VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA, BELAGAVI – 590 018

An Internship Project Report
on

Library Management System

Submitted in partial fulfillment of the requirements for the VIII Semester of degree of **Bachelor of Engineering in Information Science and Engineering** of Visvesvaraya Technological University, Belagavi

by

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An Institute with a Difference

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RNS INSTITUTE OF TECHNOLOGY

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CERTIFICATE

Certified that the Internship work entitled ***Library Management System*** has been successfully completed by **SHROFF SAI PRANEETH(1RN18IS104)** **and** **Vikas V (1RN18IS124)** bonafide students of **RNS Institute of Technology, Bengaluru** in partial fulfillment of the requirements of 8th semester for the award of degree in **Bachelor of Engineering in Information Science and Engineering** of **Visvesvaraya Technological University, Belagavi** during academic year **2021-2022.** The internship report has been approved as it satisfies the academic requirements in respect of internship work for the said degree.

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Name of the Examiners	**Signature with Date**
1. _____	**1.** _____
2. _____	**2.** _____

DECLARATION

We, **SHROFF SAI PRANEETH[USN:1RN18IS104] and VIKAS V[USN: 1RN18IS124]** student of VIII Semester BE, in Information Science and Engineering, RNS Institute of Technology hereby declare that the Internship work entitled ***Library Management System*** has been carried out by us and submitted in partial fulfillment of the requirements for the *VIII Semester degree of* ***Bachelor of Engineering in Information Science and Engineering*** *of Visvesvaraya Technological University, Belagavi* during academic year 2021-2022.

Place: Bengaluru

Date:

SHROFF SAI PRANEETH(1RN18IS104)

VIKAS V (1RN18IS124)

ABSTRACT

Library is place where all kind of books are available. Internet Library Management system is a web-based application. This system contains list of all the books and can be accessed by remote users concurrently from anywhere in the campus. But for that user must be registered user.

This system is three tier architecture, Client sends requests, on receiving the request the server processes it and extracts the data from database and sends the result back to the client. This system provides separate interface and login for librarian, students and faculties. Librarian can modify database.

Users can search for books and renewal books online and they can recommend for new books by just sending messages to the librarian from anywhere in the college. They can view the issue and return dates of any book and due they have to pay. This system generates reports that can be used in analyzing the library performance. Thus, the management can take appropriate steps to improve the facilities.

ACKNOWLEDGMENT

At the very onset I would like to place our gratefulness to all those people who helped me in making the Internship a successful one.

Coming up, this internship to be a success was not easy. Apart from the sheer effort, the enlightenment of the very experienced teachers also plays a paramount role because it is they who guided me in the right direction.

First of all, I would like to thank the **Management of RNS Institute of Technology** for providing such a healthy environment for the successful completion of internship work.

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I also thank our internship coordinator **Dr. R Rajkumar,** Associate Professor, Department of Information Science and Engineering. I would thank my friends for having supported me with all their strength and might. Last but not the least, I thank my parents for supporting and encouraging me throughout. I have made an honest effort in this assignment.

SHROFF SAI PRANEETH

VIKAS V

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List of Abbreviations

SRS	Software Requirement Specification
DFD	Data Flow Diagram
ASP	Active Server Pages
SQL	Structured Query Language
DBMS	Database Management System
C#	C Sharp

1. INTRODUCTION

Library Management System consists of list of records about the management of the details of the students and the issues going on and also about some books and all. This is a web-based application. The project has three modules namely- User, Registration, Librarian. According to the Modules the Distributor and Sub Distributors can manage and do their activities in easy manner.

As the modern organizations are automated and computers are working as per the instructions, it becomes essential for the coordination of human beings, commodity and computers in a modern organization. This information helps the distributors to purchase or sale the products very efficiently.

The administrators and all the others can communicate with the system through this project, thus facilitating effective implementation and monitoring of various activities of the distributor of a supermarket.

1.1 EXISTING SYSTEM

Various problems of physical system are described below: -

- If one is not very careful then there is a possibility of issuing more than one book to a user.
- There is a possibility of issuing a book to a user, whose membership is not there.
- When a user requests for a book, one has to physically check for the presence of a book in the library
- Answering management query is a time-consuming process.
- Daily keeping a manual record of changes taking place in the library such as book being issued, book being returned etc. can become cumbersome if the library size is bigger.

DISADVANTAGES

- Fast report generation is not possible.
- Tracing a book is difficult.
- Information about issue/return of the books are not properly maintained.
- No central database can be created as information is not available in database.

1.2 PROPOSED SYSTEM

The LIBRARY MANAGEMENT SYSTEM is a software application which avoids more manual hours in taking the book, that need to spend in record keeping and generating reports. Maintaining of user details is complex in manual system in terms of agreements, royalty and activities. This all have to be maintained in ledgers or books. Co-coordinators needs to verify each record for small information also.

- Easy search of book in the online library.
- Avoid the manual work.
- User need not go to the library for Issue any kind of book, he can renewal the book online.

ADVANTAGES:

- It provides "better and efficient" service to members
- Reduce the workload of employee
- Faster retrieval of information about the desired book
- Provide facility for proper monitoring reduces paper work and provide data security. All details will be available on a click

2. Literature Review

Library is regarded as the brain of any institutes, of course many institutes understand the importance of the library to the growth of the institute and their esteem users which we categorically call the students. An integrated library system, also known as a library management system (Adamson et al., 2008) is an enterprise resource planning system for a library, used to track items owned, orders made, bills paid, and users who have borrowed.

The Library Management System is a Library Management software for monitoring and controlling the transactions in a library (Ashutosh and Ashish., 2012). Library Management System supports the general requirement of the library such as the acquisition, cataloguing, circulation and other sections.

Before the advent of computer in modern age there are different methods of keeping records in the library. Records are kept in the library on shelves and each shelf are labelled in an alphabetical or numerical order, in which the categories of books available are arranged on different position on the shelves and as well are recorded on the library manuscript and when any book is to be referenced the manuscript is being referred to, to know the position of such required book by the person that requested for the book. After the invention of computer 7 different researchers have carried out various approach on an automated library management system in which this project is as well all about.

The first library management system to be reviewed is the KOHA library management system. Since the original implementation in 1999, KOHA functionality has been adopted by thousands of libraries worldwide, each adding features and functions, deepening the capability of the system. With the 3.0 release in 2005, and the integration of the powerful Zebra indexing engine, KOHA became a viable, scalable solution for libraries of all kinds. LibLime KOHA is built on this foundation. With its advanced feature set, LibLime KOHA is the most functionally advanced open-source Integrated Library System in the market today. The major setback of this Library Management System is that it is a web based and as a result it is not security conscious because hackers could have the database hacked and access or modify the information of such user.

Another Library Management System is the Capital's library software with the following benefits Increases support available for staff and users in any modern library service, provides efficiency, innovative system that's saves library time and improves the user experience.

A library management system usually comprises a relational database, software to interact with that database, and two graphical user interfaces (one for users, one for staff). Most integrated library systems, separate software functions into discrete programs called modules, each of them integrated with a unified interface. Examples of modules might include:

i. Acquisitions (ordering, receiving, and invoicing materials)
ii. Cataloguing (classifying and indexing materials)
iii. Circulation (lending materials to patrons and receiving them back)
iv. Serials (tracking magazine and newspaper holdings)
v. The OPAC (public interface for users)

A library management system usually comprises a relational database, software to interact with that database, and two graphical user interfaces (one for users, one for staff). Most Library Management System separate software functions into discrete program called modules, each of them integrated with a unified interface. Prior to computerization, library tasks were performed manually and independently from one another. Selectors ordered materials with ordering slips, cataloguers manually catalogued items and indexed them with the card cataloguing system (in which all bibliographic data was kept on a single index card), and users signed books out manually, indicating their name on cue cards which were then kept at the circulation desk. Early mechanization came in 1936, when the University of Texas began using a punch card system to manage library circulation. While the punch card system allowed for more efficient tracking of loans, library services were far from being integrated, and no other library task was affected by this change. The literature study in previous system could give more reference in system development process. All the advantages in the previous system can be implemented during the development of this proposed system.

This chapter entails the literature review related to Library Management System initiatives worldwide, at national, regional and international levels. Secondary data will be searched from print and online resources. Foreign literatures will be mainly used and some of these had been highlighted to peruse and emulate.

The purpose of this literature review is to establish the potential topics and suggest ideas for another research, reporting published materials on existing conceptual framework, theories, techniques, processes, styles and instruments of other researchers related to the topic under investigation. It will help analyze scope of study and in determining the various

variables to be included.

As for this research, the main purpose of literature review will be to grasp comprehensive ideas on the extent of library management system initiatives and projects that had taken place worldwide and the factors and conditions that had influenced and contributed to their success. The approach to literature review is the browse method where print and electronic sources were looked at, read and digested, looking for some relevancy, appropriateness and usefulness of the topic at hand.

Predetermined keywords to be used during this search are library, virtual library, e-library, hybrid library, library management initiatives, library management problems, library management research, library services, resource sharing, distributed information resources, online databases, library automation, library systems, mobile information access, information professionals, librarian, global access, repositories and interoperability, management systems, library integrated system, database system administration (DBSA).

As the research involves qualitative data as well, researches will be made at the initial stage of the research making enquires to get as much primary data as possible from as many librarians as possible whenever there are opportunities to understand the subject better and helped in the formulation of the research questions.

The literature review will be about development of library management system which is organized into the following sections namely Introduction, Features of Library Management, why we need library management system, A Review of Problems and Challenges of Library Professionals in Developing Countries, Library Management System Initiatives Worldwide (review of library management system).

3. Analysis

3.1 Introduction

Library management system project website used to maintain all activities of library system such as maintain books stock, issue book records, return book records, student detail and also keep data of penalty for late return books. The project covered all activities which has done to run library system.

In this chapter, we will discuss and analyze about the developing process of Library Management System including software requirement specification (SRS) and comparison between existing and proposed system. The functional and non-functional requirements are included in SRS part to provide complete description and overview of system requirement before the developing process is carried out. Besides that, existing vs proposed provides a view of how the proposed system will be more efficient than the existing one.

3.2 System Specifications

3.2.1 Hardware Requirements: -

- Pentium-IV(Processor).
- 4 GB Ram
- 512 KB Cache Memory
- Hard disk 10 GB
- Microsoft Compatible 101 or more Key Board

3.2.2 Software Requirements: -

- **Operating System** **:** Windows (Any version above XP)
- **Programming language:** .NET4.0, VISUAL STUDIO 2019
- **Web-Technology** **:** ASP.NET
- **Back-End** **:** SQL SERVER 2016
- **Web Server** **:** IIS.

4. System Design

4.1 Introduction

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization.

Once the software requirements have been analyzed and specified the software design involves three technical activities - design, coding, implementation and testing that are required to build and verify the software.

4.2 UML DIAGRAMS

Actor:

A coherent set of roles that users of use cases play when interacting with the use cases.

Use case:

A description of sequence of actions, including variants, that a system performs that yields an observable result of value of an actor.

UML stands for Unified Modeling Language.

There are various kinds of methods in software design:

They are as follows:

- Use case Diagram
- Sequence Diagram
- Activity Diagram

4.2.1 SEQUENCE DIAGRAM

Sequence diagram and collaboration diagram are called INTERACTION DIAGRAMS. An interaction diagram shows an interaction, consisting of set of objects and their relationship including the messages that may be dispatched among them.

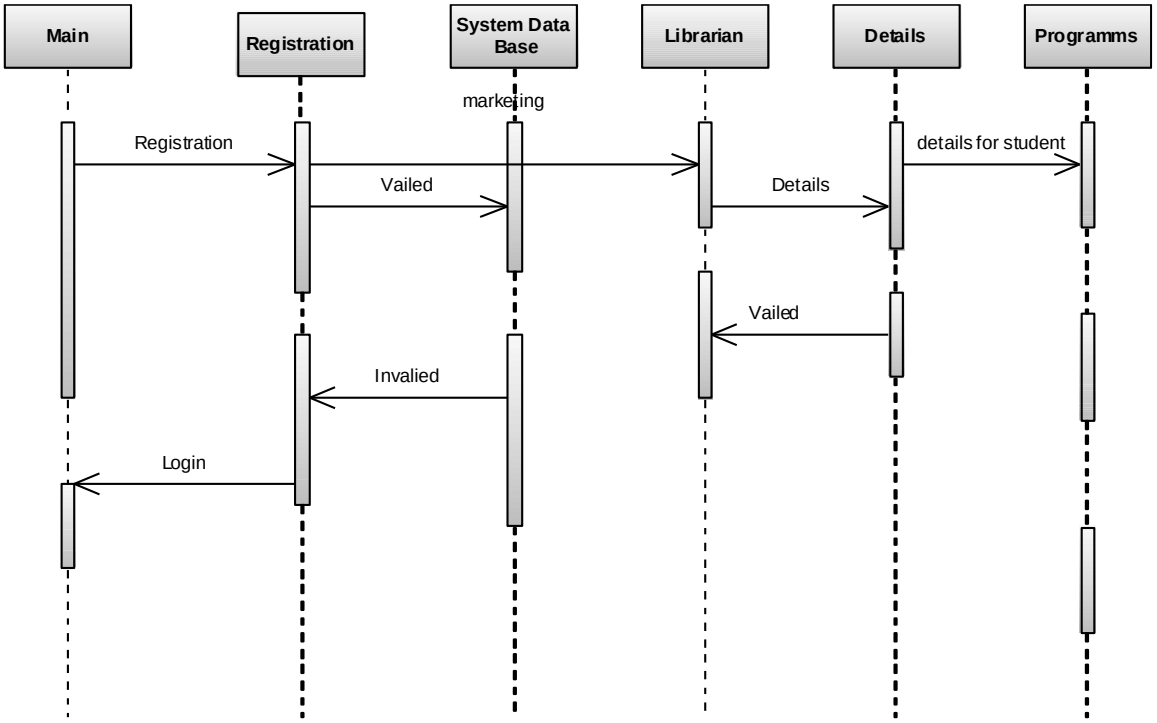

Fig 4.2.1 Sequence Diagram

4.2.2 ACTIVITY DIAGRAM

The activity diagram used to describe flow of activity through a series of actions. Activity diagram is a important diagram to describe the system. The activity described as an action or operation of the system.

Librarian Activity:

- Add Publication
- Add books
- Add Branch
- Add Student
- Issue Book
- Return Book
- Apply Penalty
- Change Password
- Issue Book
- Return Book
- Apply Penalty
- Change Password
- View Reports

Student Activity:

- Search Book
- Issue / Return Book Report
- Penalty Report
- Change Password

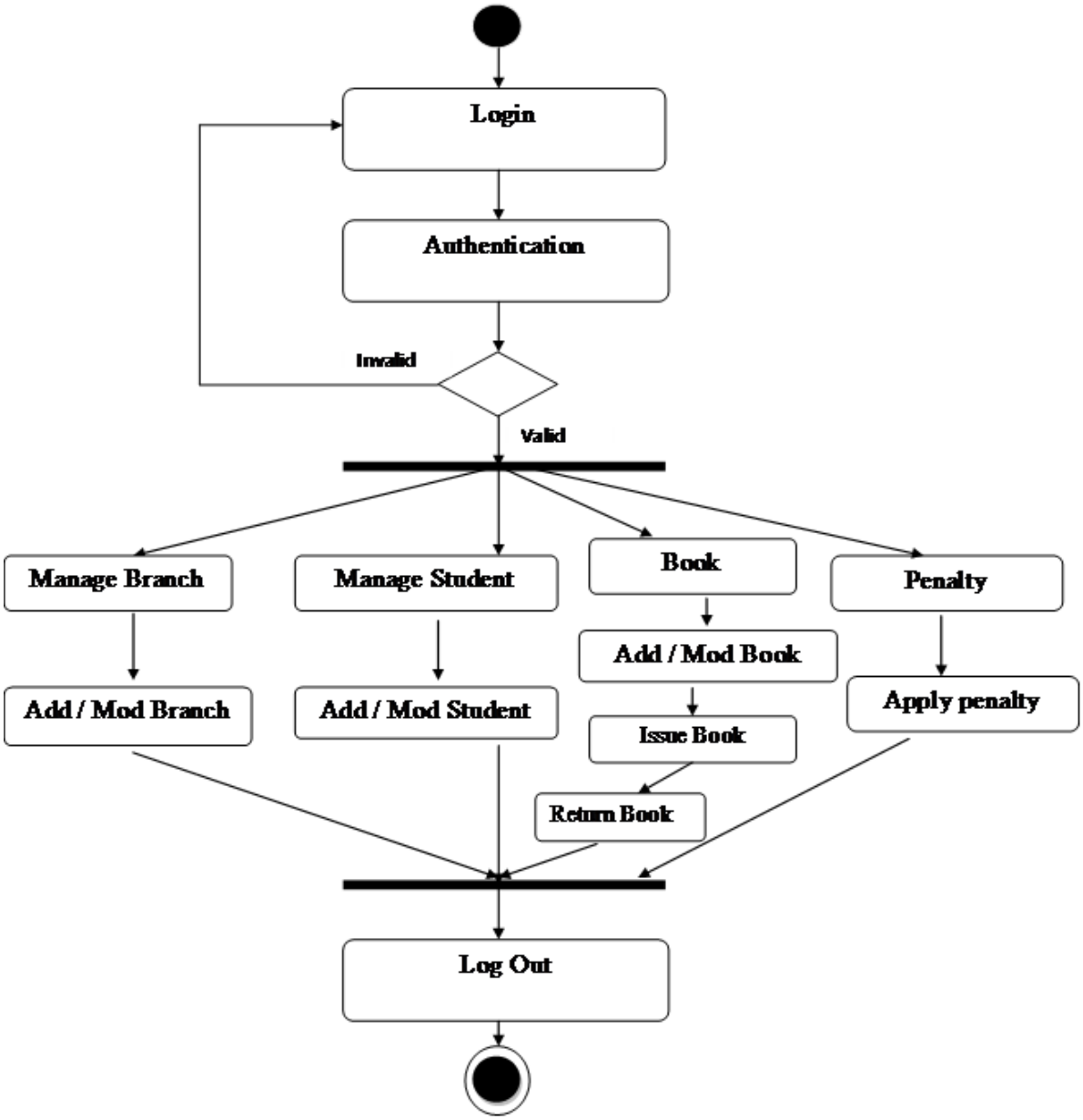

Fig 4.2.2 Activity Diagram

4.2.3 USECASE DIAGRAM

Use case:

A description of sequence of actions, including variants, that a system performs that yields an observable result of value of an actor.

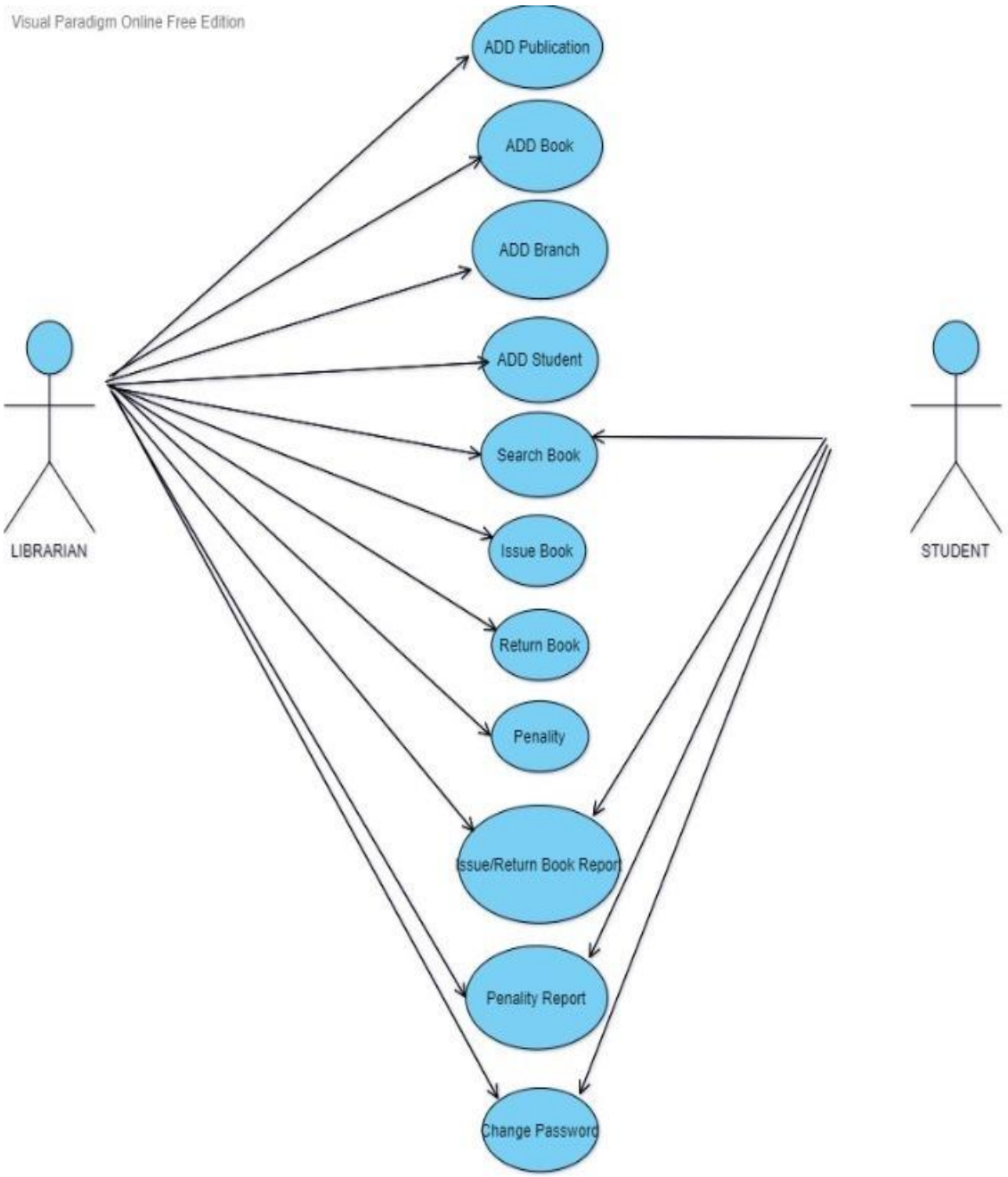

Fig 4.2.3 Use Case Diagram

4.3 DATA FLOW DIAGRAM AND E-R DIAGRAM

The DFD takes an input-process-output view of a system i.e., data objects flow into the software, are transformed by processing elements, and resultant data objects flow out of the software.

Data objects represented by labeled arrows and transformation are represented by circles also called as bubbles. DFD is presented in a hierarchical fashion i.e. the first data flow model represents the system as a whole. Subsequent DFD refine the context diagram (level 0 DFD), providing increasing details with each subsequent level.

The DFD enables the software engineer to develop models of the information domain & functional domain at the same time. As the DFD is refined into greater levels of details, the analyst performs an implicit functional decomposition of the system. At the same time, the DFD refinement results in a corresponding refinement of the data as it moves through the process that embody the applications.

A context-level DFD for the system the primary external entities produce information for use by the system and consume information generated by the system. The labeled arrow represents data objects or object hierarchy.

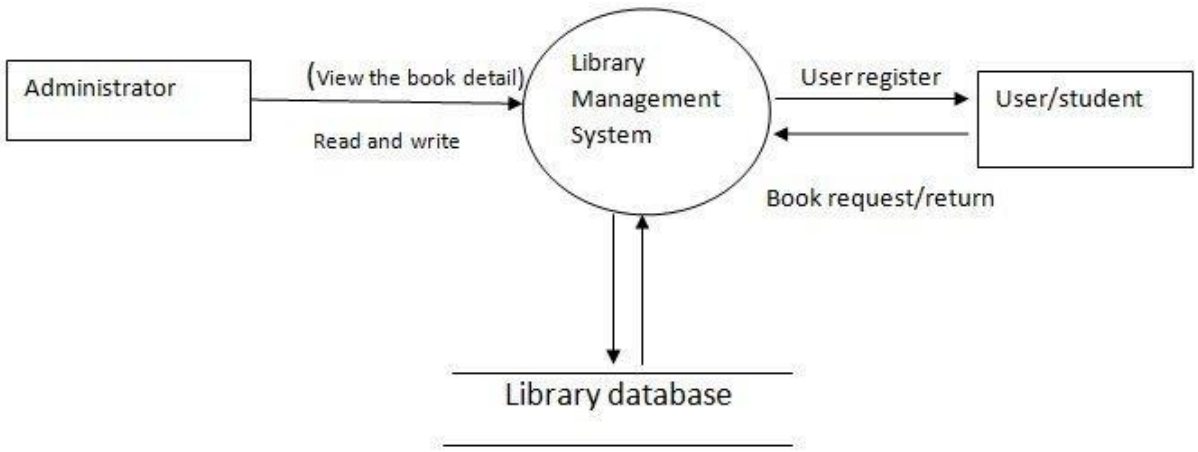

Fig 4.3.1 DFD

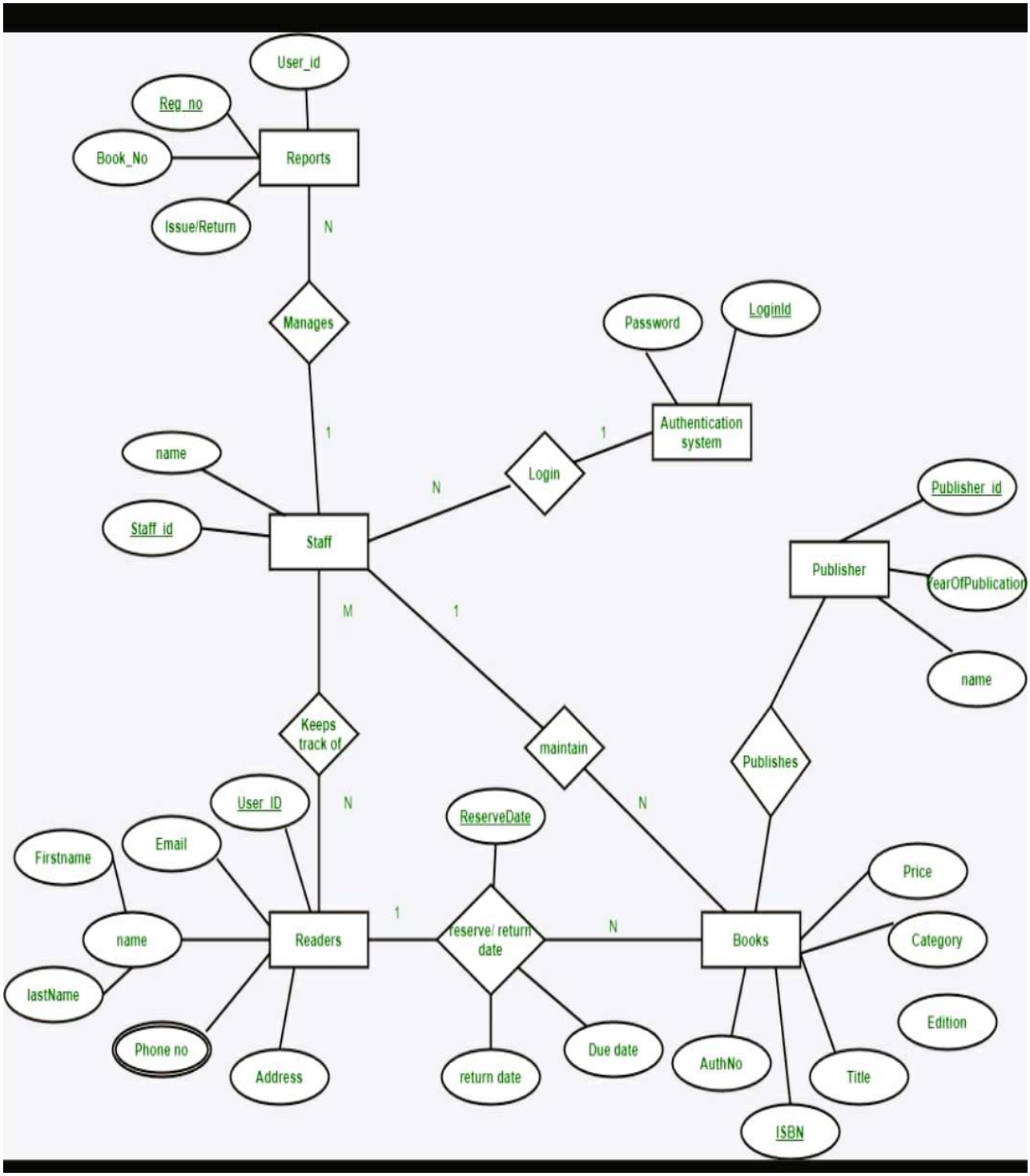

Fig 4.3.2 E-R DIAGRAM

5. Detailed Design

5.1 MODULES USED

The proposed system categories and follows these modules to implement

Login component

1. Administrator (Head office manager)
2. Librarian
3. User

Administrator Component

1. Administrator

Librarian Manager Component

1. Librarian Manager

Student Component

1. Books Details
2. Issue Details

5.2 MODULES DESCRIPTION

User: Using login id and password user can the use Library online where users can search for books and renewal books online. They can recommend for new books by just sending messages to the librarian from anywhere in the college. They can view the issue and return dates of any book and due they have to pay.

Registration: In the Registration module, user has to register himself by supplying his personal information which gets store in data base which are using as backend. By registering himself user will get his login id and Password so that he can access Library online. Separate Register form should be designed for separate user (Student, Faculty, Librarian) and separate login has to provide for each user. For example, if the users are students, then student id should be SH001.

Librarian: Librarian is a responsible person who run the system, is an administrator of the whole system. Librarian has a full right to handle the project.

Librarian Functionalities:

Here is the list of activities of librarian.

- Add Publication
- Add Book Stock
- Add Branch
- Add Student
- Issue Books
- Return Books
- Penalty

The Librarian has a username and password to access the system. After login he has to first add publication detail in to system and then enter all the detail of book stock. In our system librarian can make entry of student who are the members of our system. Librarian can register all students with valid personal detail and generate username and password for each student for login into system. Librarian issue books to registered student and get return from them. He has rights to make a penalty for late return book.

Student / Member Functionalities:

- Book Reports
- Penalty Status
- Account

The student is a registered member of library system. All student has unique username and password to access his account. After login student can access his account detail, they can see the borrowed book report and penalty report.

5.3 FLOWCHART

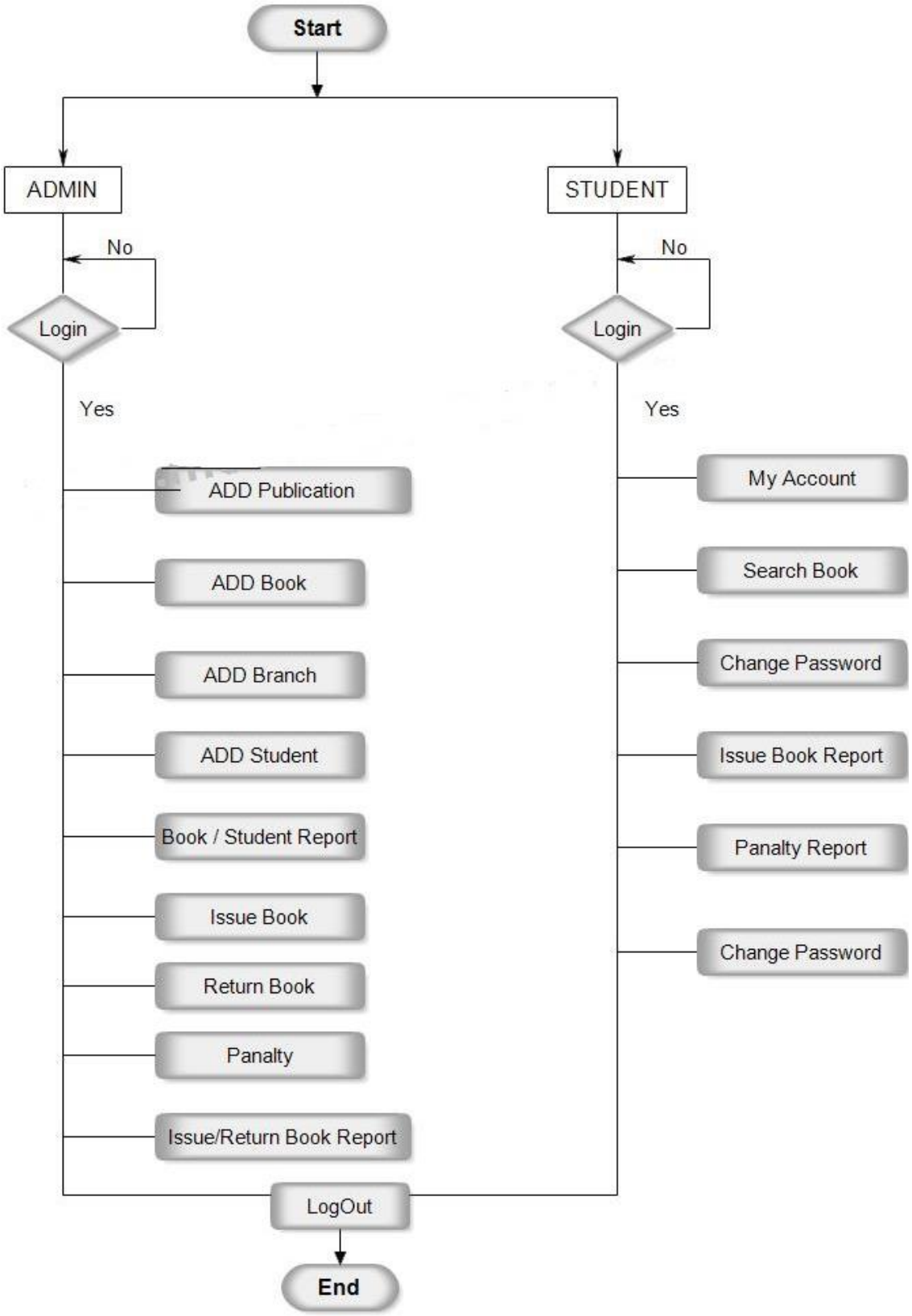

Fig 5.3 Flowchart

6. Implementation Details

6.1 Introduction:

Implementation is the stage where the theoretical design is turned into a working system. The most crucial stage in achieving a new successful system and in giving confidence on the new system for the users that it will work efficiently and effectively.

6.2 OVERVIEW OF TECHNOLOGIES USED

6.2.1Front End Technology

6.2.1.1 MICROSOFT .NET FRAMEWORK

The .NET Framework is a new computing platform that simplifies application development in the highly distributed environment of the Internet. The .NET Framework is designed to fulfill the following objectives:

- To provide a consistent object-oriented programming environment whether object code is stored and executed locally, executed locally but Internet-distributed, or executed remotely.
- To provide a code-execution environment that minimizes software deployment and versioning conflicts.
- To provide a code-execution environment that guarantees safe execution of code, including code created by an unknown or semi-trusted third party.
- To provide a code-execution environment that eliminates the performance problems of scripted or interpreted environments.
- To make the developer experience consistent across widely varying types of applications, such as Windows-based applications and Web-based applications.
- To build all communication on industry standards to ensure that code based on the .NET Framework can integrate with any other code.

The .NET Framework has two main components: the common language runtime and the .NET Framework class library. The common language runtime is the foundation of the .NET Framework.

For example, ASP.NET hosts the runtime to provide a scalable, server-side environment for managed code. ASP.NET works directly with the runtime to enable Web Forms applications and XML Web services.

Database

A database is similar to a data file in that it is a storage place for data. Like a data file, a database does not present information directly to a user; the user runs an application that accesses data from the database and presents it to the user in an understandable format.

A database typically has two components: the files holding the physical database and the database management system (DBMS) software that applications use to access data. The DBMS is responsible for enforcing the database structure, including:

- Maintaining the relationships between data in the database.
- Ensuring that data is stored correctly and that the rules defining data relationships are not violated.
- Recovering all data to a point of known consistency in case of system failures.

Client/Server

- In a client/server system, the server is a relatively large computer in a central location that manages a resource used by many people. When individuals need to use the resource, they connect over the network from their computers, or clients, to the server.
- Examples of servers are: In a client/server database architecture, the database files and DBMS software reside on a server. A communications component is provided so applications can run on separate clients and communicate to the database server over a network. The SQL Server communication component also allows communication between an application running on the server and SQL Server.
- Server applications are usually capable of working with several clients at the same time. SQL Server can work with thousands of client applications simultaneously. The server has features to prevent the logical problems that occur if a user tries to read or modify data currently being used by others.

- While SQL Server is designed to work as a server in a client/server network, it is also capable of working as a stand-alone database directly on the client. The scalability and ease-of-use features of SQL Server allow it to work efficiently on a client without consuming too many resources.

.NET Framework Class Library

The .NET Framework class library is a collection of reusable types that tightly integrate with the common language runtime. The class library is object oriented, providing types from which your own managed code can derive functionality.

For example, you can use the .NET Framework to develop the following types of applications and services:

- Console applications.
- Scripted or hosted applications.
- Windows GUI applications (Windows Forms).
- ASP.NET applications.
- XML Web services.
- Windows services.

For example, the Windows Forms classes are a comprehensive set of reusable types that vastly simplify Windows GUI development. If you write an ASP.NET Web Form application, you can use the Web Forms classes.

6.2.1.2 Active Server Pages.NET

ASP.NET is a programming framework built on the common language runtime that can be used on a server to build powerful Web applications. ASP.NET offers several important advantages over previous Web development models:

Language Support

The Microsoft .NET Platform currently offers built-in support for three languages: C#, Visual Basic, and JScript.

What is ASP.NET Web Forms?

The ASP.NET Web Forms page framework is a scalable common language runtime programming model that can be used on the server to dynamically generate Web pages.

6.2.2 BACK-END TECHNOLOGY:

6.2.2.1 About Microsoft SQL Server 2016

Microsoft SQL Server is a Structured Query Language (SQL) based, client/server relational database. Each of these terms describes a fundamental part of the architecture of SQL Server.

Database

A database is similar to a data file in that it is a storage place for data. Like a data file, a database does not present information directly to a user; the user runs an application that accesses data from the database and presents it to the user in an understandable format.

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- Ensuring that data is stored correctly and that the rules defining data relationships are not violated.
- Recovering all data to a point of known consistency in case of system failures.

Connections

Connections are used to 'talk to' databases, and are represented by provider-specific classes such as SQL Connection. Commands travel over connections and result sets are returned in the form of streams which can be read by a Data Reader object, or pushed into a Dataset object.

6.2.2.2 C# Language

C# is a general-purpose, object-oriented programming language that is structured and easy to learn. It runs on Microsoft's .Net Framework and can be compiled on a variety of computer platforms.

C# is a boon for developers who want to build a wide range of applications on the .NET Framework Windows applications, Web applications, and Web services—in addition to building mobile apps, Windows Store apps, and enterprise software. It is thus considered a powerful programming language and features in every developer's cache of tools.

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6.3 Pseudo Code

6.3.1 Connecting to SQL SERVER

```
<?xml version="1.0"?>
<!--
  For more information on how to configure your ASP.NET application, please
visit
  http://go.microsoft.com/fwlink/?LinkId=169433
  -->
<configuration>
      <connectionStrings>
  <add       name="LibrarySystemConnectionString"       connectionString="Data
Source=\SQLEXPRESS;Initial Catalog=LibrarySystem;Integrated Security=True"
   providerName="System.Data.SqlClient" />
 </connectionStrings>
 <system.web>
             <compilation debug="true" targetFramework="4.0"/>
      </system.web>
 </configuration>
```

7. Testing

7.1 Introduction

Testing is a process of executing a program with the intent of finding an error. Testing is a crucial element of software quality assurance and presents ultimate review of specification, design and coding.

System Testing is an important phase. Testing represents an interesting anomaly for the software. Thus, a series of testing are performed for the proposed system before the system is ready for user acceptance testing.

A good test case is one that has a high probability of finding an as undiscovered error. A successful test is one that uncovers an as undiscovered error.

7.2 Unit testing

Unit testing is essential for the verification of the code produced during the coding phase and hence the goal is to test the internal logic of the modules. Using the detailed design description as a guide, important paths are tested to uncover errors with in the boundary of the modules. These tests were carried out during the programming stage itself. All units of Vienna SQL were successfully tested.

7.3 Integration testing

Integration testing focuses on unit tested modules and build the program structure that is dictated by the design phase.

7.4 System testing:

System testing tests the integration of each module in the system. It also tests to find discrepancies between the system and it's original objective, current specification and system documentation. The primary concern is the compatibility of individual modules. Entire system is working properly or not will be tested here, and specified path ODBC connection will correct or not, and giving output or not are tested here these verifications and validations are done by giving input values to the system and by comparing with expected output. Top-down testing implementing here.

7.5 Acceptance Testing

This testing is done to verify the readiness of the system for the implementation. Acceptance testing begins when the system is complete. Its purpose is to provide the end user with the confidence that the system is ready for use. It involves planning and execution of functional tests, performance tests and stress tests in order to demonstrate that the implemented system satisfies its requirements.

Tools to special importance during acceptance testing include:

Test coverage Analyzer – records the control paths followed for each test case.

Timing Analyzer – also called a profiler, reports the time spent in various regions of the code are areas to concentrate on to improve system performance.

Coding standards – static analyzers and standard checkers are used to inspect code for deviations from standards and guidelines.

7.6 Test Cases

The test case specification for system testing has to be submitted for review before system testing commences.

LOGIN FORM:

SL.No	Test Case	Excepted Result	Test Result
1	Enter valid name and password & click on login button	Software should display main window	Successful
2	Enter invalid	Software should not display main window	successful

Fig 7.6.1 Login Form

BOOK ENTRY FORM:

SL.No	Test Case	Excepted Result	Test Result
1	On the click of ADD button	At first user have to fill all fields with proper data , if any Error like entering text data instead of number or entering number instead of text..is found then it gives proper message otherwise Adds Record To the Database	successful
2.	On the Click of DELETE Button	This deletes the details of book by using Accession no.	Successful
3.	On the Click of UPDATE Button	Modified records are Updated in database by clicking UPDATE button.	Successful
4.	On the Click of SEARCH Button	Displays the Details of book for entered Accession no. Otherwise gives proper Error message.	Successful
5.	On the Click of CLEAR Button	Clears all fields	Successful
6.	On the Click of EXIT button	Exit the current book details form	successful
7.	On the Click of NEXT button	Display the next form	successful

Fig 7.6.2 Book Entry Form

USER ACCOUNT FORM:

SL.No	Test Case	Excepted Result	Test Result
1	On the click of ADD button	At first user have to fill all fields with proper data , if any Error like entering text data instead of number or entering number instead of text..is found then it gives proper message otherwise Adds Record To the Database	successful
2.	On the Click of DELETE Button	This deletes the details of student by using Register no.	Successful
3.	On the Click of UPDATE Button	Modified records are Updated in database by clicking UPDATE button.	Successful
4.	On the Click of SEARCH Button	Displays the Details of book for entered Register no. Otherwise gives proper Error message.	Successful
5.	On the Click of CLEAR Button	Clears all fields	Successful
6.	On the Click of EXIT button	Exit the current book details form	successful
7.	On the Click of NEXT button	Display the next form	successful

Fig 7.6.3 User Account Form

BOOK ISSUE FORM:

SL.No	Test Case	Excepted Result	Test Result
1	On the click of ADD button	At first user have to fill all fields with proper data ,if the accession number book is already issued then it will giving proper msg.	successful
2.	On the Click of DELETE Button	This deletes the details of book by using Register no.	Successful
3.	On the Click of UPDATE Button	Modified records are Updated in database by clicking UPDATE button.	Successful
4.	On the Click of SEARCH Button	Displays the Details of issued book..Otherwise gives proper Error message.	Successful
5.	On the Click of CLEAR Button	Clears all fields	Successful
6.	On the Click of EXIT button	Exit the current book details form	successful
7.	On the Click of NEXT button	Display the next form	successful

Fig 7.6.4 Book Issue Form

BOOK RETURN FORM:

SL.No	Test Case	Excepted Result	Test Result
1	On the click of ADD button	At first user have to fill all fields with proper data , if any Error like entering text data instead of number or entering number instead of text..is found then it gives proper message otherwise Adds Record To the Database	successful
2.	On the Click of DELETE Button	Which deletes the details of book by using Register no.	Successful
3.	On the Click of UPDATE Button	Modified records are Updated in database by clicking UPDATE button.	Successful
4.	On the Click of SEARCH Button	Displays the Details of returned book ... Otherwise gives proper Error message.	Successful
5.	On the Click of CLEAR Button	Clears all fields	Successful
6.	On the Click of EXIT button	Exit the current book details form	successful
7.	On the Click of NEXT button	Display the next form	successful

Fig 7.6.5 Book Return Form

8. Results

LOGIN PAGE

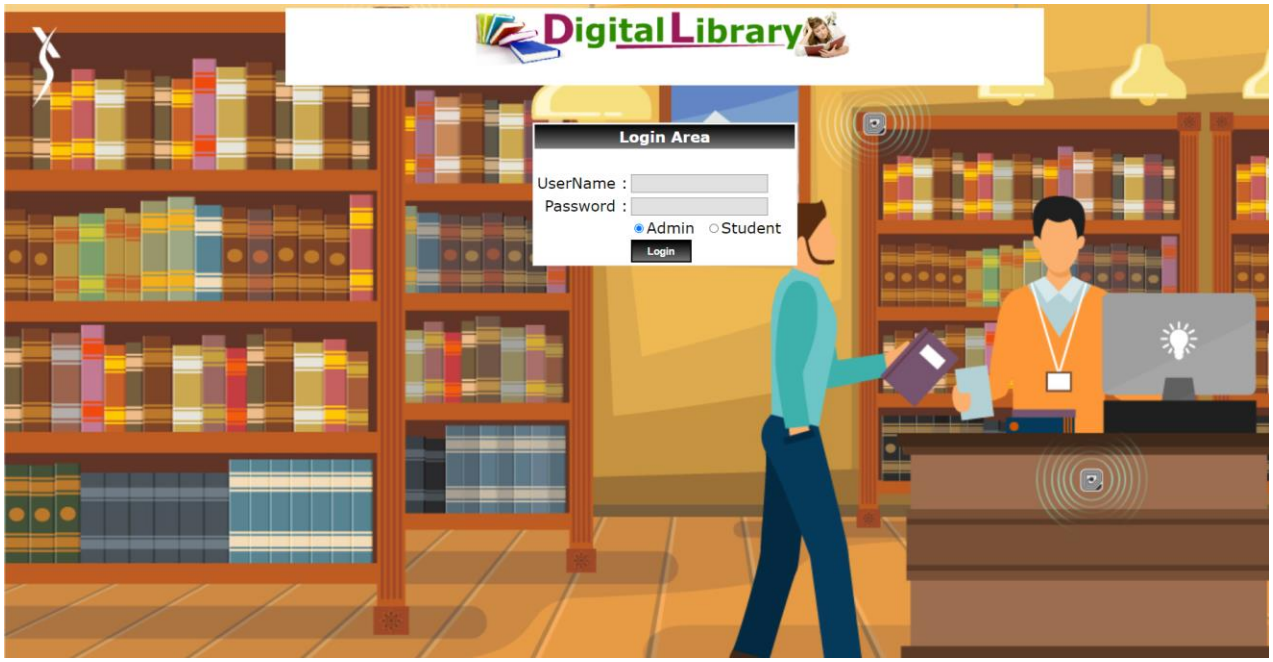

Fig 8.1 Login Page

HOME PAGE

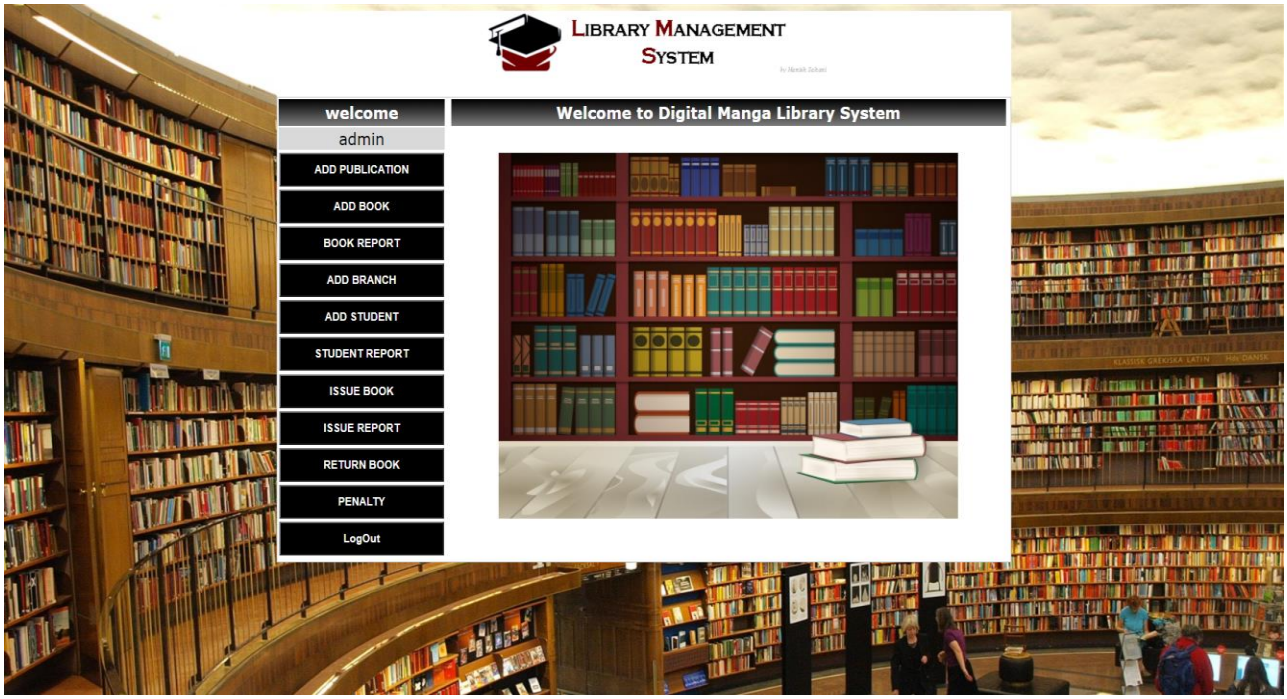

Fig 8.2 Home Page

BOOK REPORT

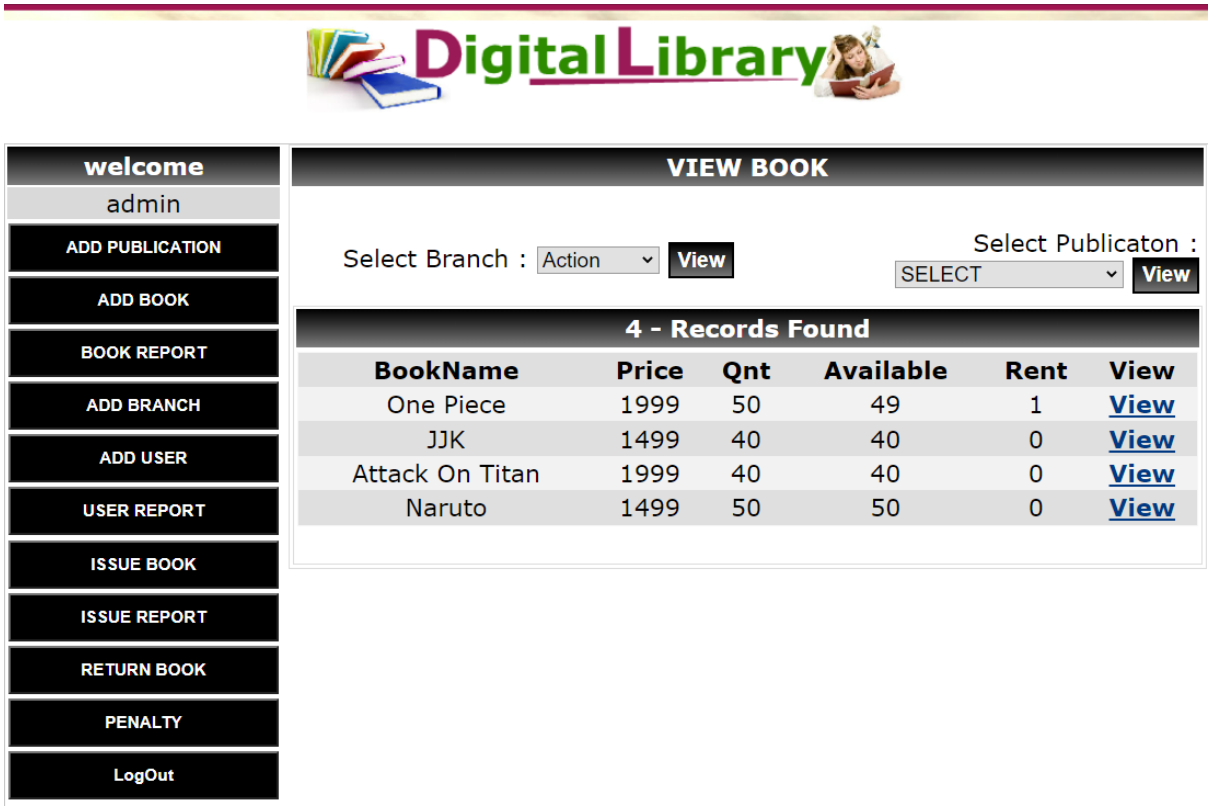

Fig 8.3 Book Report

BOOK ISSUE

Fig 8.4 Book Issue

BOOK RETURN FORM

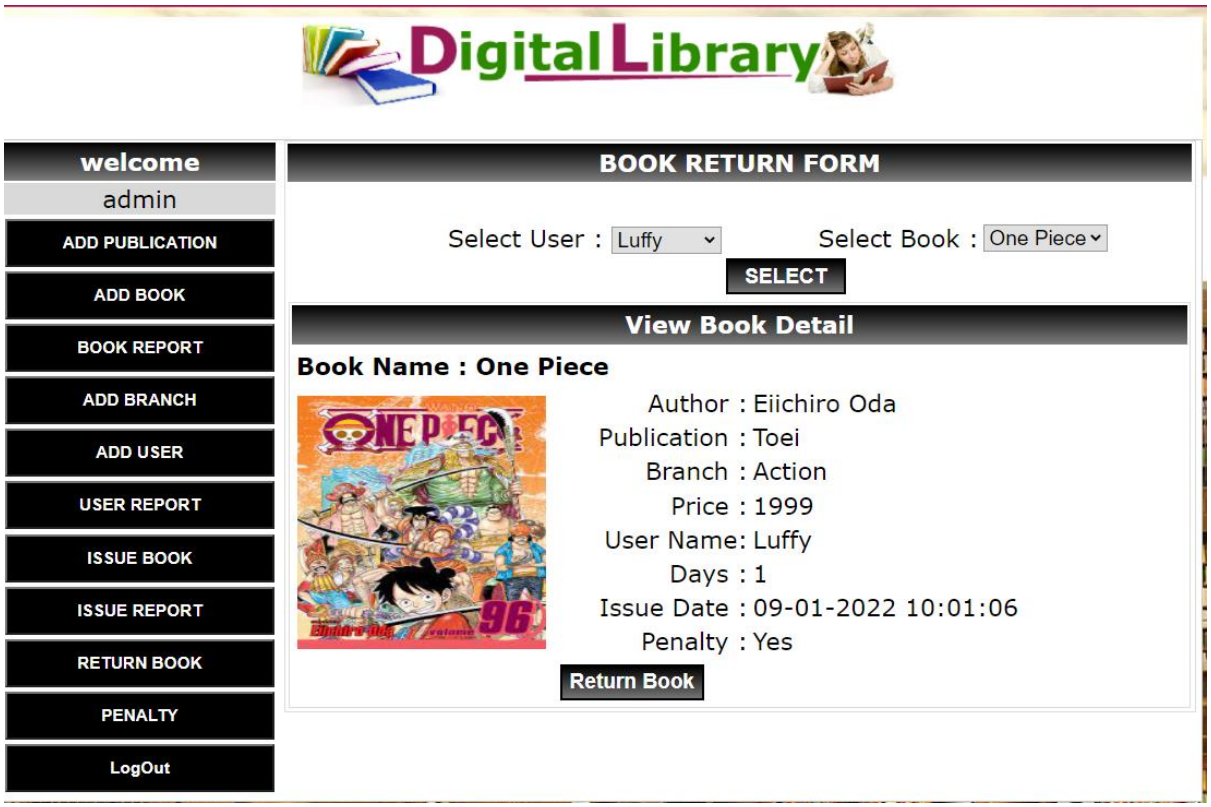

Fig 8.5 Book Return Form

ISSUE REPORT

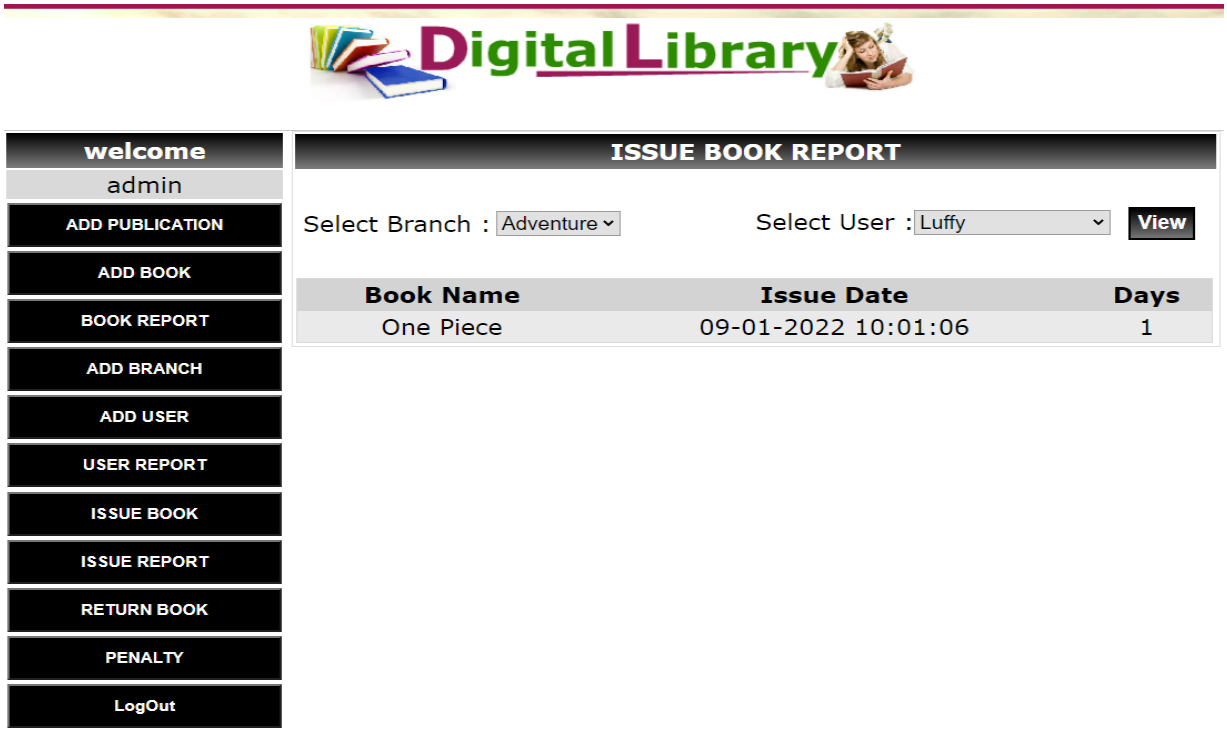

Fig 8.6 Issue Report

STUDENT REPORT

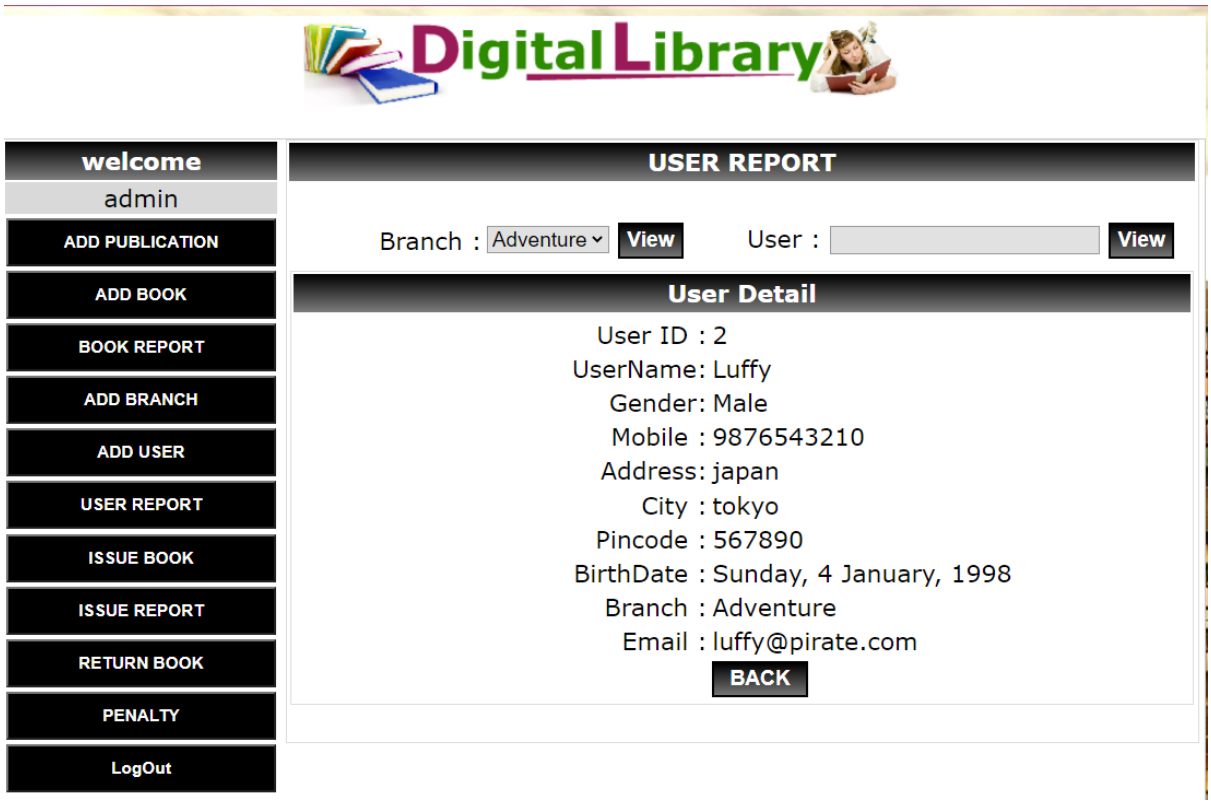

Fig 8.7 Student Report

USER HOME PAGE

Fig 8.8 Student Home Page

USER'S BOOK REPORT

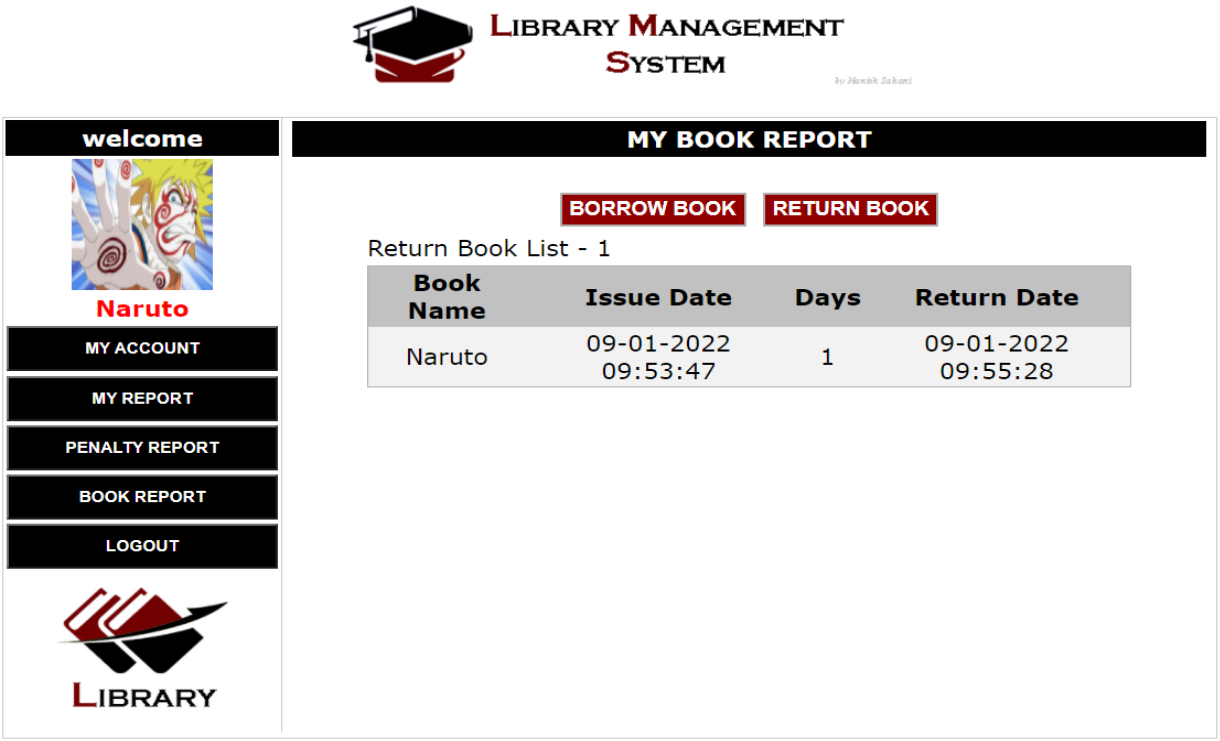

Fig 8.9 Student's Book Report

BOOK REPORT 2

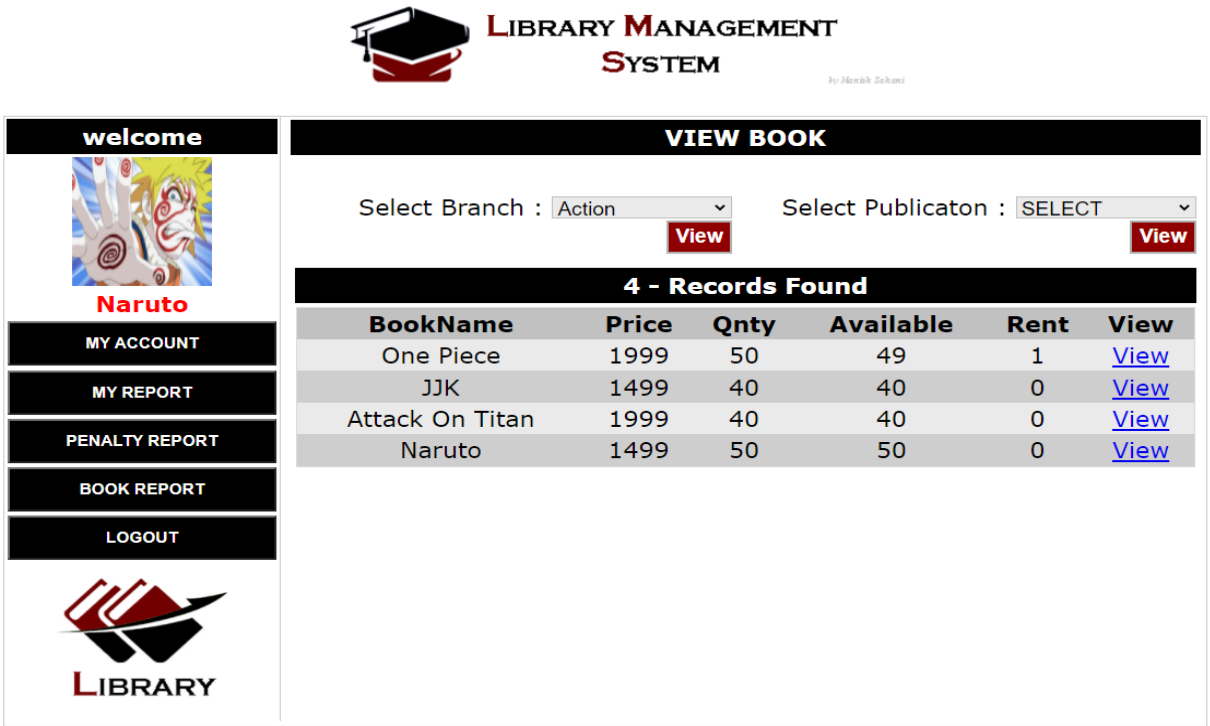

Fig 8.10 Book Report 2

9. Conclusion and future work

9.1 CONCLUSION

The package was designed in such a way that future modifications can be done easily. The following conclusions can be deduced from the development of the project.

- Library Management System of the entire system improves the efficiency.
- It provides a friendly graphical user interface which proves to be better when compared to the existing system.
- It gives appropriate access to the authorized users depending on their permissions.
- It effectively overcomes the delay in communications.
- Updating of information becomes so easier.
- The System has adequate scope for modification in future if it is necessary.

9.2 FUTURE WORK

- As technology emerges, it is possible to upgrade the system and can be adaptable to the desired system
- Based on future security issues, security can be enhanced using emerging technologies.
- Changes made by any user can be monitored
- More control by the administrator
- Use of more extra classes and modules to short down the code.

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