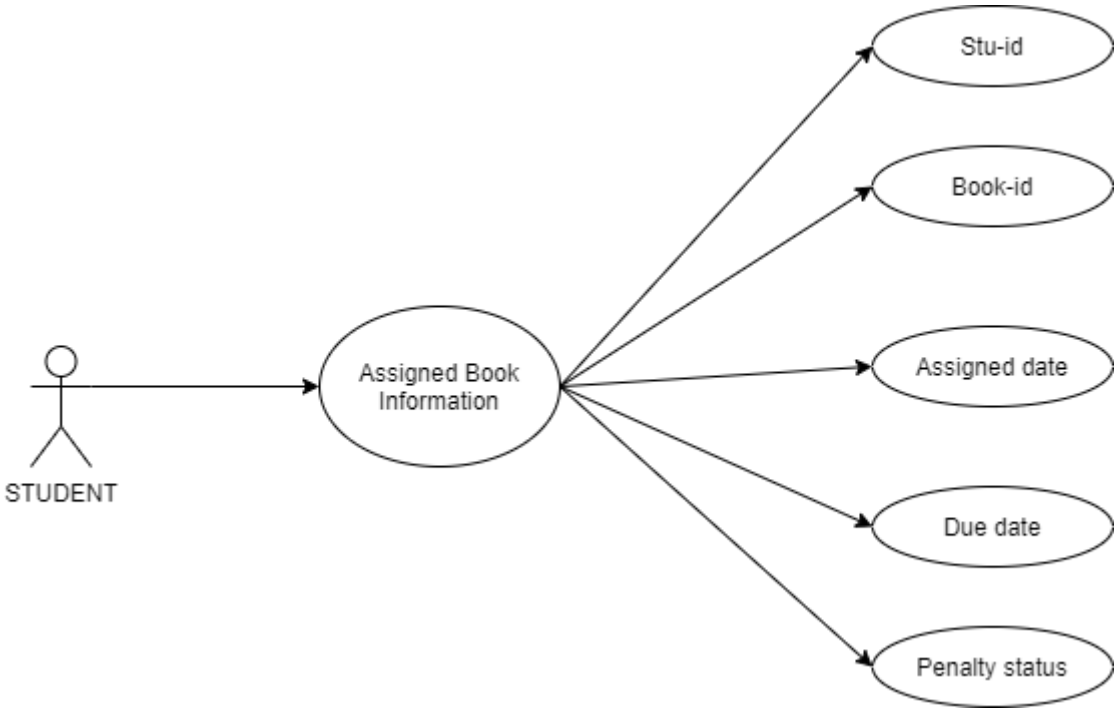

Figure 3.5 Low level Behavioural Diagram-STUDENT

3.2.2 System Diagram

ADMIN

High Level System Diagram-ADMIN

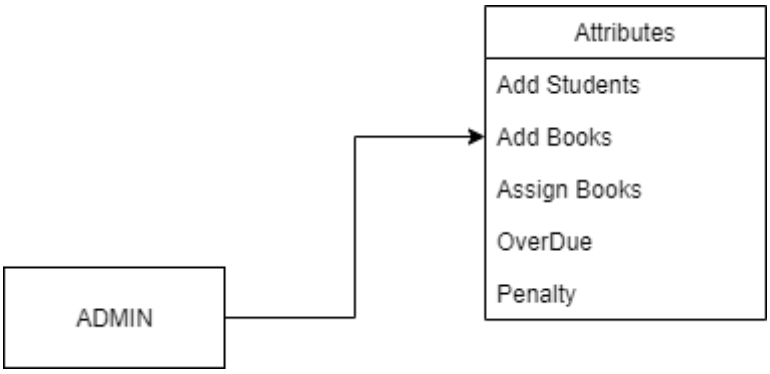

Figure 3.6 High Level System Diagram-Admin

Low Level System Diagram-ADMIN

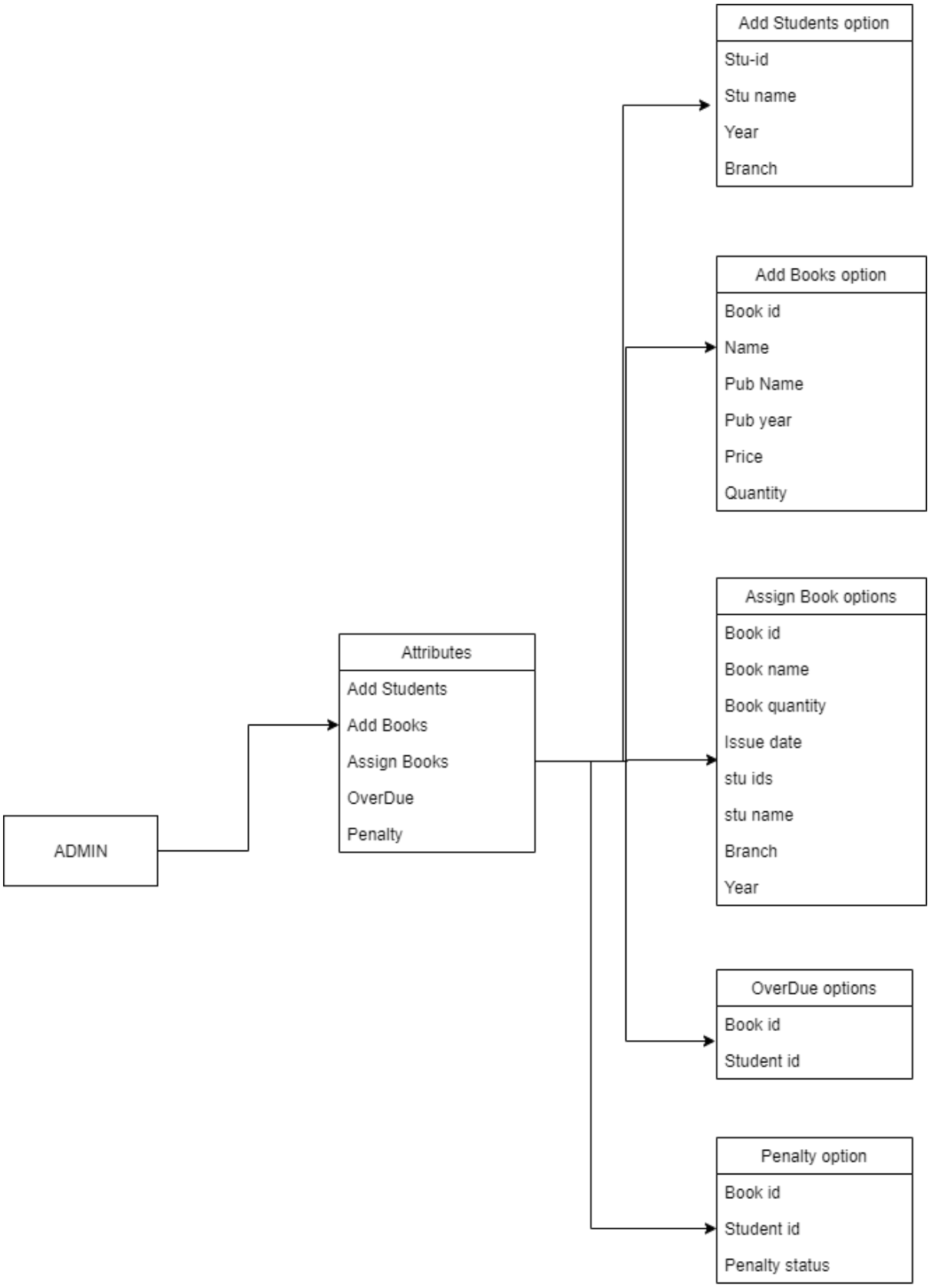

Figure 3.7 Low Level System Diagram-Admin

STUDENT

High Level System Diagram-STUDENT

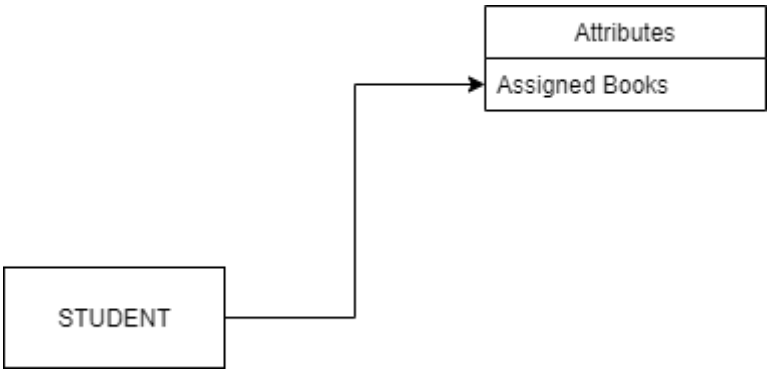

Figure 3.8 High Level System Diagram –Student

Low Level System Diagram-STUDENT

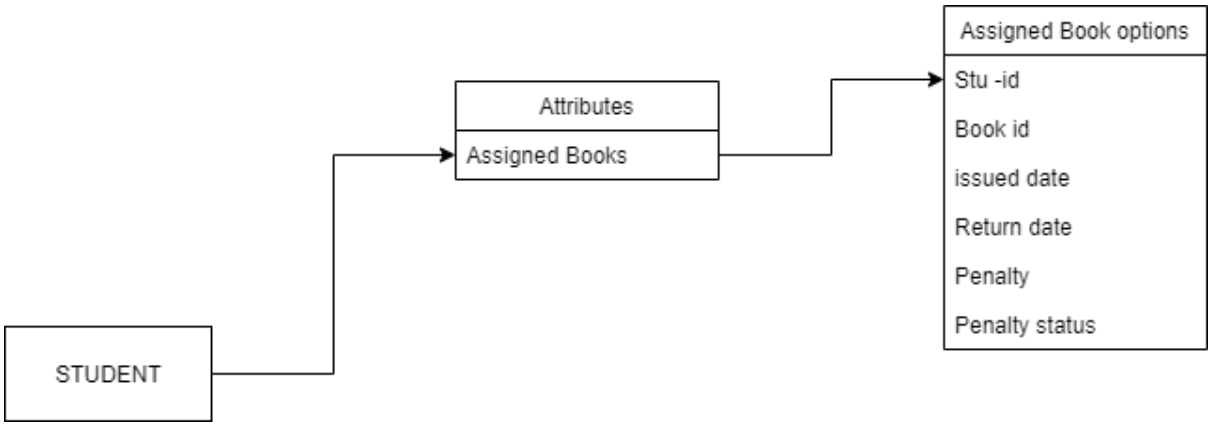

Figure 3.9 Low Level System Diagram-student

CHAPTER 4

TESTING

TEST CASE ID	TEST CASE NAME	TEST CASE DESCRIPTION	TEST STEPS		
			I/P GIVEN	EXPECTED O/P	ACTUAL O/P
TC1.1	Login Validation for Admin	Enter a valid username and wrong password	valid username and wrong password	Invalid credentials	Invalid credentials
TC1.2	Login Validation for Admin	Enter a valid username and correct password	valid username and correct password	valid credentials	valid credentials
TC 2.1	Add student form Validation	Enter no fields and click on Add user button	Enter no fields	Enter the Fields	Enter the Fields
TC2.2	Add student form Validation	Enter fields and click on Add user button	Enter fields	Students info added	Students info added
TC 3.1	Add books form Validation	Enter no fields and click on Add button	Enter no field	Add the books	Add the books
TC 3.2	Add books form Validation	Enter fields and click on Add button	Enter field	Books added	Books added

TC 4.1	Assign books form validation	Enter no fields and click on Assign button	Enter no fields	Enter All Fields	Enter All Fields
TC 4.2	Assign books form validation	Enter fields and click on Assign button	Enter fields	Books Assigned	Books Assigned
TC 5.1	Update penalty form validation	Enter no assign id field	Enter no fields	Fill the assign id field	Fill the assign id field
TC 5.2	Update penalty form validation	Enter assign id field	Enter fields	Penalty updated	Penalty updated
TC 6.1	Login Validation for Student	Enter a valid username and wrong password	valid username and wrong password	Invalid credentials	Invalid credentials
TC 6.2	Login Validation for Student	Enter a valid username and correct password	valid username and correct password	valid credentials	valid credentials

CHAPTER 5

RESULTS AND SNAPSHOTS

Figure 5.1 Login Page

Figure 5.2 Home page

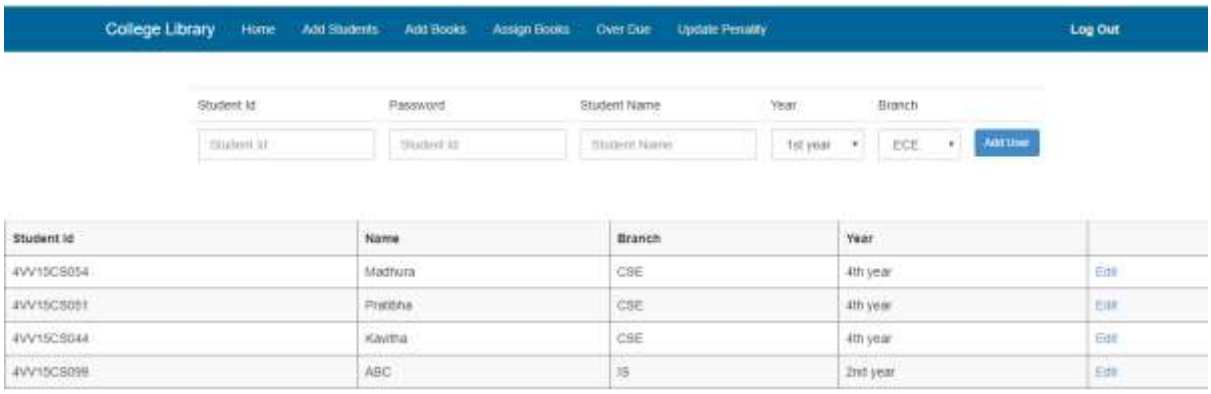

Figure 5.3 Add Students Page

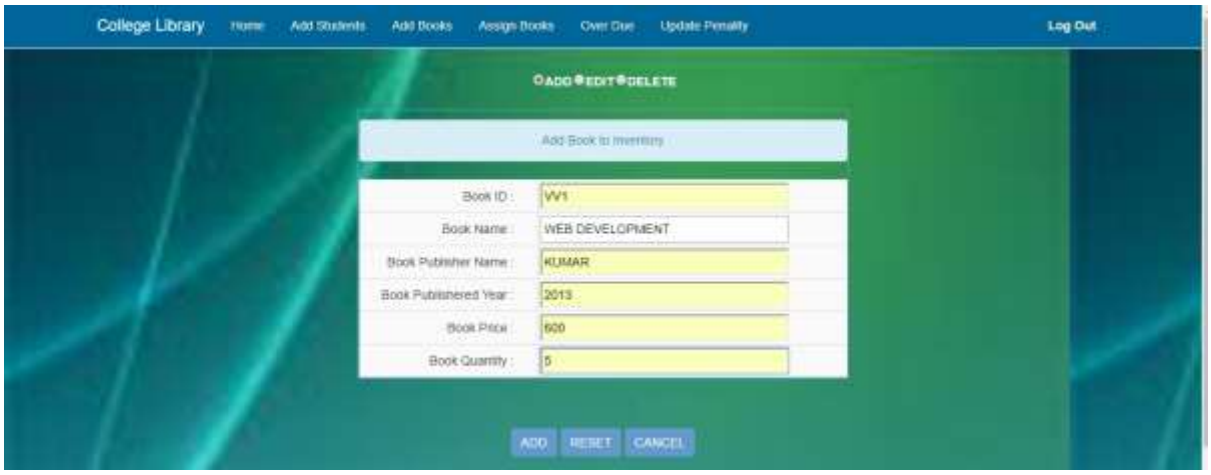

Figure 5.4 Add Books Page

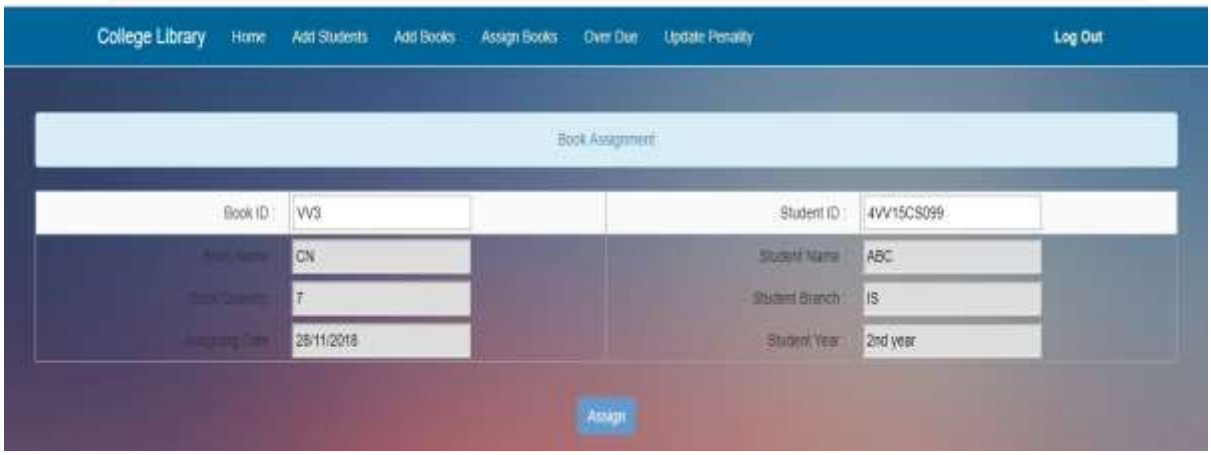

Figure 5.5 Assign Books Page

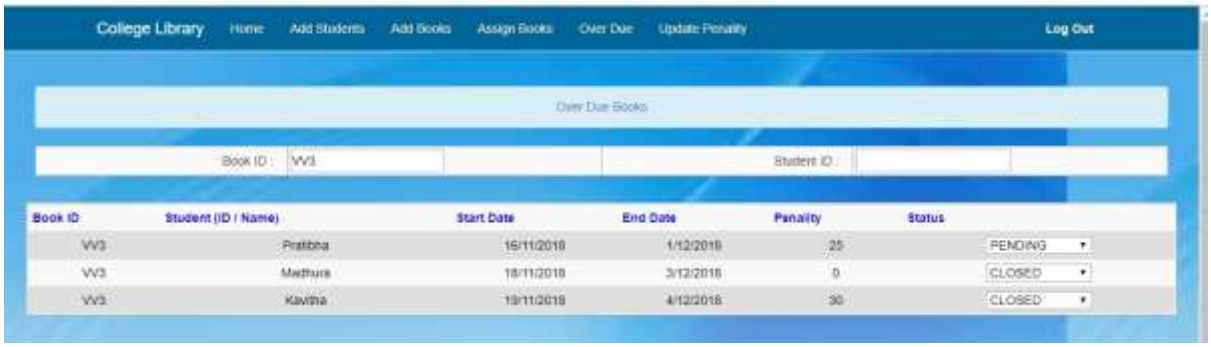

Figure 5.6 Overdue Page

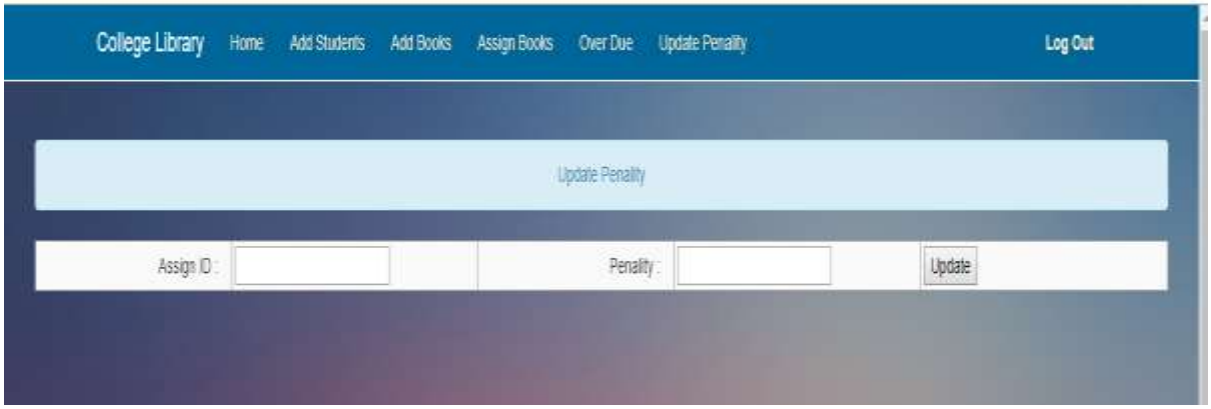

Figure 5.7 Update Penalty Page

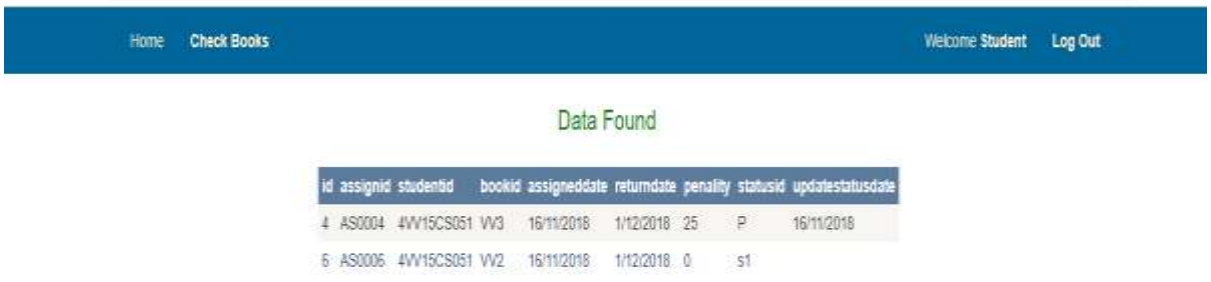

Figure 5.8 Student Page

REFERENCES

- Repository link: https://github.com/bmadhurashetty/library-system-software
- https://en.wikipedia.org/wiki/Library_management
- UML Diagram Tools - https://app.diagrams.net/