BOOK SPOT

UCS 503 Software Engineering Project Report

END-Semester Evaluation

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Group No: 2CS7

Submitted to: Dr ASHIMA SINGH

TABLE OF CONTENTS

S.No.	Assignment	Page No.
	1. **Project Selection Phase**	
1.1	Software Bid	4-5
1.2	Project Overview	6
	2. **Analysis Phase**	
2.1	Use Cases	
2.1.1	Use-Case Diagrams	7
2.1.2	Use Case Templates	8-13
2.2	Activity Diagram and Swimlane Diagrams	14-17
2.3	Data Flow Diagrams (DFDs)	
2.3.1	DFD Level 0	18
2.3.2	DFD Level 1	19
2.3.2	DFD Level 2	20
2.4	Software Requirement Specification in IEEE Format	21-33
2.5	User Stories and Story Cards	34-39
	3. **Design Phase (At least two significant cases of each diagram)**	
3.1	Class Diagram	40
3.2	Sequence Diagram	41-43
3.3	Collaboration Diagram	44-45
3.4	State Chart Diagrams	46-47

4. **Implementation**

4.1 Component Diagrams 48

4.2 Deployment Diagrams 49

4.3 Screenshots 50-56

5. **Testing**

5.1 Test Plan

5.2 Test Cases 58-67

5.3 Test Reports

1. Project Selection Phase

0.1 Software Bid

Software Bid/ Project Teams

UCS 503- Software Engineering Lab

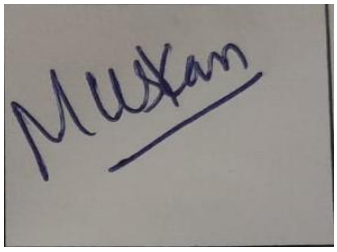
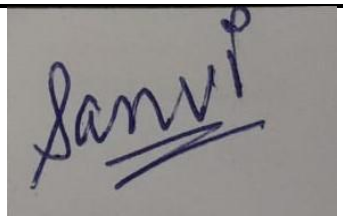
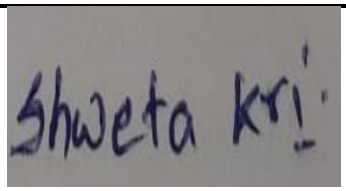
Group : CS7 Dated:26-01-2023

Team Name: Mind Optimizers
Team ID (will be assigned by Instructor): 2

Please enter the names of your Preferred Team Members. :

- You are required to form **a three to four person** teams'
- Choose your team members wisely. You will not be allowed to change teams.

Name	Roll No	Project Experience	Programming Language used	Signature
Muskan	102117187	Web Development		

		In 1st year I had made 2 websites (balance of mind and IET society website)	Not any programming language used(but know C and C++) Project made using HTML and CSS	
Sanvi Arora	102117190	App development: 1.BookHub 2.Weather forecasting app	Used kotlin for App development	
Shweta Kumari	102297007	Data Analysis (During 2nd year of Diploma I have done training on Python with ML and was assigned a project on Student Performance in Exam using kaggle dataset) App Development (During 3rd year of Diploma I worked on group project on Chatting Application in which I contributed on database part)	Python Machine Learning (basic) SQL	

Programming Language / Environment Experience

List the languages you are most comfortable developing in, **as a team**, in your order of preference. Many of the projects involve Java or C/C++ programming.

1.Web Development
2.Python and C++
3.SQL

Choices of Projects:

Please select **4 projects** your team would like to work on, by order of preference: *[Write at-least one paragraph for each choice (motivation, reason for choice, feasibility analysis, etc.)]*

	Project Name	Unique Selling Point
First Choice	E-BOOK STORE	As usually observed the books needed by students are usually out of stock in library (i.e. already issued by some students). The aim is to provide E-books to all students so that there

		is no hampering of quality education and students can access any book at any time.
Second Choice	PG finder in Patiala	This is difficult to find PG in a location for new comers in Patiala. The aim is to provide it easier for students to find a perfect staying location for them according to their requirements along with the reviews of each PG.
Third Choice	Online shopping from Cos, G-Block Cafeteria and other shops in TIET	Online delivery of products from within the campus within half an hour of order will be helpful for those who are in genuine need and don't have the time to travel to cos (or in case if covid returns). This saves travelling time of students and even cost because if they purchase from any other website (like Amazon, Flipkart, Zomato etc.) then they have to pay additional delivery charges which is around Rs.70
Fourth Choice	Clone for Myntra	With increased inclusivity(more appropriate size chart) example for jeans accurate thighs size which is not in original app.

Additional Remarks/ Inputs

Please tell us about any other factors that we should take into consideration (e.g., if you really would like to work on a project for some particularly convincing reason).

We would love to be able to work on the first two projects, since we genuinely believe that it would help not just us but also other students in solving a few very basic but important problems.

0.2 Project Overview

The goal is to design a software for Thapar students to provide E-books to them, so that there is no hampering of quality education and students can access any book at any time. In this system a student can read and download the book for a particular subject according to his/her year and branch in pdf format. They will also be able to view the required books on the basis of author name and book name and they will also able to read and download journal and admin can add book, journal, user and delete book, journal, user. In this system, both student and admin can use the system only when they are logged in to system. They can login to system by entering correct email id and password. Only Admin is able to give access to

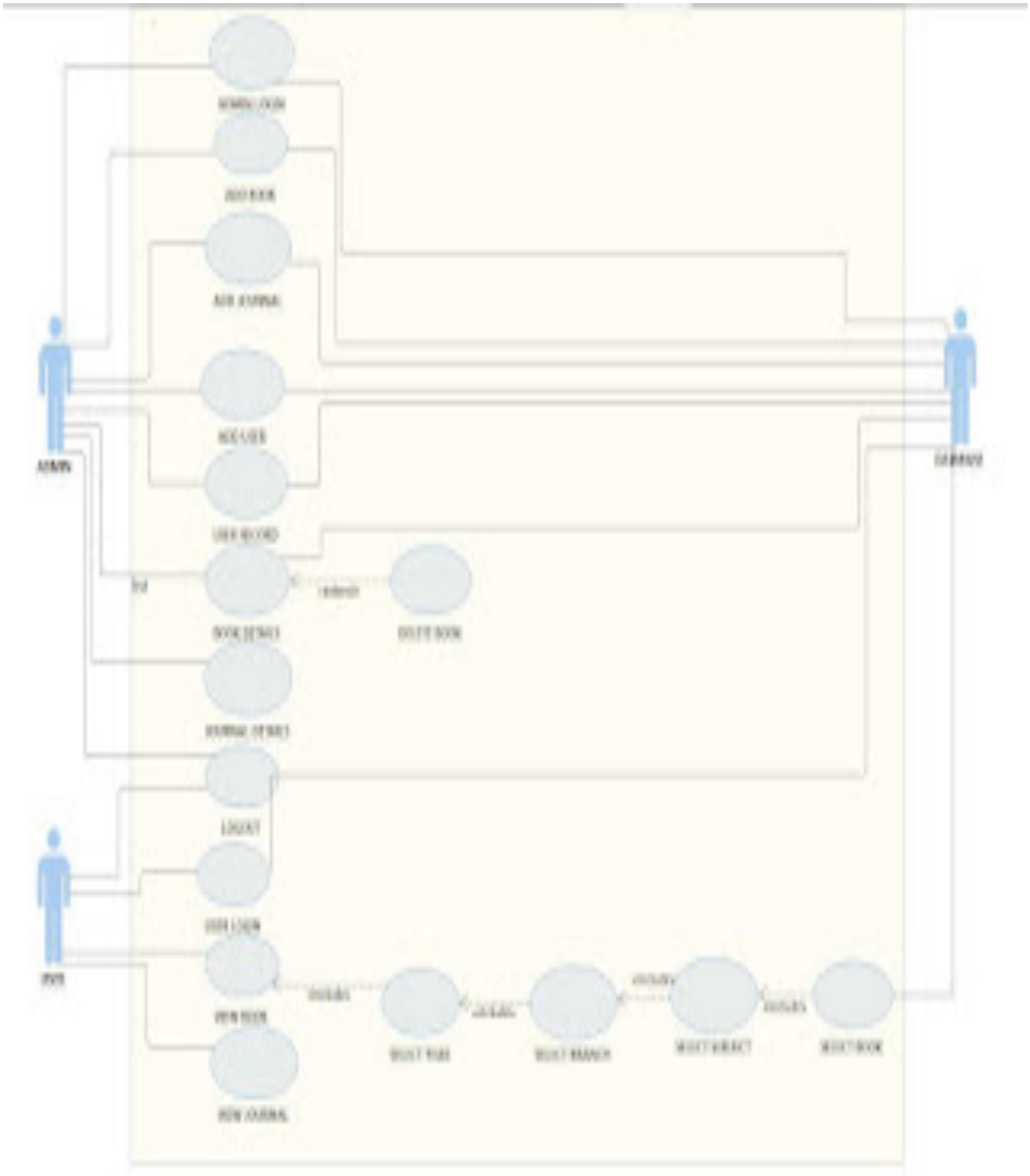
student i.e. only admin will give email id and password to respective student.

1. Analysis Phase

1.3 Use Cases

1.3.1 Use-Case

Book Spot



2.1.2 Use Case Templates

1.3.1.1 Use Case Template for Use Case: Login

1. **Use Case Title**	Login

1. **Abbreviated Title**	Login
2. **Use Case id**	1
1. **Actors**	Users/Admin
1. **Description** By this facility a registered user or an admin can log-in to their respective accounts**.**	
5.1. Pre-Conditions: o The user should have a valid username and password. o The user should have an existing account.	
5.2. Task Sequence: 5.2.1 Login window will be shown by the system 5.2.2 Enter login credentials 5.2.3 The system will authenticate user and allow them to log-in.	
5.3. Post Conditions: o The user will be considered “logged-in” if the password matches. o Invalid credentials would be shown if wrong details are entered. o The user can proceed further if logged-in.	
1. **Modification History:** Date 22-APR-2023	
1. **Author:** Sanvi Arora	

Alternate flow:

5.2.2 If the user enters an incorrect password then the system displays an error message and prompts the user to enter their credentials again.

5.2.2 If the user enters an incorrect email then the system displays an error message and prompts the user to enter their credentials again.

1.3.1.2 **Use Case Template for Use Case: Add book**

1. **Use Case Title**	Add Book
1. **Abbreviated Title**	Add Book
1. **Use Case id**	2
1. **Actors**	Admin
1. **Description** With this Add book facility admin can add books according to his requirement.	

5.1. Pre-Conditions: The admin should be logged-in.
5.2. Task Sequence: 5.2.1 Add book window will be shown by the system. 5.2.2 The admin can add a book stored in his pc. 5.2.3 The system will add the selected book.
5.3. Post Conditions: o Admin can add another book. o Admin can logout
1. **Modification History:** Date 22-APR-2023
1. **Author:** Muskan

Alternate Flow:
5.2.2 if admin clicks on add book without selecting any book then error message would be displayed.

1.3.1.3 Use Case Template for Use Case: Download

1. Use Case Title	Download
1. **Abbreviated Title**	Download
1. **Use Case id**	3
1. **Actors**	Users
1. **Description** With this Download facility user can download the book for offline access.	
5.1. Pre-Conditions: o The user should be logged-in. o The user's system should have enough storage.	
5.2. Task Sequence:	

o The user is required to select his/her year followed by his/her branch. o The user is required to then select the subject whose book is to be downloaded. o The user is required to select the book to be downloaded. o The user must click on download option after viewing the required book. o The book will be downloaded.
5.3. Post Conditions: o User can view books. o User can access the book offline. o User can download another book.
1. **Modification History:** Date 22-APR-2023
1. **Author:** Shweta Kumari

1.3.1.4 Use Case Template for Use Case: Add Journal

1. Use Case Title	Add Journal
1. **Abbreviated Title**	Add Journal
1. **Use Case id**	4
1. **Actors**	Admin
1. **Description** With this facility admin can add any journal for offline access**.**	
5.1. Pre-Conditions: o The admin should be logged-in. o The admin should have the journal to be added in his/her pc.	
5.2. Task Sequence: **5.2.1** Add journal window will be shown by the system. **5.2.2** The admin is required to fill the details like journal name and author. **5.2.3** The admin can add a journal stored in his system. **5.2.4** The system will add the selected journal.	
5.3. Post Conditions: o Admin can add another journal.	

○ Admin can logout ○ Admin can delete any journal.
1. **Modification History:** Date 22-APR-2023
1. **Author:** Sanvi Arora

Alternate Flow:
5.2.2 if an admin tries to add a journal without selecting a file from the system “File not Chosen” message is displayed

1.3.1.5 Use Case Template for Use Case: Add User

1. Use Case Title	Add User
1. **Abbreviated Title**	Add User
1. **Use Case id**	5
1. **Actors**	Admin
1. **Description** With this facility admin can add any user who will be able to make use of the website.	
5.1. Pre-Conditions: ○ The admin should be logged-in. ○ The admin must click on add user functionality	
5.2. Task Sequence: ○ Add user window will be shown by the system. ○ The admin can add a user by entering his/her name, password and email. ○ The system will add the user.	
5.3. Post Conditions: ○ Admin can add another user. ○ Admin can delete a user. ○ Admin can logout.	
1. **Modification History:** Date 22-APR-2023	
1. **Author:** Shweta Kumari	

1.3.1.6 Use Case Template for Use Case: Download Journal

1. Use Case Title	Download Journal
1. **Abbreviated Title**	Download Journal
1. **Use Case id**	6
1. **Actors**	Users

1. **Description**
With this facility user can read and download the journal of his respective choice for offline access.

5.1. Pre-Conditions:

- The user should be logged-in.
- The user's system should have enough storage**.**

5.2. Task Sequence:

- The user is required to click on read journal button.
- The user is required to select the journal to be downloaded.
- The user must click on download option after viewing the required journal.
- The journal will be downloaded.

5.3. Post Conditions:

- User can view journal.
- User can access the downloaded journals offline.
- User can download another journal.

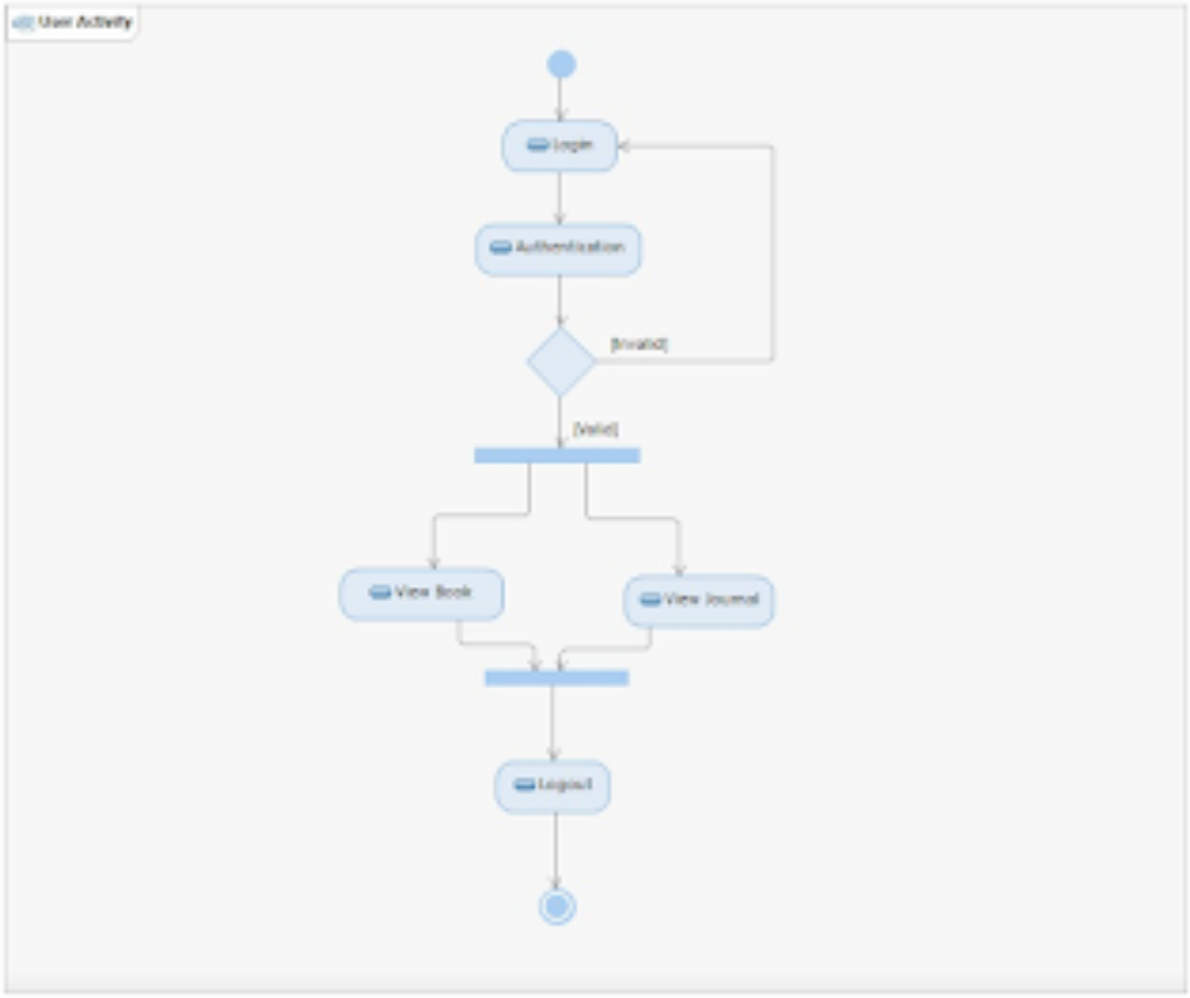
1. **Modification History**: Date 22-APR-2023

1. **Author:** Muskan

1.4 Activity Diagram and Swimlane Diagrams

2.2.1 Activity Diagram

User

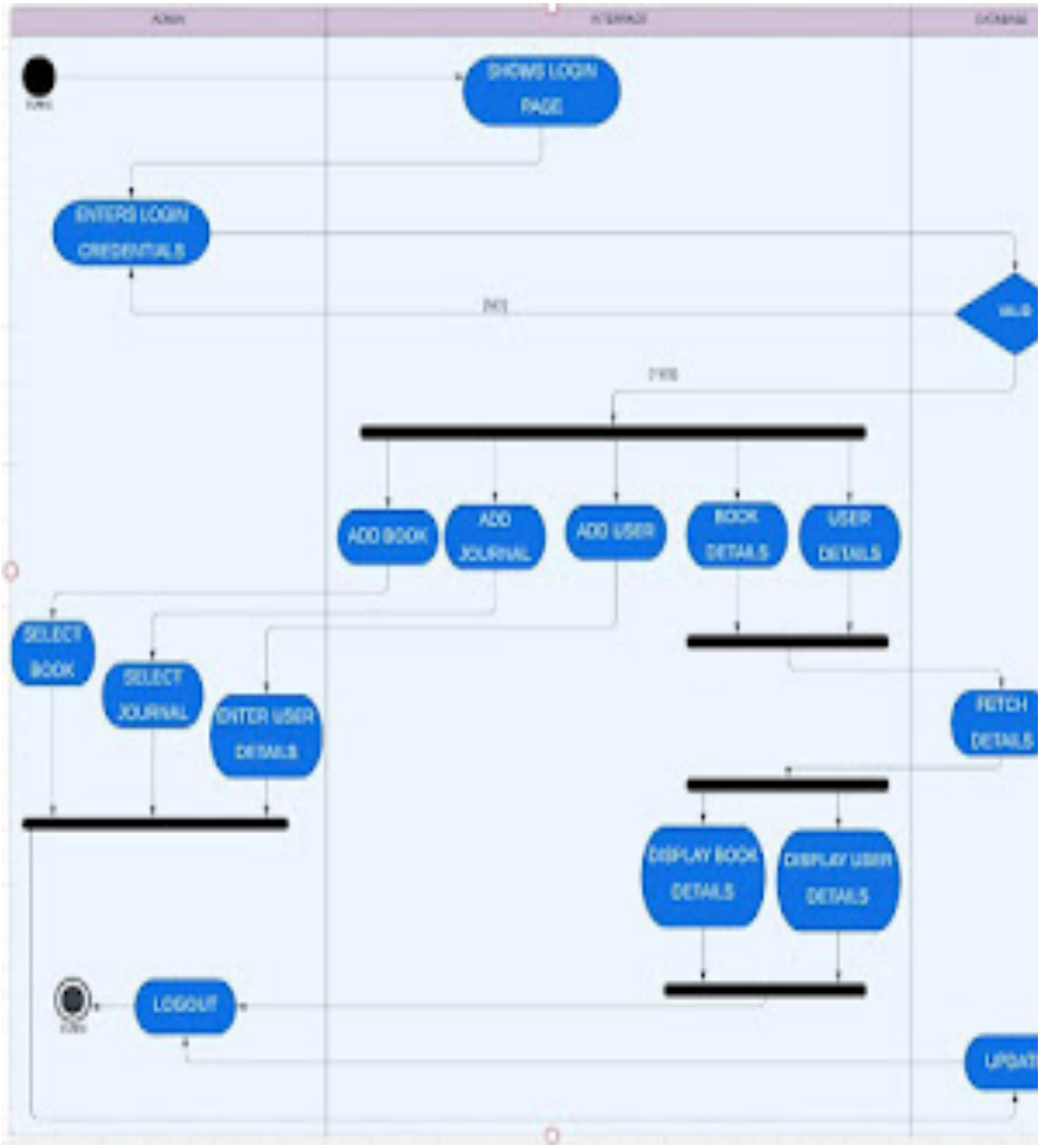


View book

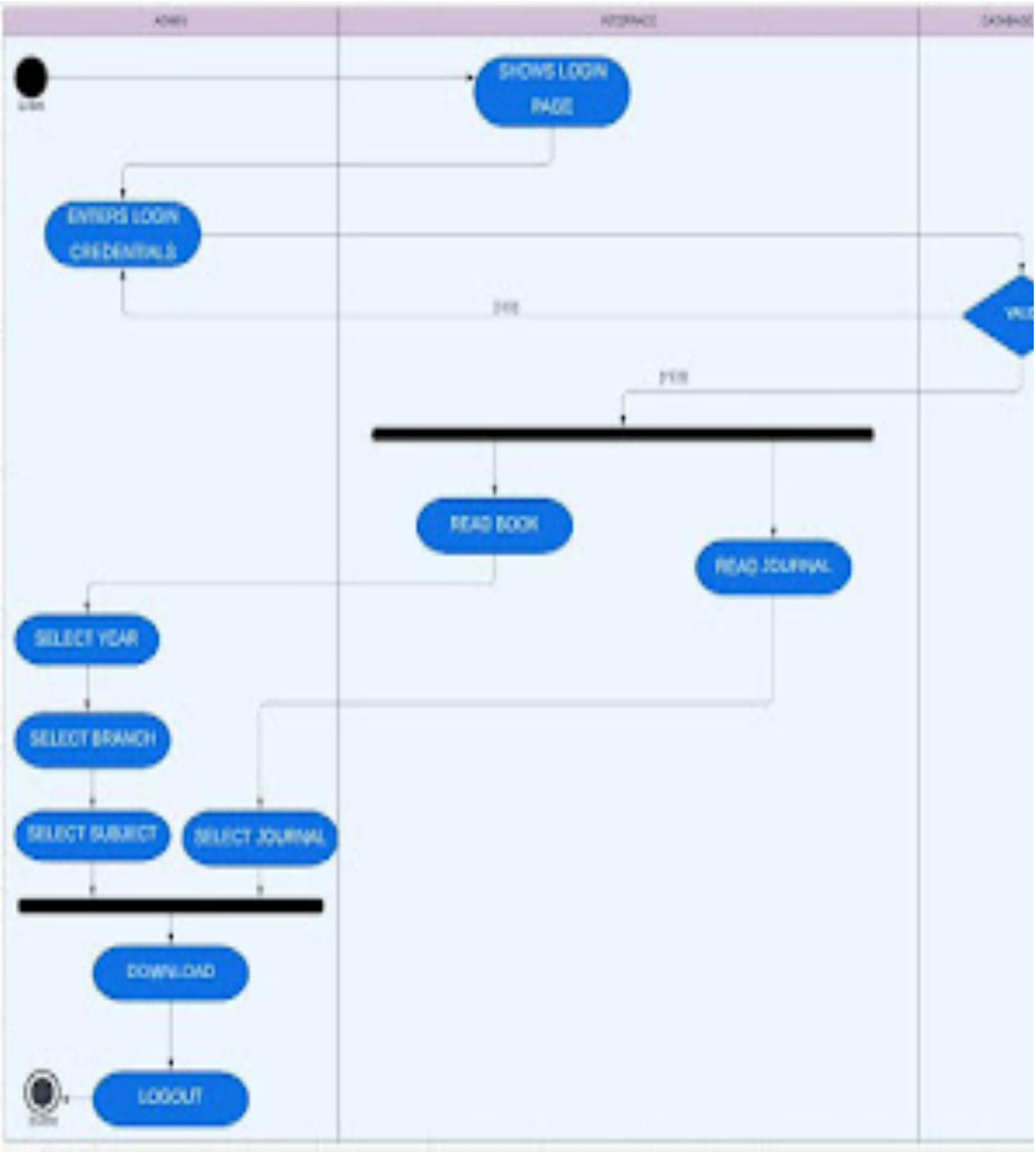
Admin

1.4.2 **Swimlane Diagram**

Admin

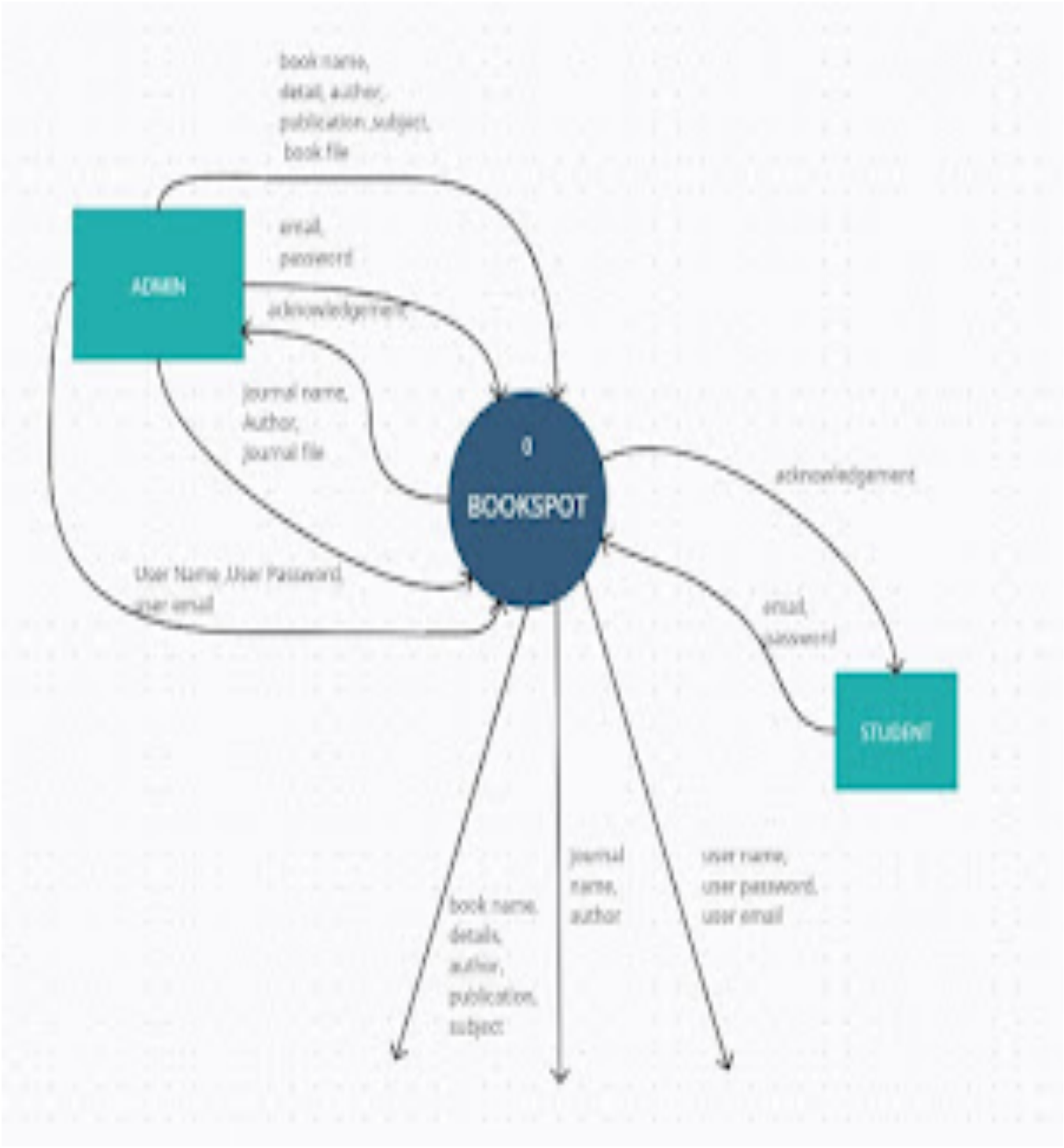

SHOWS LOGIN PAGE
ENTERS LOGIN CREDENTIALS
ADD BOOK
ADD JOURNAL
ADD USER
BOOK DETAILS
USER DETAILS
SELECT BOOK
SELECT JOURNAL
ENTER USER DETAILS
FETCH DETAILS
DISPLAY BOOK DETAILS
DISPLAY USER DETAILS
LOGOUT

User

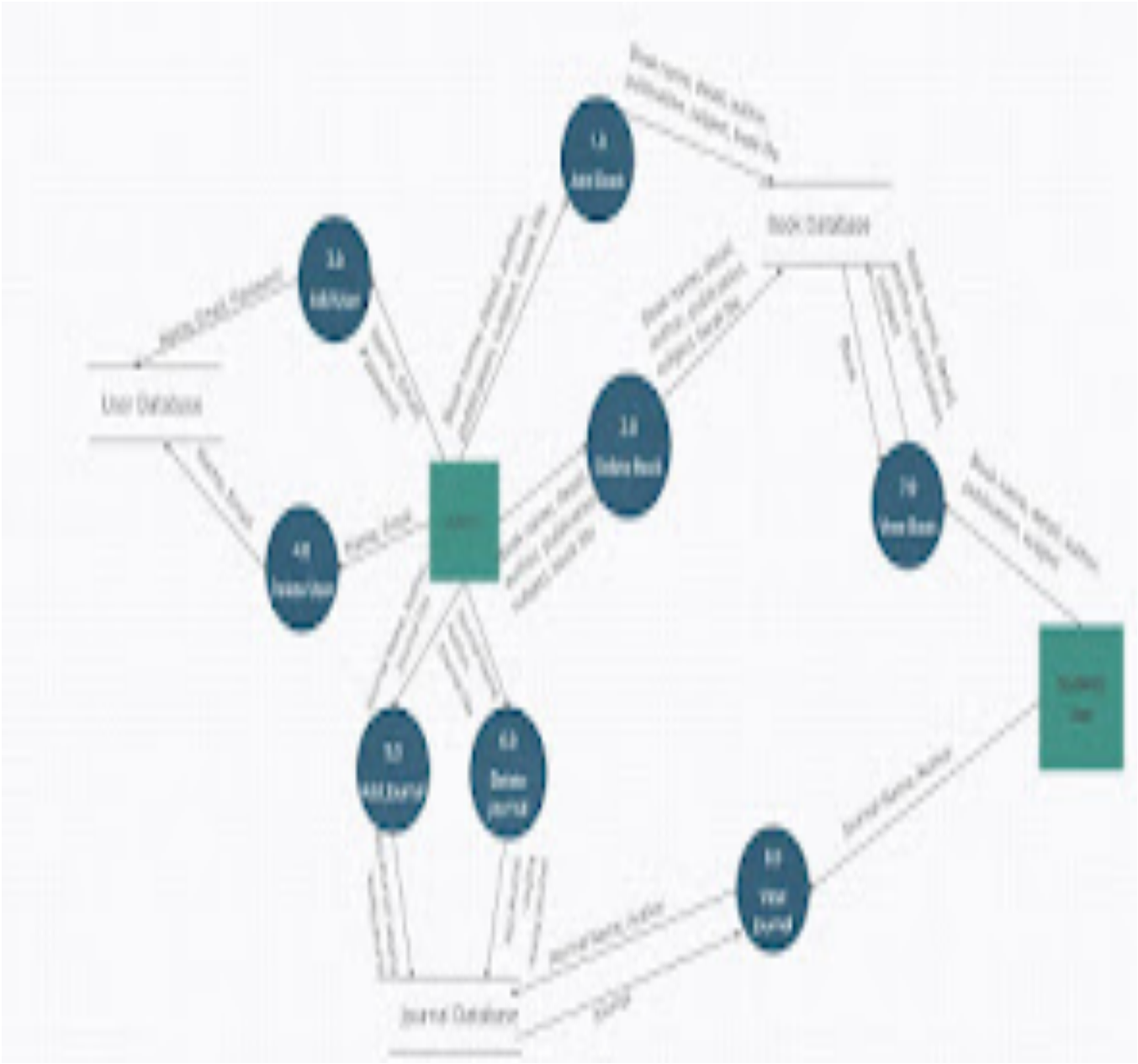


2.3 Data Flow Diagrams (DFDs)

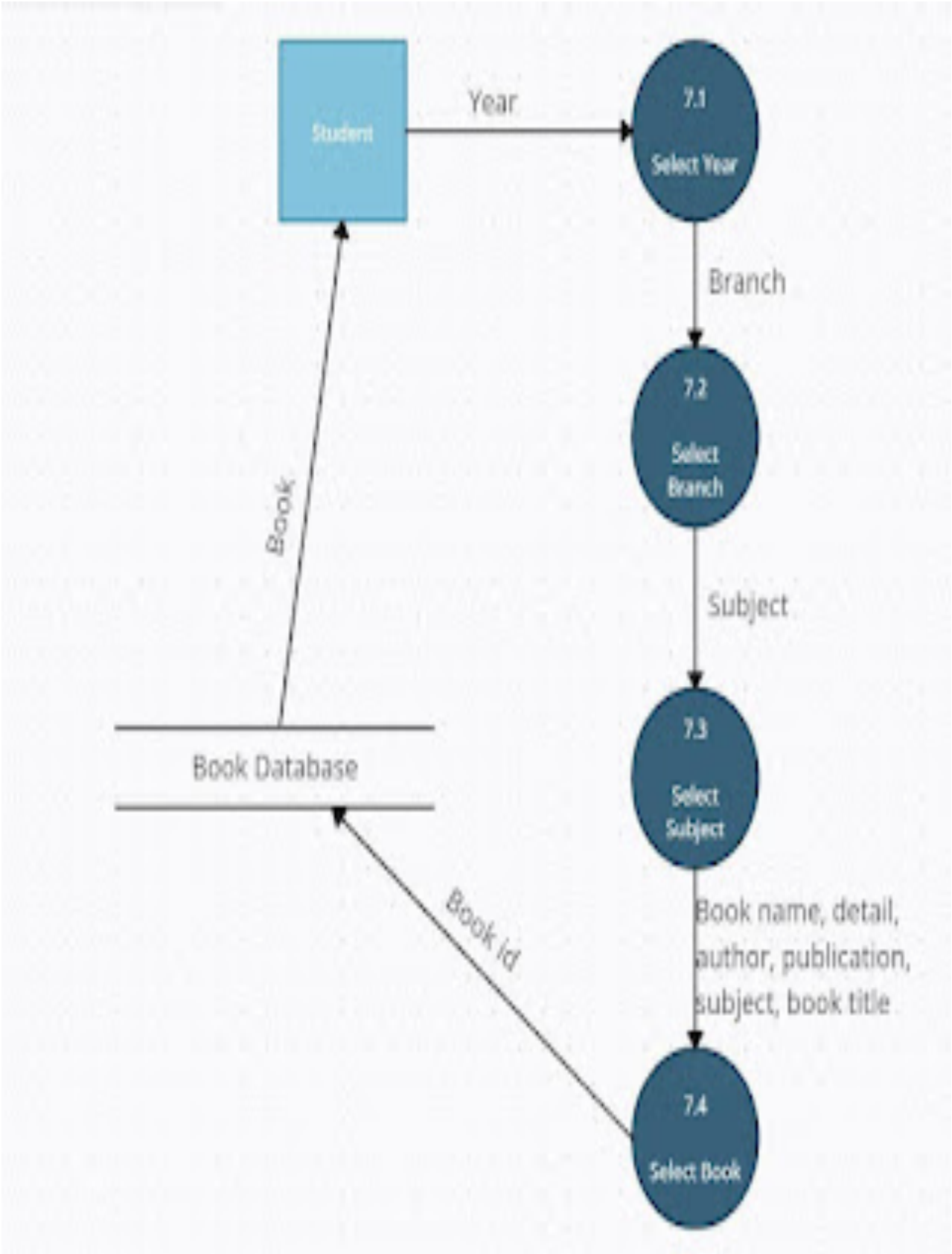
2.3.1 DFD Level 0



2.3.2 DFD Level 1



2.3.2 DFD Level 2



2.4 Software Requirement Specification in IEEE Format

Software Requirements Specification Document

Version 1.0

The Book Spot

TABLE OF CONTENTS

Chapter No.	TOPIC	PAGE NO.
1.	INTRODUCTION	23
1.1	PURPOSE OF THE DOCUMENT	23
1.2	SCOPE OF THE DOCUMENT	23-24
1.3	REFERENCES	25
1.4	OVERVIEW	25

2.	OVERALL DESCRIPTION	25
2.1	PRODUCT PERSPECTIVE	25
2.2	PRODUCT FUNCTIONS	25-26
2.3	USER CHARACTERISTICS	26
2.4	GENERAL CONSTRAINTS, ASSUMPTIONS AND DEPENDENCIES	26-27
2.5	APPORTIONING OF THE REQUIREMENTS	27
3.	SPECIFIC REQUIREMENTS	27
3.1	EXTERNAL INTERFACE REQUIREMENTS	27
3.2	DETAILED DESCRIPTION OF FUNCTIONAL REQUIREMENTS	27-31
3.3	PERFORMANCE REQUIREMENTS	31
3.4	LOGICAL DATABASE REQUIREMENTS	32
3.5	QUALITY ATTRIBUTES	32
3.6	OTHER REQUIREMENTS	32
4.	CHANGE HISTORY	33
5.	DOCUMENT APPROVERS	34

1.Introduction

1.1 Purpose of this Document

The purpose of this SRS document is to provide a detailed overview of our software product, its parameters and goals. This document describes the project's target audience and its user interface, hardware and software requirements.
It defines how our client, team and audience see the product and its functionality.

1.2 Scope of the Development Project

The goal is to design a software for Thapar students to provide E-books to them, so that there is no hampering of quality education and students can access any book at any time. In this system a student can read and download the book for a particular subject according to his/her year and branch in pdf format. They will also be able to view the required books on the basis of author name and book name and they will also able to read and download journal and admin can add book, journal, user and delete book, journal, user. In this system, both student and admin can use the system only when they are logged in to system. They can login to system by entering correct email id and password. Only Admin is able to give access to student i.e. only admin will give email id and password to respective student.

The software would be able to perform the following operations:

1. **Easy access to Book :-** The software would be able to allow the students of Thapar University to avail the books of particular subject according to their years and branches.

2. **Download Book :-** By pressing the download button we can download the book and access that book offline.

3. **Read and Download Journal :-** The software would be able to allow the students to read and download Journals.

4. **Add Student :-** Admin can add new student to system by entering his/her email address and Password. Then Student's data will be stored in user database and that student will be able to access the system by logging into system. During login, student has to put only that email address and password which is provided by the Admin.

5. **Add Book :-** Admin can add new book and giving all the details of that book like book name, Book Author, Publication, subject and that book will be visible to all registered students in respective book's subject section.

6. **Add Journal :-** Admin can add new journal and giving all the details of that journal like Journal name, Journal Author and that journal will be visible to all registered students.

7. **Delete User :-** Admin can delete any student details from database and that student will not be able to access software.

8. **Delete Book :-** Admin can also delete any book from software system by going to book details section where admin can view book also.

8. **Delete Journal :-** Admin can also delete any journal from software system by going to Journal details section where admin can view journal also.

1.3 References

1.4 Overview

The remaining sections of this document provide a general description, including characteristics of the users of this project, the product's hardware, and the functional and data requirements of the product. General description of the project is discussed in section 2 of this document. Section 2 gives the functional requirements, data requirements and constraints and assumptions made while designing the multi-utility system. It also gives the user viewpoint of product use. Section 3 gives the specific requirements of the product. Section 3.0 also discusses the external interface
requirements and gives detailed description of functional requirements.

2. Overall Description

0.1 Product Perspective

Book Spot is a replacement for the ordinary library management systems which is dependent on paper work for recording book and user information.

The software will run as a store of books available for the student in an e-book form. The product does require use of a pointing device to avail the buttons and keyboard to

enter details like login, book details etc. As stated by the customer, there are no hardware or software requirements beyond these. The website as such must work correctly in both Internet Explorer and Mozilla Firefox.

2.2 Product Functions

The product should be able to perform the following operations:

1. Account Login: It must be able to authenticate the user by their login details.
2. View and Download: The software must provide the facility of online reading as well as offline access by letting the user to download the book and journal.
3. It must be able to support organization of books in different categories (such as categorized by year, branch and subject section etc.)
4. Add Student :- It must be able to add new student to system by admin by entering his/her email address and Password and student's data should be stored in user database and that student should be able to access the system.
5. Add Book :- It must be able to add new book to system by admin and that book should be visible to all registered students in respective book's subject section.
6. Add Journal :- It must be able to add new journal to system by admin and that journal should
be visible to all registered students.
7. Delete User :- It must be able to delete user from system by admin and that user after removing from system should not be able to access the system.
8. Delete Book :- It must be able to delete book from software system by admin.
9. Delete Journal :- It must be able to delete journal from software system by admin.

0.3 User Characteristics

The goal is to design software to upgrade the reading experience and ensure the availability of books whenever required. Users of the software must possess a minimal educational level which conforms to Thapar students/faculty. These user types are listed below as follows:

0.3.1 Student

0.3.2 Admin

0.4 General Constraints, Assumptions and Dependencies

The following list presents the constraints, assumptions, dependencies or guidelines that are imposed upon our software “Book Spot”.

- The software must conform to Thapar Institute of Engineering and Technology disclaimer policy.
- Due to the small form factor, only limited number of books are made available currently.
- There are memory requirements in case of download of books.
- The product will have an interface that is simple enough for all types of users to understand.
- Response time for loading the software should be no longer than ten seconds.
- A general knowledge of basic computer skills is required to use the product.
- Since the “Book Spot” is only accessible through the internet, it is assumed that the end user has a connection to the internet. It is also assumed that the user has a web browser able to display the website.

0.5 Apportioning of requirements

There are no requirements that may be delayed until future versions of the system.

3.Specific Requirements

0.1 External Interface Requirements

The following list presents the external interface requirements:

- The product requires use of pointing device and keyboard.
- The product does require an internet connection.
- The Book and Journal that admin wishes to upload, it should be available in admin pc.
- There are no special hardware interface requirements.
- There are no special software interface requirements.

- The product does not require usage of sound or animation.
- Sound is not an essential feature but it can be considered for future variants of the system wherein the user will be provided an audiobook.

0.2 Detailed Description of Functional Requirements

Table 3 shows a template that we'll be using to describe functional requirements for two types of users: student, admin/faculty as one can easily deduce the functional requirements for other user types with this template.

Table 3: Template for describing functional requirements

Purpose	A description of the functional requirements and its reasons
Inputs	What are the inputs; in what form will they arrive; from what sources can the inputs come; what are the legal domains of each input.
Processing	Describes the outcome rather than the implementation; includes any validity checks on the data, exact timing of operation (if needed), how to handle unexpected or abnormal situations
Outputs	The form, shape, destination and volume of output; output timing; range of parameters in the output; unit of measure of the output; process by which output is stored or destroyed; process for handling error message produced as output.

0.2.1 Functional Requirements for Login Screen

Table 4 gives the functional requirements for Login Screen.

Table 4: Functional Requirements for Login Screen

Purpose	The system shall allow user to log-in to their account.
Inputs	The system shall require the email id and password from the user.
Processing	The system will verify the email id and password.
Outputs	The user will be considered "logged-in" if the email id and password

	match otherwise not existing will be displayed.

3.2.2 Functional Requirements for View Book option

Table 5 gives the functional requirements for View Book option.

Table 5: Functional Requirements for View Book option

Purpose	The system shall allow a student to view books by title, author, subject and they are also able to download the book.
Inputs	A student is required to select year then branch and then subject of that book.
Processing	The menu responds to selections by displaying a page containing the pre-defined text requested information.
Outputs	Available book will be displayed.

3.2.3 Functional Requirements to Add User

Table 6 gives the functional requirements for Add User option.

Table 6: Functional Requirements for Add User option

Purpose	The system shall allow the admin to add users by entering their name, password and email.
Inputs	Admin is required to select add user button after logging into the system in order to add a user to existing records.
Processing	The menu responds to selection by displaying a page containing the pre-defined text requested information. The user is added once information is filled.
Outputs	User would be added to database and would be able to utilize the functionalities of the website.

3.2.4 Functional requirements to Add book

Table 7 gives the functional requirements for Add book option.

Table 7: Functional Requirements for Add book option

Purpose	The system shall allow the admin to add book by entering its name, author, details, publication and its file.
Inputs	Admin is required to select add book button after logging into the system in order to add a book to existing records.
Processing	The menu responds to selection by displaying a page containing the pre-defined text requested information.
Outputs	book would be added to database and could even be seen by user

3.2.5 Functional requirements to Add Journal

Table 8 gives the functional requirements for Add Journal option.

Table 8: Functional Requirements for Add Journal option

Purpose	The system shall allow the admin to add journal by entering its name, author and its file.
Inputs	Admin is required to select add journal button after logging into the system in order to add a journal to existing records.
Processing	The menu responds to selection by displaying a page containing the pre-defined text requested information.
Outputs	journal would be added to database and could even be seen by user

3.2.6 Functional requirements to Delete Book

Table 9 gives the functional requirements for delete book option.

Table 9: Functional Requirements for Delete Book option

Purpose	The system shall allow the admin to delete book.
Inputs	Admin is required to select delete book button after logging into the system in order to delete a book from its existing records.
Processing	The menu responds to selection by deleting the book from its records.
Outputs	The selected book would be deleted from the database.

3.2.7 Functional requirements to Delete Journal

Table 10 gives the functional requirements for Delete Journal option.

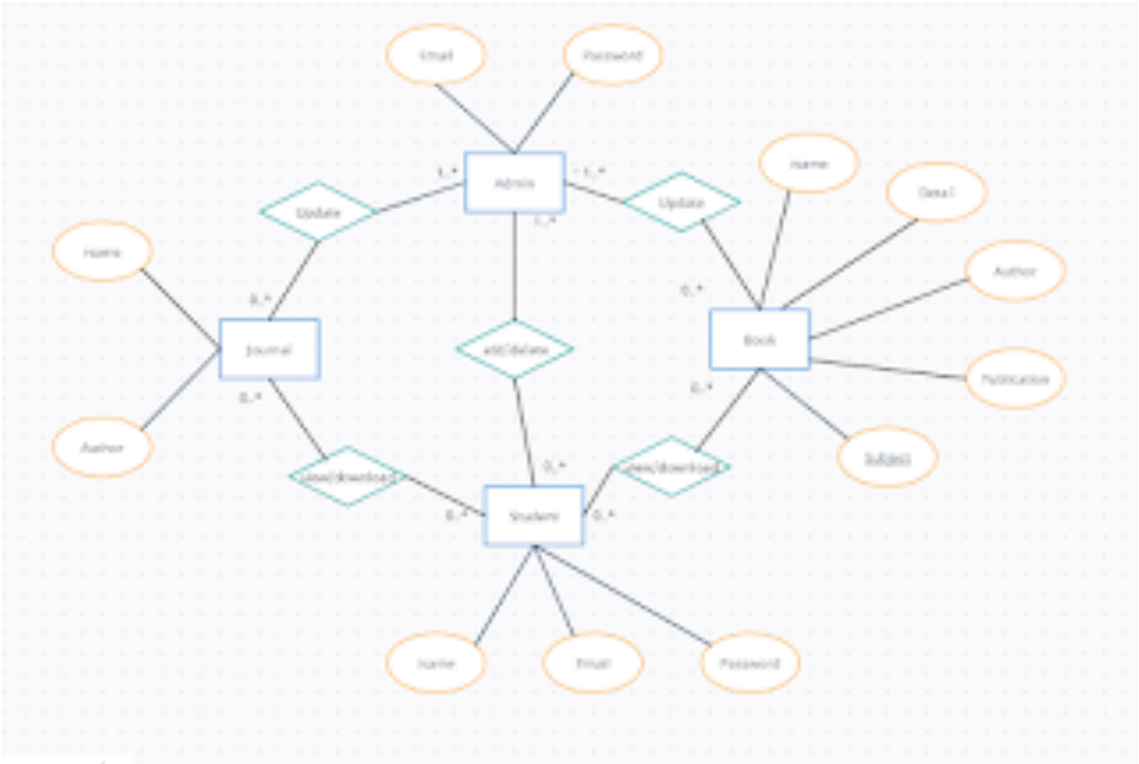
Table 10: Functional Requirements for Delete Journal option

Purpose	The system shall allow the admin to delete journal.
Inputs	Admin is required to select delete journal option after logging into the system in order to delete a journal from its existing records.
Processing	The menu responds to selection by deleting the journal from its records.
Outputs	The selected journal would be deleted from the database.

3.3 Performance Requirements

1. System login shall take less than 10 seconds.
2. Searches shall return results within 10 seconds.
3. Only textual information will be handled by the software.
4. System shall support 1,000 simultaneous users.

0.3 Logical Database Requirements



3.5 Quality Attributes

- Reliability : The system should be reliable .The average time to failure shall be 30 days.
- Availability : The system shall be available to users 24 hours a day, 7 days a week, with the exception of being down for maintenance no more than one hour a week.
- Security : Users will be able to access only their own personal information and not that of other users.
- Maintainability: Any updates or defect fixes shall be able to be made on server-side computers only without any patches required by the user.
- Portability : Nothing required.

3.6 Other Requirements

None at this time

4. Change History

02302	Version 1.0 – Initial Release

5. Document Approver

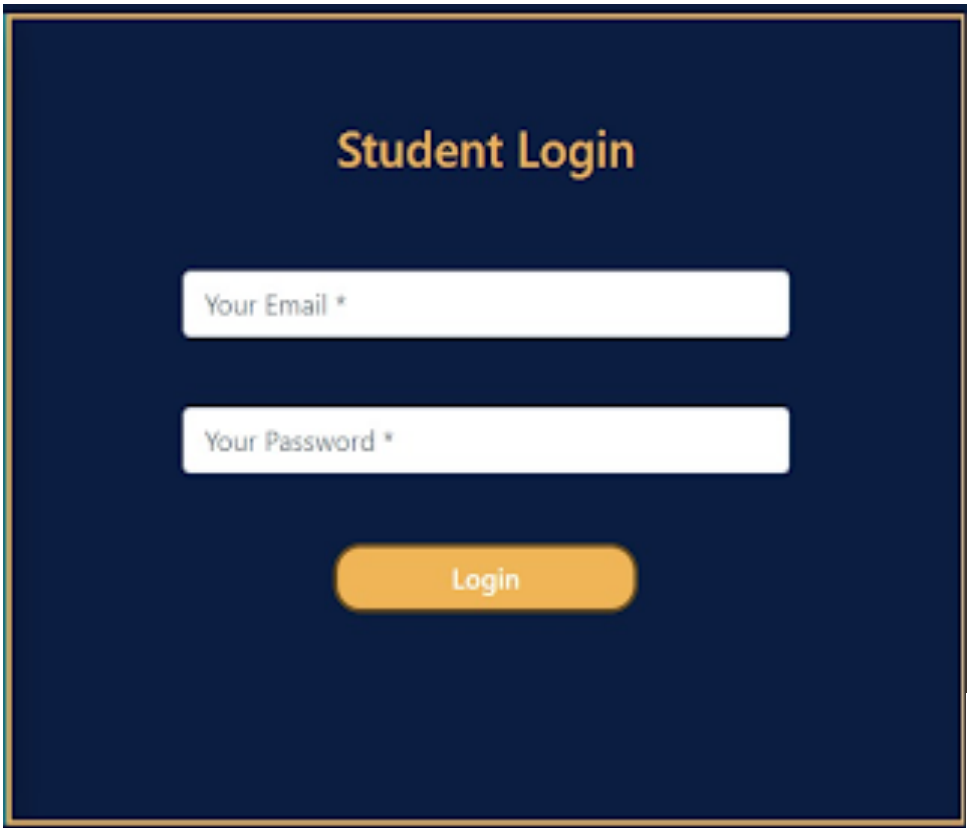
SRS for Book Spot approved by:

(name)
Designation
Date:

2.5 USER STORIES AND USER STORY CARD

2.5.1 User story for student Login.

#0001	STUDENT LOGIN
As a registered user, I want to log in, so I can access books and journals.	



Press login to proceed

Enter valid password

Enter valid email address

CONFIRMATION

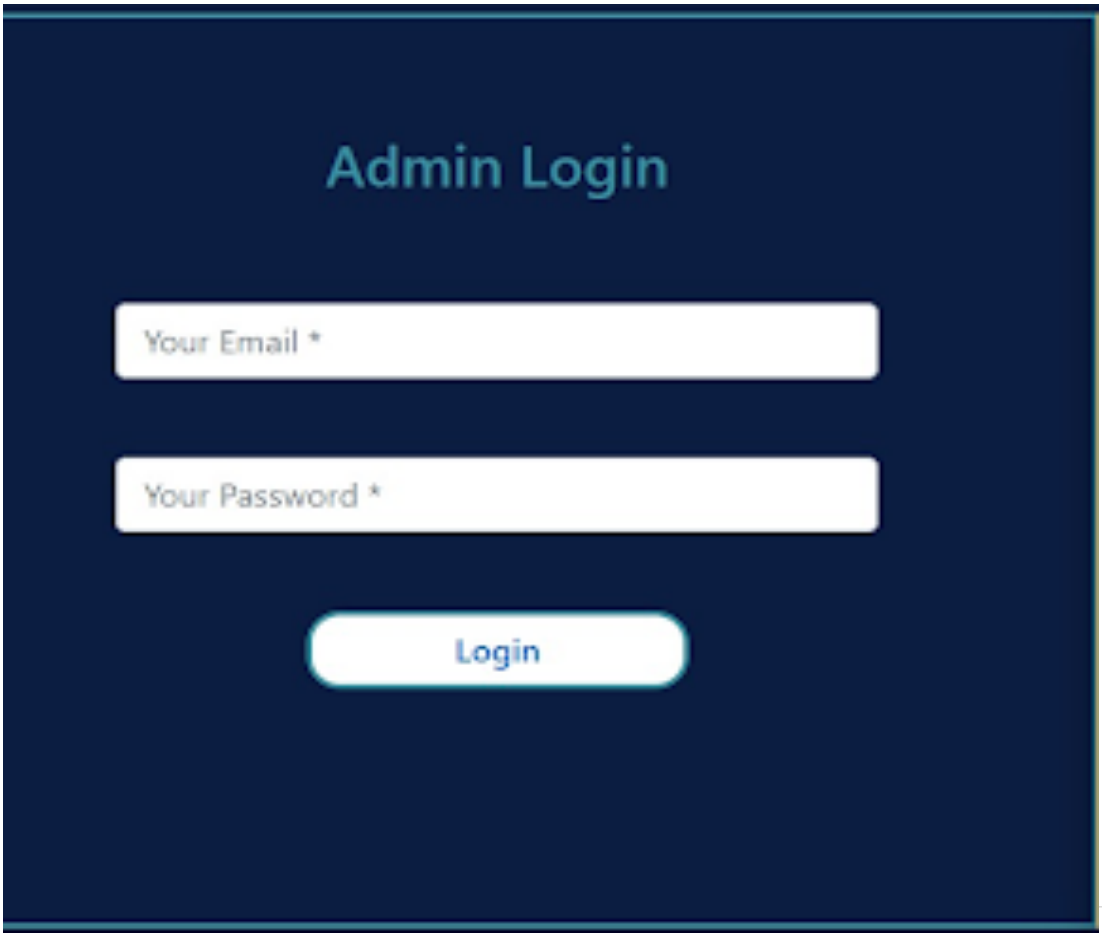
1.Success-
a. Valid user logged in and is referred to next page.

2.Failure- displays message:
a. “enter email address if not”
b. “enter password if not”
c. “Invalid credentials”

2.5.2 User story for Admin Login

	ADMIN LOGIN

nin, I want to log in the system, so that I can manage books, Journals and users.



ɪATION

s-
d admin logged in and is referred to next page.

- displays message:
d Credentials”
email id (if not)”
password (if not)”

2.5.3 User story to ADD USER

	ADD USER

Admin, I want to add users, so I can give them the access to books and journals.

IRMATION

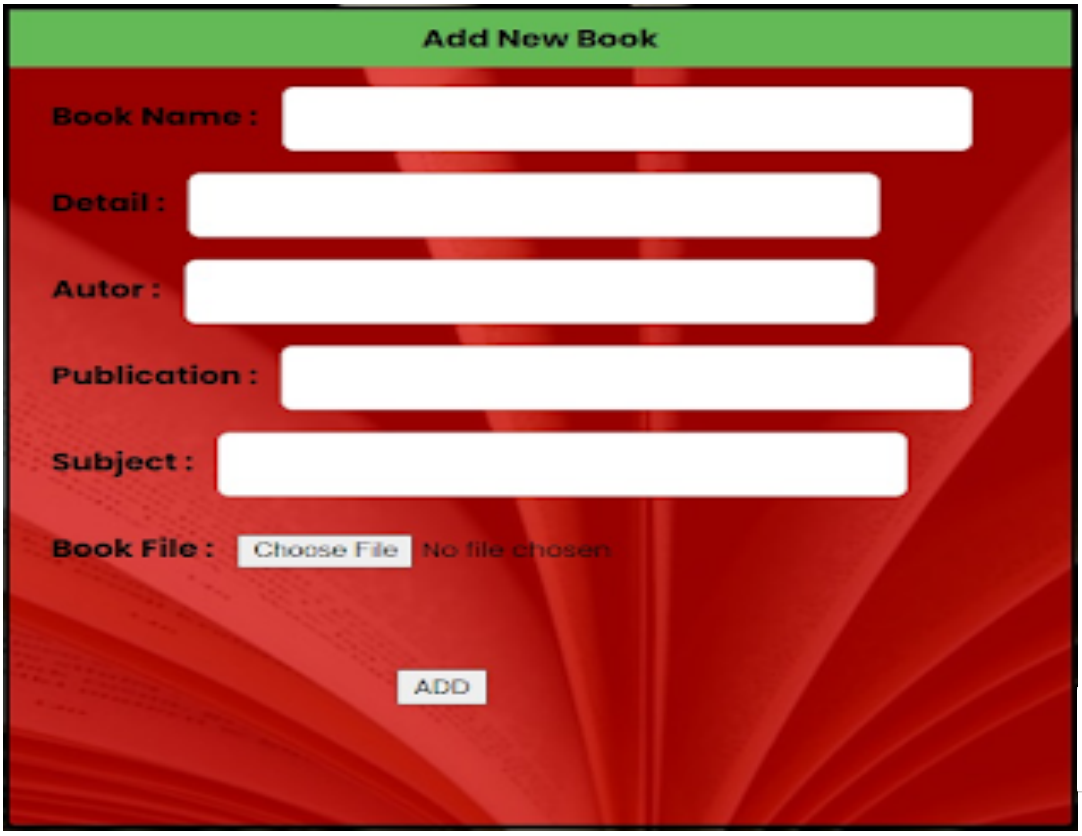
CESS-
successfully added to the system and can access the site.

ure- No updation in database, if admin tries to add user without entering its details.
y message-
or"

2.5.4 USER STORY TO ADD BOOKS

#0004	ADD BOOKS

As an Admin, I want to add books, so that I can provide additional resources to the user.



Click on ADD button to proceed

Select file to be uploaded

Enter book's subject

Enter book publication

Enter Author's name

Enter book details

Insert book's name

CONFIRMATION
1.Success-
File uploaded successfully and can be accessed by both student and admin.

2.Failure- If no file is chosen by the admin from the system and add book option is clicked then displays message:
a. "File not uploaded"

2.5.5 USER STORY TO ADD JOURNALS

J5	ADD JOURNALS

n Admin, I want to add Journals, so that I can provide additional resources to user.

Click on Add to proceed	Select file to be uploaded	Enter Journal Author	Enter Journal name

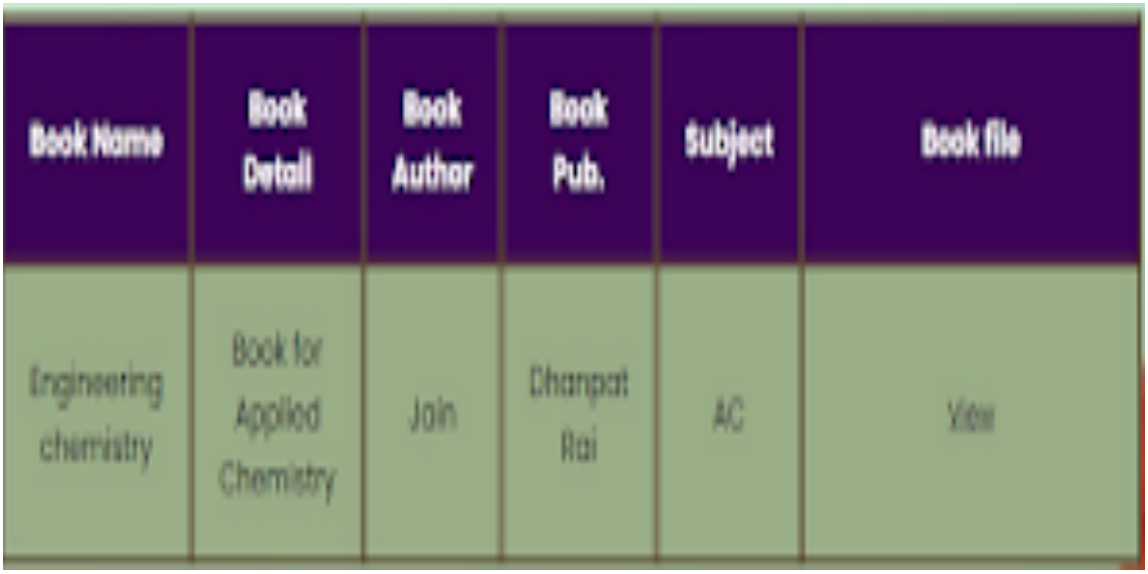
IFIRMATION
ccess-
uploaded successfully and can be accessed by both student and admin.

ilure- If no file is chosen by the admin from the system and add journal option is clicked then lays message:
File not uploaded”

2.5.6 USER STORY TO VIEW BOOK

VIEW BOOK

ident, I want to be able to view books, so I can download and read them offline conveniently



Book Name	Book Detail	Book Author	Book Pub.	Subject	Book file
Engineering chemistry	Book for Applied Chemistry	Jain	Dhanpat Rai	AC	View

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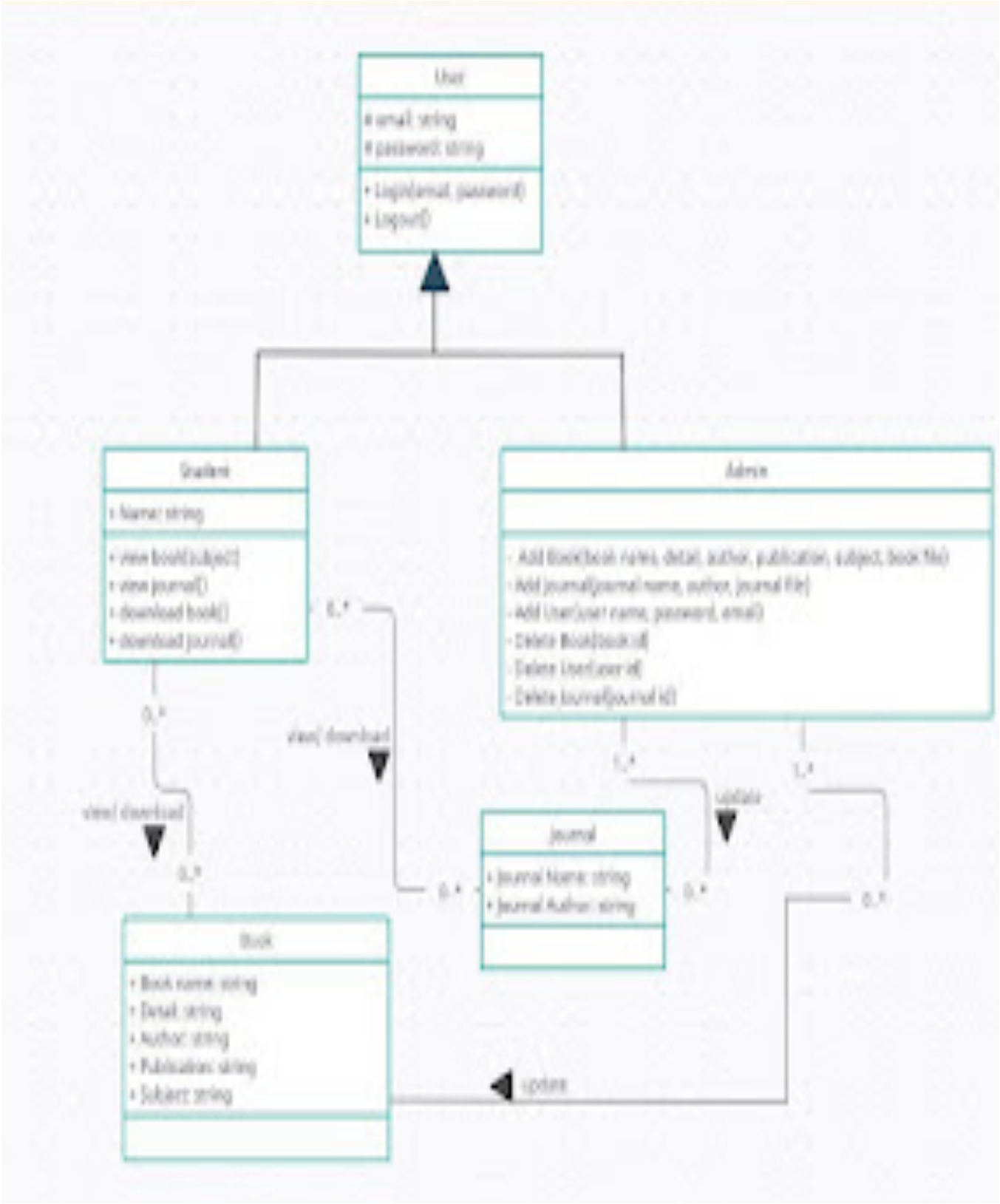
MATION-

-
ewed and downloaded successfully.

ough storage to Download book.

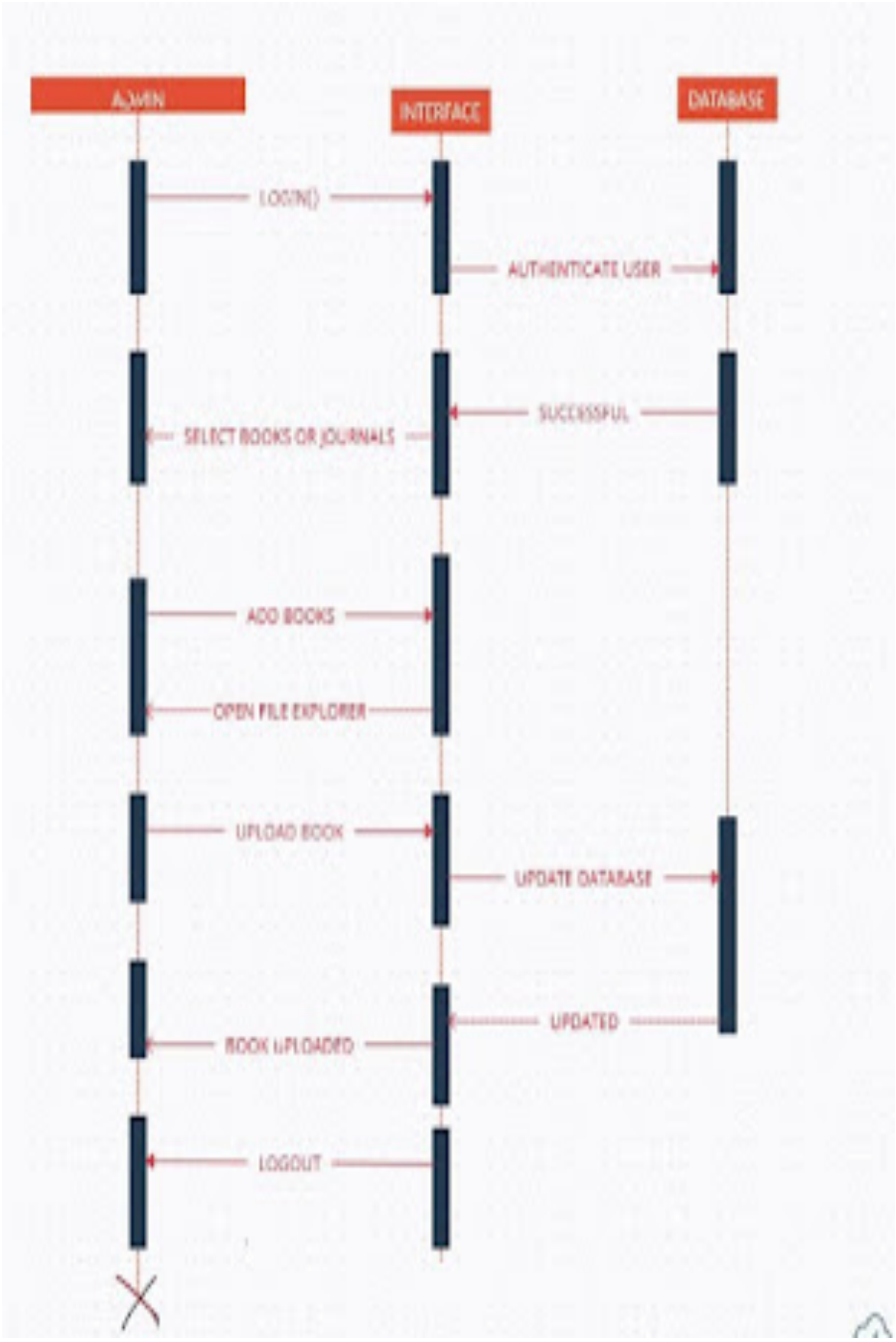
6. Design Phase (At least two significant cases of each diagram)

6.1 Class Diagram

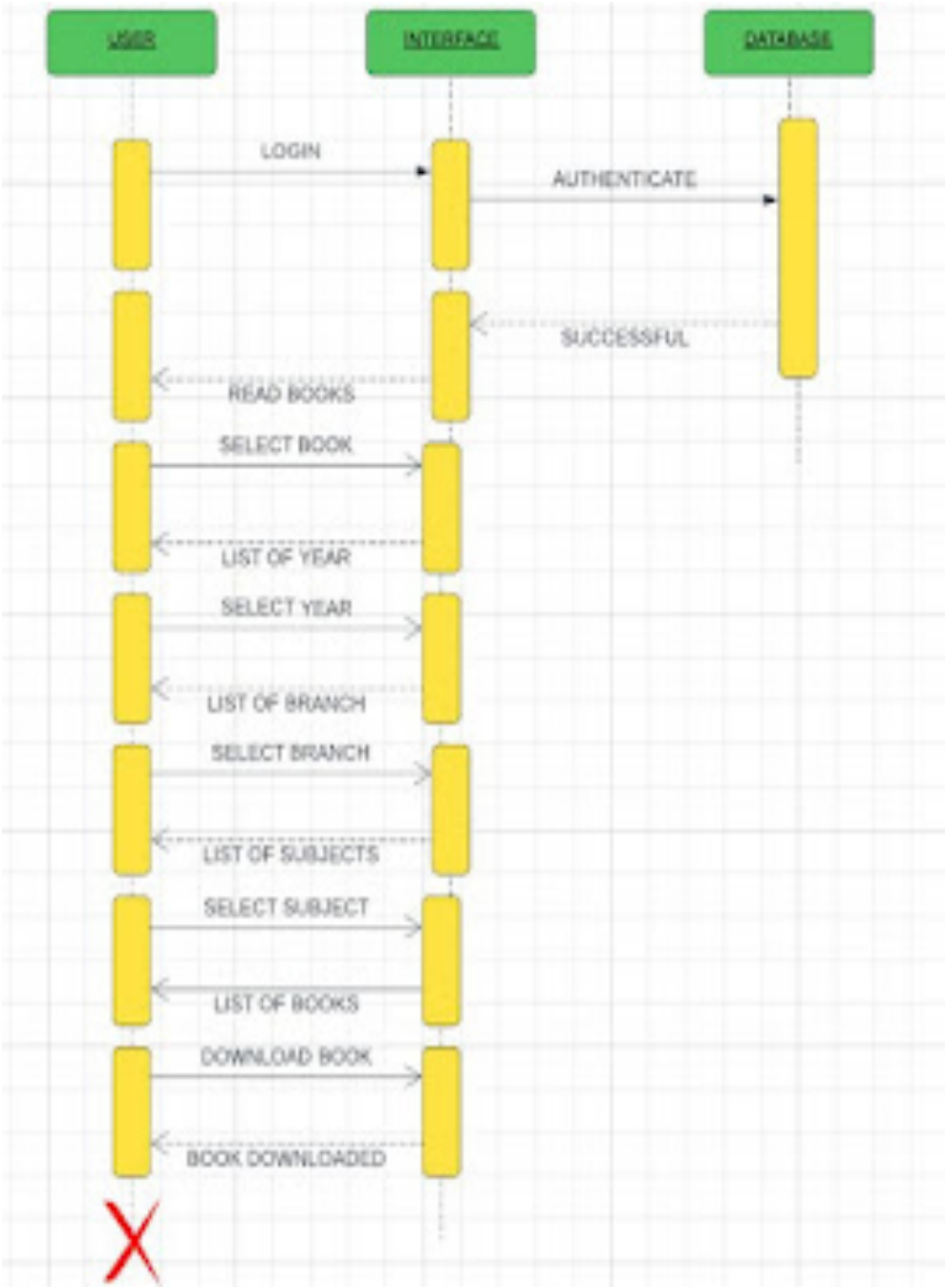


6.2 Sequence Diagram

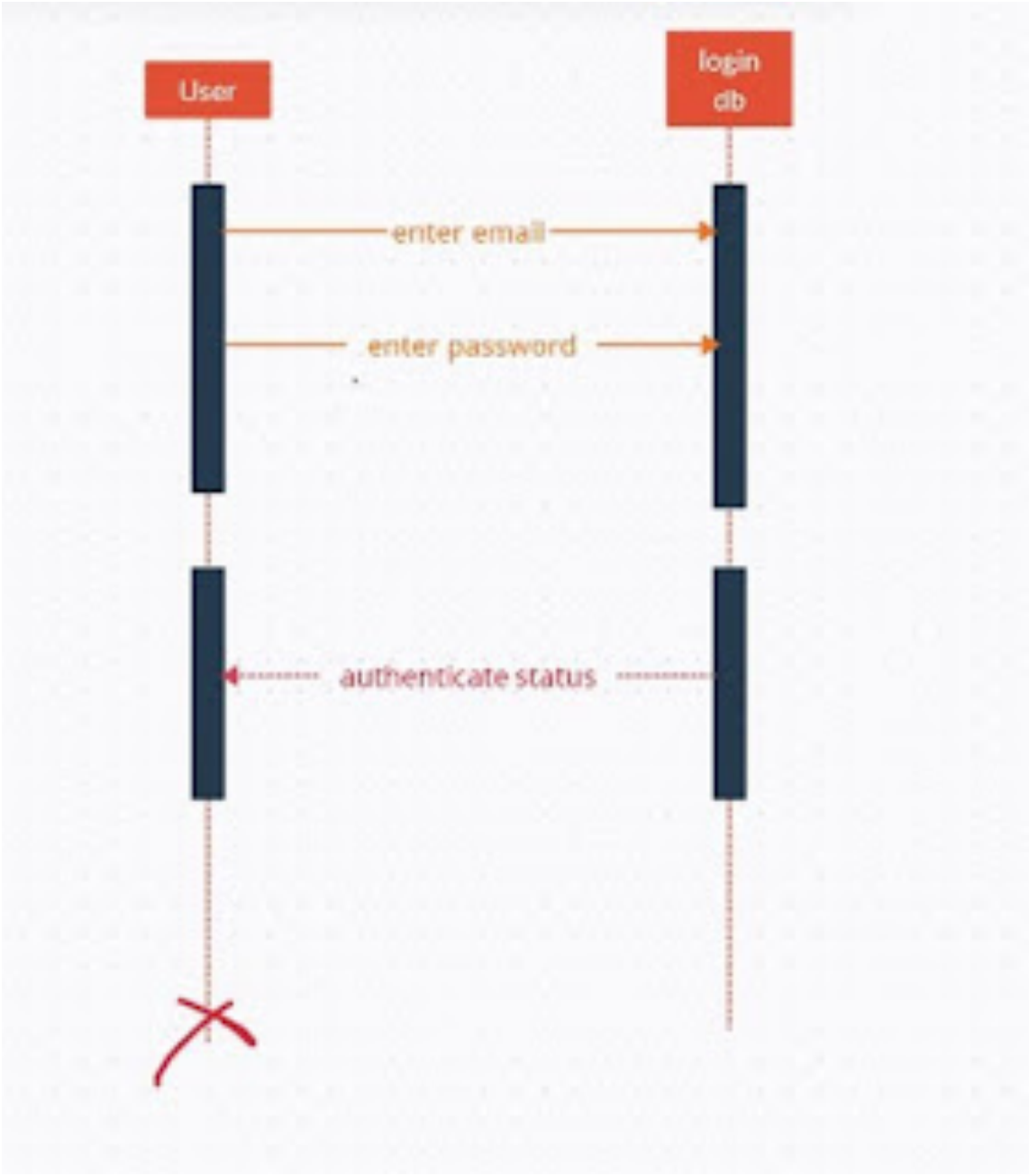
6.2.1 Sequence diagram to add book



6.2.2 Sequence diagram to View Book

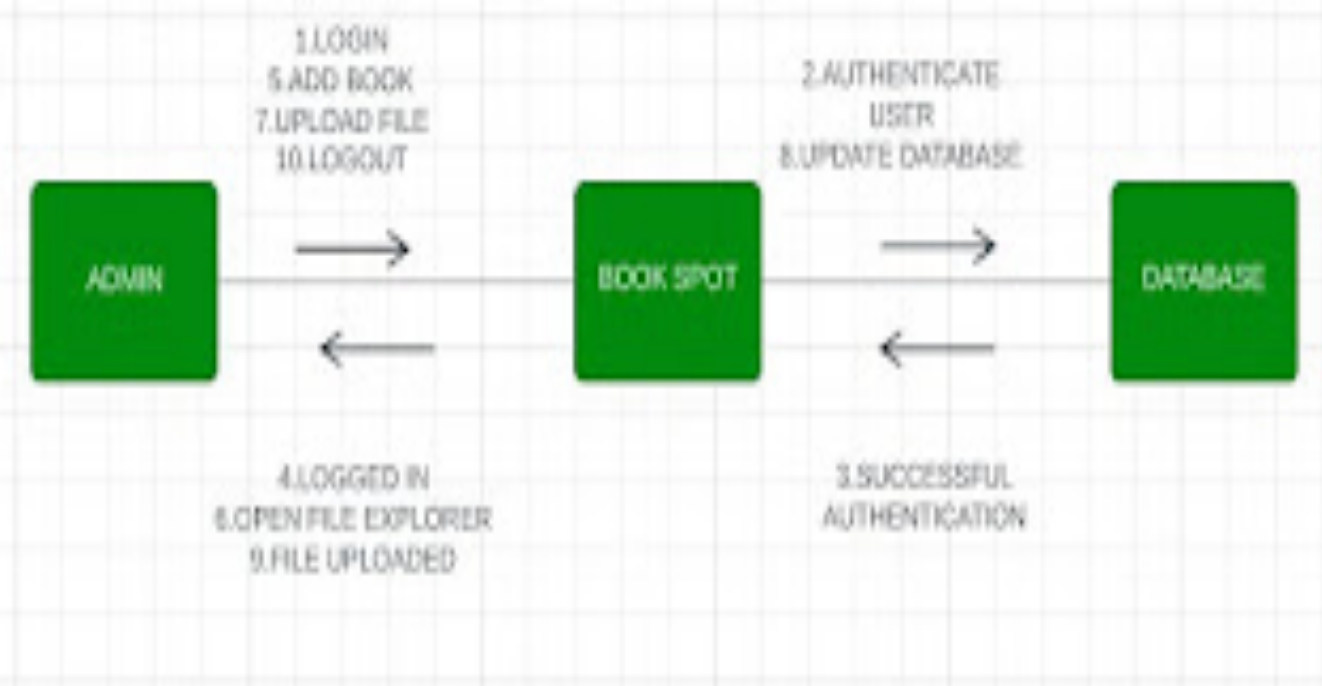


6.2.3 Sequence diagram for login

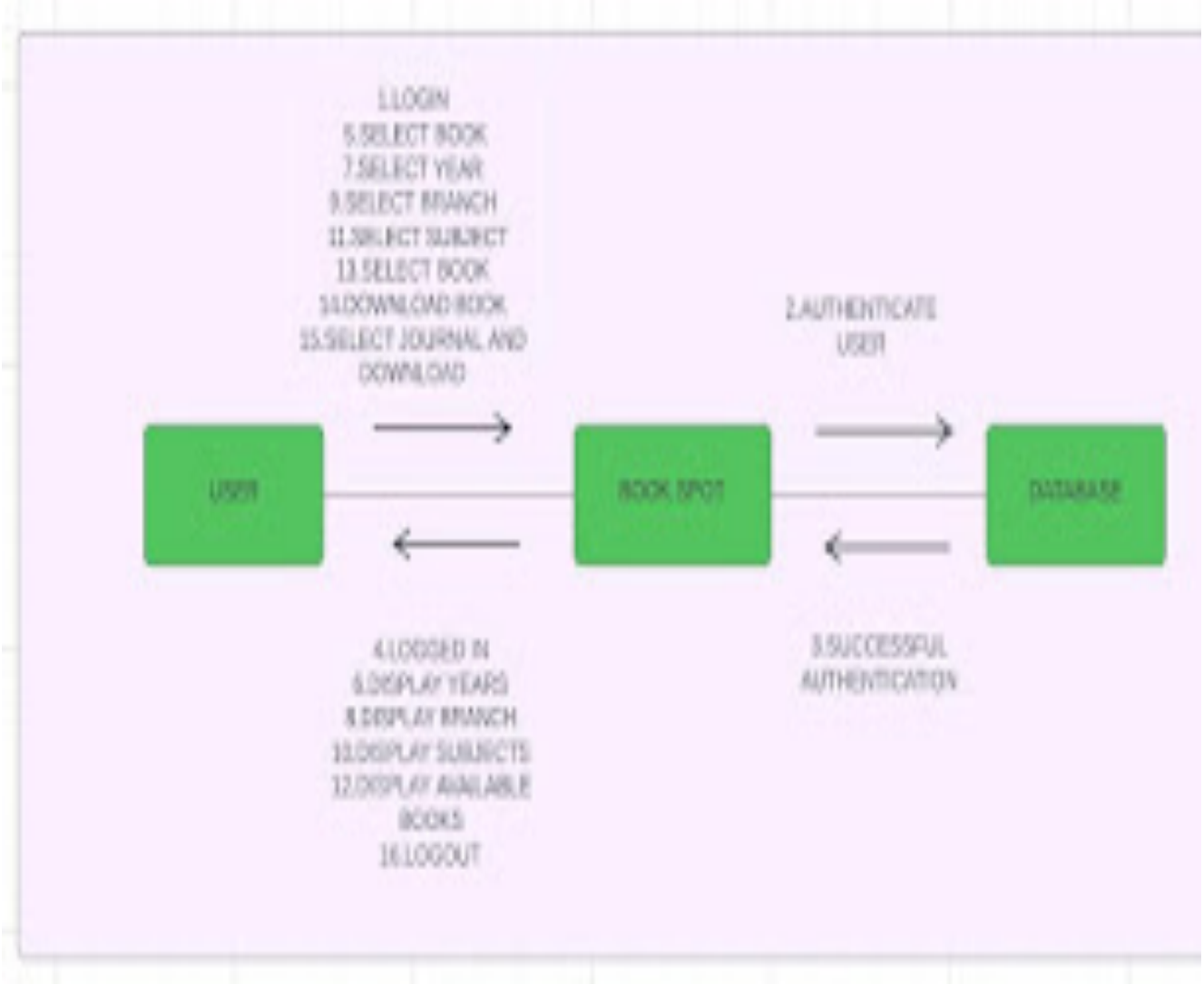


6.3 Collaboration Diagram

6.3.1 Collaboration diagram to add book

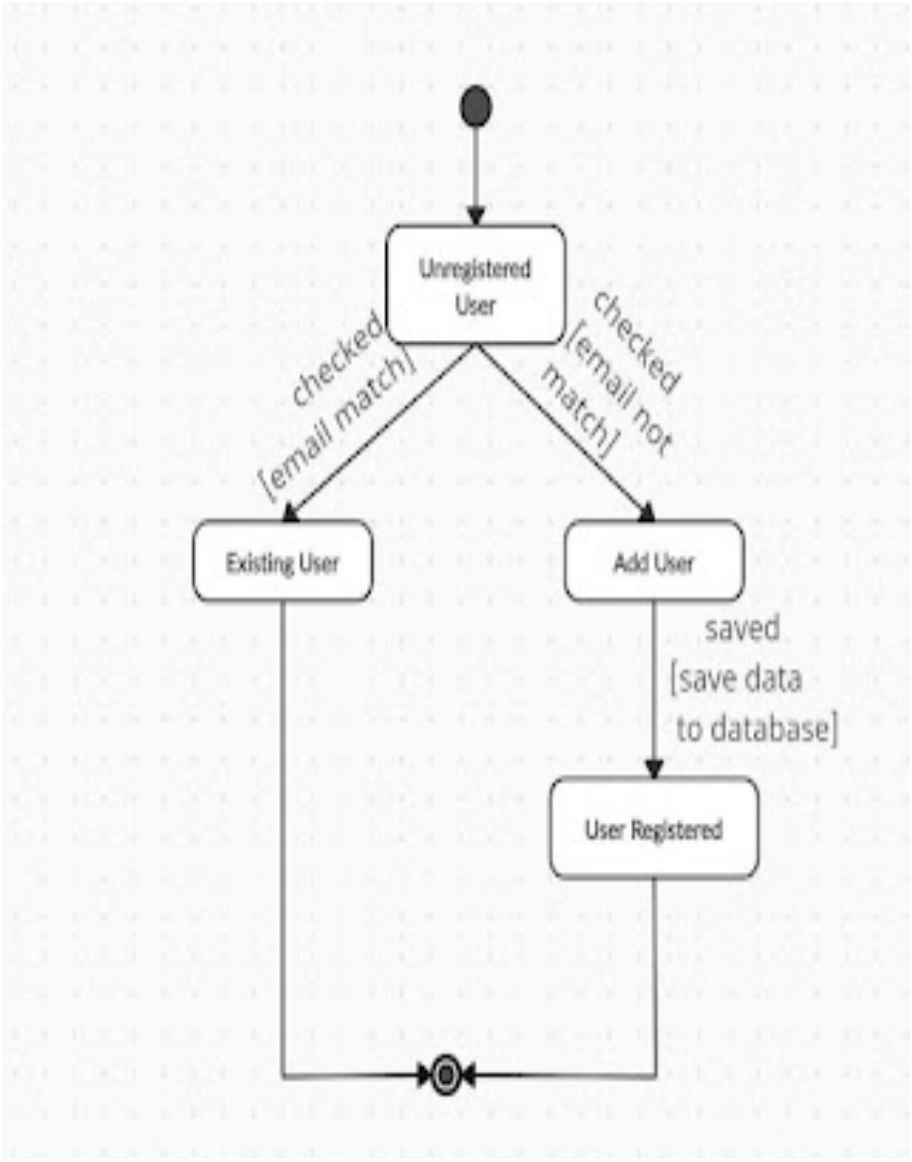


6.3.2 Collaboration Diagram to view Book and Journal.

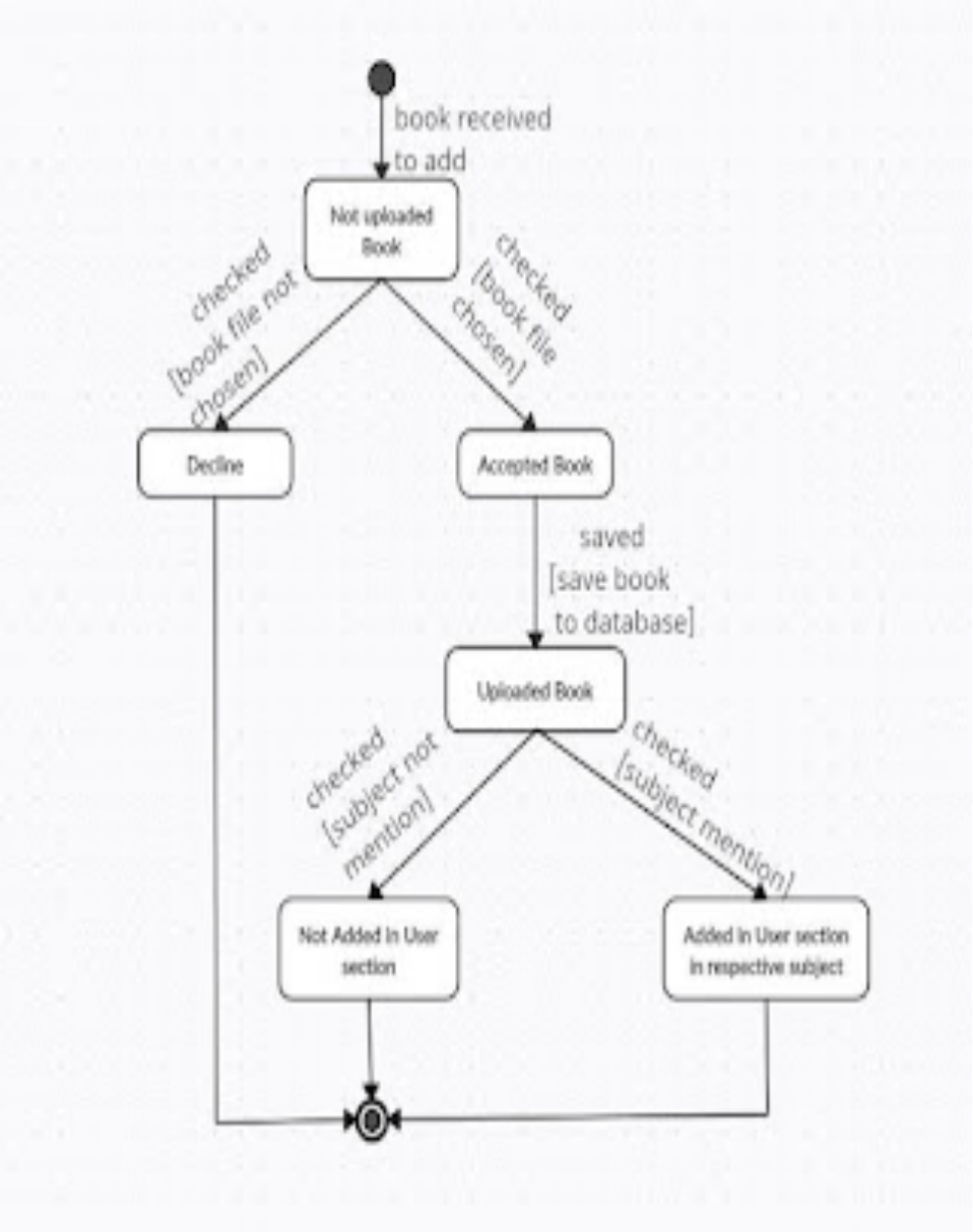


6.4 State Chart Diagrams

6.4.1 State Chart Diagram for Unregistered user.

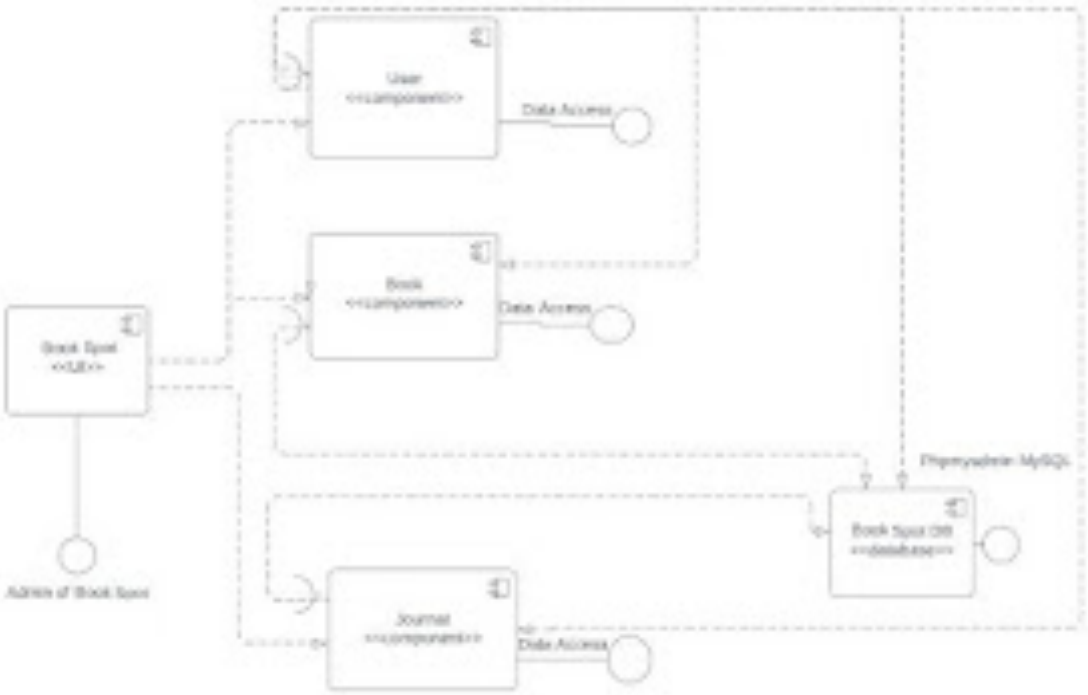


6.4.2 State Chart Diagram for books uploaded.

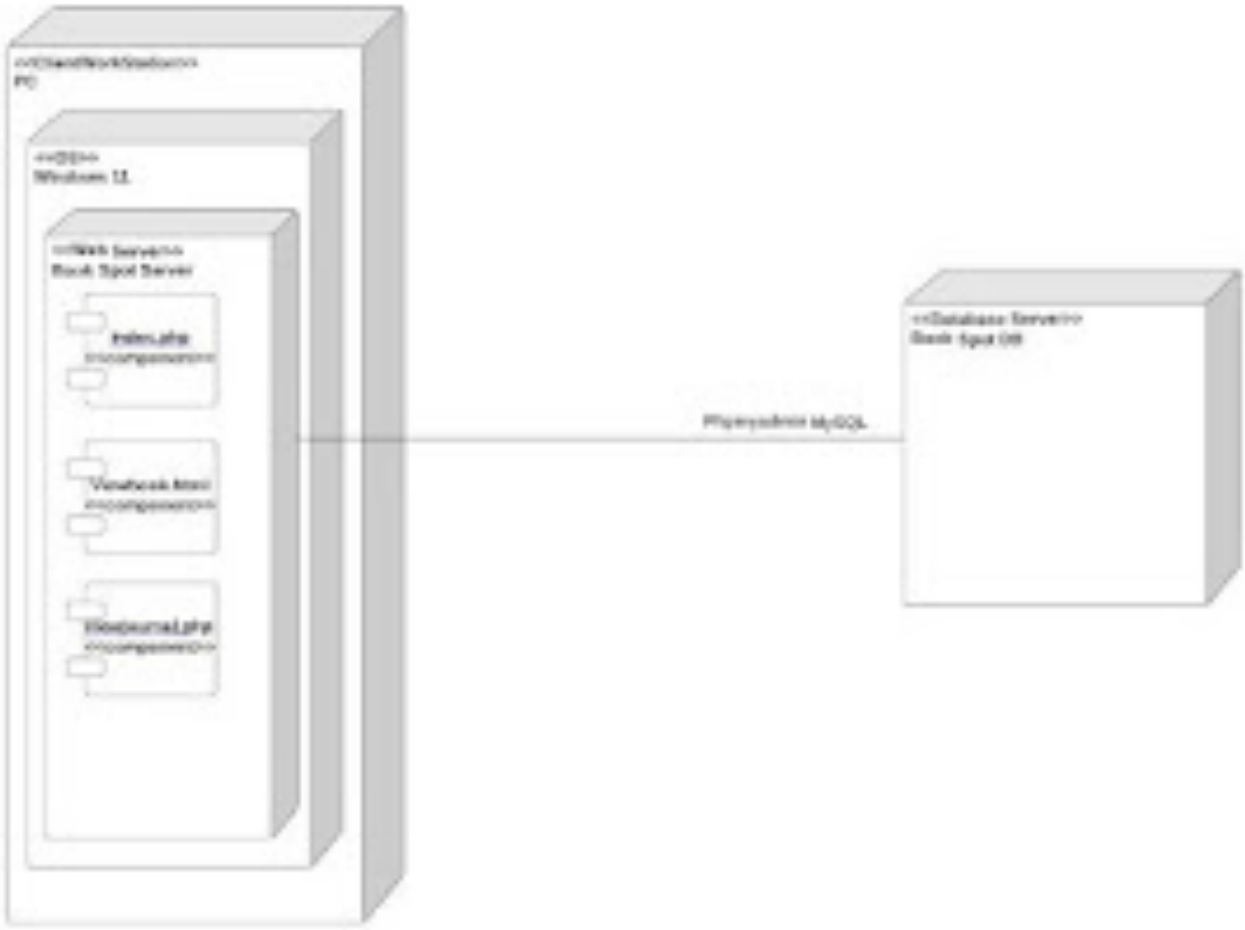


3. **Implementation**

3.4 Component Diagrams

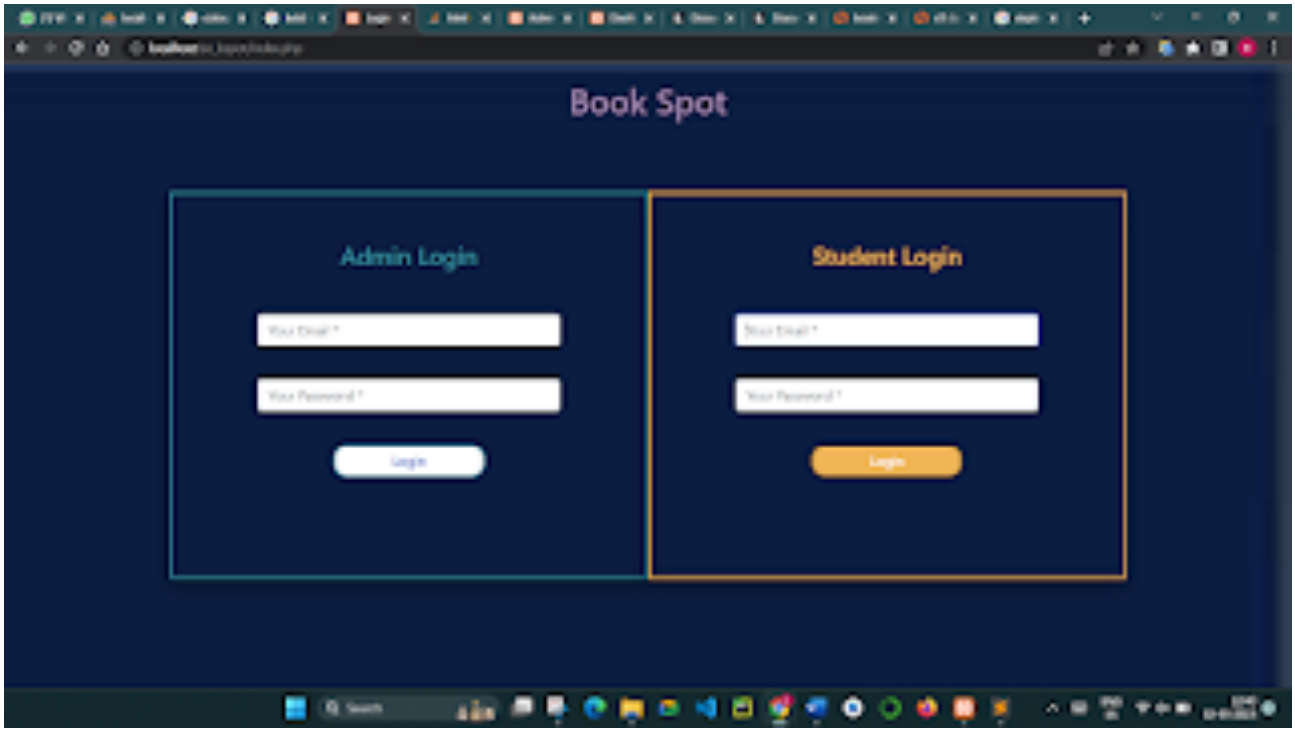


3.5 Deployment Diagrams

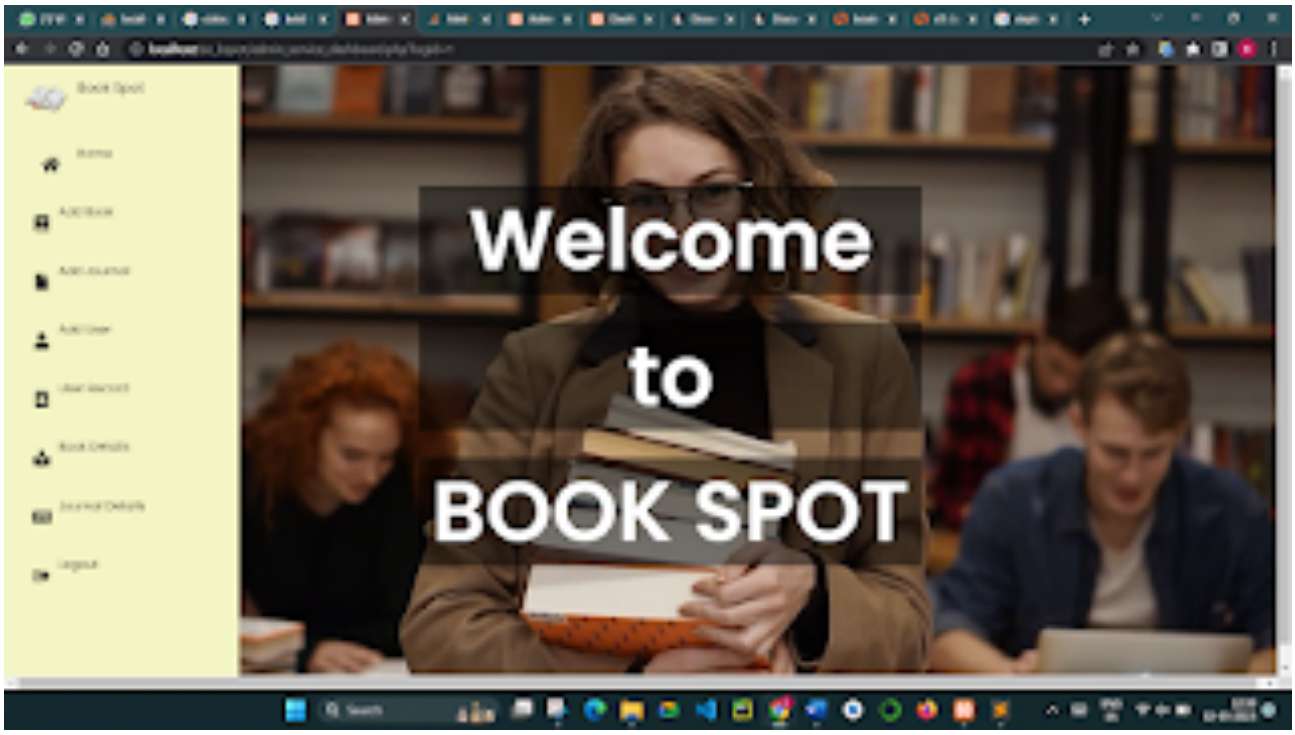


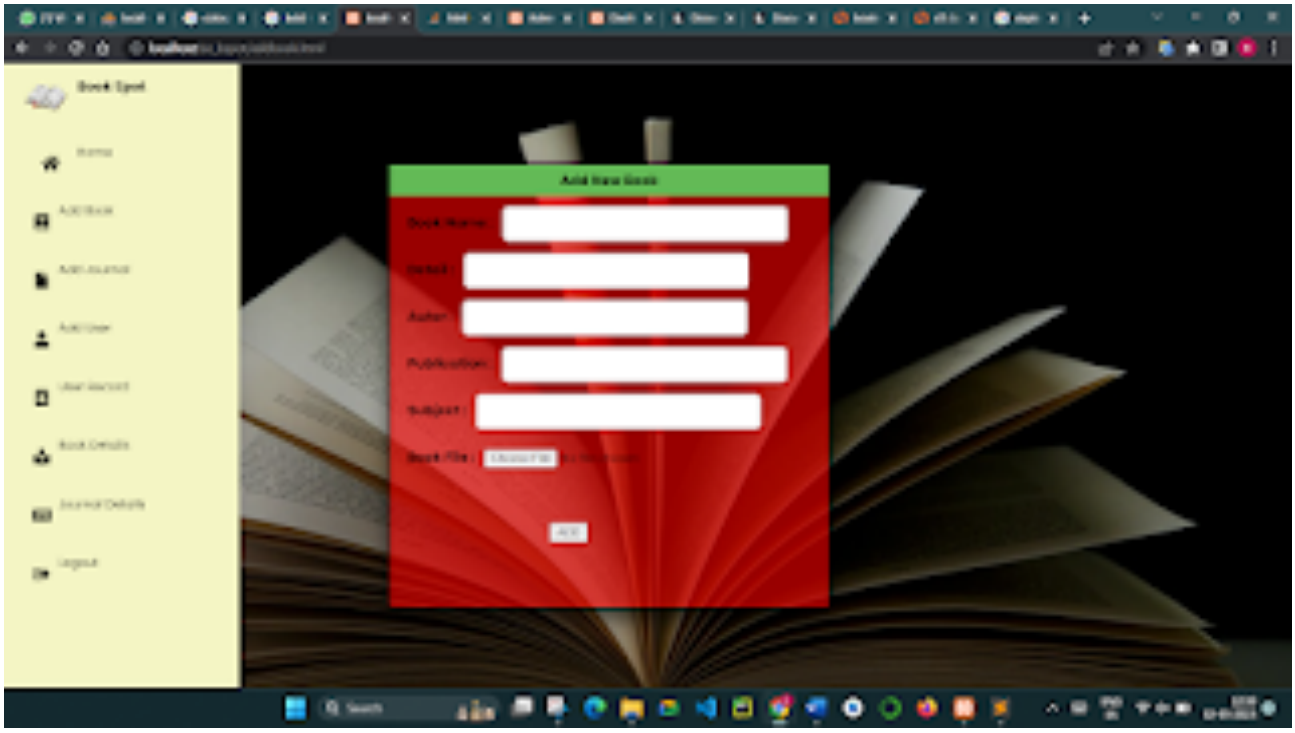
3.6 **Screenshots**

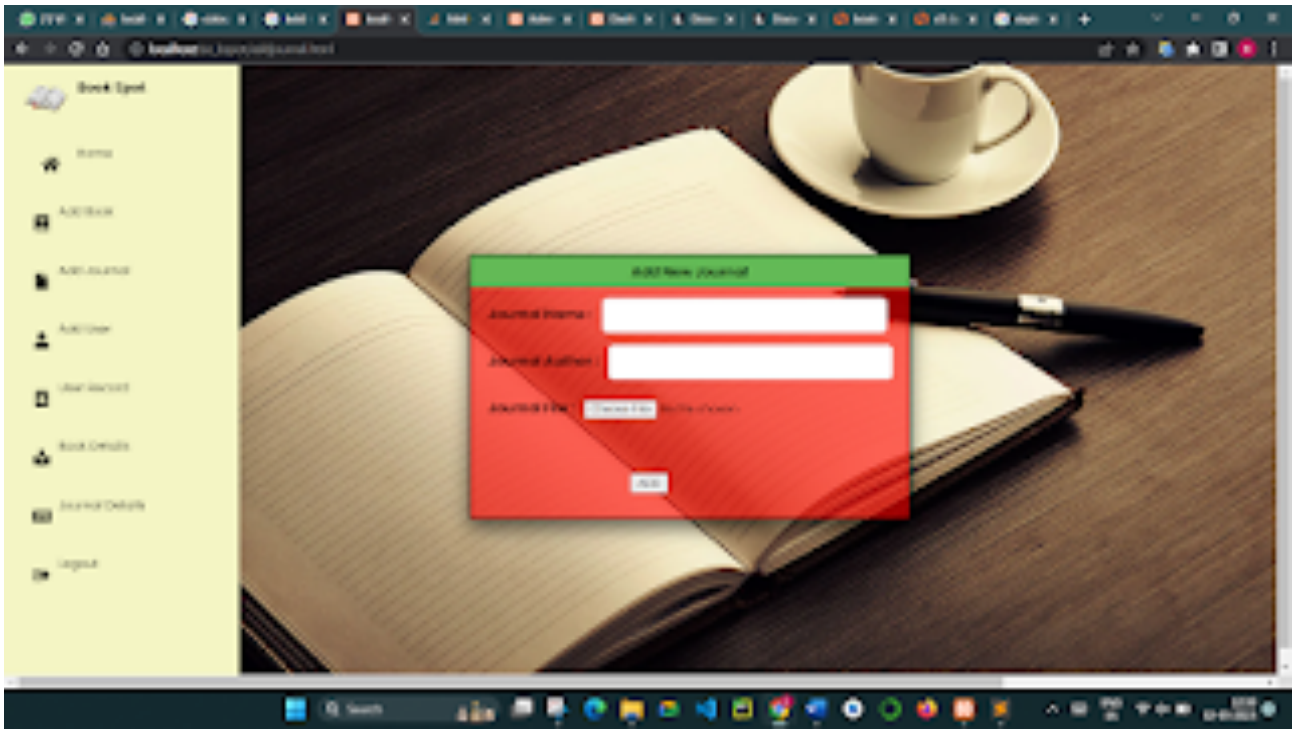
Login page

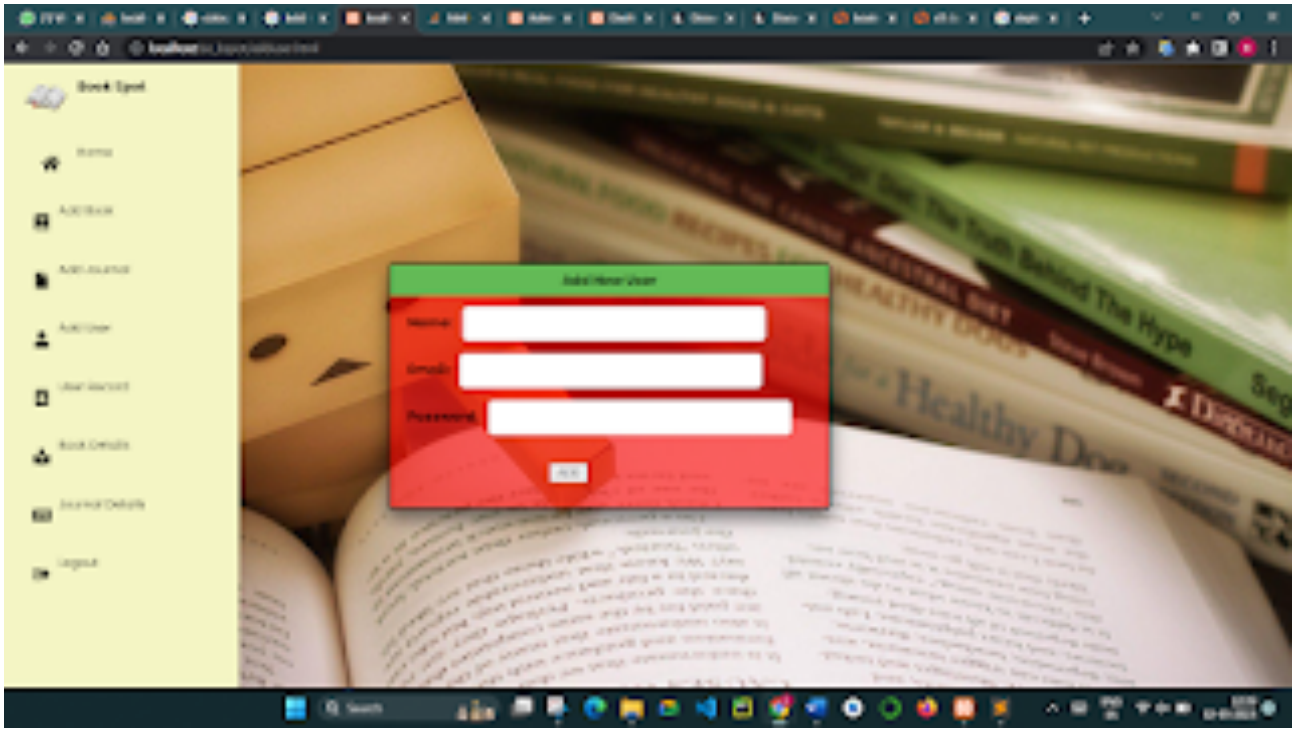

Book Spot
Admin Login
Student Login
Login
Login

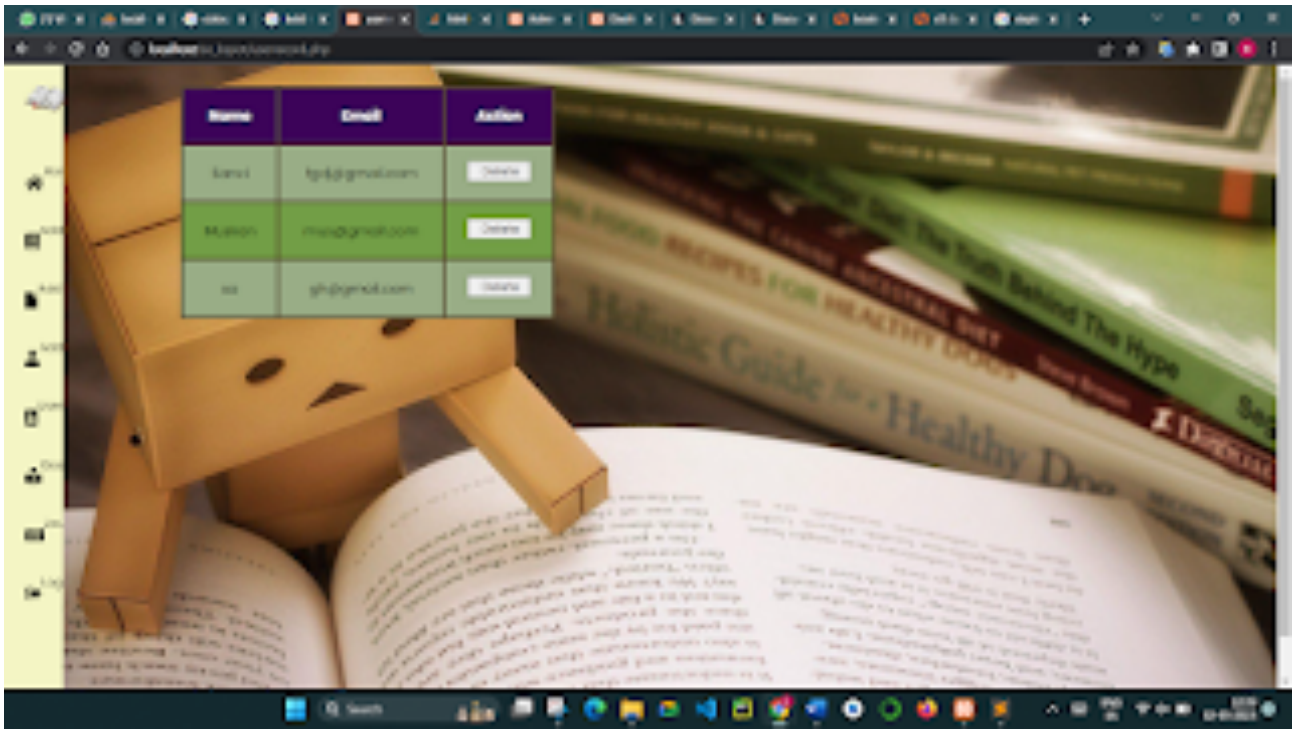
Admin Side


Welcome
to
BOOK SPOT

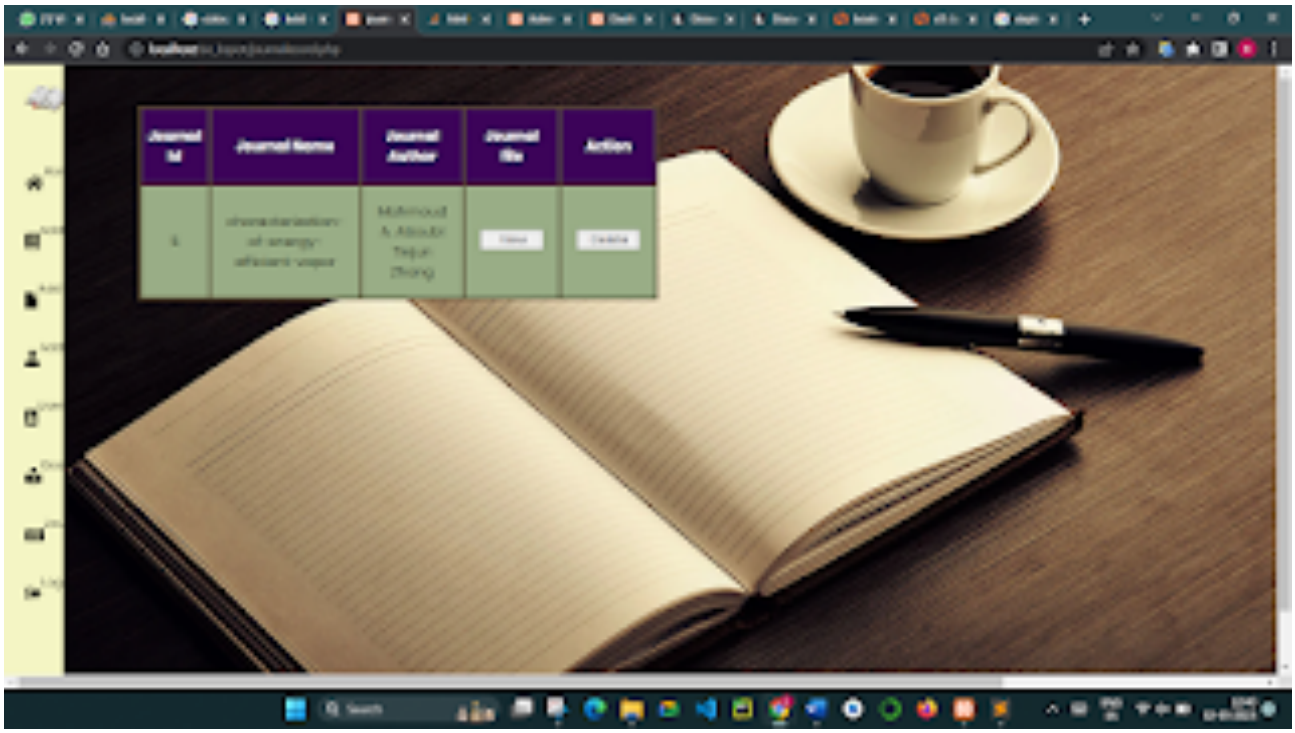

Book Spot
Add New Book


Book Spot



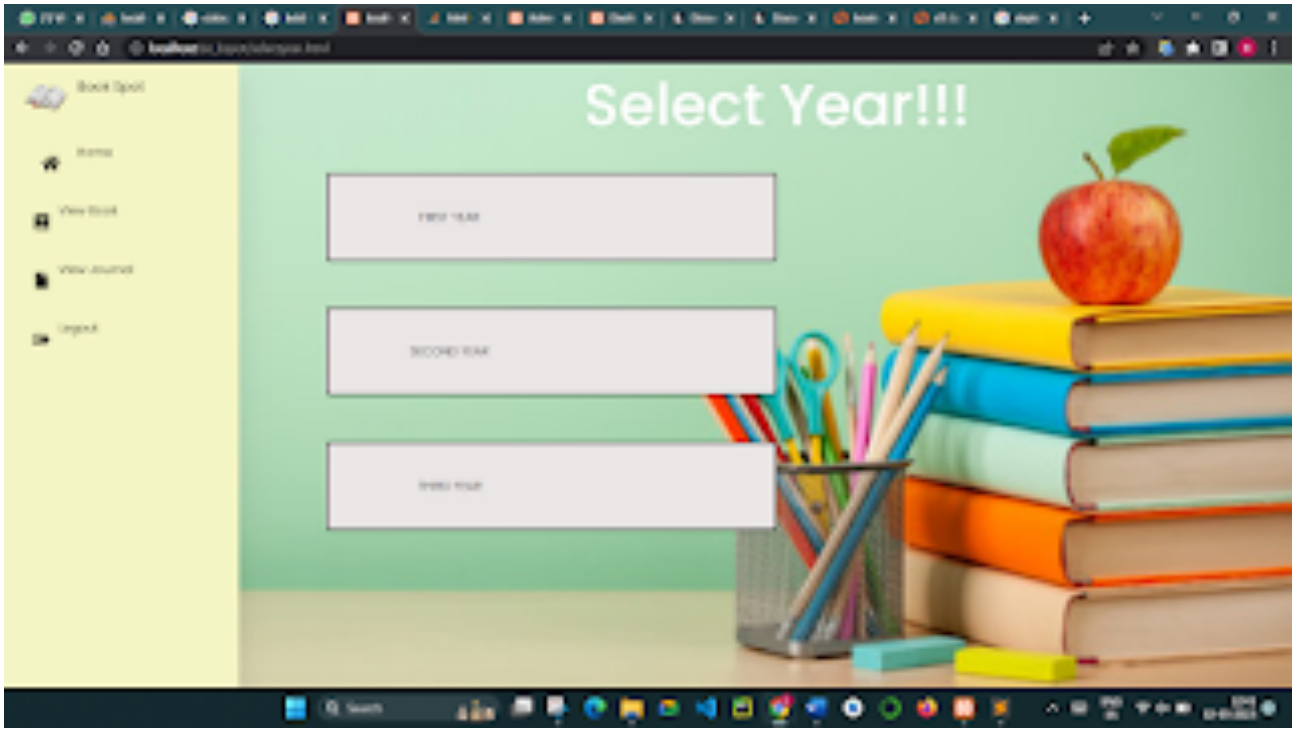


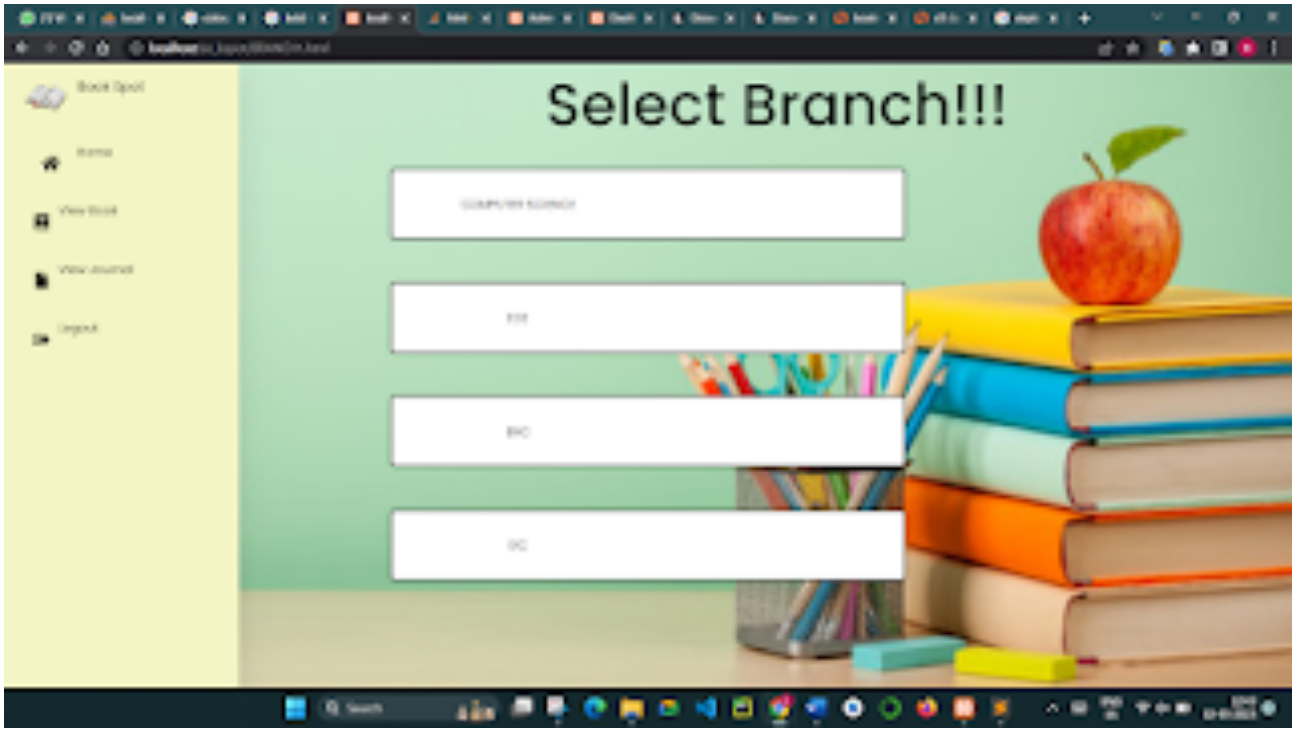
Book Id
Book Name
Book Detail
Book Author
Book Pub.
Subject
Book file
Action
Engineering chemistry
Book for Applied Chemistry
John
Dhanpat Rai
NC
View
Update


Journal Id
Journal Name
Journal Author
Journal file
Action
View
Delete

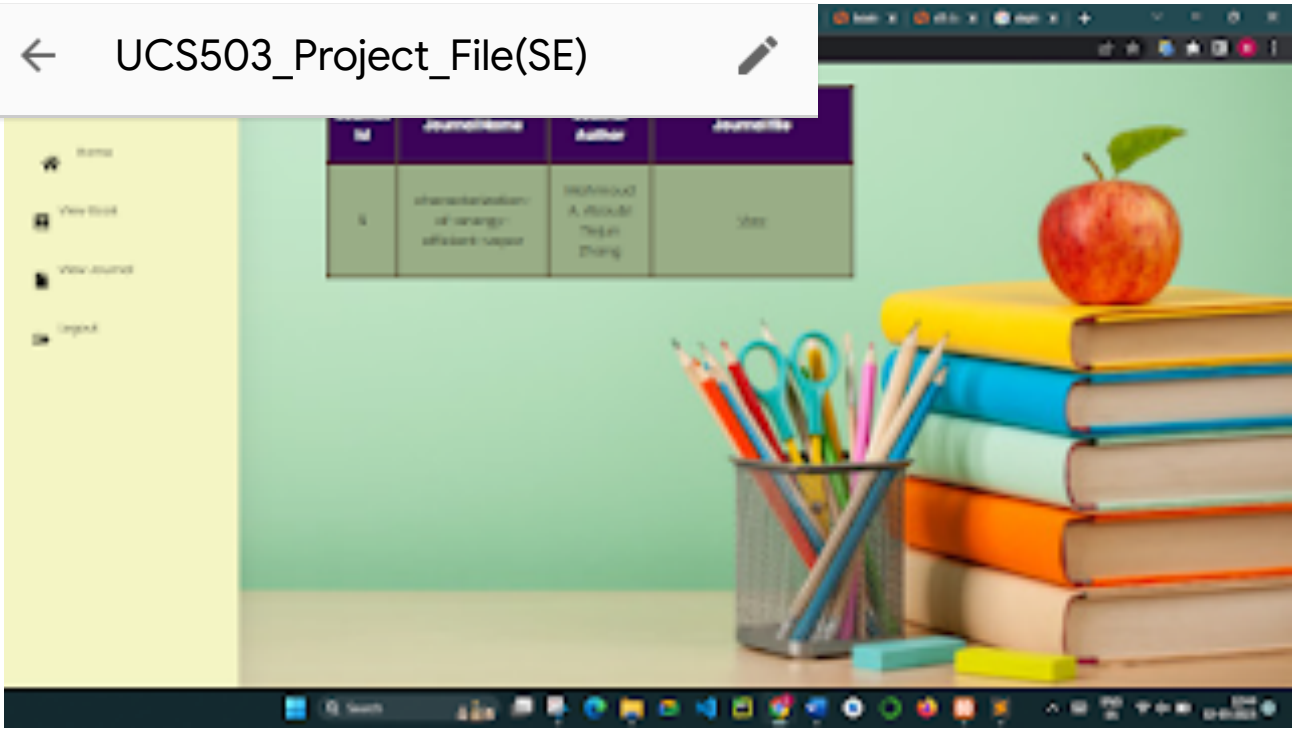
User Side

Book Spot
Home
View Book
View Journal
Logout
Welcome
to
BOOK SPOT

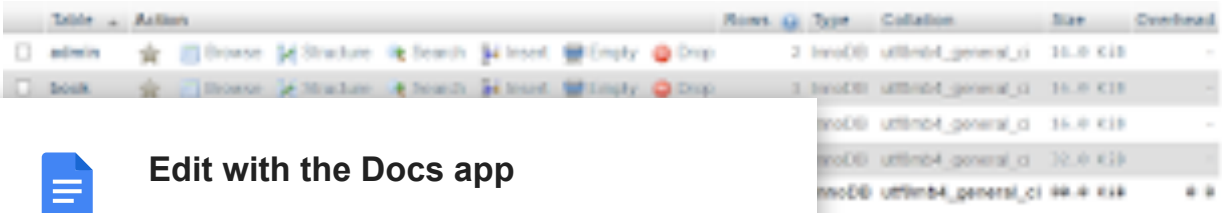

Book Spot
Home
View Book
View Journal
Logout
Select Year!!!


Select Branch!!!

Book Spot
Home
View Book
View Journal
Logout
Book Id
Book Name
Book Detail
Book Author
Book Pub.
Subject
Book Pic
5
Engineering chemistry
Book for Applied Chemistry
Jain
Dhanpat Rai
KC



Database



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NO, THANKS GET THE APP