



Faculty of Science and Information Technology

Department of Software Engineering

**Project Report on**

**DIU LIBRARY SERVICE**

<https://diulibrary.netlify.app/>

Submitted by:

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This Project Report has been submitted to the Department of Software Engineering (SWE) at Daffodil International University in the fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering

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# APPROVAL

## APPROVAL

This thesis titled on “**DIU Library Service**”, submitted by **Mir Anupam Hossain Akib (ID: 191-35 2640)** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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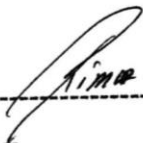
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## DECLARATION

I hereby declare that I have done this project under the supervision of **Ms. Nusrat Jahan, Assistant Professor**, Department of Software Engineering, Daffodil International University. I also declare that this project is my original work for the degree of B.Sc. in Software Engineering and neither the whole work nor any part of this project has been submitted for another degree in this or any other university.



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## ACKNOWLEDGEMENT

Today's world is a world of competition. There is a race for survival in which they have to come forward for success. My project "DIU Library Service" is a bridge between practical and theoretical work. I enjoyed a lot doing this project. At first, I would like to thank almighty Allah who has guided me to do the right things and keep me in good health to finish the project. Without Allah's grace the project couldn't come to reality. I would like to thank my parents who supported me a lot from the beginning of the journey and for bringing me to this stage with love and encouragement.

I feel honored to talk about the opportunity to study at Daffodil International University in the department of Software Engineering. I would like to thank Prof. Dr. Imran Mahmud, Head of the Department of Software Engineering. I respect and remember all my teachers who enjoyed teaching me an interesting and understandable way. I am grateful for having them on my journey.

I am exceptionally obligated to Daffodil International University to guide me through the constant supervision of Ms. Nusrat Jahan who help and supervised me by providing the necessary information and giving feedback about the project.

Finally, I would like to express my love for my batch mates, club member of the university, for any kind of co-operation and consolation that has helped me to accomplish this task.

## **ABSTRACT**

The “DIU Library Service” is a library management system with some special features. It will help student to use their university library in a best way. They can use their library from their home. There are some other special features like ‘Book list’ for student so that they can save any book for read later.

This project will be useful for library security guards to manage the locker key distribution. They can distribute library locker key and mark keys returned in an easy way using this system. All distribution history will be recorded and can be viewed later.

Authority/Admin can control all the system. They can manage library books, manage library security guards, manage admins etc. They can view statistical report and print it if necessary. Activity logs of all actions by any actor will be recorded and can be viewed by admin so that they can easily understand what is going on in the system.

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**CHAPTER – 1**  
**INTRODUCTION**



## 1.1 Project Overview

The “DIU Library Service“ is a library management system with some special features. It will help student to use their university library in a best way. They can use their library from their home. There are some other special features like ‘Book list’ for student so that they can save any book for read later.

This project will be useful for library security guards to manage the locker key distribution. They can distribute library locker key and mark keys returned in an easy way using this system. All distribution history will be recorded and can be viewed later.

Authority/Admin can control all the system. They can manage library books, manage library security guards, manage admins etc. They can view statistical report and print it if necessary. Activity logs of all actions by any actor will be recorded and can be viewed by admin so that they can easily understand what is going on in the system.

## 1.2 Project Purpose

The purpose of “DIU Library Service” is to serve students and security guards. This two are the main purpose of the project. Students can be benefitted by the project as they can use their university library from their home or any other place away from DIU Library. Distribution of locker key in our university is manual. They use pen and paper to keep track of a locker key. This project will help security guards to do this thing automatic and in a short period of time. There are admins to control all these systems.

Bullet Functionality provided by “DIU Library Service” –

- Read books of DIU Library from any other place by online
- Distribute and Mark locker key in a smart and efficient way
- View individual student’s locker key history
- Admin manage all the system
- Admin can view activity logs

## 1.3 Background

There are so many ‘library management system’ projects. So, this project come up with something new in these types of projects. It is noticed that we cannot use our university library when we are in home. When we enter to library, we are not allowed to keep bag with us. We have to take a locker key from a security guard and keep our bag into the locker key. The process of distributing locker key is manual. They use pen and paper to do it. So, to solve this problem, this project will be very helpful. This project is user friendly, efficient, reliable and secure.

## **1.4 Benefits and Beneficiaries**

This system will be helpful for student as they will be able to read their university library book online. Library Security Guards will also be benefitted from this project as they will be able to distribute and mark locker key in short period of time and all the data will be saved automatically. Daffodil International University Authority will also be benefitted as everything of the system in under their control and they can view what is going on in their library by viewing activity logs.

## **1.5 Stakeholders**

Stakeholders are someone who are related to the system or projects. They can be benefitted or influenced by the projects or organizations. Stakeholder can be internal or external and they can be junior or senior level.

Stakeholders of “DIU Library Service” are given below –

- Students
- Security Guards
- Admin/Authority

## 1.6 Proposed System Model:

This model will help to simulate the system architecture. It is tried to design it as user friendly as possible.

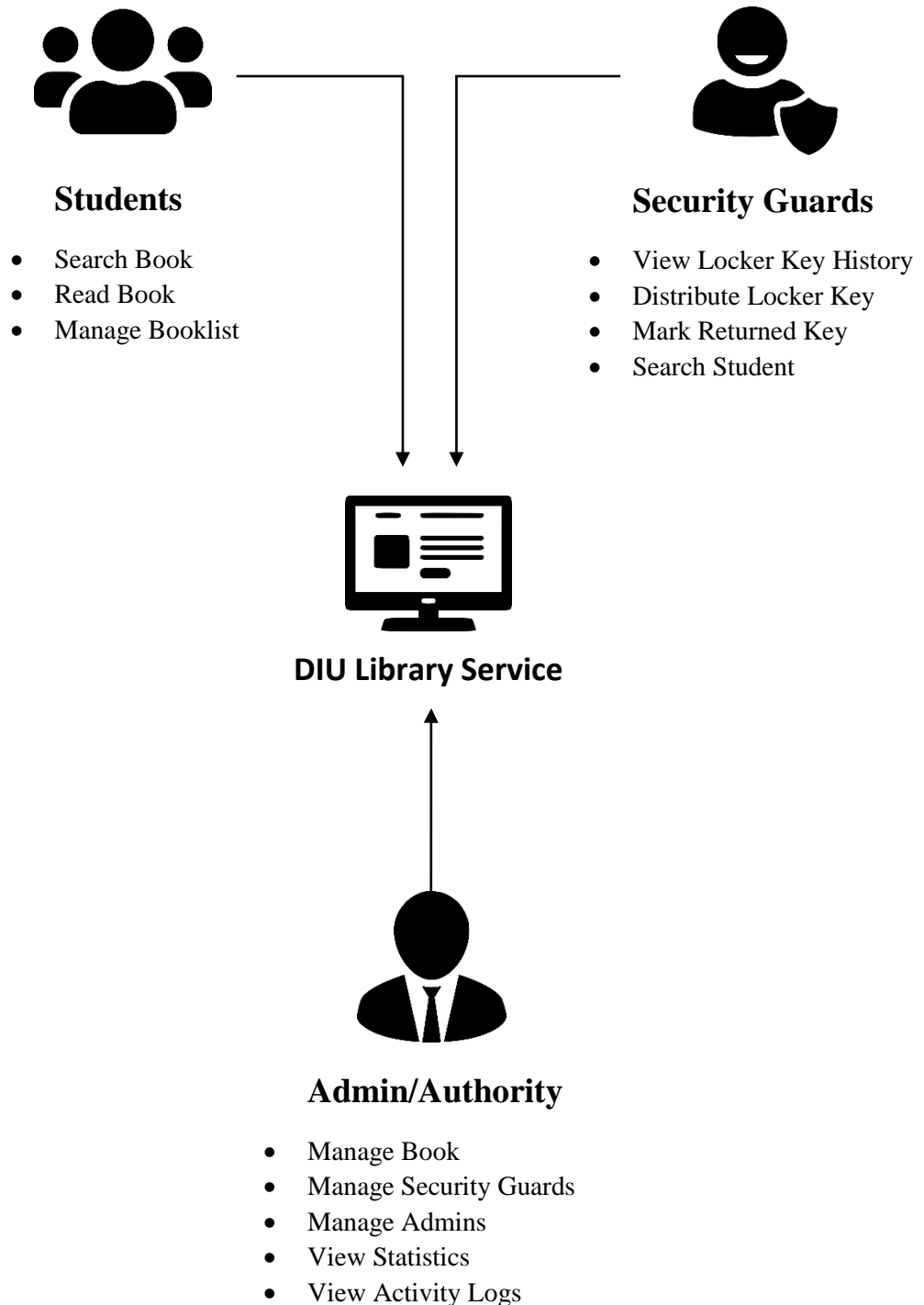


Figure 1.1: Proposed System Model

## 1.7 Modules of DIU Library Service:

- **Login Module:** Login module used for student/security guard/admin authentication and verification
- **Registration Module:** Registration module is used for signing up to the system by the students
- **Search Book Module:** This module is used to search book. Student use search book module for searching book and then read a book and admin use search book module for edit book and delete book.
- **View Book Module:** This module is used to display a book's all information and action button for the book.
- **Read Book Module:** This module is used to display PDF book to reader.
- **Booklist Module:** This module is used to manage booklist of a student.
- **Change Password Module:** Used to change the password of a student.
- **View Locker Key History Module:** Used to view locker key history by the security guards. This module will display 'On Service Key', 'Today's distributed History' and 'All History'.
- **Distribute Locker Key Module:** Used to distribute a locker key to a student.
- **Mark Locker Key History:** Used to mark a locker key which was distributed before and student returned it just now. Input the key number to mark it as returned.
- **Add Book Module:** This module it used to add a new book to the system. Used by admin.
- **Manage Guards Module:** This module is used to manage security guards. Actions like Security Guards Adding, Deleting can be performed from this module. It is used by admin
- **Manage Admin Module:** Used for maintaining admins. Actions like add admin, edit an admin, deleting admin can be performed from this module by another admin if he/she has access to do it.
- **View Statistics Module:** This module is used for view statistics for the system.
- **Activity Logs Module:** This module is responsible for recording activity logs from users and display it to admin. Action like 'Delete all activity' can also be performed. Admin uses this module.

## 1.8 Project Schedule:

A project schedule indicates what feature needs to be done, which resources must be utilized, and when the project is not completed. Assuming short time to develop the system, it is required to make a good scheduling to finish the project on time. This schedule also refers to communicate with what tasks is needed to be done within short time period.

### 1.8.1 Gantt Chart:

Activities	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13
Research	■	■	■										
Req. Analysis			■	■									
Planning				■	■								
Designing					■	■	■	■					
Development							■	■	■	■			
Testing								■	■	■	■		
Assessment										■	■	■	
Documentation												■	■

Table 1.1: Gantt Chart

## 1.8.2 Release plan and Milestone:

The release plan and milestones according to the Gantt Chart is given below:

<b>Activities</b>	<b>Duration in week</b>	<b>Total week</b>
Research	W1, W2, W3	3
Requirements Analysis	W3, W4	2
Planning	W4, W5	2
Designing	W5, W6, W7, W8	4
Development	W7, W8, W9, W10	4
Testing	W8, W9, W10, 11	4
Assessment	W10, W11, W12	3
Documentation	W12, W13	2
Release	W13	1

Table 1.2: Release Plan

## 1.9 Objective

The main objective of this project is to automate the library services of DIU. Using this system student will be able to read DIU Library's book online. They can use their university library from their home. Besides this, there is a system to maintain the locker key distribution efficiently in a low time period. Security Guard will use this system to distribute locker key to the students.

- **Practically:** The application will be stable and anyone with low intelligence will be able to use it.
- **Efficiency:** This includes accuracy and time to get the desire output. The system is very efficient and loading time is minimal.
- **Cost:** The cost of developing and maintaining it is minimum.
- **Portability:** The application is so portable and can be used in all environments like PC, Mobile, Windows, iOS, Linux etc.
- **Security:** The security of the project is quite good. Without authorization, no one will be able to read/edit/delete any data from the system. Security ensured in each module of the system.

**CHAPTER – 2**  
**REQUIREMENT ENGINEERING**



## 2.1 Functional Requirements

Functional Requirements are those requirements which are the main features of the project and which must have to be implemented. Functional Requirements says what the project will do. It is mandatory to meet all the functional requirements.

The functional requirements of “DIU Library Service” are –

- Login
- Registration
- Retrieve password
- Change password
- Search book
- Read book
- Manage Booklist
- Distribute locker key
- Mark returned key
- View distributed key history
- Add book
- Edit book
- Delete book
- Add guards
- Remove guards
- Add admin
- Edit admin
- Delete admin
- View statistics
- Activity Logs
- Logout

## 2.2 Non-functional Requirements

Non-functional requirements are the quality attribute of a system. It defines how a system fulfill the functional requirements. NFR is specified by technical persons and software engineers. This requirement must be met to ensure the quality.

The non-functional requirements of “DIU Library Service” are –

- Security
- Performance
- Reliability
- Capacity
- Privacy

**CHAPTER – 3**  
**SYSTEM ANALYSIS, DESIGN &**  
**SPECIFICATION**

### 3.1 Development Model

For developing the project “DIU Library Service”, Agile SDLC model has been adopted. Agile SDLC model is a combination of both iterative and incremental process.

Agile SDLC model breaks the whole project in some small incremental parts. These parts are provided in iterations. One iteration lasts from one week to one month. After every iteration, some of the features of project are implemented. Every iteration works simultaneously on various areas like – Planning, Requirements Engineering, Designing, Coding, Unit Testing, Acceptance Testing.

The Agile thought process had started early in the software development and started becoming popular with time due to its flexibility and adaptability.

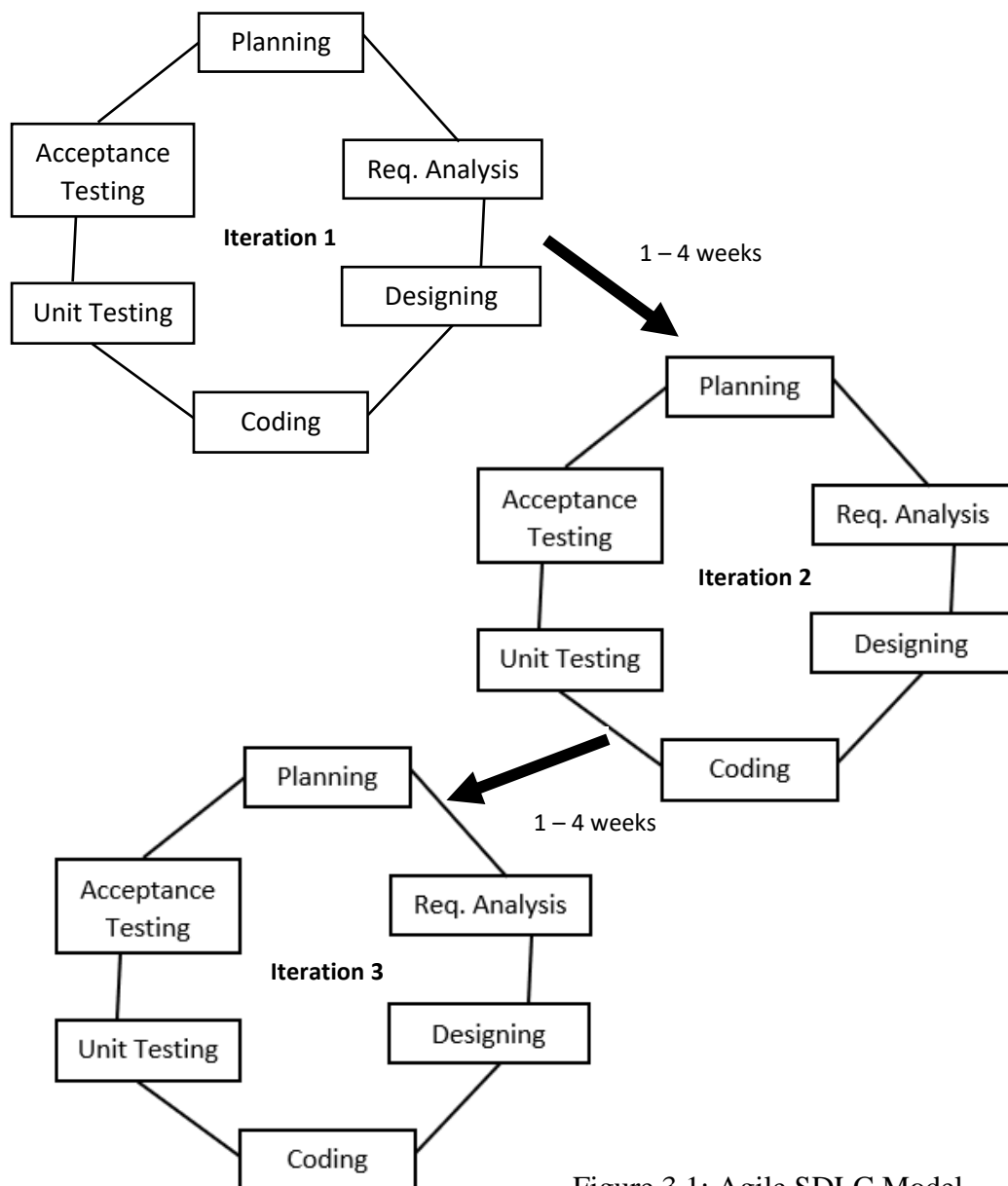


Figure 3.1: Agile SDLC Model

### 3.2 Use Case Diagram

Use case diagram for “DIU Library Service”:

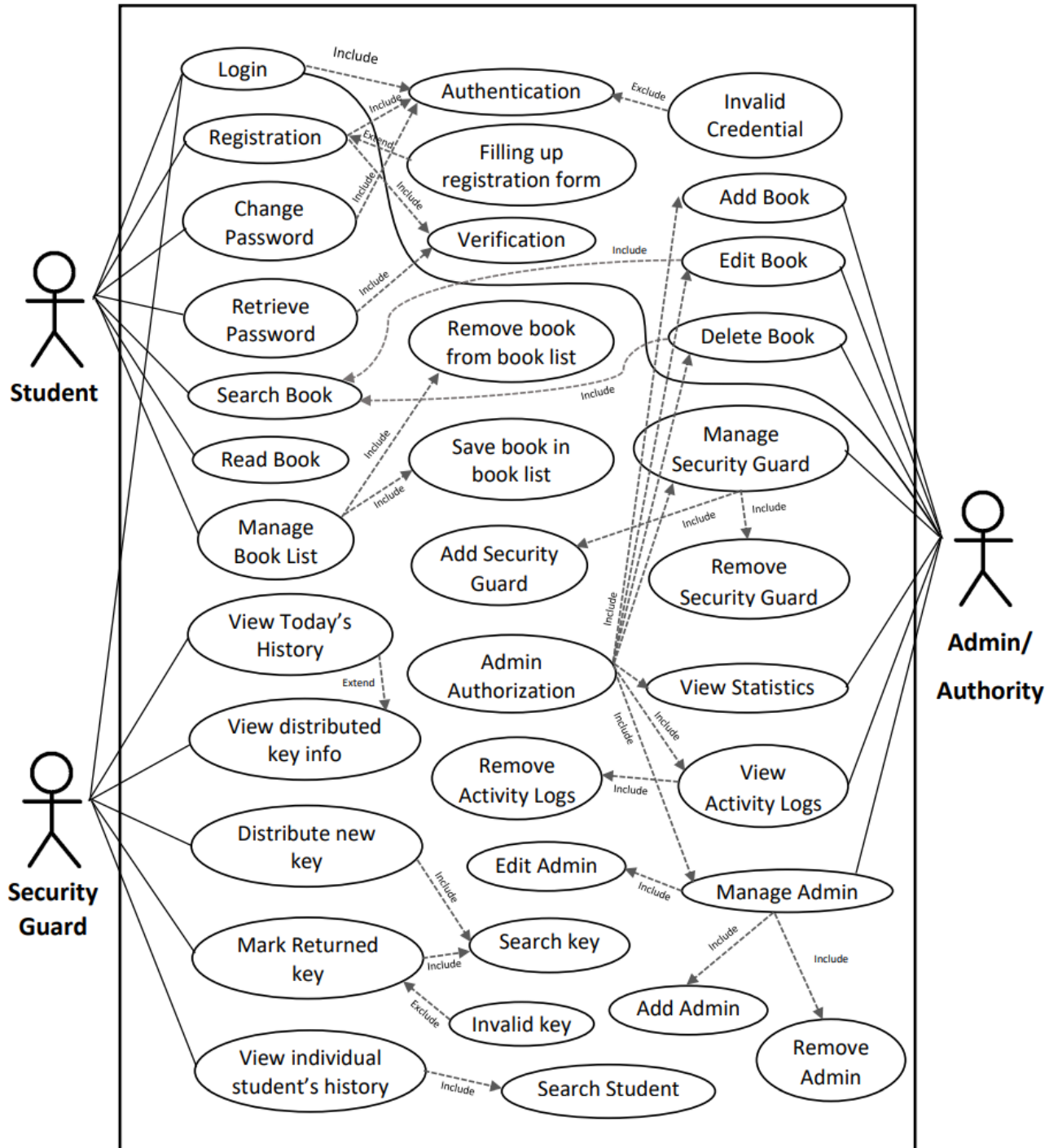


Figure 3.2: Use case diagram for “DIU Library Service”

## Use Case Description

### 3.2.1 Registration

Description	Student need to register before entering to the system for the first time. Student can create his credential using his/her student ID and DIU email. <b>Actor:</b> Student
-------------	---

### 3.2.2 Login

Description	This function is used to enter the system. <b>Actor:</b> Student, Security Guard, Admin
-------------	--

### 3.2.3 Change Password

Description	This use case is for changing the current password of a student. <b>Actor:</b> Student
-------------	---

### 3.2.4 Retrieve Password

Description	This module is used when student forgets his/her password. It helps student to set a new password after verification. <b>Actor:</b> Student
-------------	--

### 3.2.5 Search Book

Description	If student wants to search a book, he/she will be using this module. Student need to provide a search keyword for searching. Admin will also use this module while editing/deleting a book. <b>Actor:</b> Student, Admin
-------------	---

### 3.2.6 Read Book

Description	When a student opened a book and click 'Read This Book', this module starts working. It used to display the pdf book to the student. <b>Actor:</b> Student
-------------	---

### 3.2.7 Manage Book List

Description	This module is used to manage book list of a student <b>Actor:</b> Student
-------------	---

### 3.2.8 Remove Book from Book List

Description	This functionality is responsible for removing a book from the book list of a student. <b>Actor:</b> Student
-------------	---

### 3.2.9 Save Book in Book List

Description	This option is used to save a book to student's book list. <b>Actor:</b> Student
-------------	---

### 3.2.10 View History

Description	This feature is used to view the history of locker key distribution. Security Guards can view all locker key history, today's locker key history and keys that are on service <b>Actor:</b> Security Guard
-------------	---

### 3.2.11 Distribute New Key

Description	This module is used to distribute a new key to students. Security Guard need to enter student id and locker key number to distribute a new key. <b>Actor:</b> Security Guard
-------------	---

### 3.2.12 Mark Returned Key

Description	This module is used to mark a distributed key as returned. After marking a key as returned the key is no more on service and it can be distributed again. <b>Actor:</b> Security Guard
-------------	---

### 3.2.13 View Individual Student's History

Description	It used to view a student's previous history of taking locker key. Guards will search for student ID and if the ID is valid previous history of that student will appear to the screen. <b>Actor:</b> Security Guard
-------------	---

### 3.2.14 Add Book

Description	This module is used to add a new book to the system/library. Admin need to input book information, PDF book and thumbnail to add a new book. <b>Actor:</b> Admin
-------------	---

### 3.2.15 Edit Book

Description	This feature is used to edit a book if required. <b>Actor:</b> Admin
-------------	---

### 3.2.16 Delete Book

Description	If admin wants to delete a book, then he/she can do it using this feature. Admin need to provide his/her admin password to delete a book for security purpose. <b>Actor:</b> Admin
-------------	---

### 3.2.17 Add Security Guard

Description	This feature is used to add a new security guard. Admin will provide a employee id and a password and security guard will log into the system using that credential. <b>Actor:</b> Admin
-------------	---

### 3.2.18 Remove Security Guard

Description	This module is used to remove a security guard from the system. Admin will be able to delete a security guard from the system. <b>Actor:</b> Admin
-------------	---

### 3.2.19 View Statistics

Description	This feature is used to view some statistical data about today's distributed key, students, book etc. <b>Actor:</b> Admin
-------------	--

### 3.2.20 View Activity Logs

Description	Admin will be able to view what is going on in the system using this module. All the activity of student, security guard & admin will be recorded with their time and date. <b>Actor:</b> Admin
-------------	--

### 3.2.21 Delete Activity Logs

Description	This functionality is used to delete all previous activity log from the system. <b>Actor:</b> Admin
-------------	--

### 3.2.22 Add Admin

Description	An admin is able to add another admin using these features if he/she has access. <b>Actor:</b> Admin
-------------	---

### 3.2.23 Edit Admin

Description	This module is used to edit an admin's name, password and access. An Admin can edit another admin's information if he/she has the access to edit admin. <b>Actor:</b> Admin
-------------	--

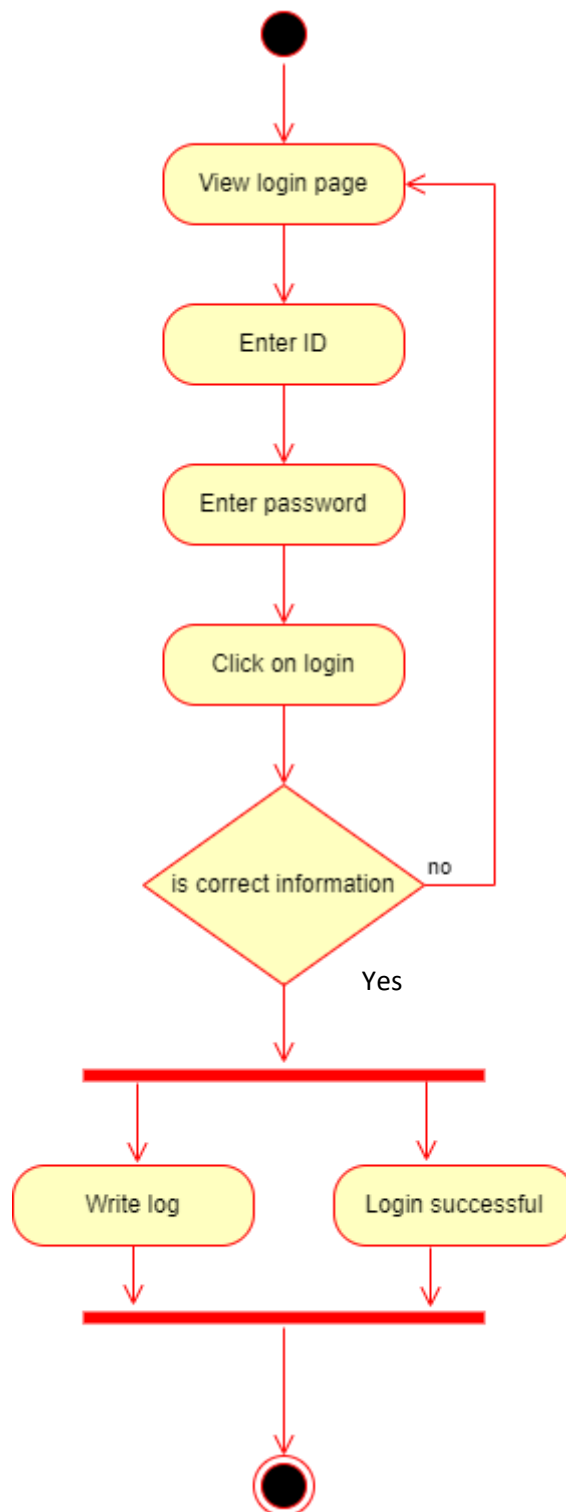
### 3.2.24 Delete Admin

Description	This module is used to delete an admin from the system. An admin can delete another admin if he/she has access to do it. <b>Actor:</b> Admin
-------------	---

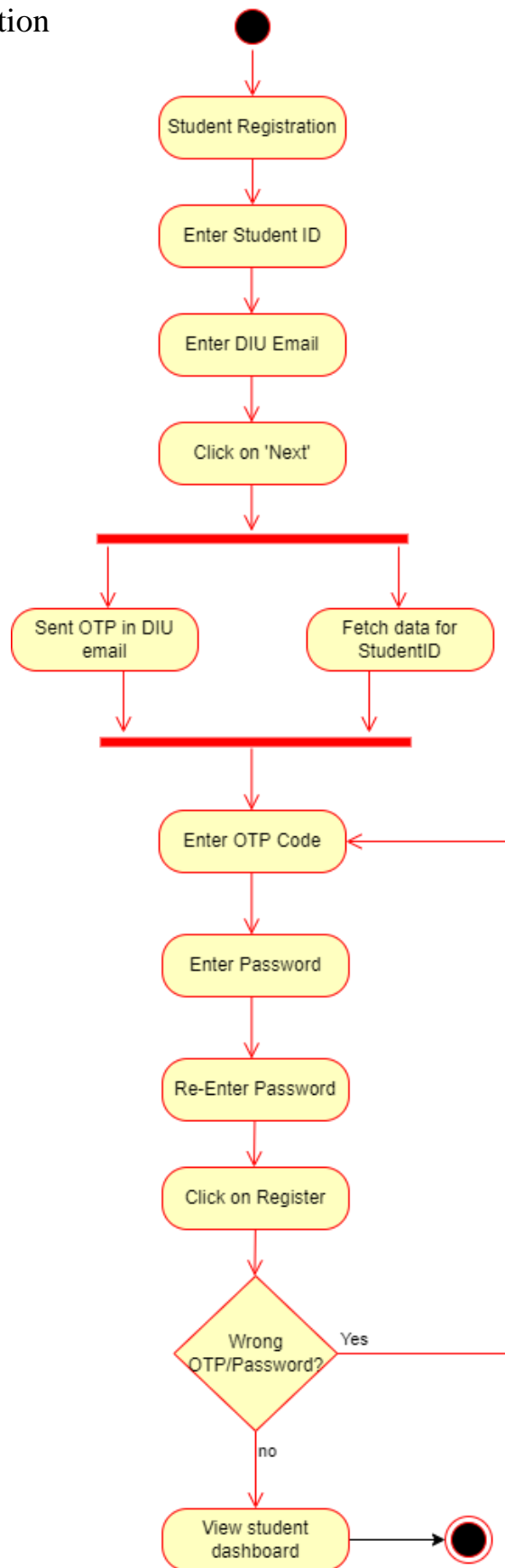


### 3.3 Activity Diagram

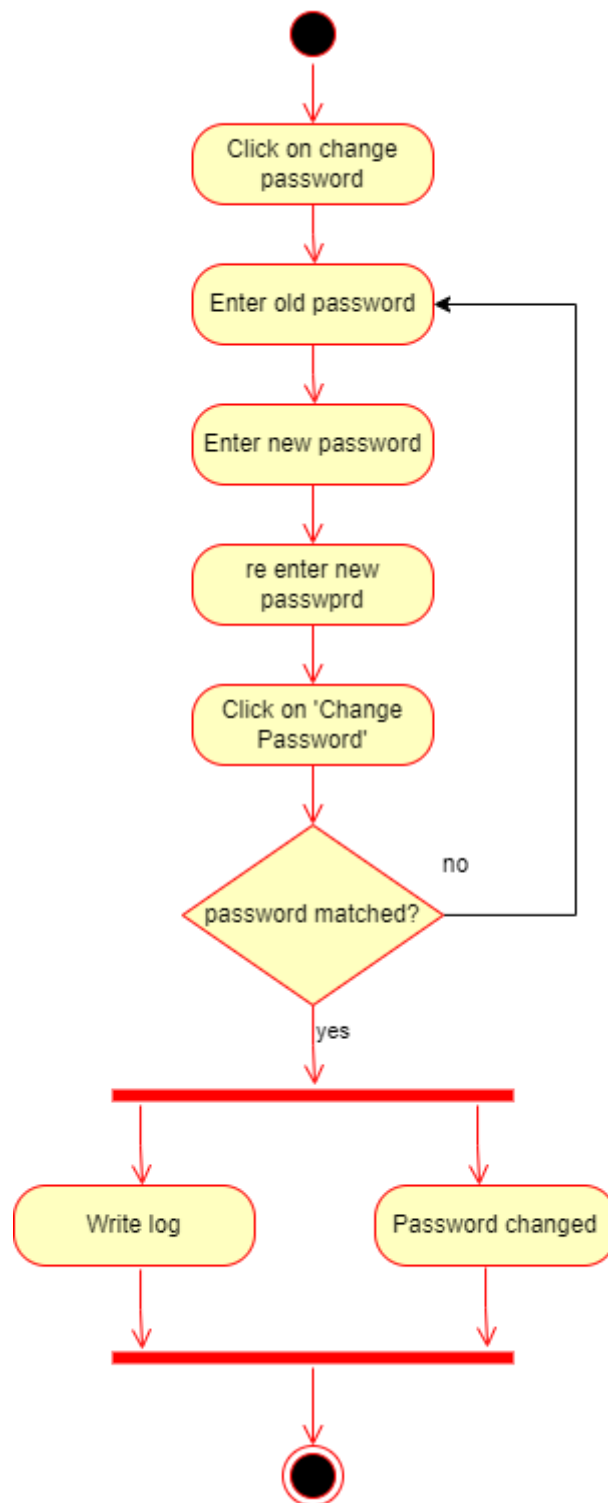
Login



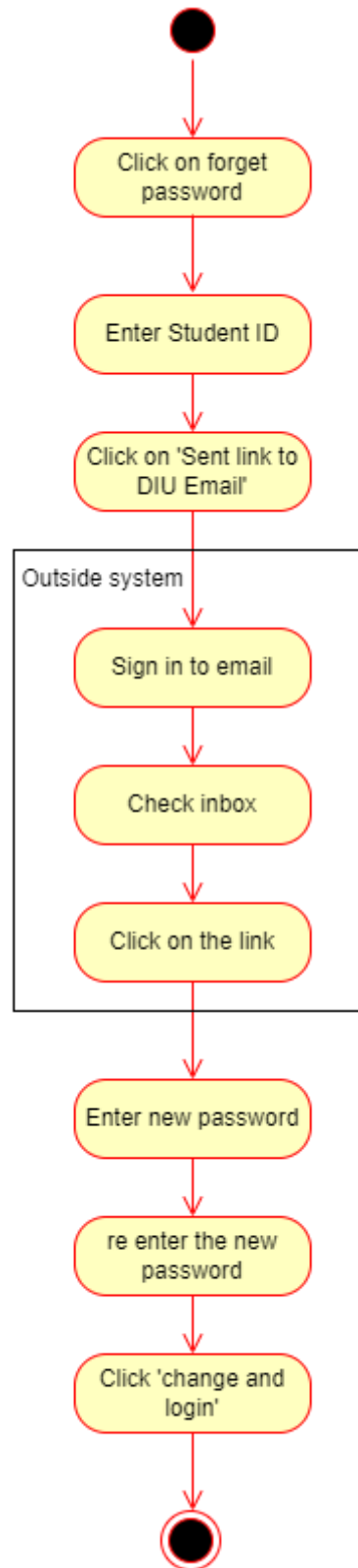
## Student Registration



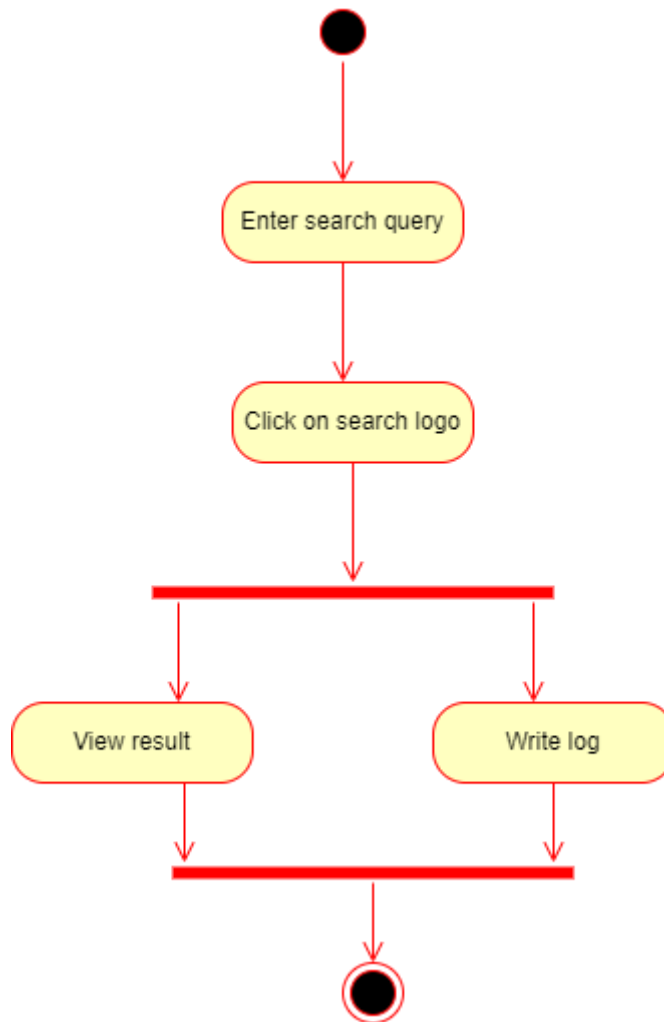
## Change Password



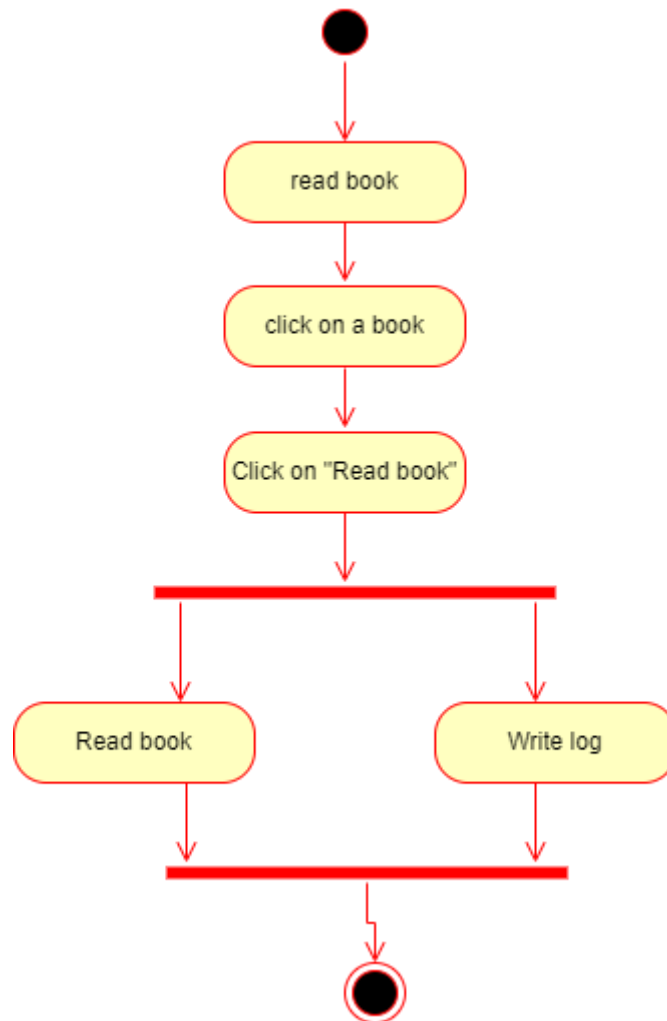
## Retrieve Password / Forget Password



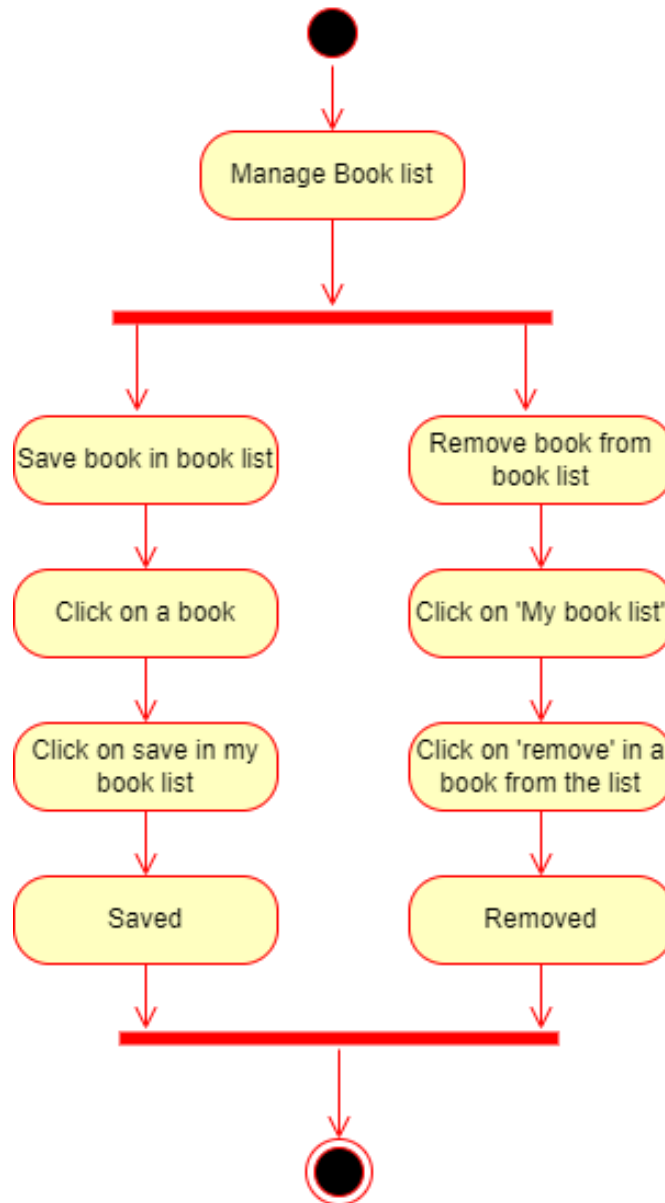
## Search Book



## Read Book



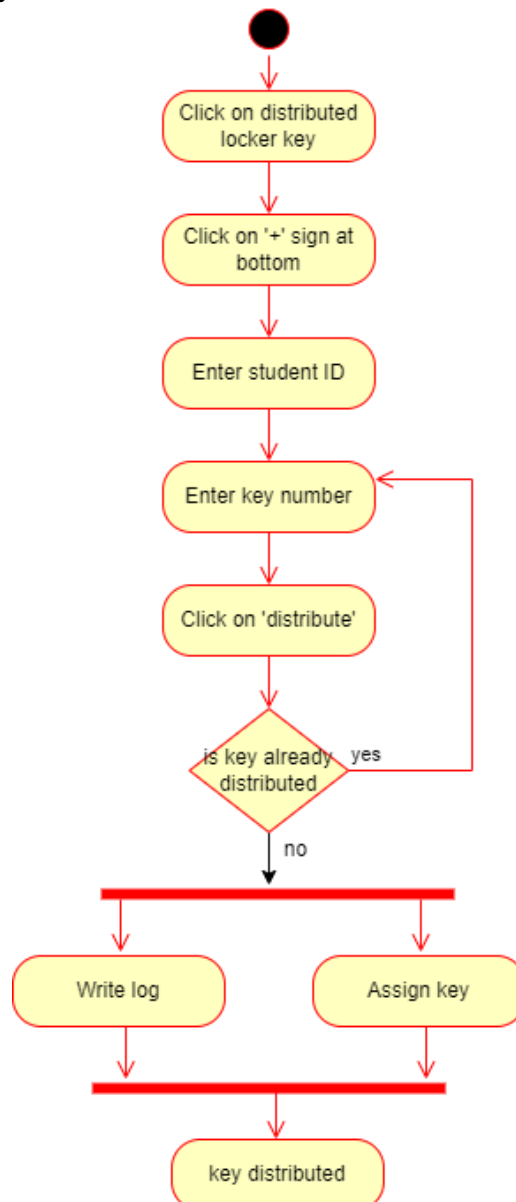
## Manage Book List



## View Locker Key History

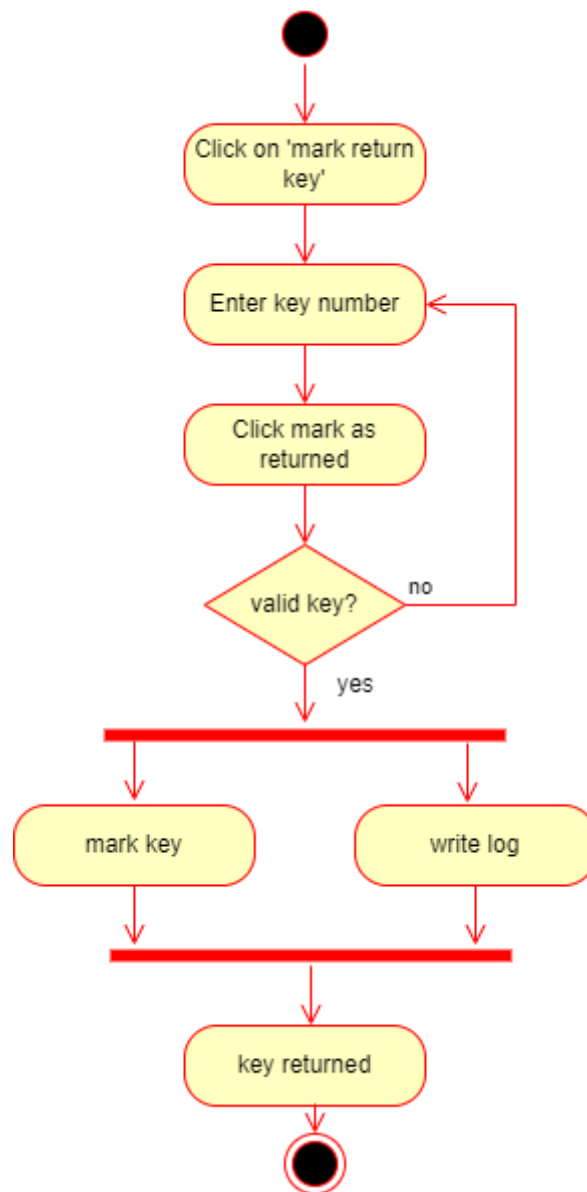


## Distribute New Key

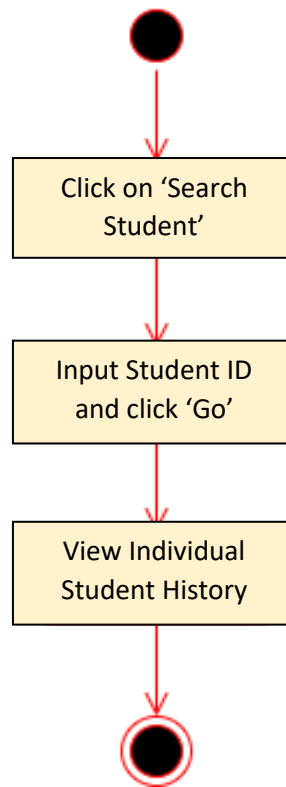




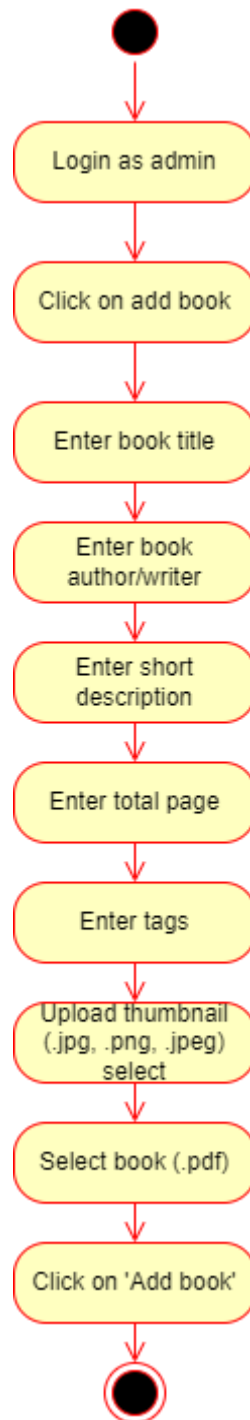
## Mark Returned Key



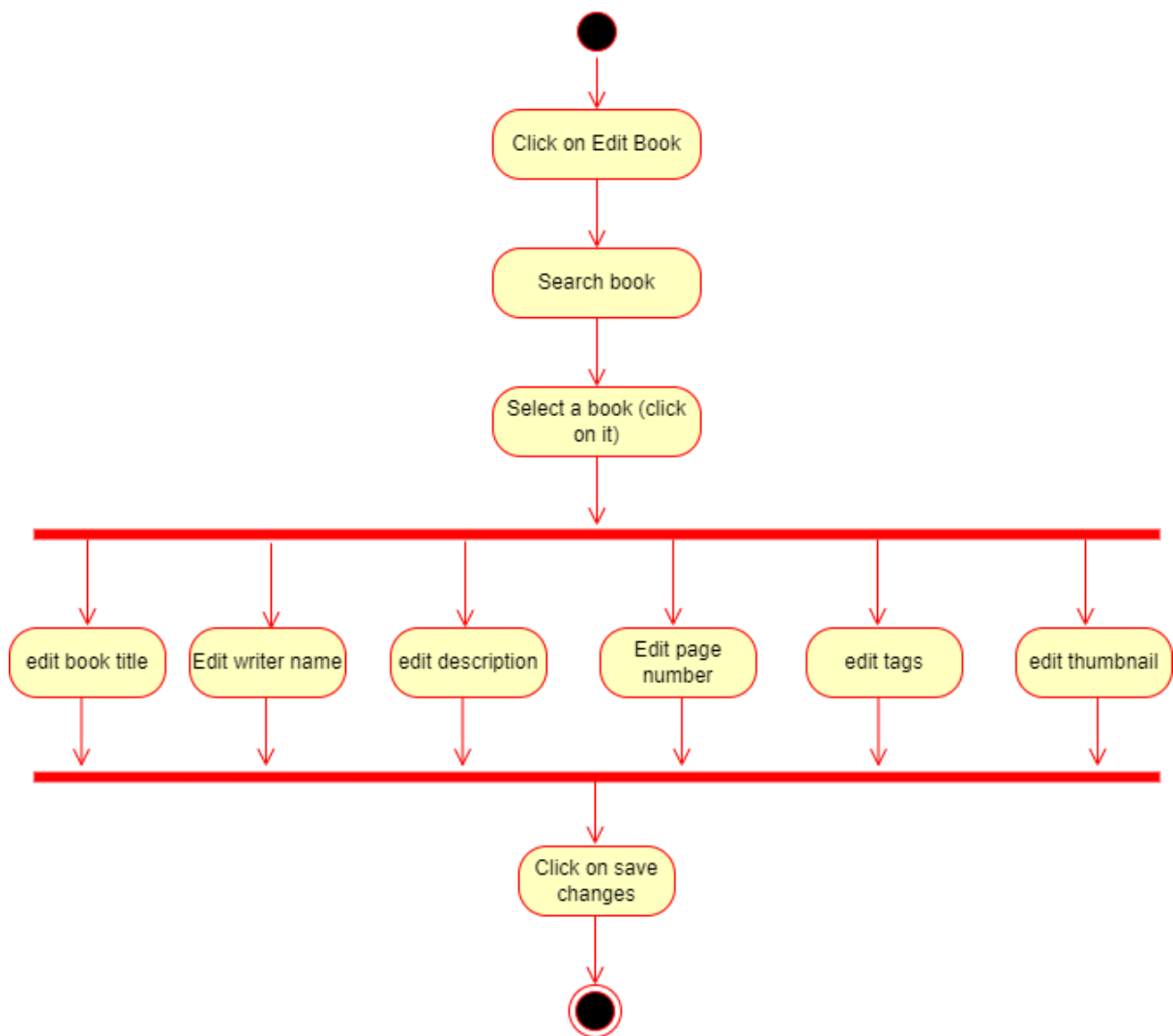
## View Individual Student History



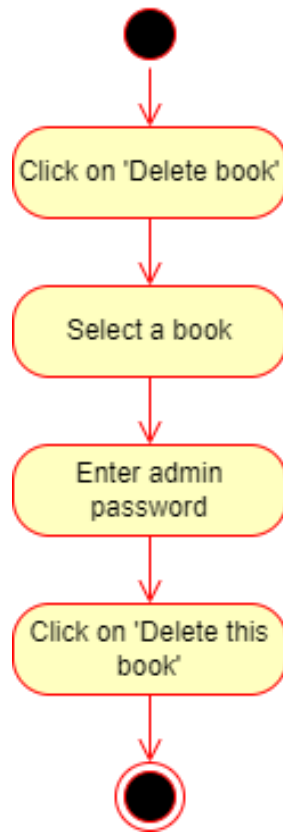
## Admin – Add Book



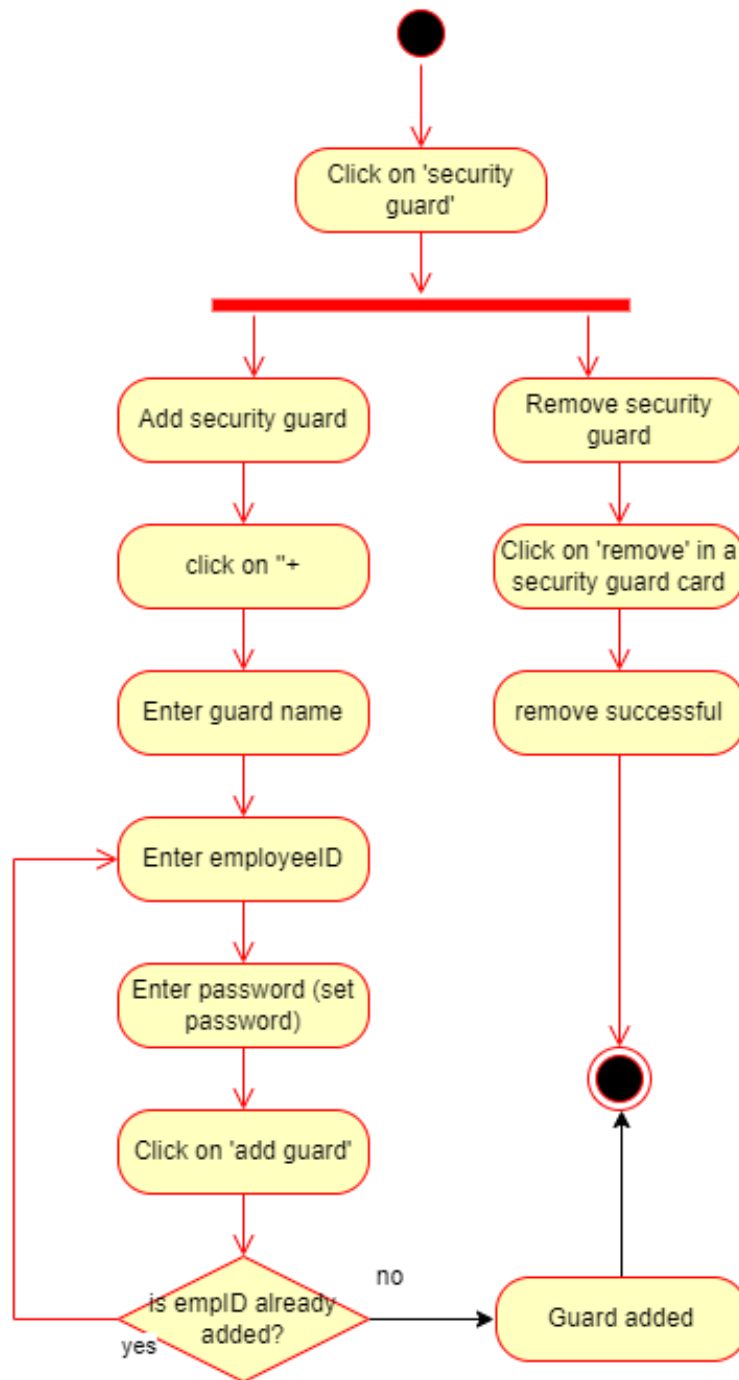
## Admin – Edit Book



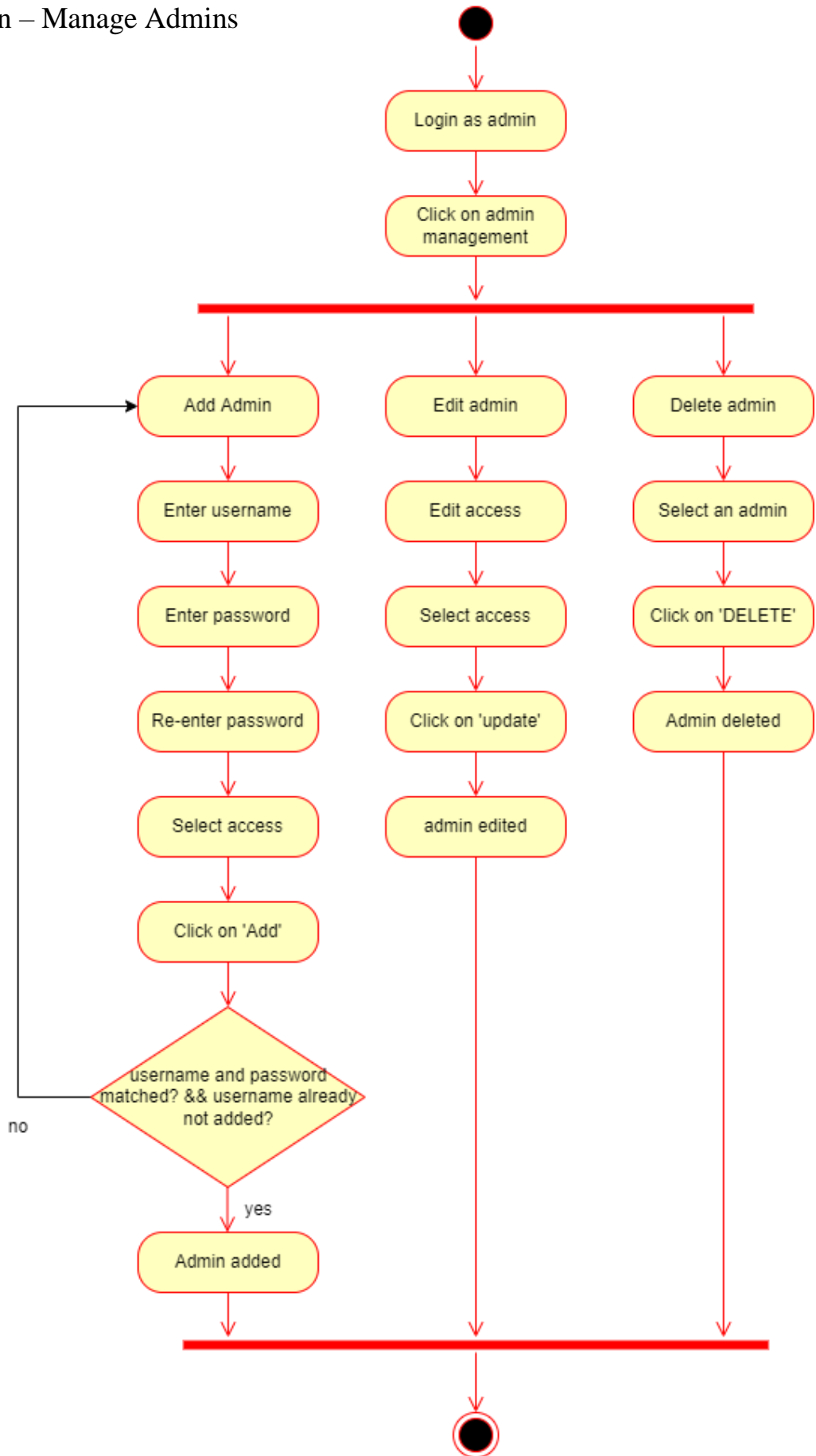
## Admin – Delete Book



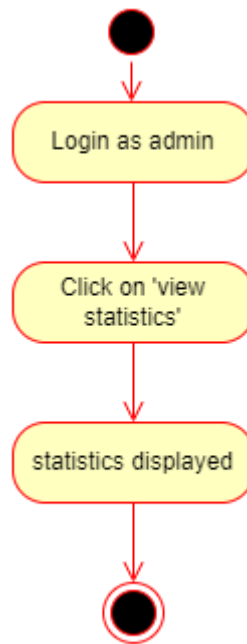
## Admin – Manage Security Guards



# Admin – Manage Admins



## Admin – View Statistics



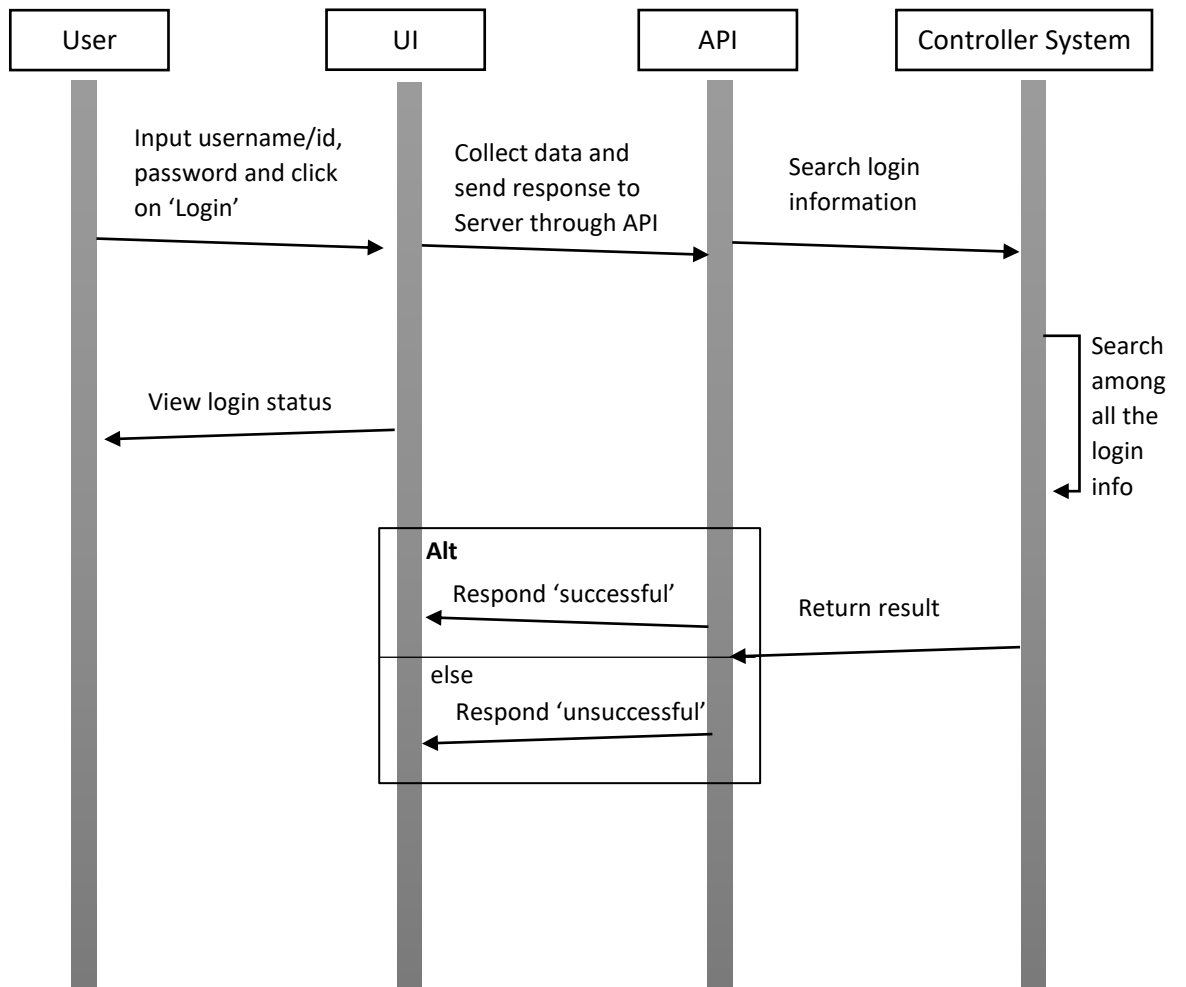
## Admin – Activity Logs





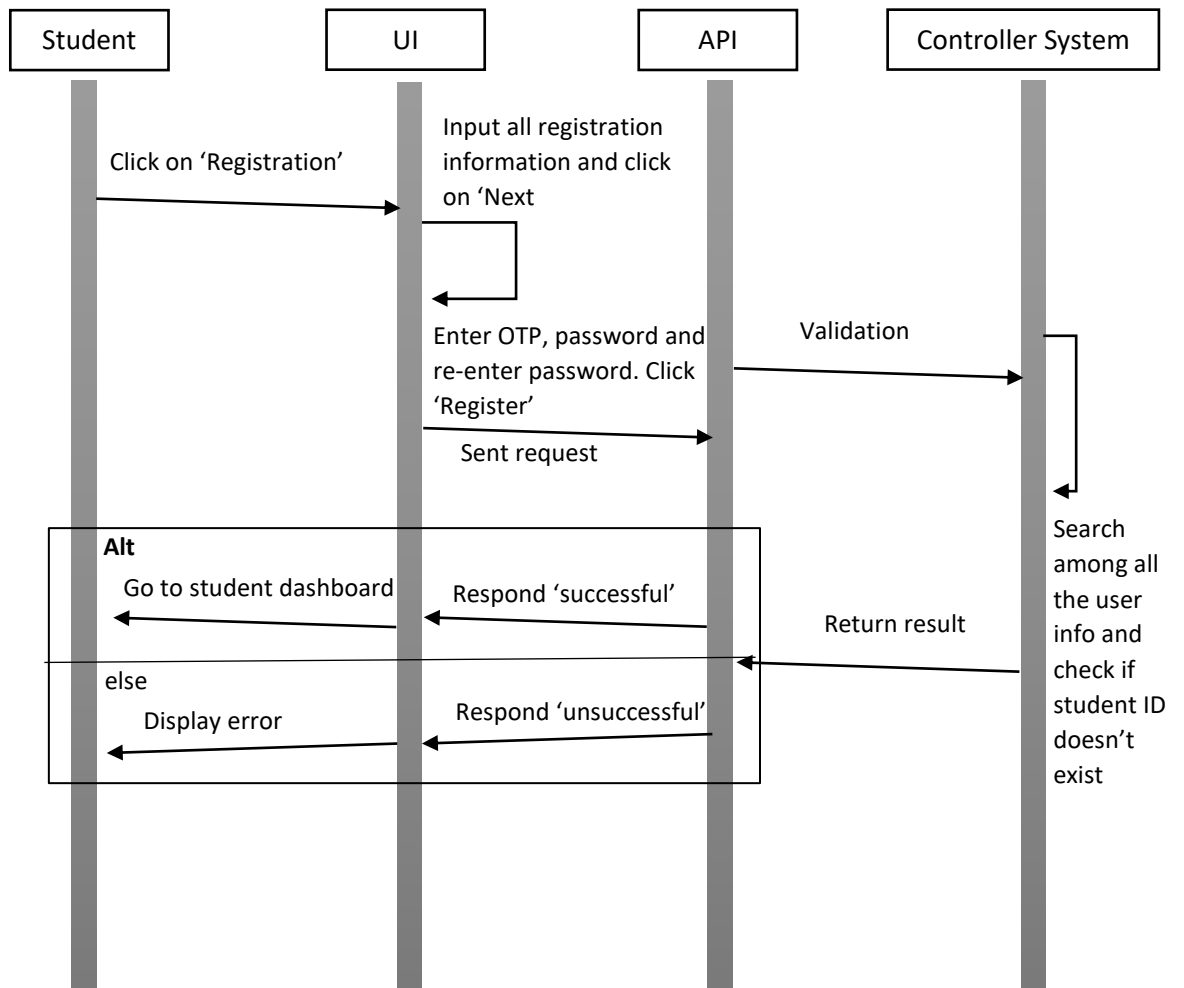
### 3.4 Sequence Diagram

#### Login



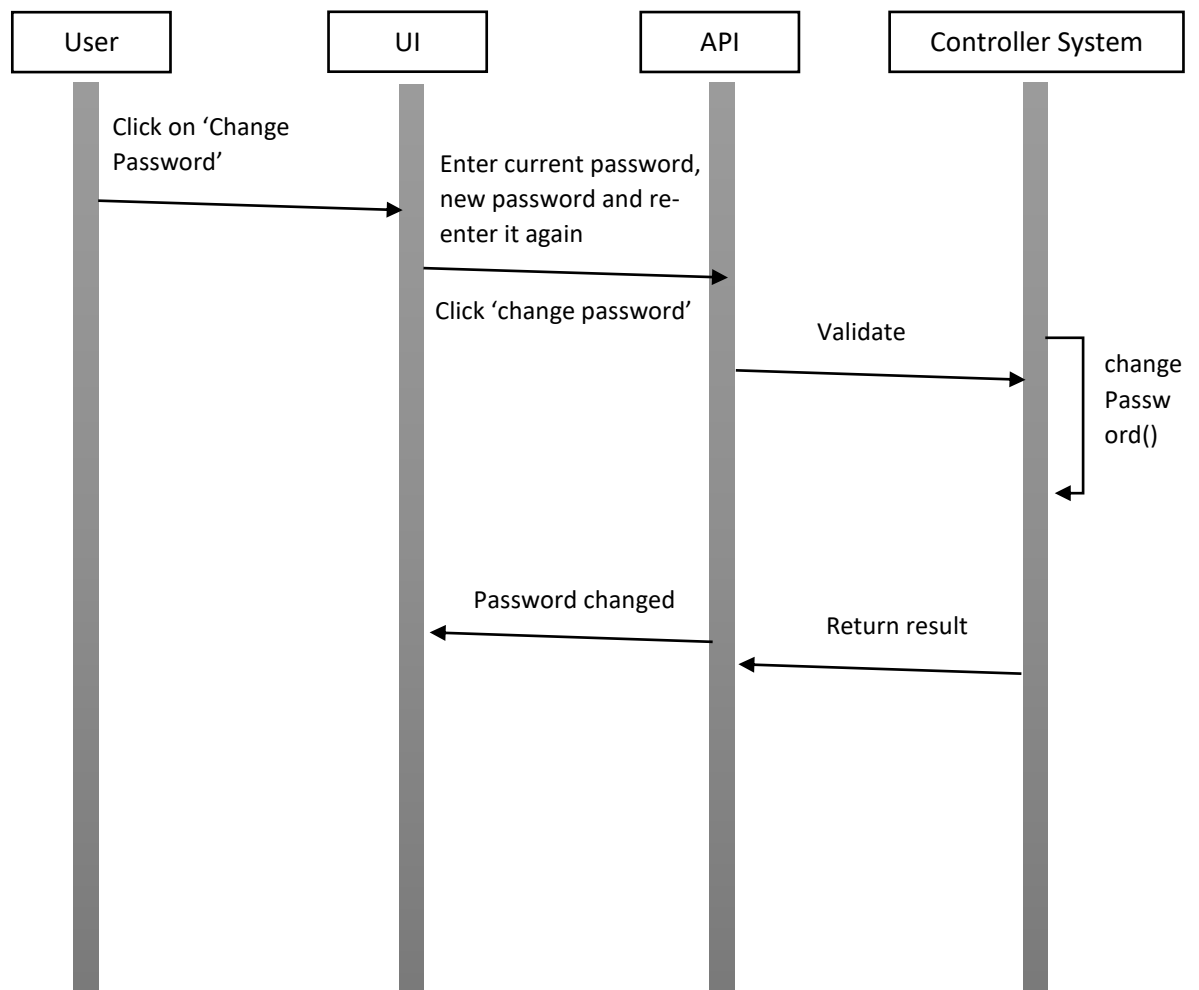
Sequence diagram for 'Login'

## Student Registration



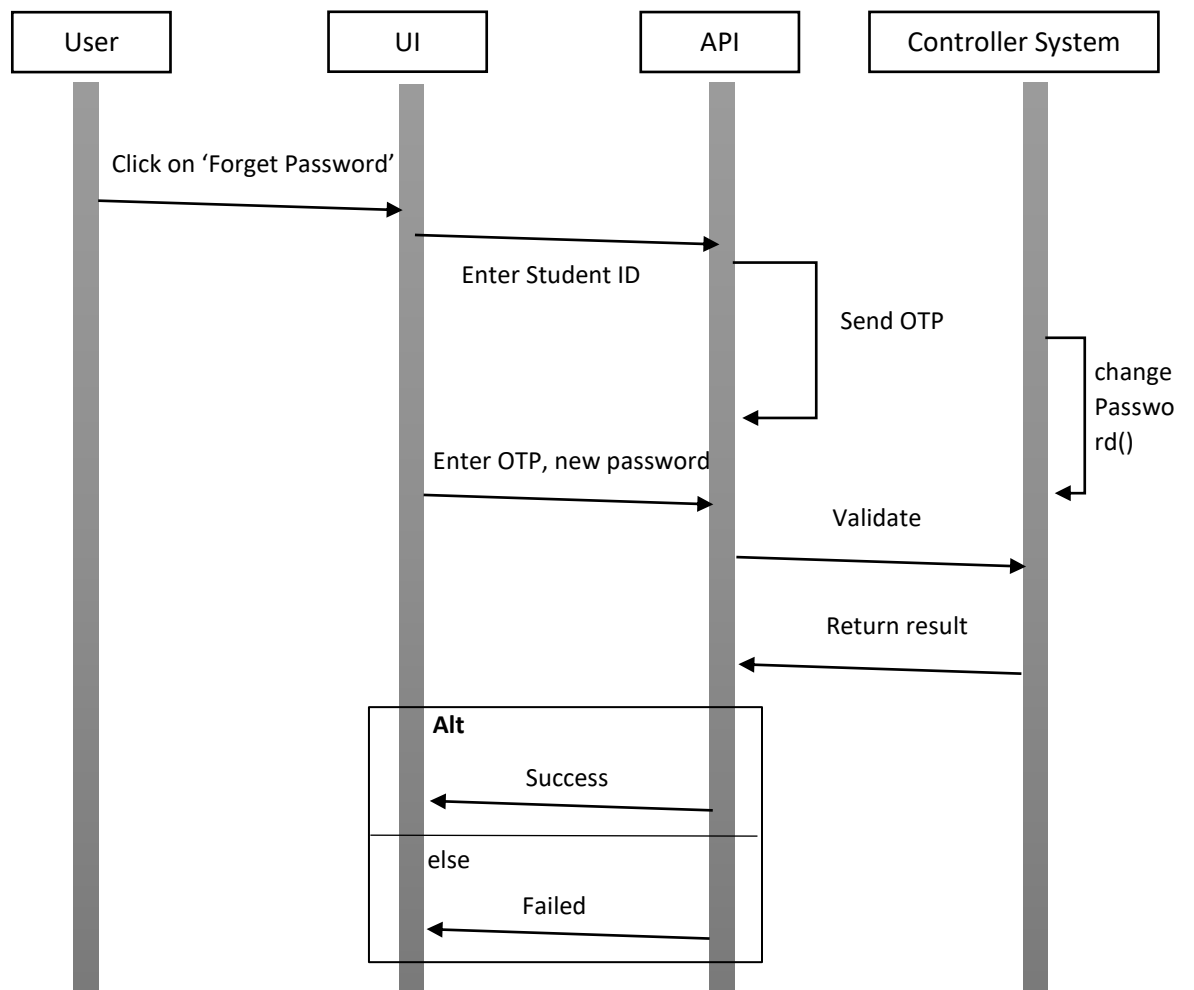
Sequence diagram for 'Registration'

## Change Password



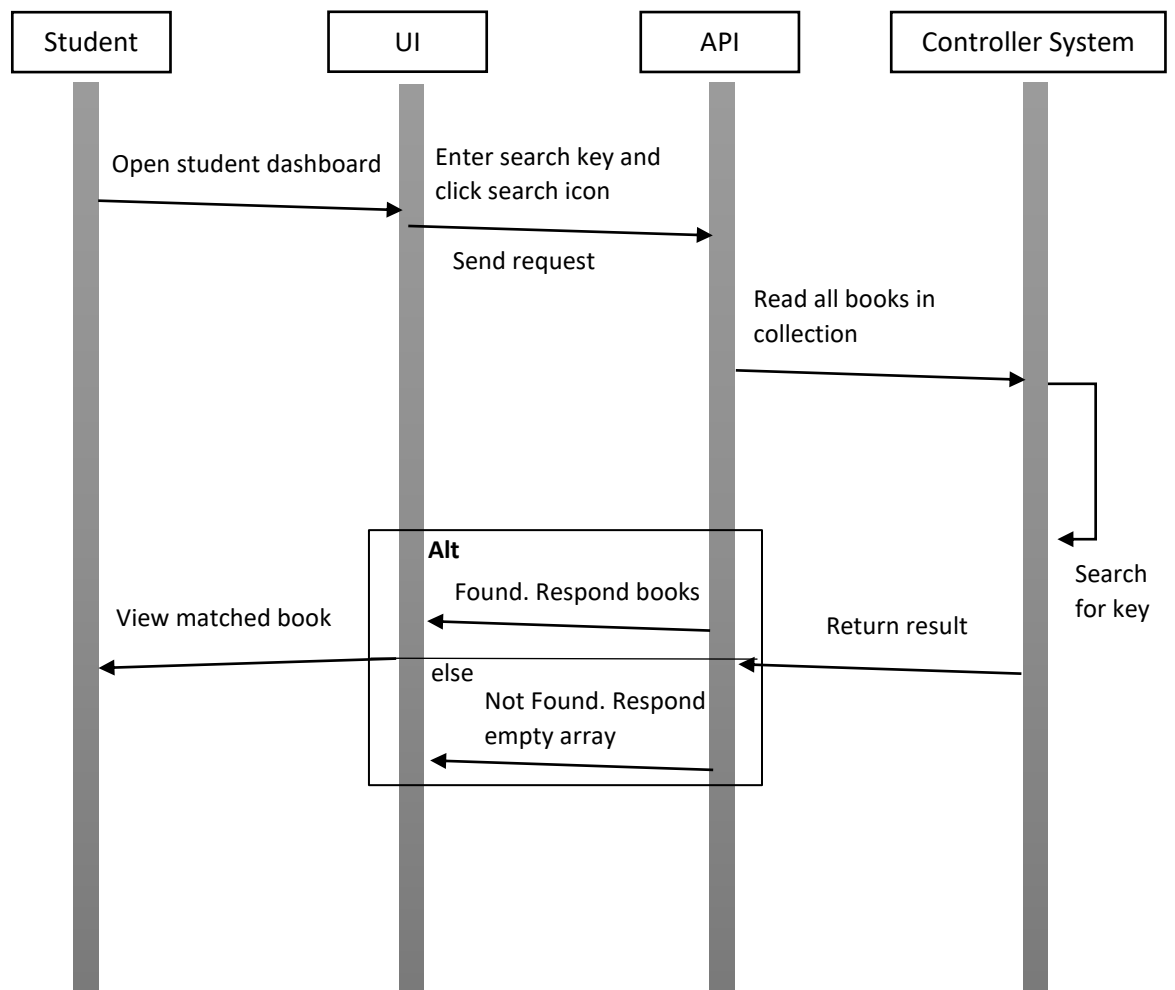
Sequence diagram for “**Change Password**”

## Forget Password / Retrieve Password



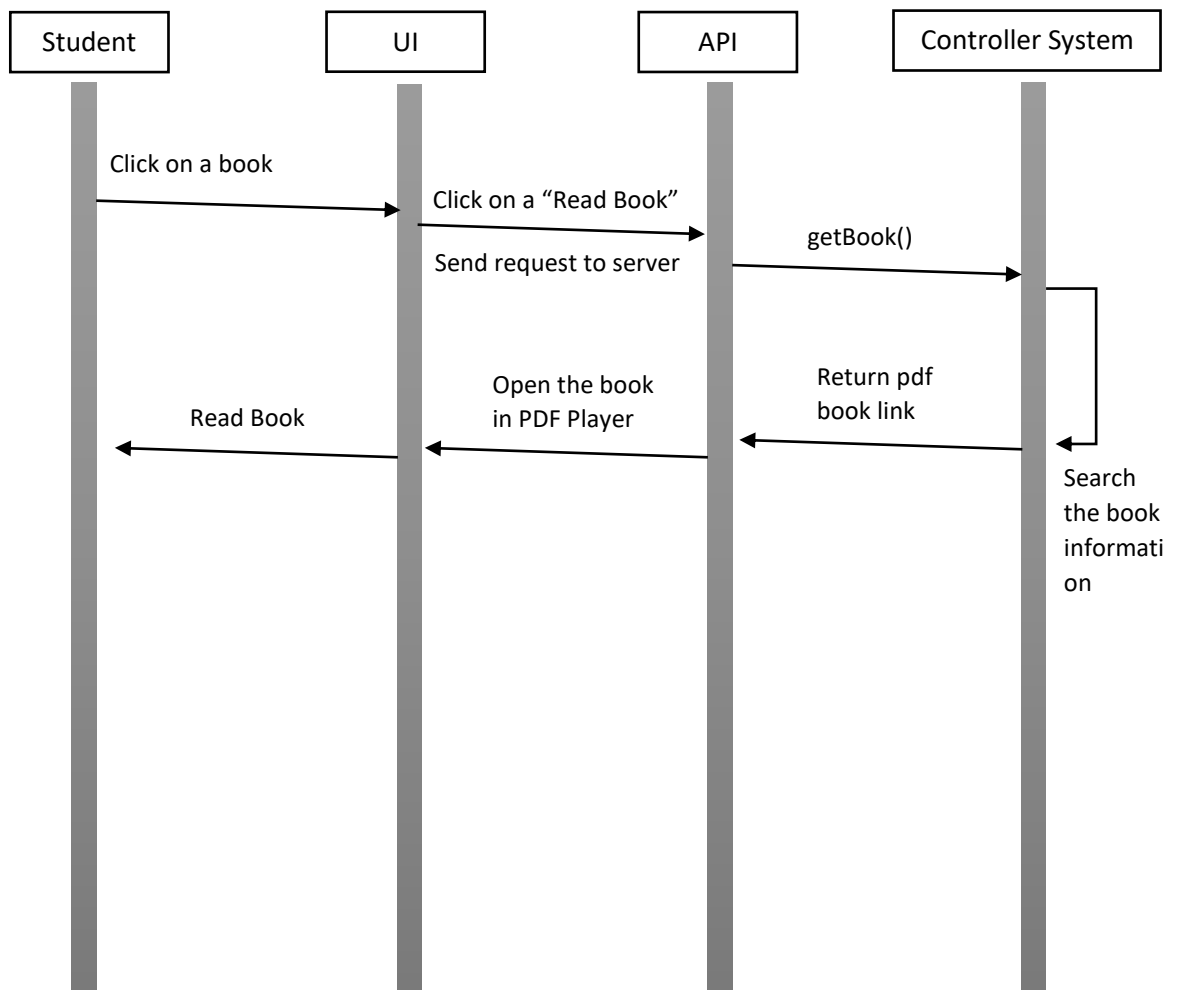
Sequence diagram for “**Retrieve Password**”

# Search Book



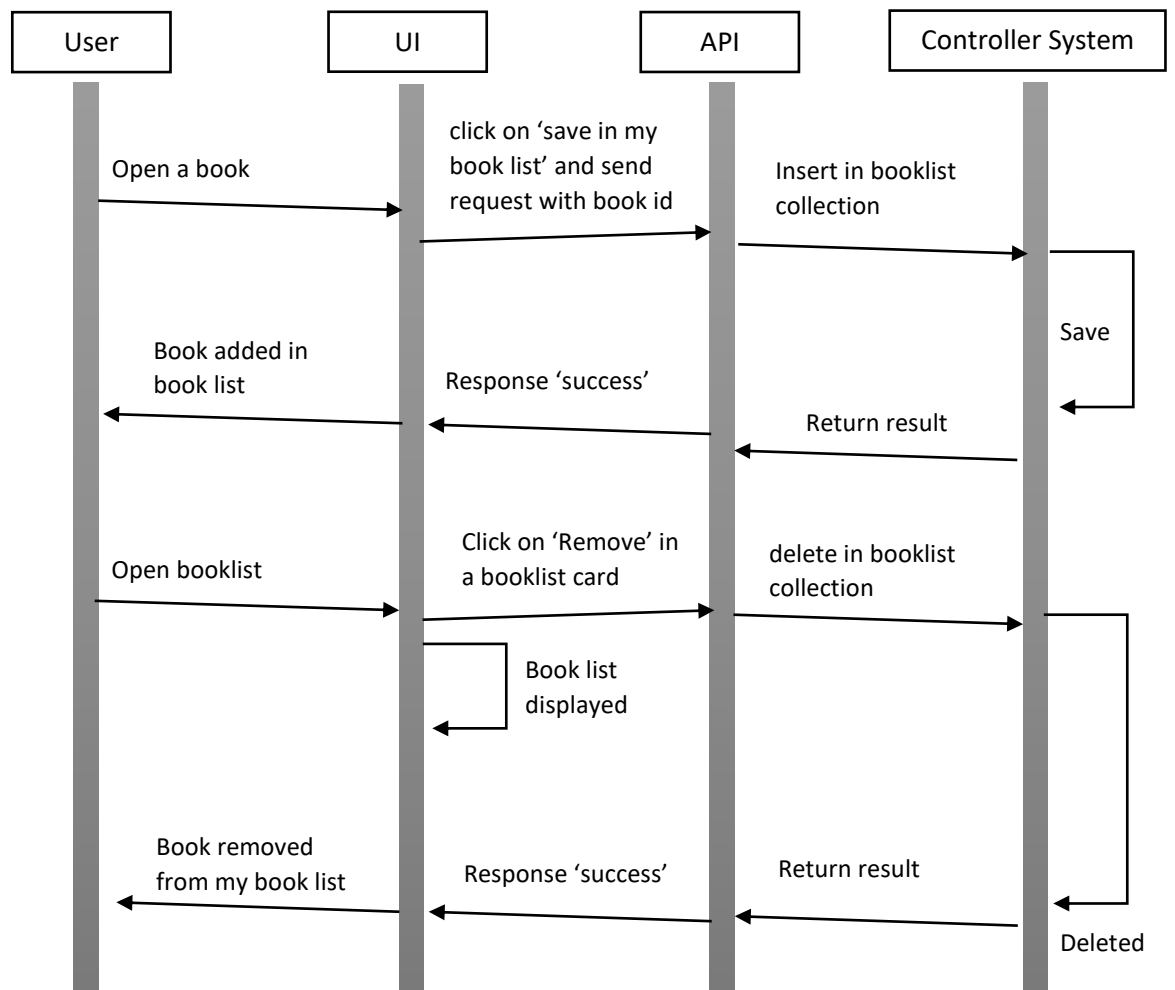
Sequence diagram for “search book”

## Read Book



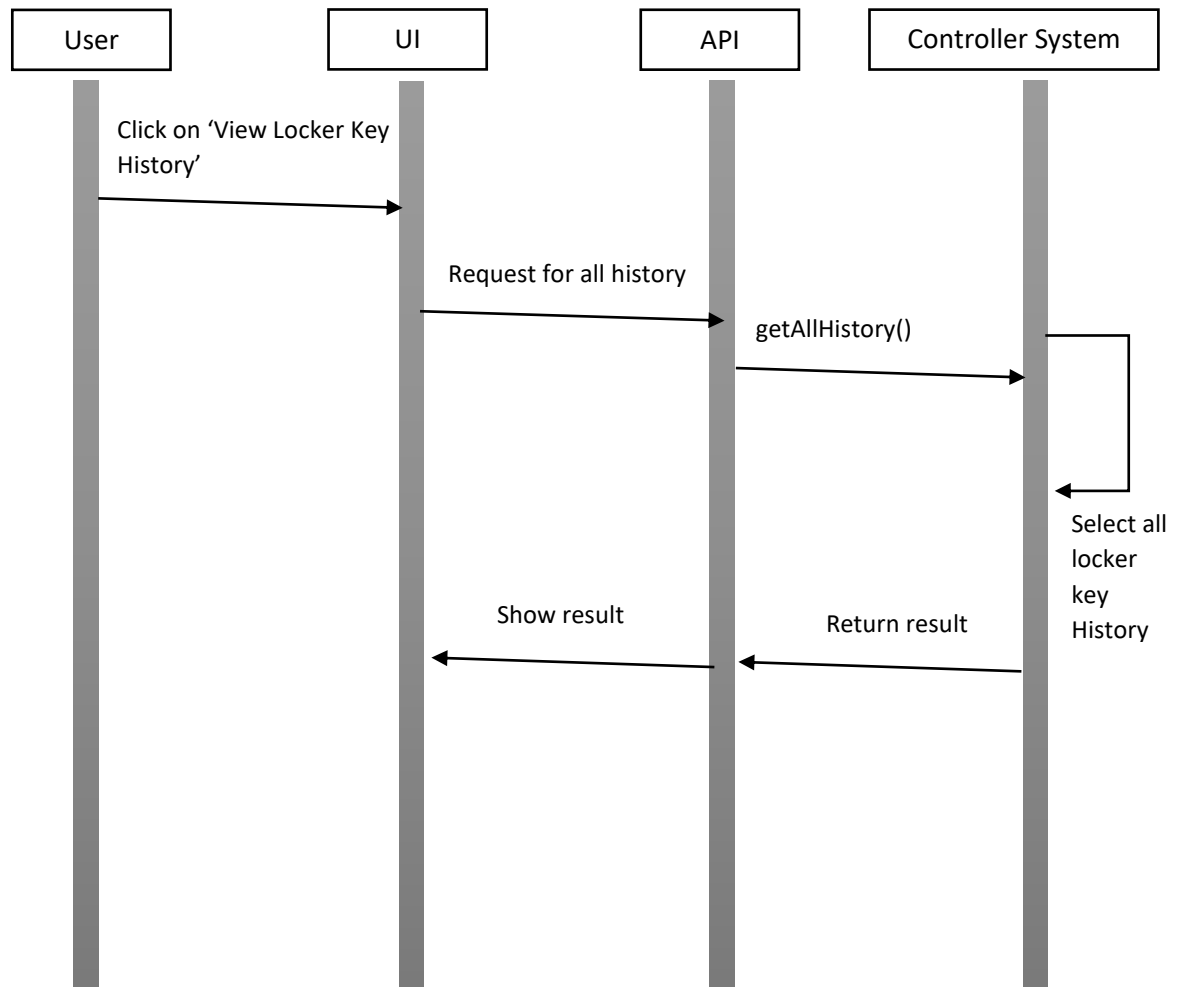
Sequence diagram for "**Read Book**"

## Manage Book List



Sequence diagram for “**manage book list (add, delete)**”

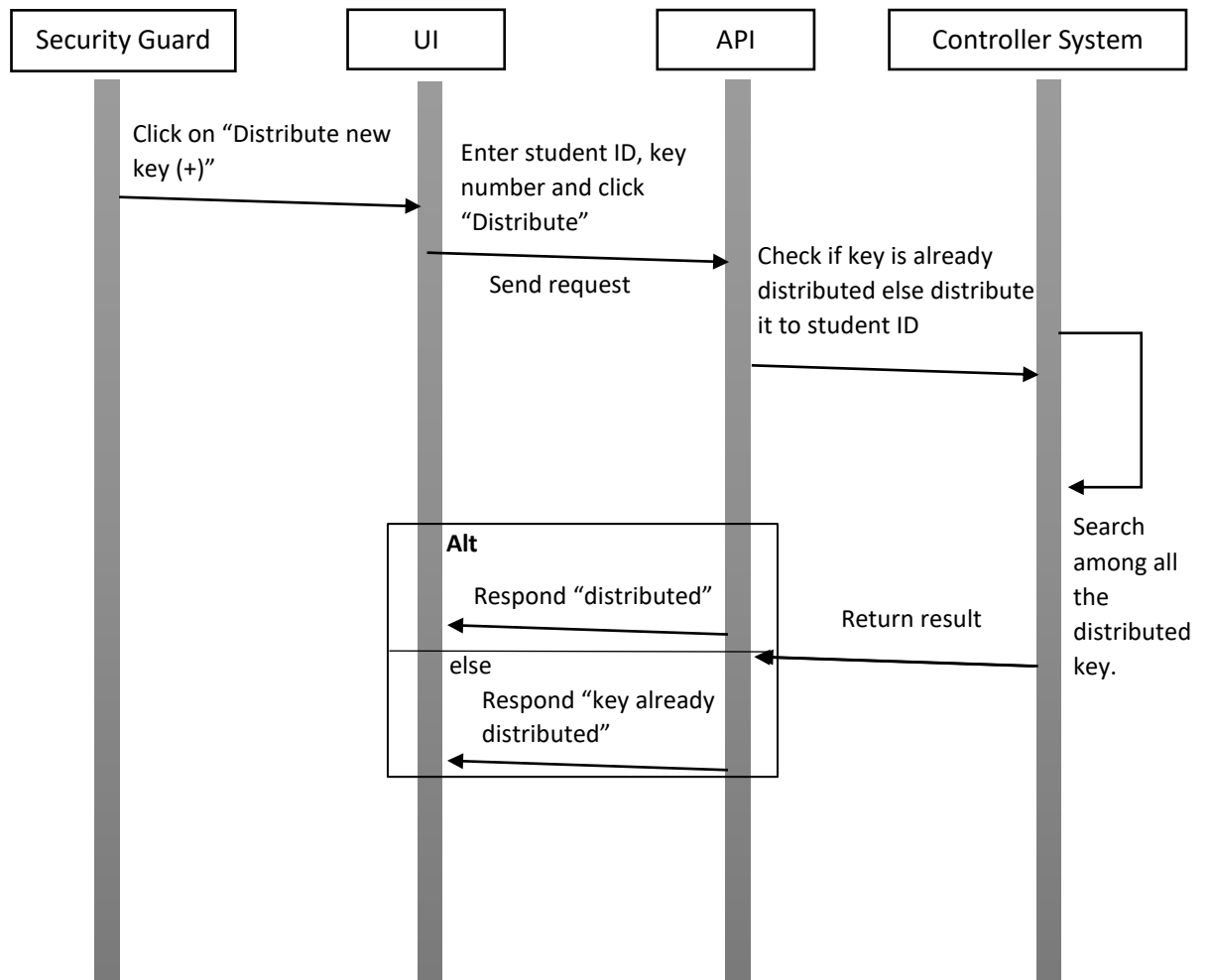
## View Locker Key History



Sequence diagram for “**View Locker Key History**”

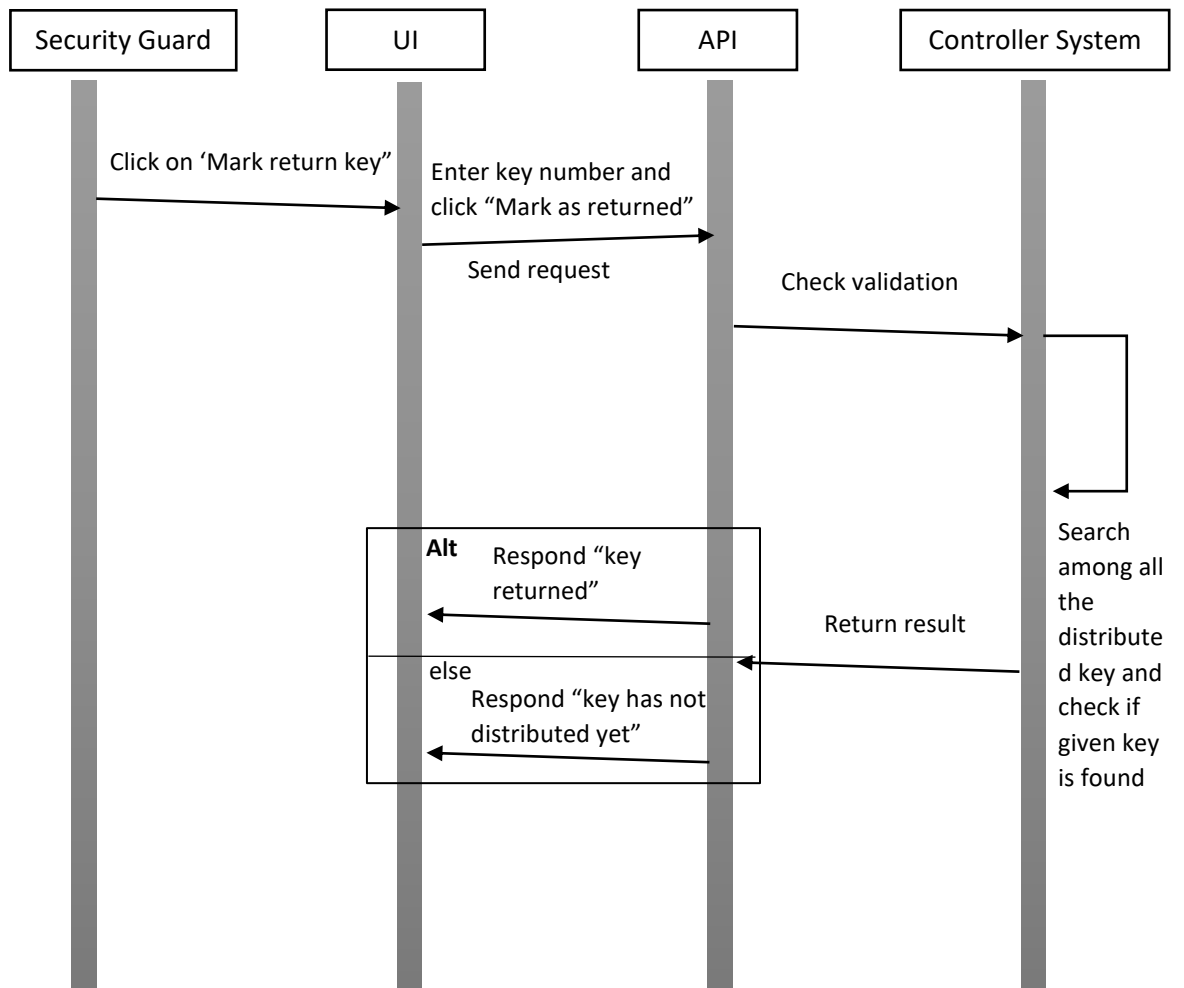


## Distribute New Key



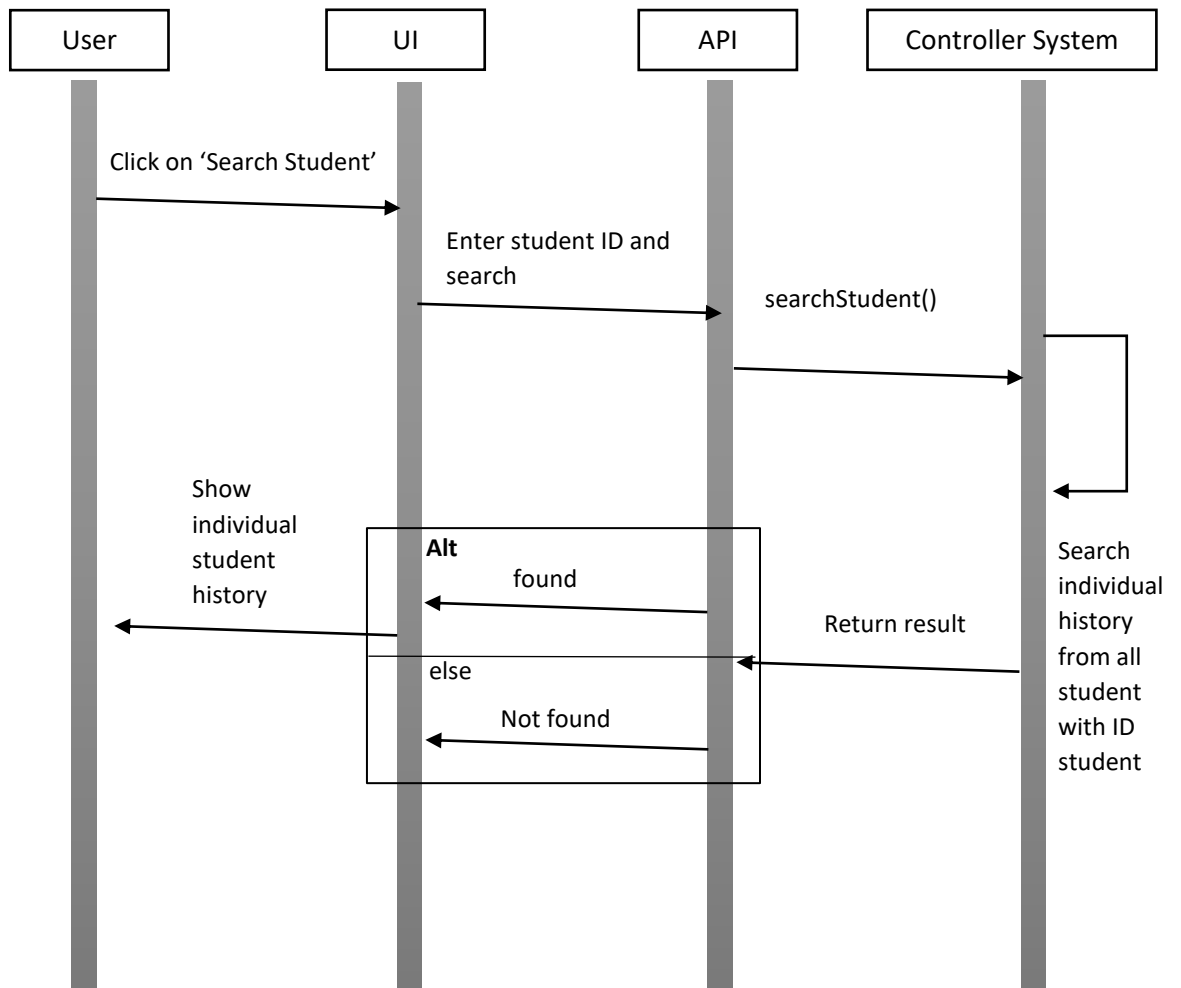
Sequence diagram for “**Distribute new key**”

## Mark Returned Key



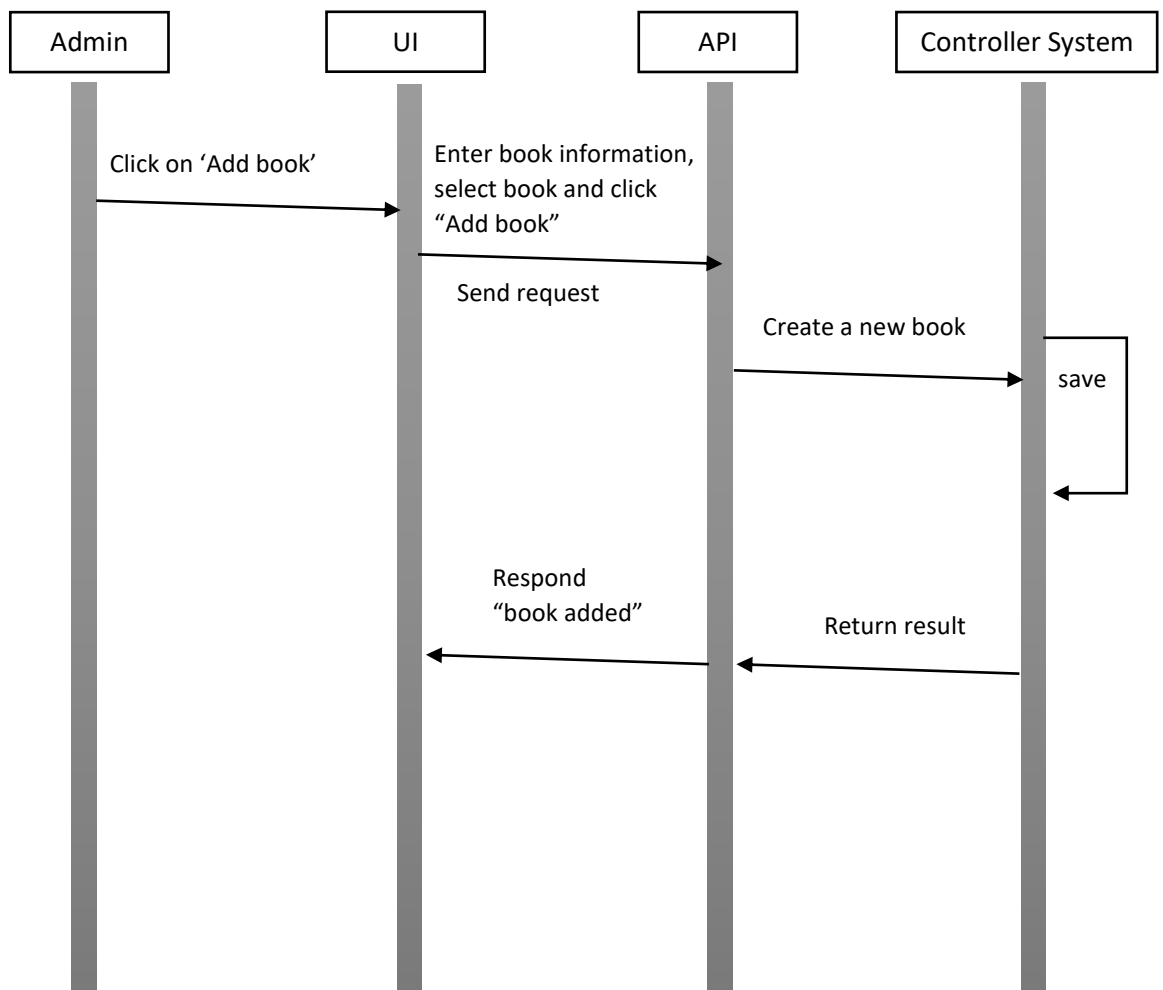
Sequence diagram for “**mark return key**”

## View Individual Student History



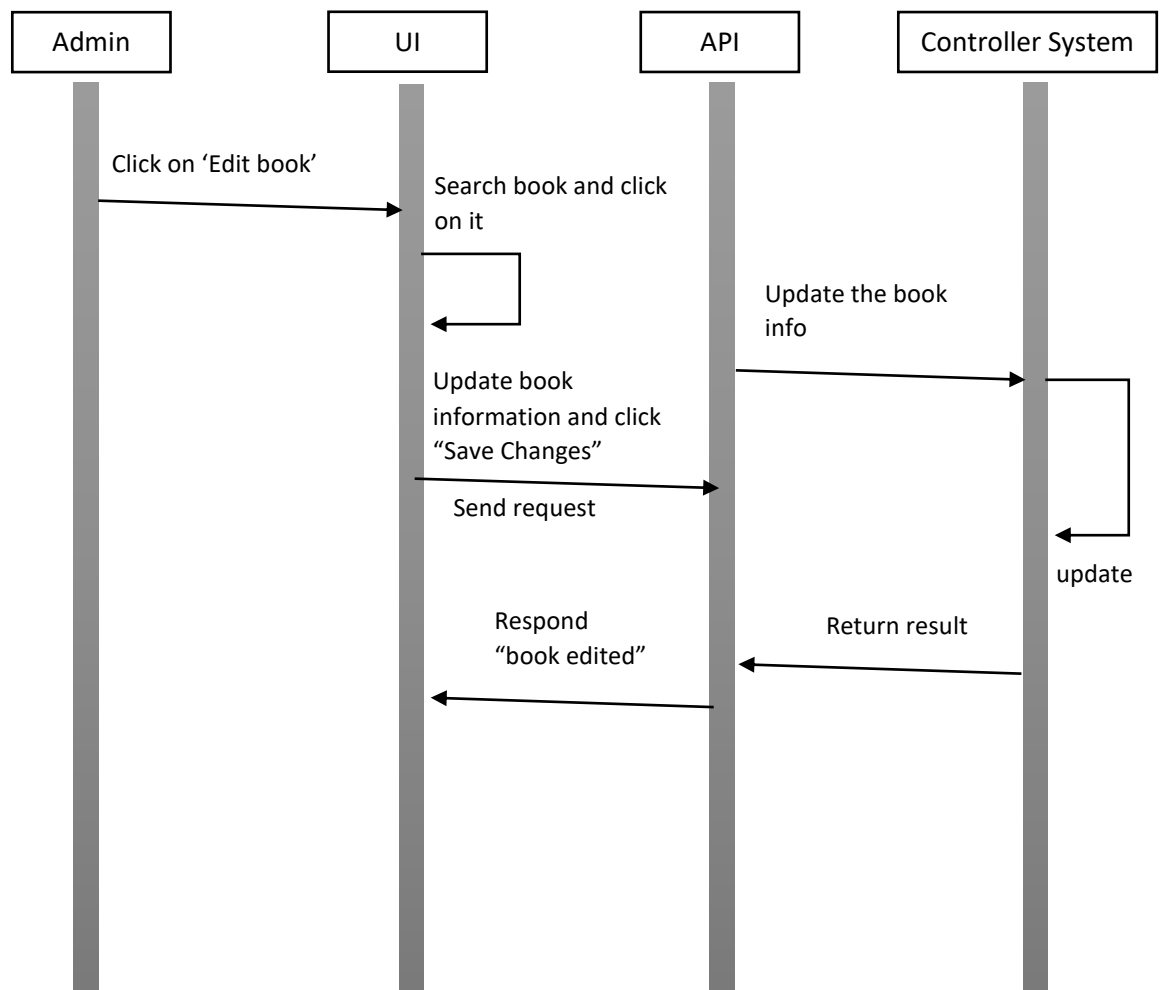
Sequence diagram for “**View Individual Student History**”

## Admin – Add Book



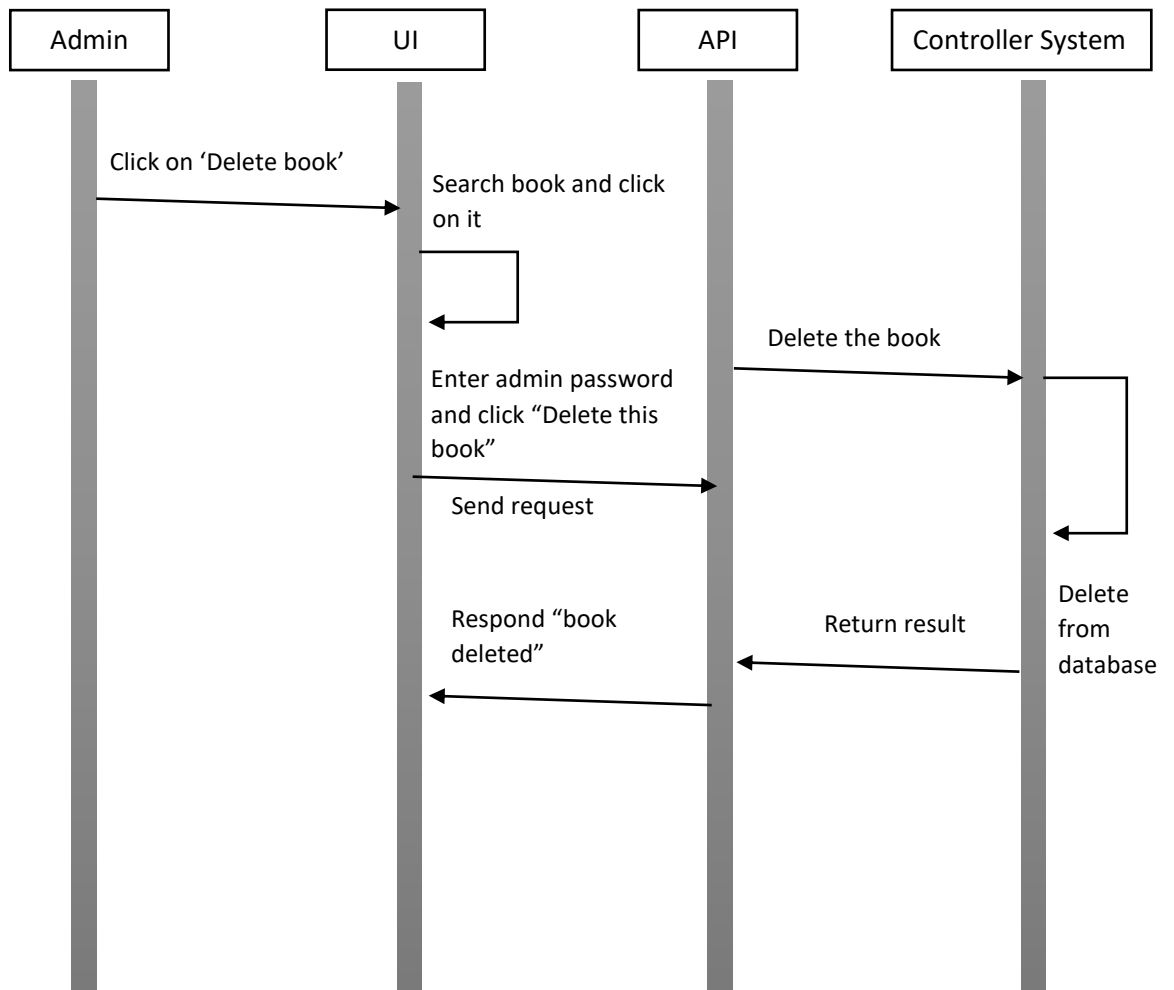
Sequence diagram for “**Add book**”

## Admin – Edit Book



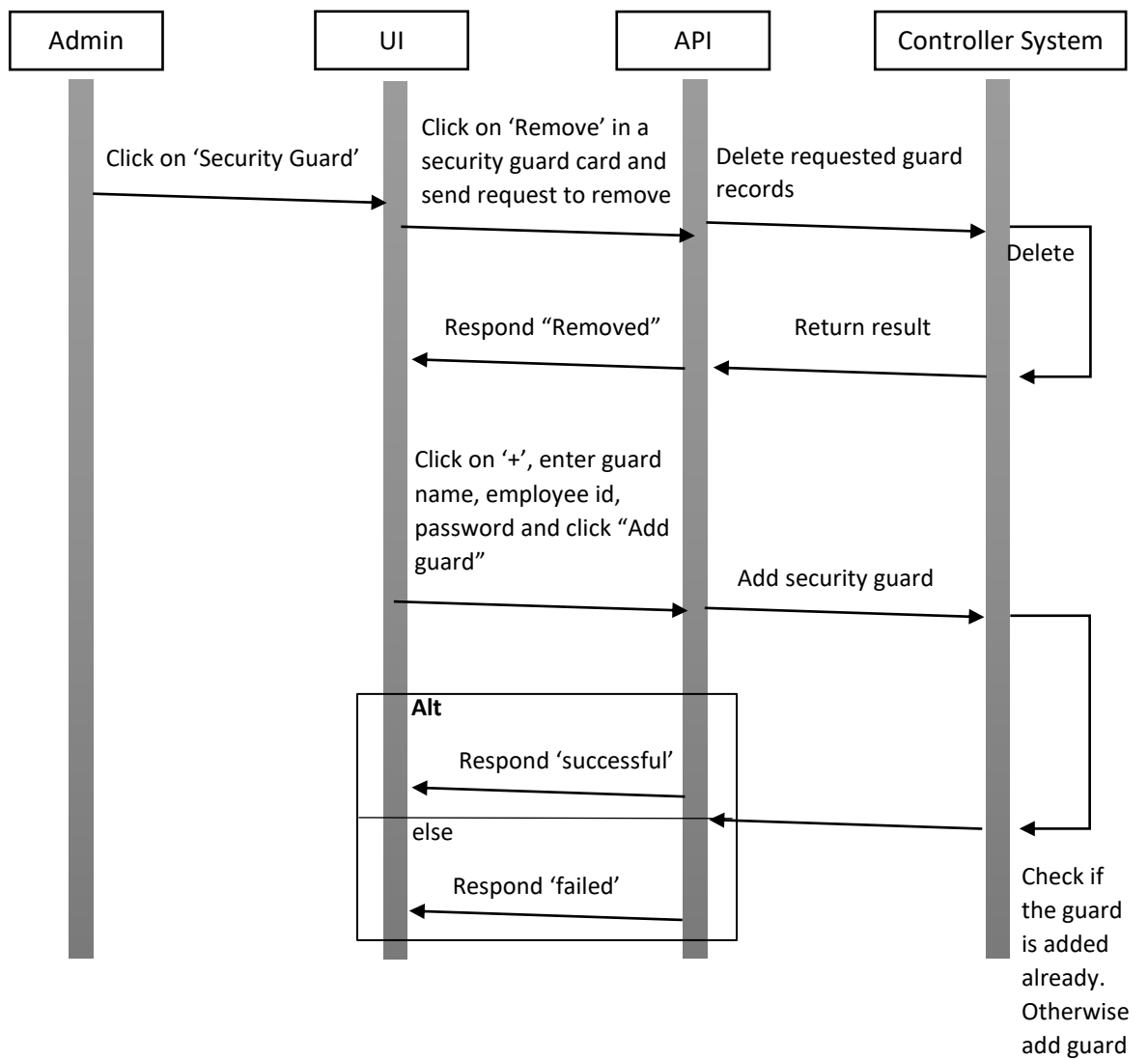
Sequence diagram for “**Edit book**”

## Admin – Delete Book



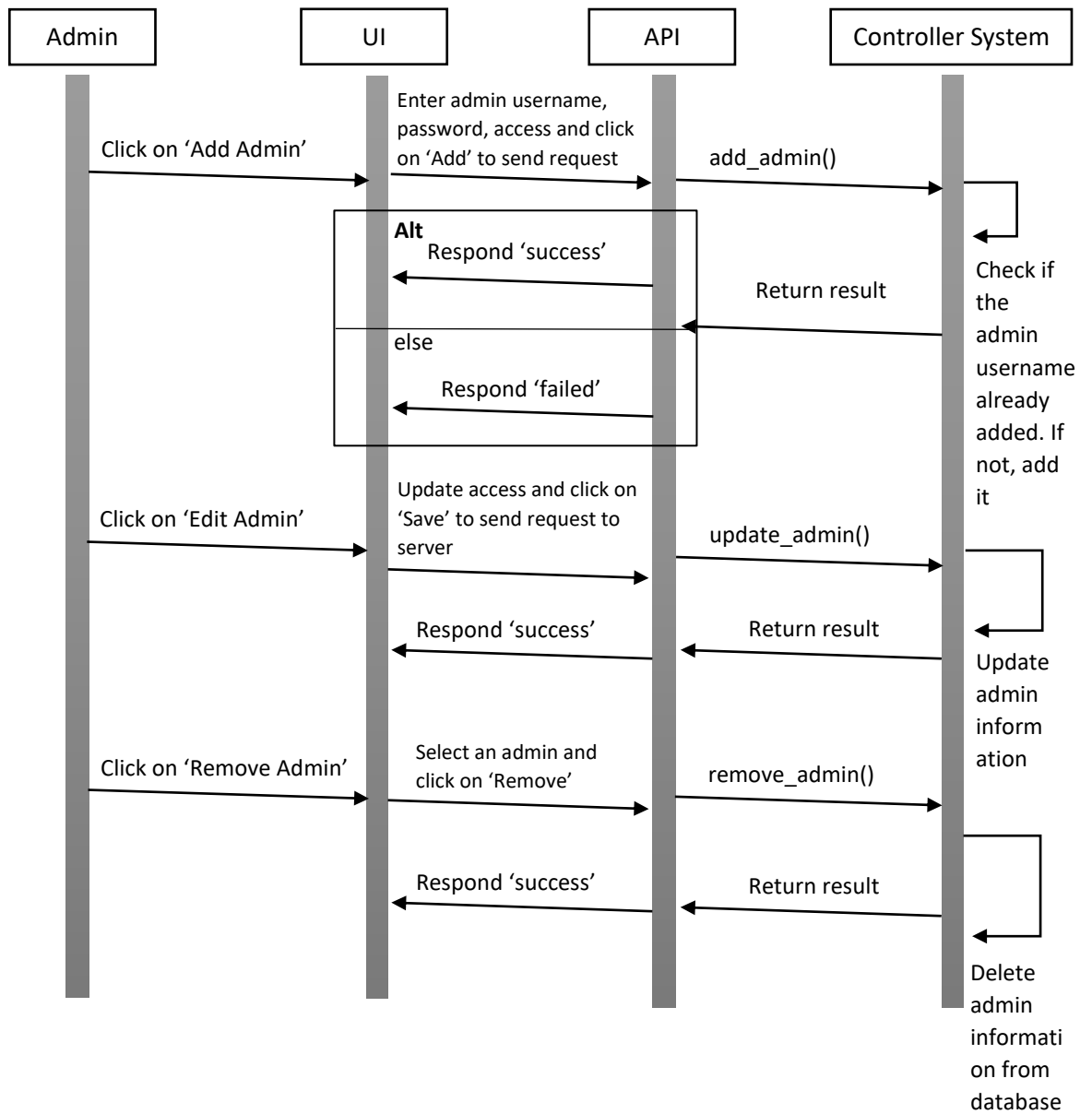
Sequence diagram for “Delete book”

## Admin – Manage Security Guards



Sequence diagram for “**Manage Security Guards**”

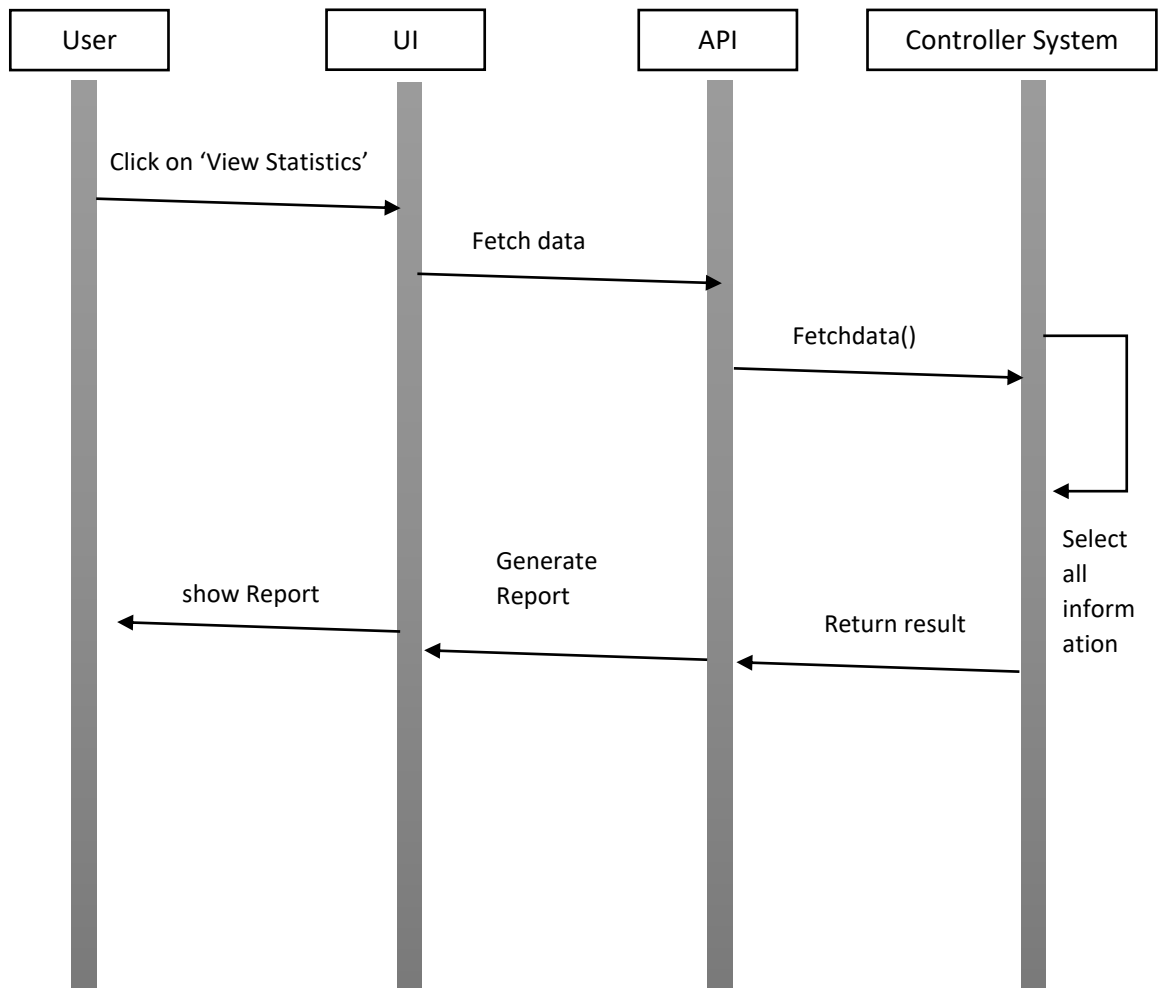
## Admin – Manage Admins



Sequence diagram for “**Manage Admin**”

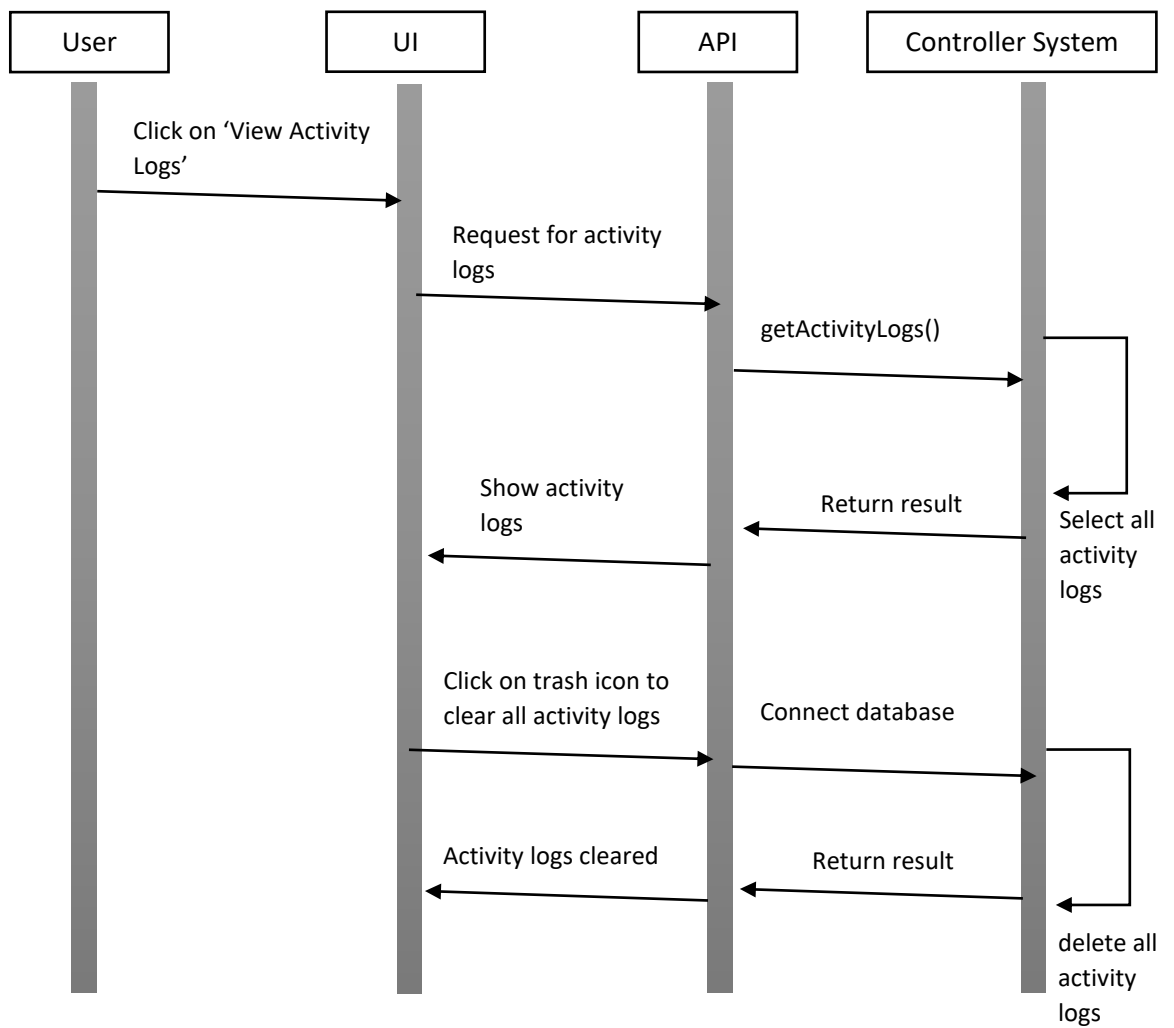


## Admin – View Statistics



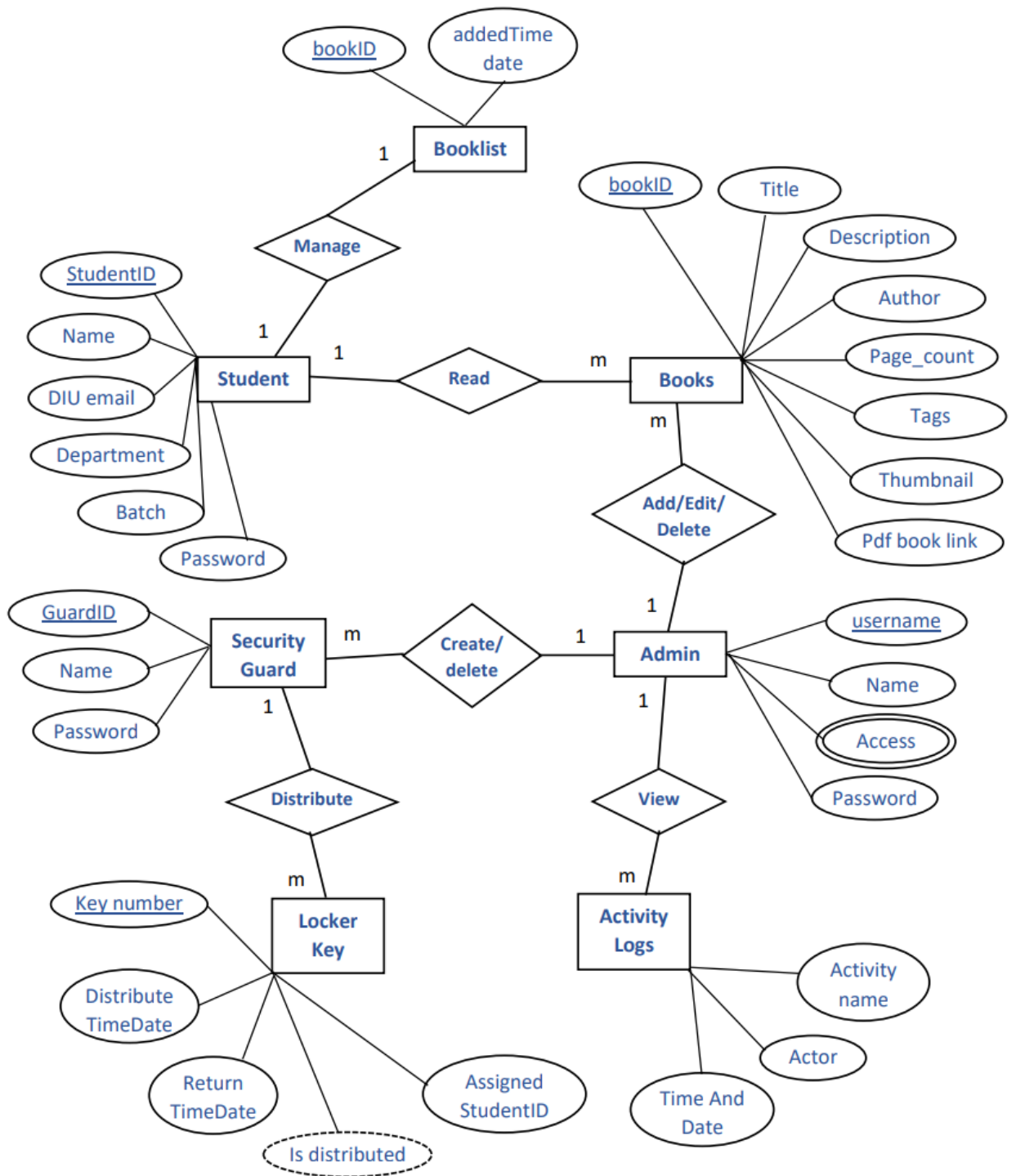
Sequence diagram for “**View Statistics**”

## Admin – View Activity Logs



Sequence diagram for “**View Activity Logs**”

### 3.5 Entity Relationship Diagram



**CHAPTER – 4**  
**SYSTEM TESTING**

## 4.1 Feature Testing

Feature testing is the software development process where multiple variations of a feature is tested to find out the best user experience of that feature. Using feature testing we can validate if a new feature for web page or app is a good fit and at the same time it is possible to determine which variation of the feature will be more successful.

Feature Testing helps us to develop an efficient, reliable, useful, effective and secure web application.

### 4.1.1 Features to be tested

Features	Priority	Description
Log in	1	The user has to be authenticated before using the system
Log out	3	The session must be killed after logging out
Student Registration	1	Student has to register to the system first so that the system can recognize the user.
Password Recovery	3	If any student forgets his/her password, he/she can retrieve it
Change Password	2	If student wants, they can change the current password
Search Book	1	When student input search keyword in the search field, a live time search result will be displayed
Read Book	1	PDF book will load when student click on Read Book
Book List	2	Student can save their favorite book for read it later. They can delete book from their Booklists
View Locker Key History	1	Locker Key History can be viewed by Security Guards
Distribute New Key	1	New can be distributed to a student if the student has not taken any key already
Mark Return Key	1	When student come to return a key, this feature will be used
Search Students	3	Security Guards can be able to search student by their ID and can view student previous locker key history individually
Add Book	1	Admin can be able to add book if he has the access
Edit Book	2	If admin has access admin can be able to edit book information excluding the PDF book file and thumbnail
Delete Book	3	If access, admin will be able to delete a book

Manage Guards	1	Admin can add new guard or remove any guard if he has the access
Manage Admins	1	Admin will be able to add another admin. He can edit/delete any other admins. All these actions require access of doing it
View Statistics	3	Admin can view statistics about the system and locker key distribution. Access required
Activity Logs	3	Activity Logs can be viewed by admin if he has access. Admin can clear all the activity logs

Figure 4.1: Features priority table with description

## 4.2 Test Strategies

### 4.2.1 Test approach

To ensure the quality of the system, two different sort of testing has been used. Mainly, it is focused on Black Box Testing and White Box Testing.

- **Black Box Testing:** Black Box Testing is also called functional testing. It is a testing strategy where internal mechanism is ignored and only focus on the output. For some specific input some outputs are generated. Then these outputs compare with the expected output. If it matches, the function is accepted.
- **White Box Testing:** White Box Testing are called structural testing. In this testing strategy, internal mechanism of the system is considered.

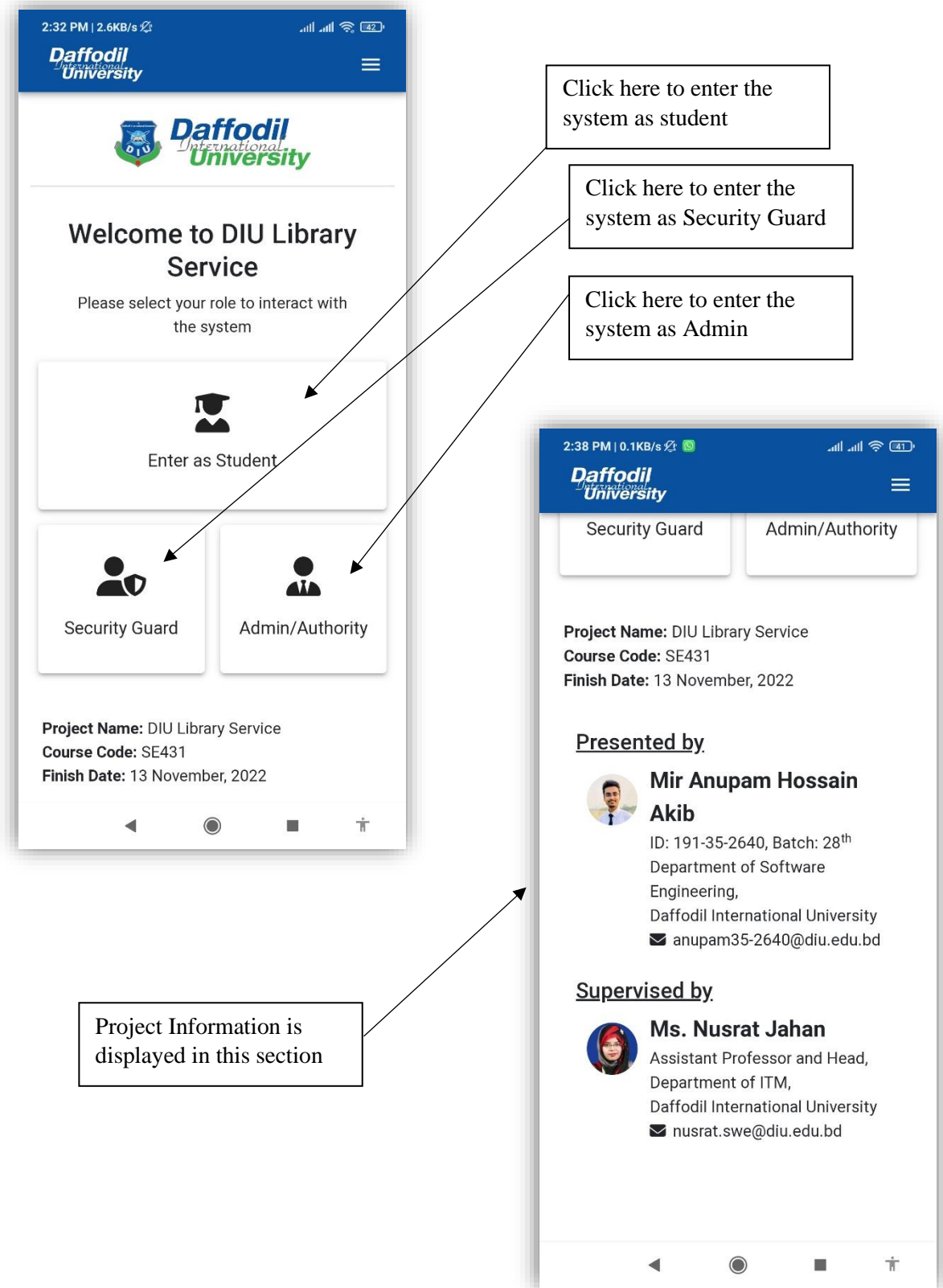
### 4.2.2 Testing Schedule

Test Phase	Time
Testing plan creating	1 Week
Unit test	During Development
Component testing	During Development
Testing user interfaces	1 Week
Performance test	2 Week
Accessibility test	2 Week

CHAPTER – 5  
**USER MANUAL**

## 5.1 DIU Library Service - Home Page

This is the home page of the project. From here you have to select in which role you want to enter to the system.





## 5.2 Student Login

2:38 PM | 1.4KB/s

Daffodil International University

Daffodil International University Library  
Read Learn & Share

### Student Login

Enter Student ID \*

Enter Password \*

→ LOGIN

OR

REGISTER NEW ACCOUNT

FORGOT YOUR PASSWORD?

Enter your student ID and password to login. Before login, you must be registered to the system

Click here to Register new account

Click here to Retrieve your password if you have forgotten it

To recover/retrieve password, enter your student ID and click next then an OTP will be sent to your DIU email. Put it to the OTP section, enter new password, re-enter it and click 'Change Password'. Your password will be set to your new password

2:41 PM | 50.8KB/s

Daffodil International University

### Password Recovery

Enter Student ID \*

191-35-2640

→ NEXT

2:41 PM | 0.4KB/s

Daffodil International University

### Password Recovery

Enter OTP \*

Enter Password \*

Re-enter Password \*

CHANGE PASSWORD

OTP is sent to your email. Please check

## 5.3 Student Registration

2:39 PM | 4.6KB/s

Daffodil International University

### Student Registration

Enter your student ID and DIU email address to start the student registration process

Enter Student ID \*  
191-35-2640

Enter DIU Email \*  
anupam35-2640@diu.edu.bd

→ NEXT

[ALREADY REGISTERED? LOGIN HERE](#)

Enter student ID and DIU email and click 'Next' to start the registration process

2:40 PM | 3.5KB/s

Daffodil International University

### Student Registration

\* Please do not refresh the page

Student ID \*  
191-35-2640

Student Name \*  
Mir Anupam Hossain Akib

Student Email \*  
anupam35-2640@diu.edu.bd

Department \*  
Software Engineering

Program \*  
B.Sc. in SWE

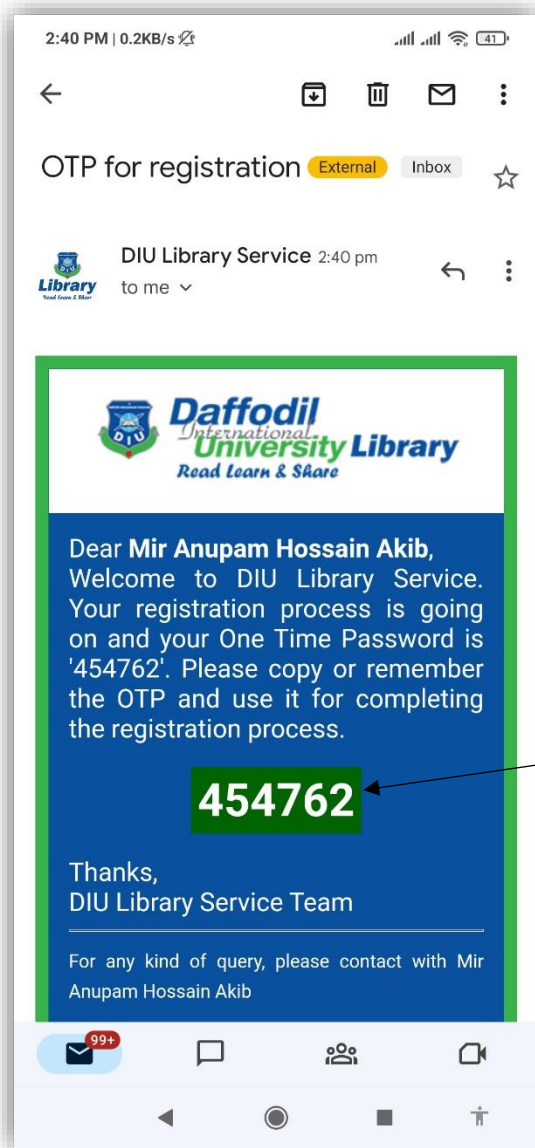
Batch \*  
28

Enter OTP \*

Enter Password \*

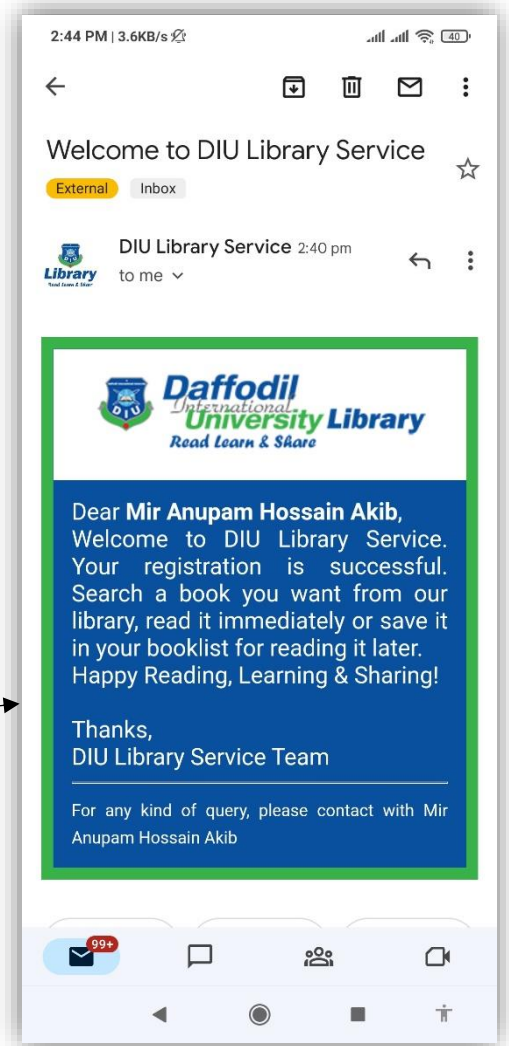
OTP is sent to your email. Please check

Then an OTP will be sent to your email. Collect it, set password and complete registration. Other information will fetch automatically



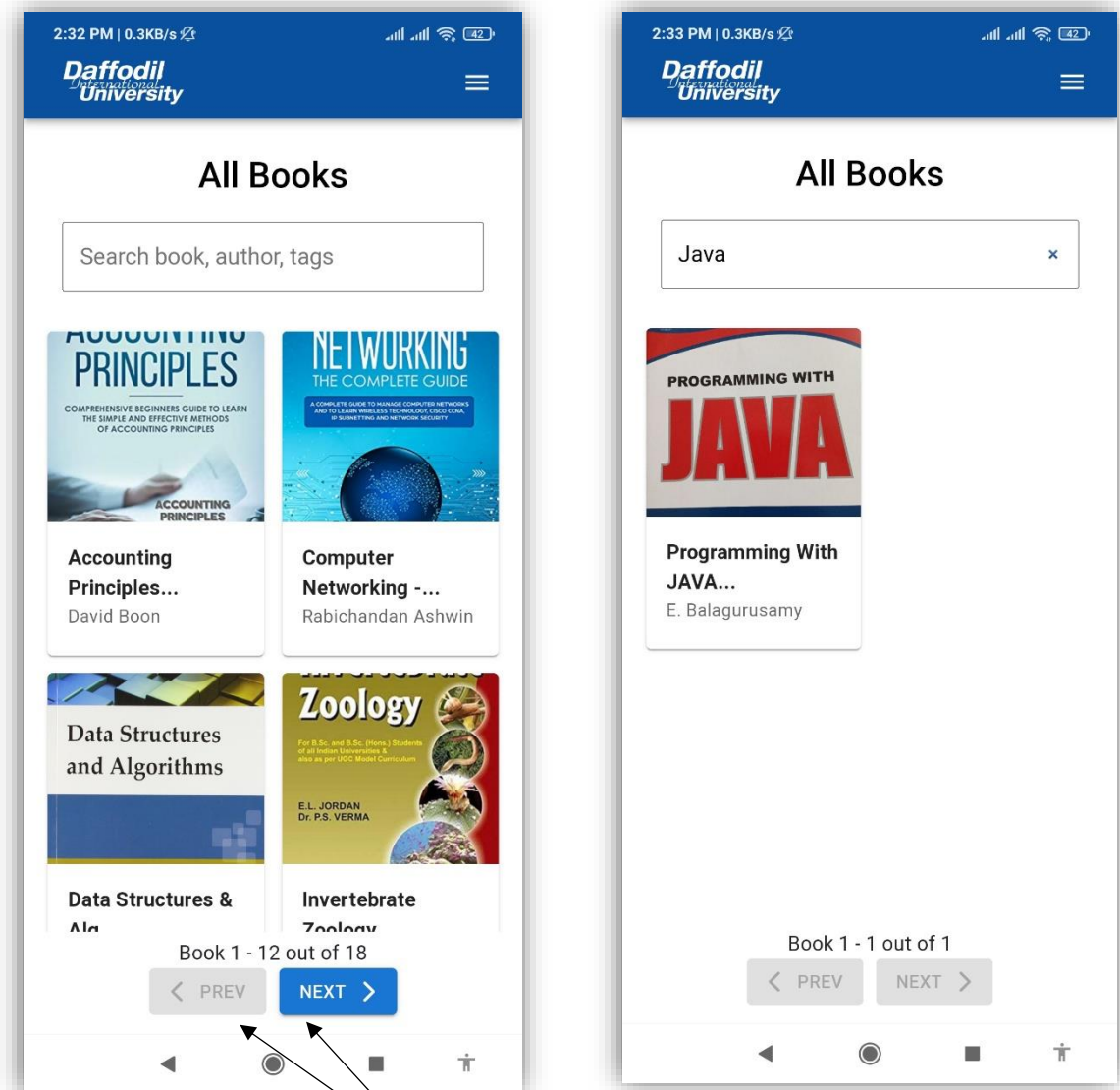
An email like this will sent to your DIU email. Copy or remember the OTP and put it in registration page

Your OTP



You will get a welcome message after successful registration

## 5.4 Student Home Page (All Books)

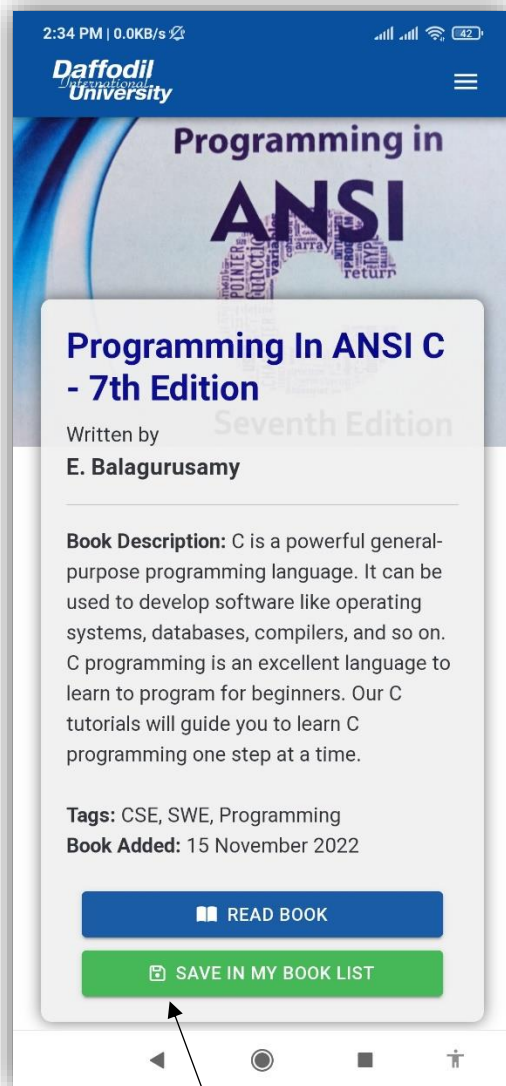


You can go to Next or Previous page clicking here

All books of the library will be displayed here. To read a book just click on a book. It will display all information about the book.

You can search a book by searching it by its name, part of name, author name, tags etc. A live search result will appear when you start searching

## 5.5 Read Book



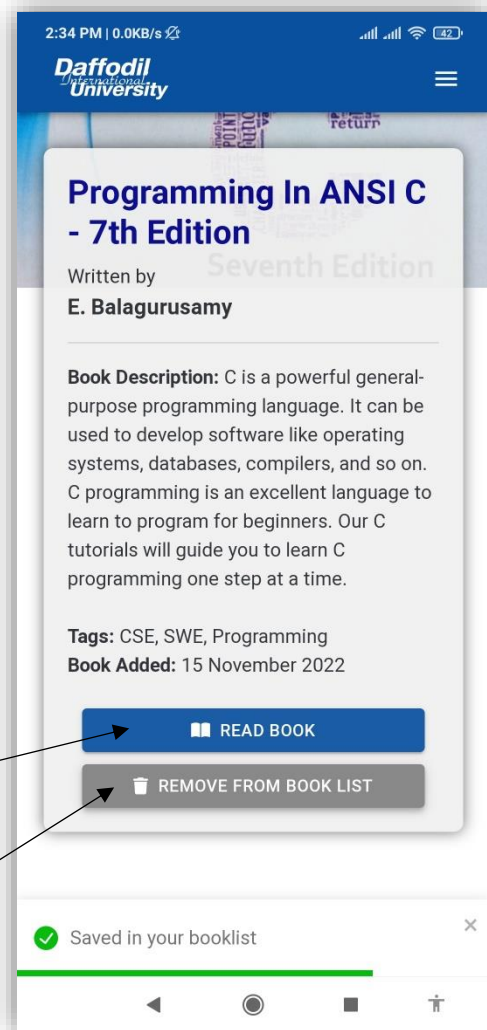
After clicking a book, book details will be displayed. Book details contains Book Title, Book Writer, Book Description, Tags, Added Date.

Some actions for the book can be performed from this page

Click here to save the book in your booklist

Click here to open the PDF book and read it

Click here to remove it from your booklist





## প্রোগ্রামিং কনটেন্ট - ডেটা স্ট্রাকচার ও অ্যালগরিদম

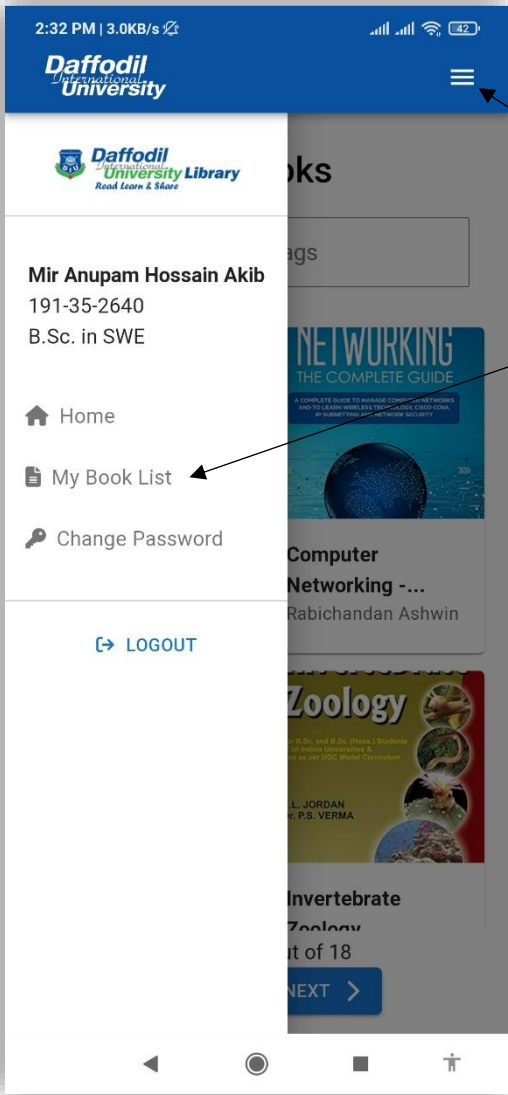
Md. Mahbubul Hasan

### সূচিপত্র

- ১ প্রোগ্রামিং প্রতিযোগিতায় হাতেখড়ি
  - ১.১ শুরু কথা . . . . .
  - ১.২ প্রোগ্রামিং প্রতিযোগিতা কী? . . . . .
  - ১.৩ কেন করব? . . . . .
  - ১.৪ কীভাবে শুরু করব? . . . . .
  - ১.৫ কী কী জানতে হবে? . . . . .
- ২ C বালাই
  - ২.১ একটি ছোট প্রোগ্রাম এবং ইনপুট আউটপুট . . . . .
  - ২.২ ডেটা টাইপ এবং math.h হেডার ফাইল . . . . .
  - ২.৩ if - else if - else . . . . .
  - ২.৪ লুপ (Loop) . . . . .
  - ২.৫ অ্যারে (Array) ও স্ট্রিং (String) . . . . .
  - ২.৬ টাইম কমপ্লেক্সিটি (Time Complexity) এবং মেমোরী (Memory Complexity) . . . . .
  - ২.৭ ফাংশন এবং রিকার্সন (Recursion) . . . . .
  - ২.৮ ফাইল (File) ও স্ট্রাকচার (Structure) . . . . .
  - ২.৯ বিটওয়াইজ অপারেশন (bitwise operation) . . . . .
- ৩ গণিত
  - ৩.১ সংখ্যাতত্ত্ব (Number Theory) . . . . .
    - ৩.১.১ মৌলিক সংখ্যা (Prime Number) . . . . .
    - ৩.১.২ একটি সংখ্যার গুণনীয়কসমূহ . . . . .

After clicking on 'Read Book' this module will open and the PDF book will be displayed. You can read it by scrolling all the pages

## 5.6 Manage Booklist



2:32 PM | 3.0KB/s

**Daffodil International University**

**Daffodil International University Library**  
Read Learn & Share

Mir Anupam Hossain Akib  
191-35-2640  
B.Sc. in SWE

Home

My Book List

Change Password


LOGOUT

1

2

Clicking here will open a menu bar from left side. Then from menu bar click on 'My Book List' to open your booklist

Click here to change your role



2:37 PM | 0.7KB/s

**Daffodil International University**

### My Book List

খো: মাহবুব হাসান

প্রোগ্রামিং কনটেন্ট

Md. Mahbul Hasan

Programming in ANSI C...  
Seventh Edition

E. Balagurusamy

Zoology

Invertebrate Zoology

Jordan & Verma

THE LEADERSHIP CHALLENGE  
Sixth Edition

The Leadership Challe...

Barry Posner

Here is your booklist. All books that you saved in your booklist will be displayed here. You can remove a book from your booklist using the 'x' icon too

## 5.7 Change Password

2:37 PM | 0.0KB/s

Daffodil University

### Change Password

Enter Current Password \*

Enter New Password \*

Re-enter New Password \*

CHANGE PASSWORD

To change student's password, click on 'Change Password' from menu bar and enter your current password, enter new password, re-enter the new password and hit 'Change Password' to change your password. If all information is correct, your password will be changed'



## 5.8 Retrieve Password/Password Recovery

2:41 PM | 50.8KB/s

Daffodil International University

### Password Recovery

Enter Student ID \*

191-35-2640

→ NEXT

If you forget your password, you can retrieve your password. Click on 'forgot your password', enter your student ID and click 'Next'. An OTP will be sent to your DIU email. Enter the OPT, new password and hit 'Change Password'. If everything okay, your password will be changed and you can log in with your new password

2:41 PM | 0.4KB/s

Daffodil International University

### Password Recovery

Enter OTP \*

Enter Password \*

Re-enter Password \*

CHANGE PASSWORD

OTP is sent to your email. Please check

2:42 PM | 5.1KB/s

←

OTP for Password Recovery

External Inbox

DIU Library Service 2:41 pm to me

Daffodil International University Library  
Read Learn & Share

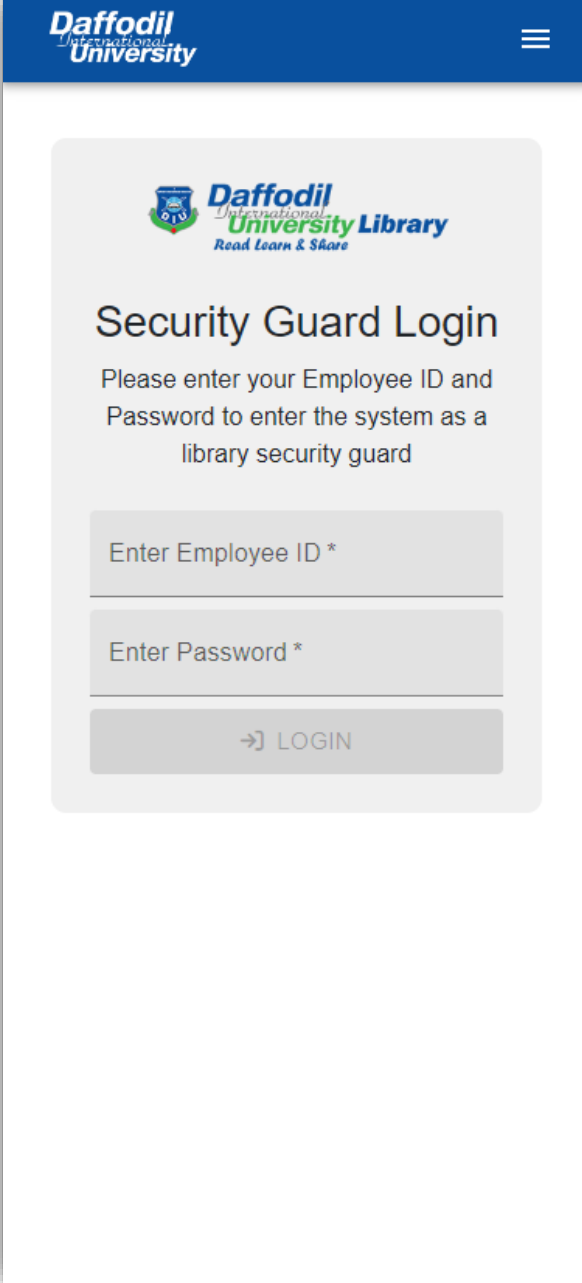
Dear Mir Anupam Hossain Akib,  
Your One Time Password for recovering your DIU Library Service's password is '228429'. Please copy or remember the OTP and use it for completing the password recovery process.

**228429**

Thanks,  
DIU Library Service Team

For any kind of query, please contact with Mir Anupam Hossain Akib

## 5.9 Security Guard Login



**Daffodil**  
International  
University

**Daffodil**  
International  
University Library  
*Read Learn & Share*

### Security Guard Login

Please enter your Employee ID and Password to enter the system as a library security guard

Enter Employee ID \*

Enter Password \*

→ LOGIN

To login as security guard, change your role to 'Security Guard' and enter guard's Employee ID, Password and click on '**Login**'.

To change role, click on DIU logo at the top left corner

## 5.10 View Locker Key History

**Locker Key History**

Select one  
On Service Keys

PRINT THIS HISTORY

Rows per page: 10 1-5 of 5

Student ID	Key Number	Handover Time
191-35-2630	21	13 November 2022, 3:59 PM
191-35-2639	12	13 November 2022, 2:15 AM
191-35-2700	82	12 November 2022, 7:27 PM
191-35-2706	650	12 November 2022, 7:26 PM
191-35-2638	80	11 November 2022, 7:26 AM

Click here to print the page

'Locker Key History' is the home page of security guard role. By default, 'On service keys' will be displayed. Click here to change history type.

Click here to 'Mark returned key'

Click here to 'Distribute New Key'

**Locker Key History**

Select one  
On Service Keys

Today's History

On Service Keys

All History (Life Time)

191-35-2630	21	13 November 2022, 3:59 PM
191-35-2639	12	13 November 2022, 2:15 AM
191-35-2700	82	12 November 2022, 7:27 PM
191-35-2706	650	12 November 2022, 7:26 PM
191-35-2638	80	11 November 2022, 7:26 AM

## 5.11 Distribute New Key

Enter Student ID and Key Number then click on 'Distribute'. If the student is not taken any key already or the key is not already in used, the key will be distributed to that student

Locker Key History

Select one  
All History (Life Time)

PRINT THIS HISTORY

Distribute New Key

Enter Student ID \*

Enter Key Number \*

DISTRIBUTE

Student ID	Key Number	Handover Time
191-35-2700	82	12 November 2022, 7:27 PM
191-35-2706	650	12 November 2022, 7:26 PM
191-35-2638		
191-35-2630	21	13 November 2022, 2:02 PM

Locker Key History

Select one  
On Service Keys

PRINT THIS HISTORY

Rows per page: 10 1-6 of 6

Student ID	Key Number	Handover Time
191-35-2640	25	21 November 2022, 2:43 PM
191-35-2630	21	13 November 2022, 3:59 PM
191-35-2639	12	13 November 2022, 2:15 AM
191-35-2700	82	12 November 2022, 7:27 PM
191-35-2706	650	12 November 2022, 7:26 PM

Key 25 is distributed to 191-35-2640

Here you can see the message that, key 25 is distributed to 191-35-2640 student ID. Time of distribution will be also saved

## 5.12 Mark Returned Key

2:43 PM | 2.6KB/s

Daffodil International University

### Locker Key History

Select one  
On Service Keys

PRINT THIS HISTORY

#### Mark Returned Key

Enter Key Number \*

MARK AS RETURNED

Student ID	Key Number	Handover Time
191-35-2639	12	13 November 2022, 2:15 AM
191-35-2700	82	12 November 2022, 7:27 PM
191-35-2706	650	12 November 2022, 7:26 PM
191-35-2638	80	11 November 2022, 7:27 PM

2:43 PM | 11.1KB/s

Daffodil International University

### Locker Key History

Select one  
On Service Keys

PRINT THIS HISTORY

Rows per page: 10 1-5 of 5

Student ID	Key Number	Handover Time
191-35-2630	21	13 November 2022, 3:59 PM
191-35-2639	12	13 November 2022, 2:15 AM
191-35-2700	82	12 November 2022, 7:27 PM
191-35-2706	650	12 November 2022, 7:26 PM
191-35-2638	80	11 November 2022, 7:27 PM

Key 25 has been returned

2:43 PM | 0.1KB/s

Daffodil International University

### Locker Key History

#### Mark Returned Key

Enter Key Number \*

25

MARK AS RETURNED

191-35-2640 25 21 November 2022, 7:27 PM

1 2 3 :  
4 5 6 %  
7 8 9   
ABC . 0   
Go

Enter the locker key number that is returned by a student. If the number is valid and found it distributed key list then system will mark it as 'Returned' after clicking on 'Mark as Returned'

We want to mark Key 25 as 'Returned', so write it in the input field and click the below button

Here the message says, Key 25 is returned. It will save the time and duration as well

## 5.13 Search Individual Student

2:44 PM | 0.4KB/s

**Daffodil International University**

**Daffodil International University Library**  
Road Learn & Share

**Mehadi Hasan**  
EmpID: 123456789  
Role: Security Guard

All Distributed Key

Search Student

LOGOUT

History

Time)

HISTORY

-10 of 49

number Handover Time

21 November 2022, 2:43 PM

13 November 2022, 3:59 PM

13 November 2022, 2:15 AM

12 November 2022, 7:27 PM

12 November 2022, 7:27 PM

11 November

2:44 PM | 7.6KB/s

**Daffodil International University**

**Search Student**

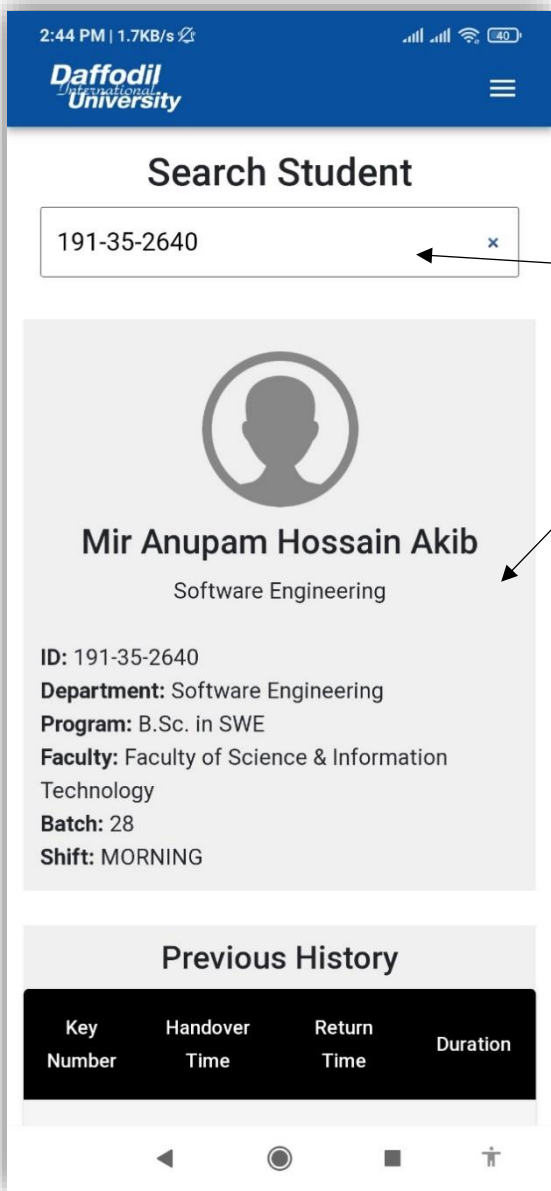
Search Student ID

**Student Not Found**  
Please check your student ID

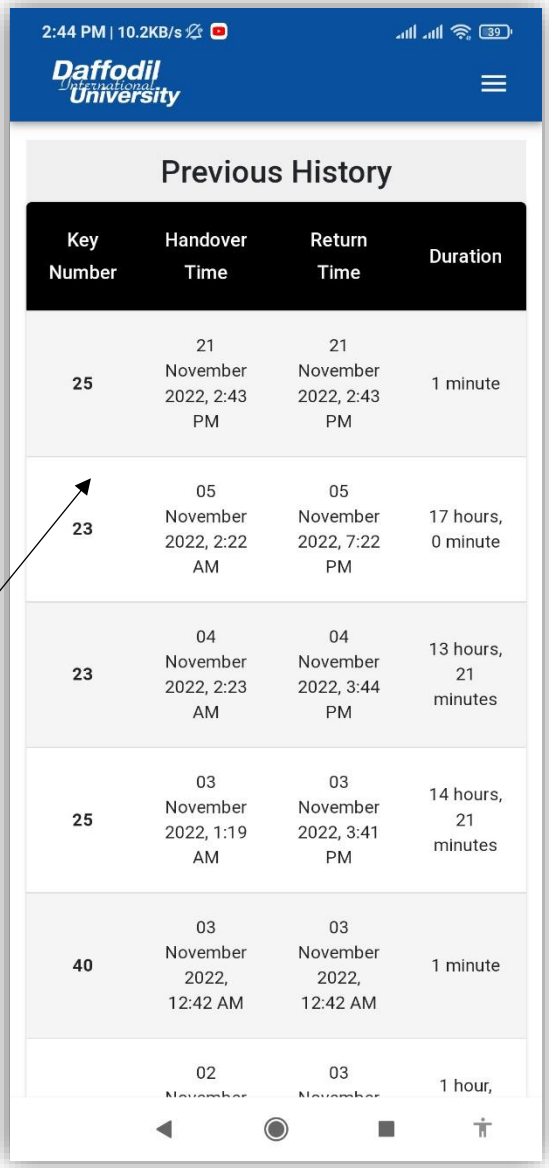
This page will appear. Then enter student ID to the search box and search for student

Click here and open the menu bar

From the menu bar, click on 'Search Student'



Student information displayed for student ID 191-35-2640.



History of locker key taken by the student ID will be displayed in this section. Key Number, Handover Time, Return Time, Duration will be seen here.

## 5.14 Admin Login

**Daffodil International University**

**Daffodil International University Library**  
Read Learn & Share

### Admin Login

Enter your admin username & password to enter as an admin

Enter Username \*

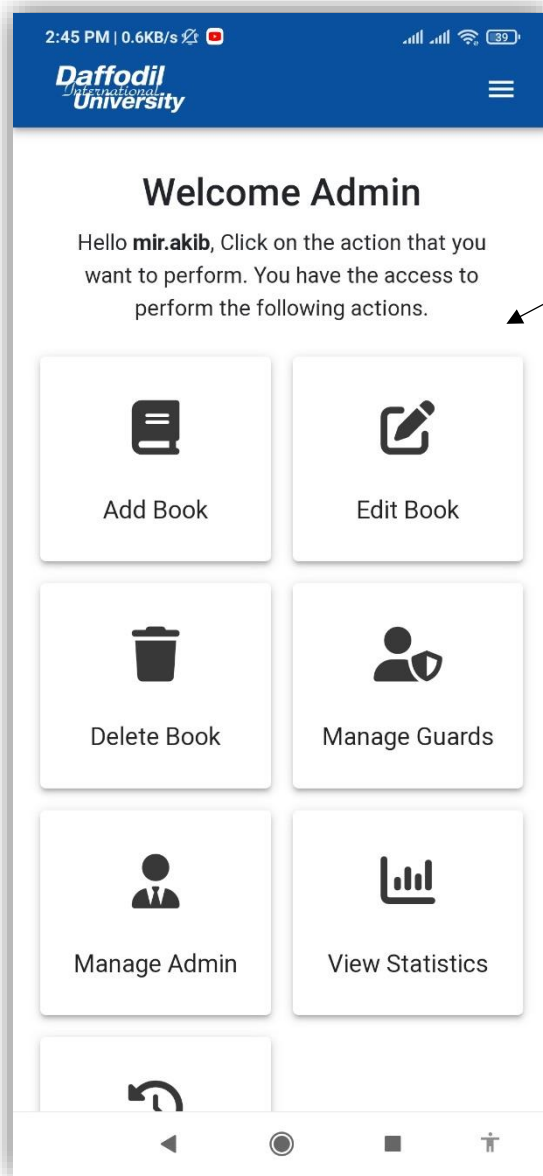
Enter Password \*

→ LOGIN

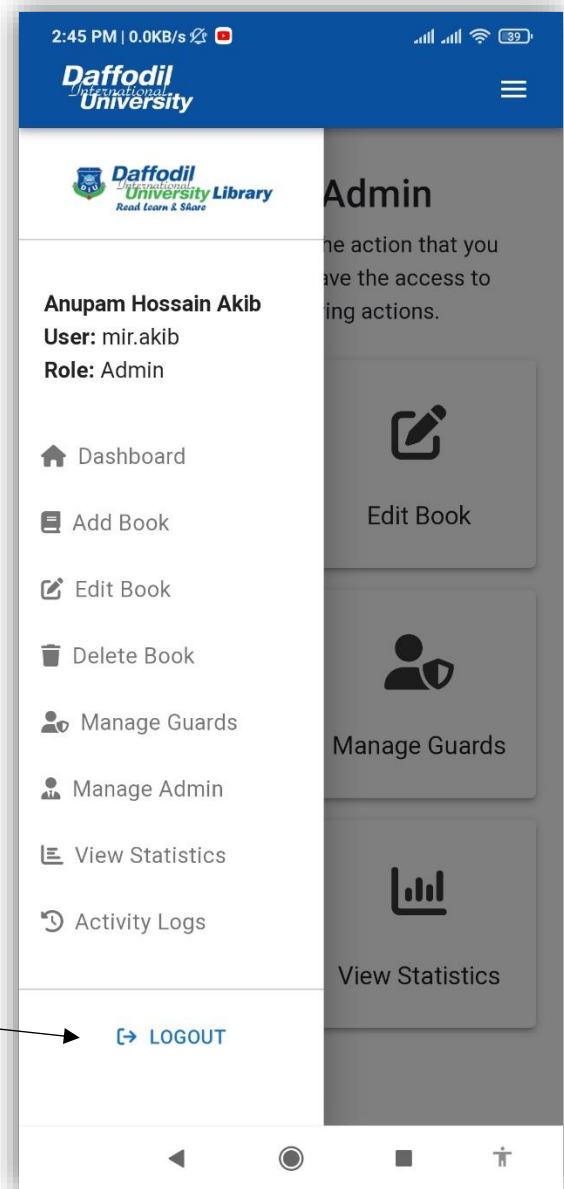
Change role to 'Admin'.  
Enter admin username,  
admin password to login  
as admin



## 5.15 Admin Dashboard



This is the dashboard of an admin containing all the action buttons that he/she has access to perform. Just click on an action to perform it. Actions can be performed from the menu bar too.



A menu bar contains the same things that shown in dashboard. 'Logout' feature is implemented here.

## 5.16 Add Book

2:46 PM | 0.0KB/s

**Daffodil International University**

### Add Book

Enter Book Title \*

Enter Book Writer \*

Enter Book Description \*

Enter Tags (Seperate by comma (...

#### Select Files

Select your PDF book (PDF only) \*

Choose file No file chosen

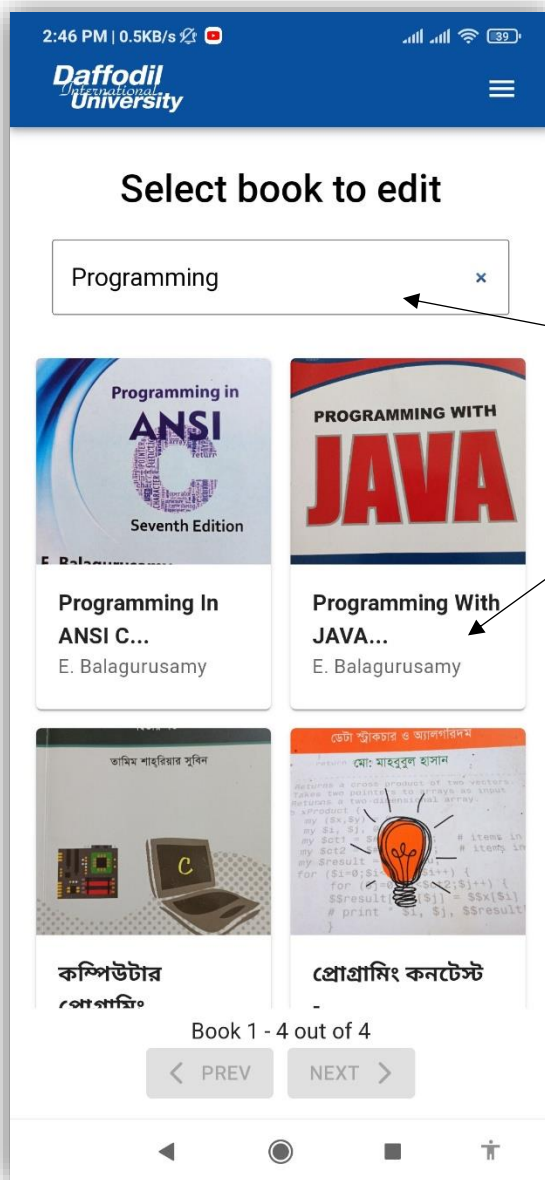
Select book thumbnail (image only) \*

Choose file No file chosen

ADD BOOK

To add a new book, click 'Add Book' from admin dashboard/menu bar. Then this page will appear. Input all the required text fields, select a PDF book, select a JPG/PNG thumbnail and click on 'Add Book' button. If everything is okay, the book will be added and student will be able to read it.

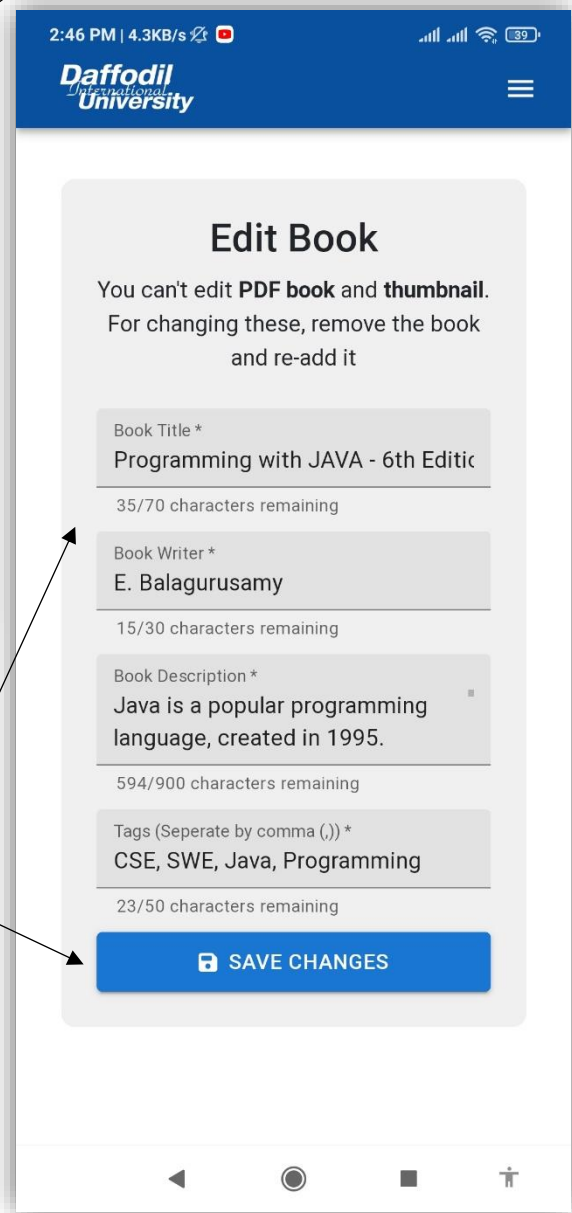
## 5.17 Edit Book



To edit a book, select the book and click on it. Primary details will be displayed in text fields. Edit those text fields and click on 'SAVE CHANGES' to edit the book

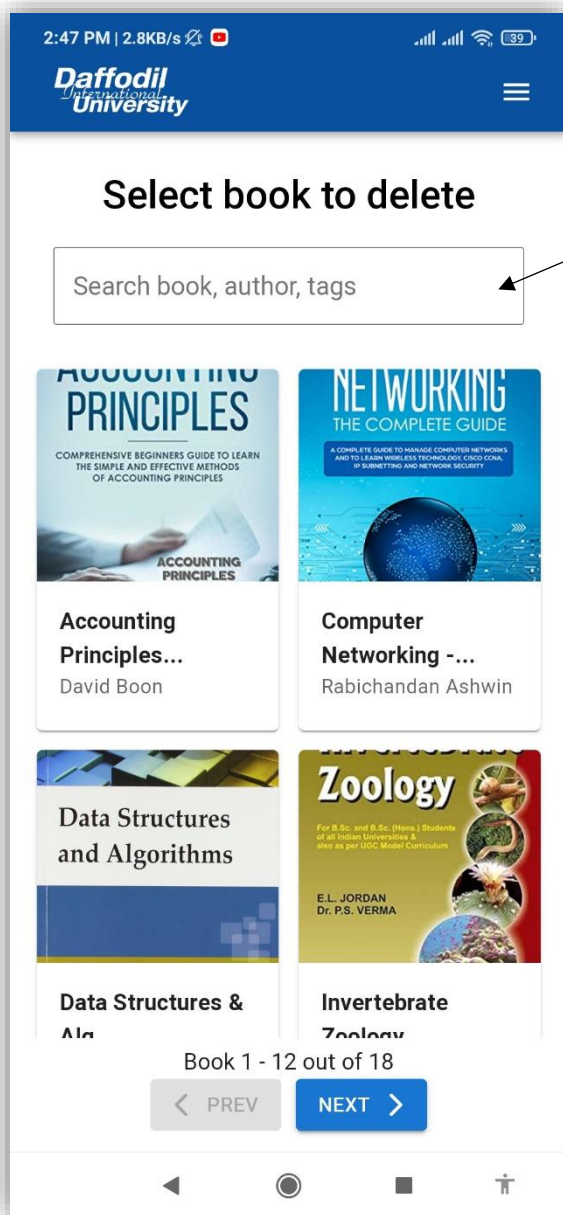
Click here and type to search book

Click here to edit it



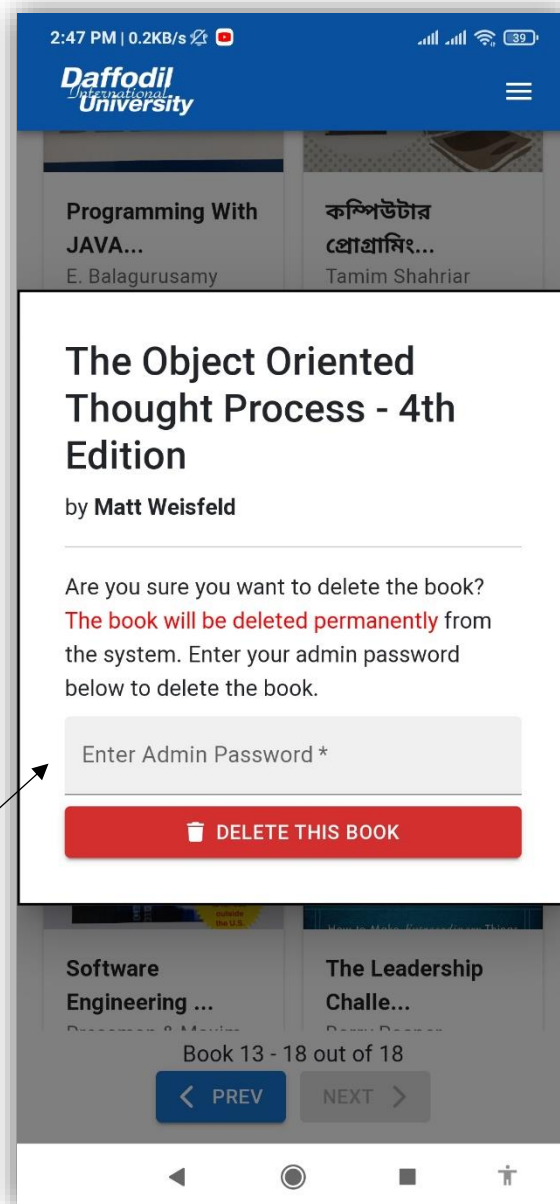
Details are fetched. Now change them and click 'Save Changes'. To change the PDF book file or Thumbnail, you have to delete the book and re-add it with new files

## 5.18 Delete Book

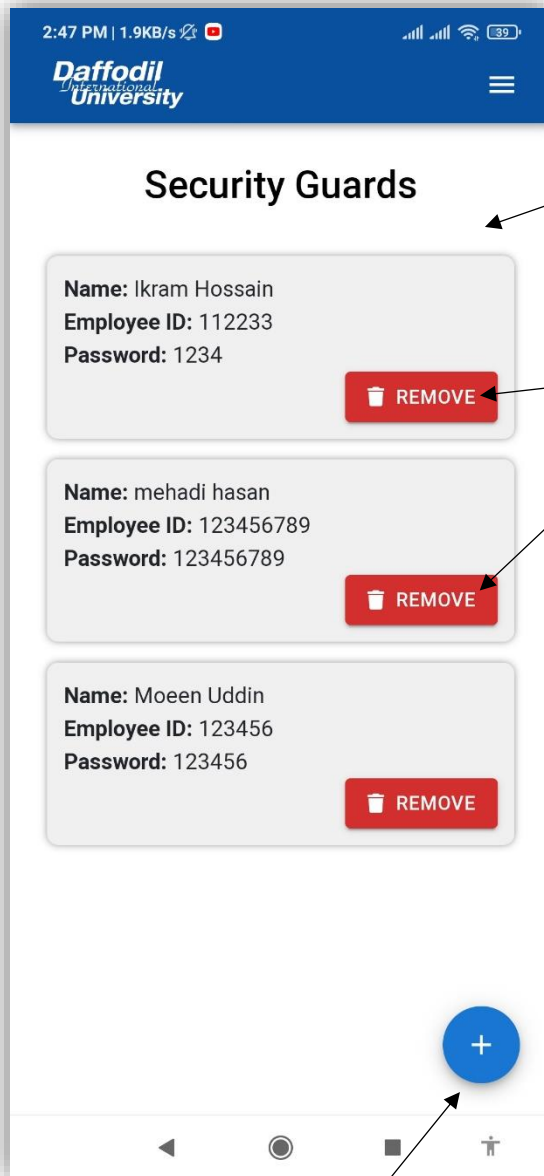


Search a book here, and click on the book to delete it

For security issue, enter your admin password and click on 'Delete This Book' to delete the book from the system permanently

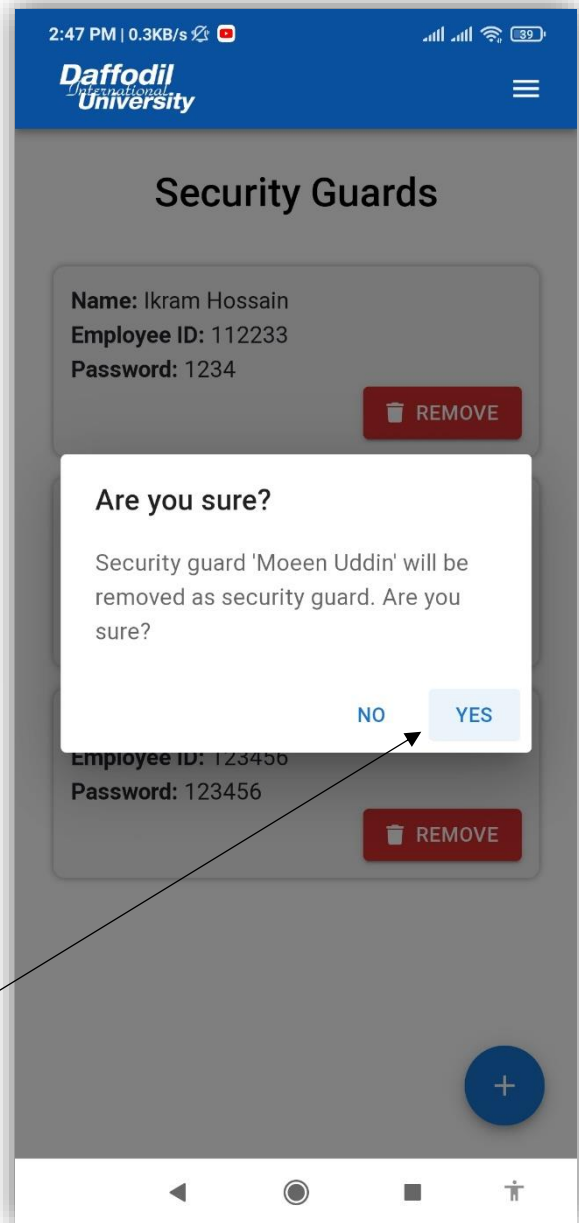


## 5.19 Manage Security Guards



Click on 'Manage Guards' from admin dashboard to come to this page. You can add or remove a guard from here

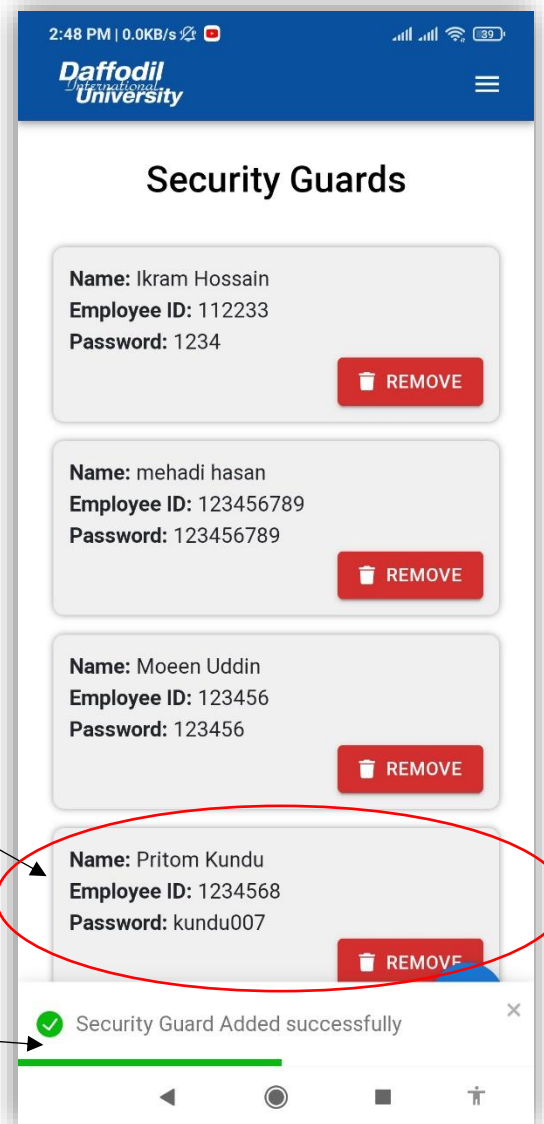
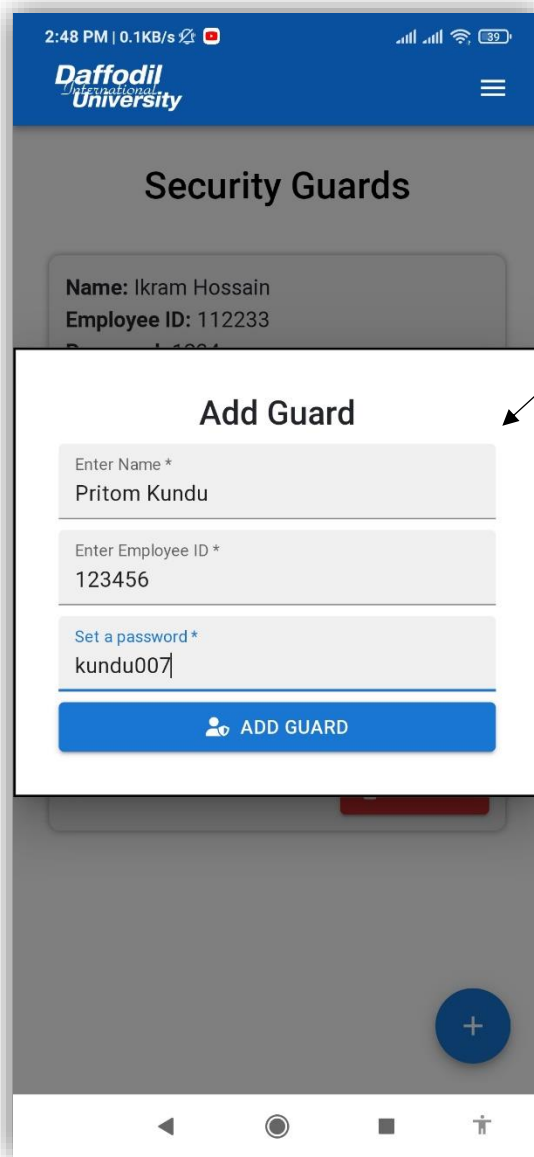
Click here to remove this guard. The guard will be logged out and will not be able to login again if you remove the guard



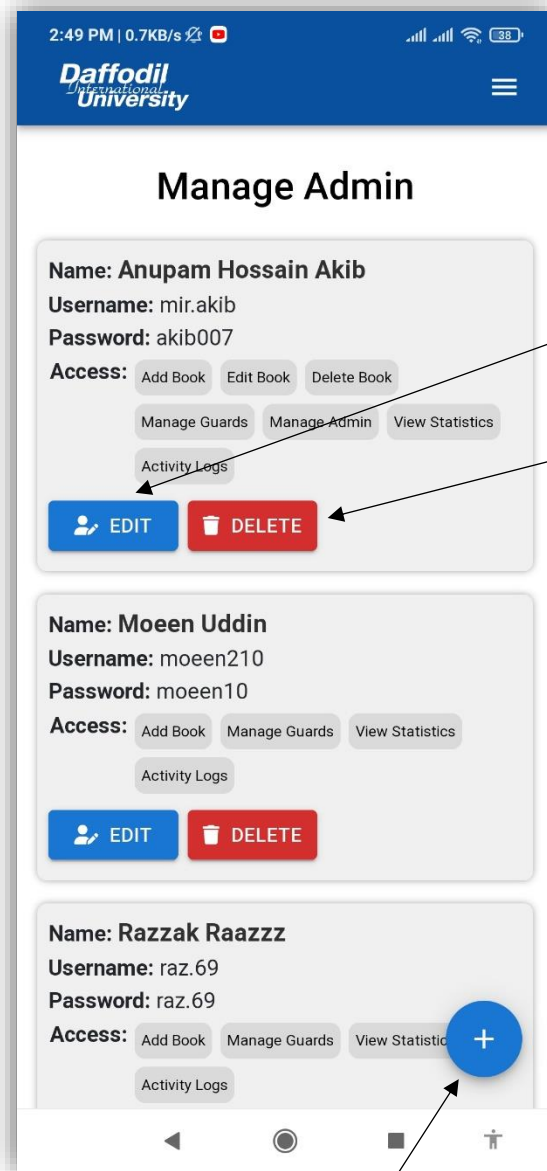
Click here to add a new security guard

When you click on 'Remove' button, a confirmation box will appear. To remove the guard, touch on 'YES'

Adding a new security guard,



## 5.20 Manage Admins

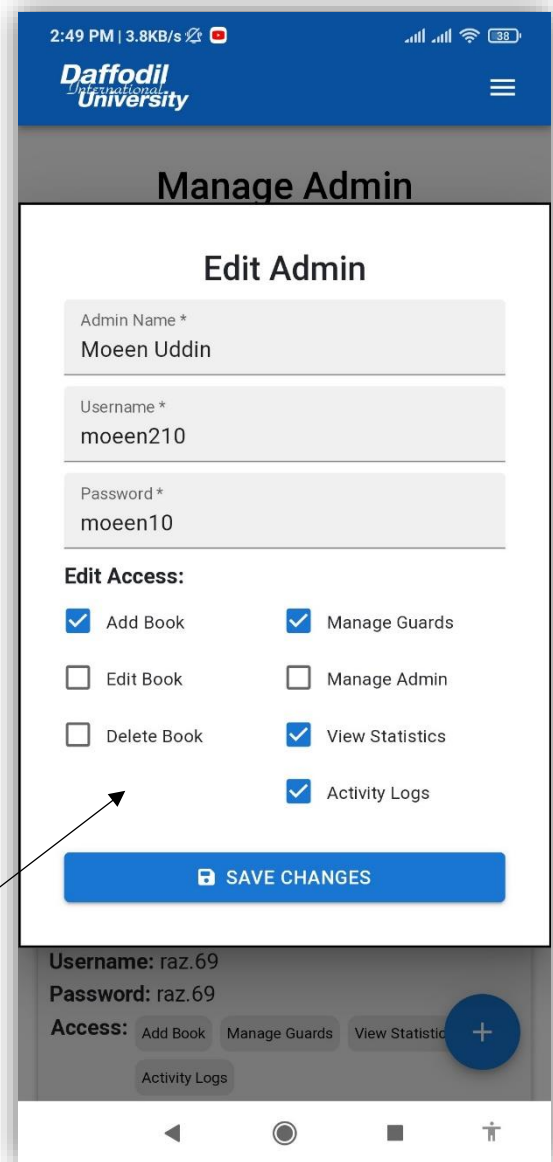


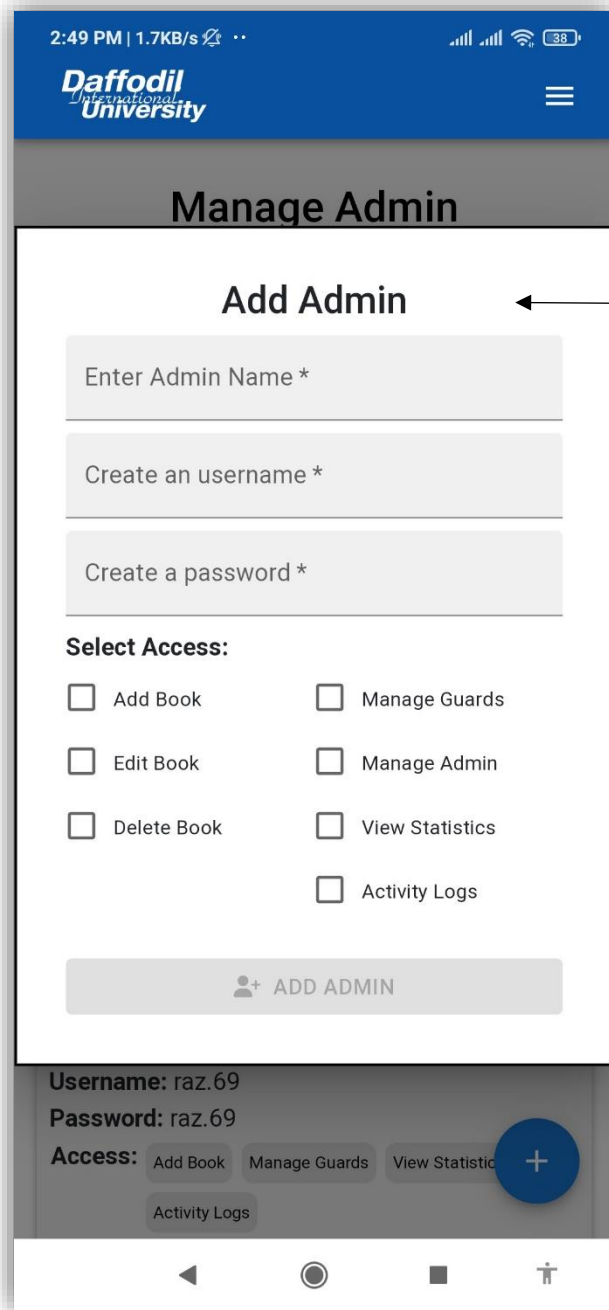
Click here to edit the admin's name, password and accesses

Click here to delete the admin

Click here to add a new admin

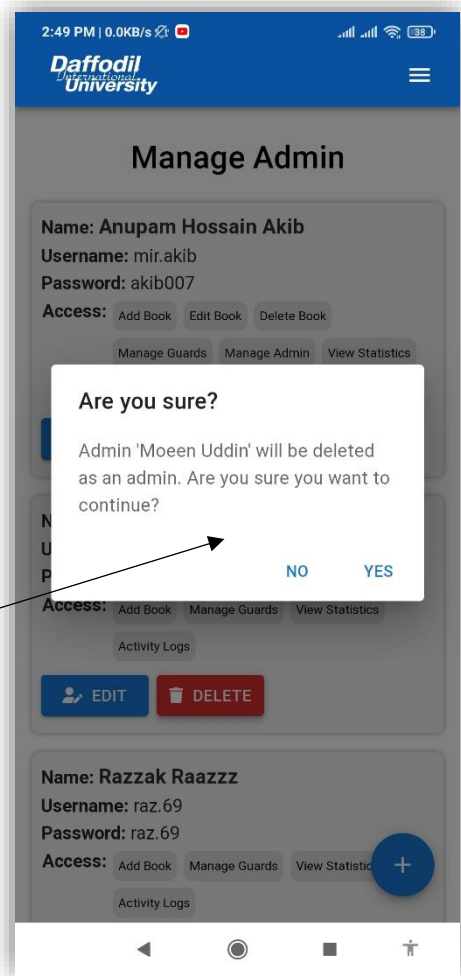
While editing admin's information, you can change the access of performing actions of an admin





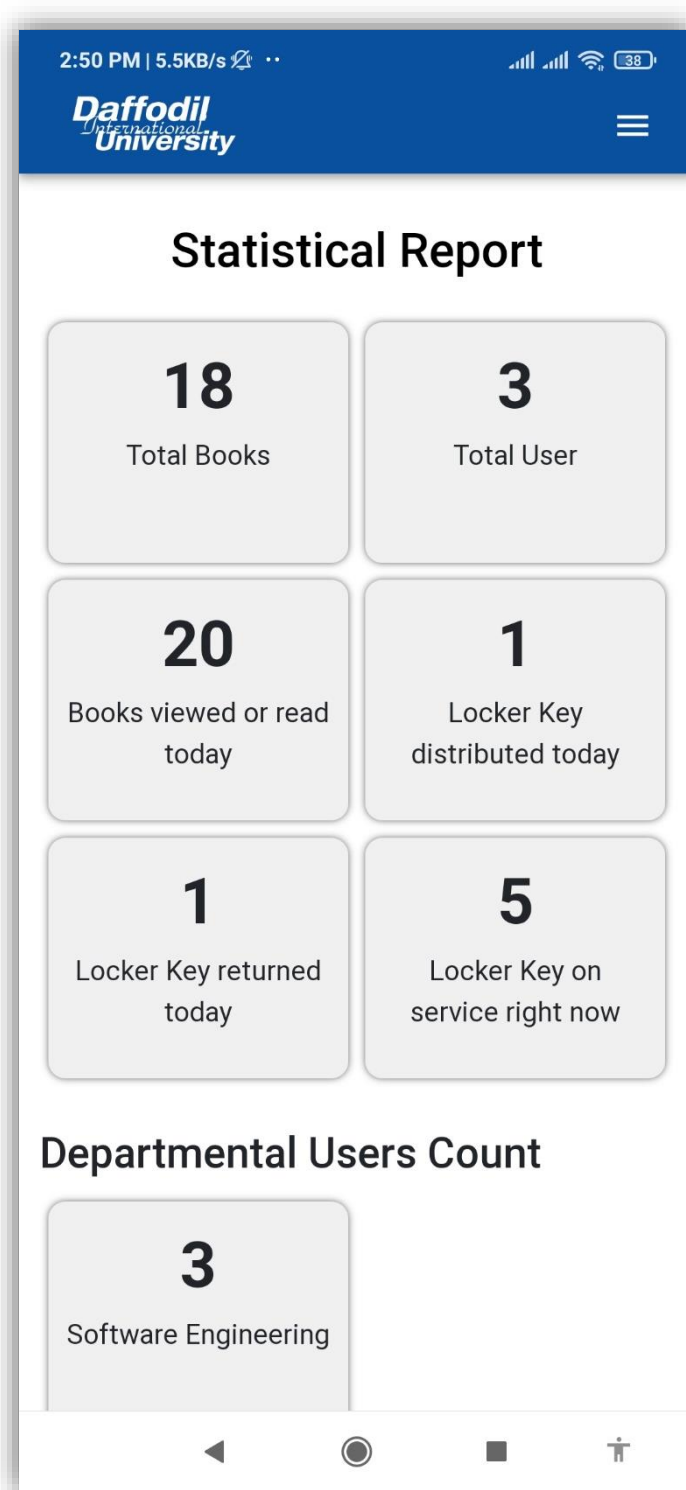
For adding a new admin, enter admin name, username, password and select at least 1 access and then hit 'ADD ADMIN' to add the admin. If the username is not already added then the admin will be added successfully

When 'Delete' button is clicked, a confirm box will appear. To delete admin, click 'YES'





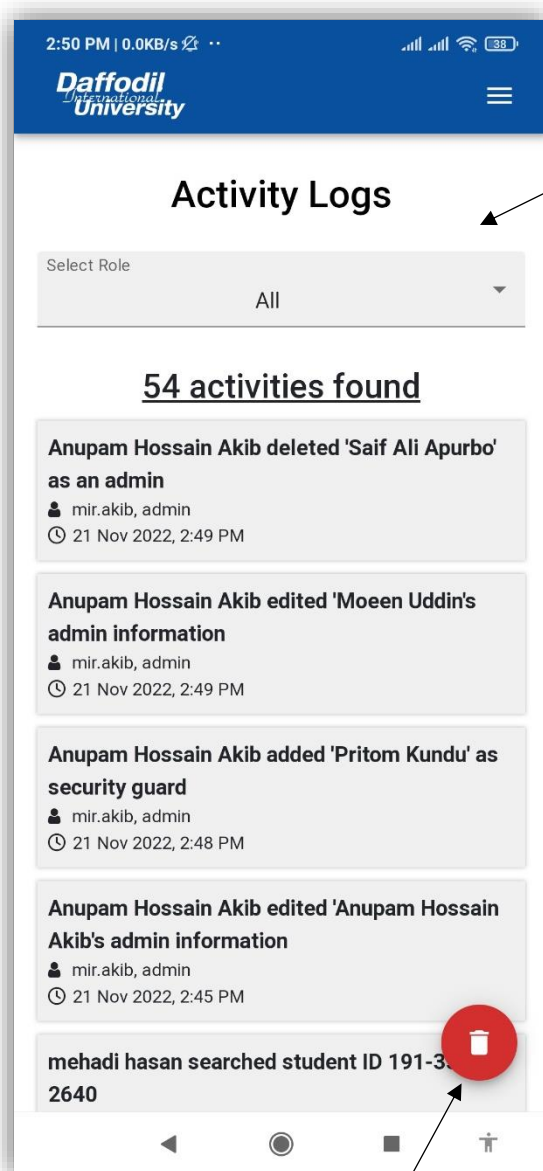
## 5.21 View Statistics



Click on 'View Statistics' from admin dashboard. You can see total number of books, users and locker key information, departmental user count as statistical report.

You can print the page clicking the button from last of the page

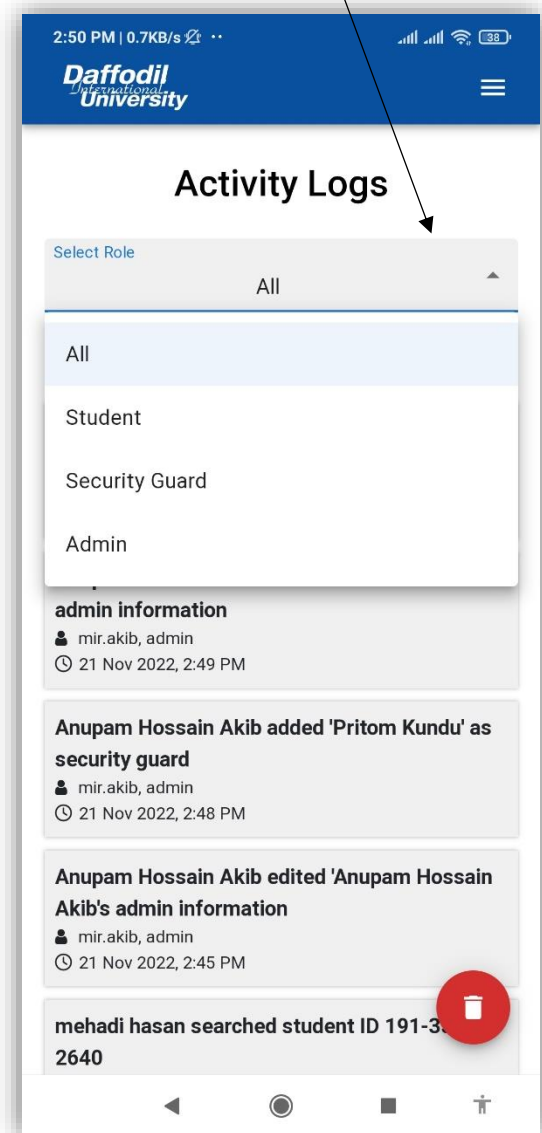
## 5.22 Activity Logs



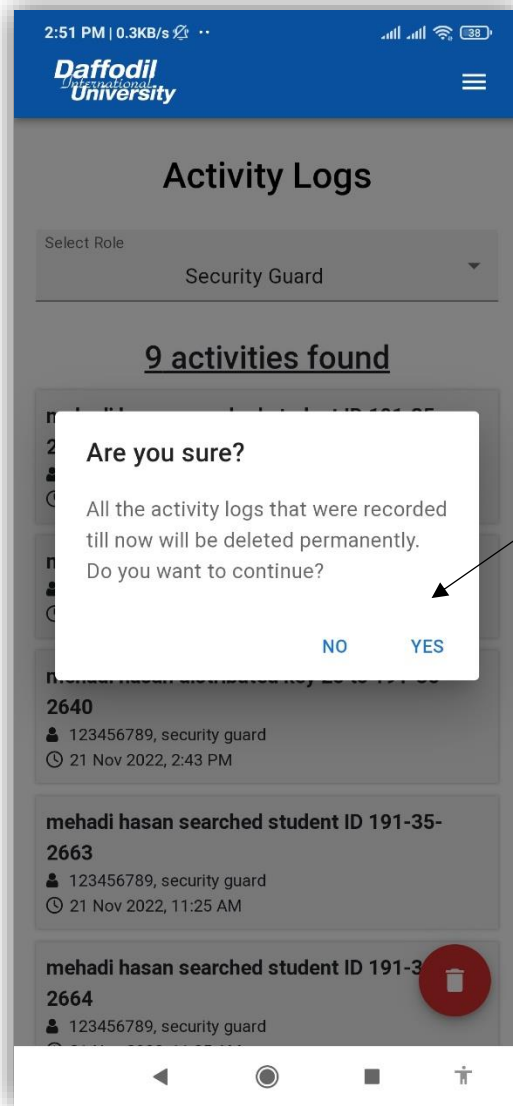
To view activity log page, click on 'Activity Logs' action button from admin dashboard page.

You will see all the activity logs of students, security guards and admins here with time and date

Click here to filter activity logs. You can see activity logs of the selected actor.

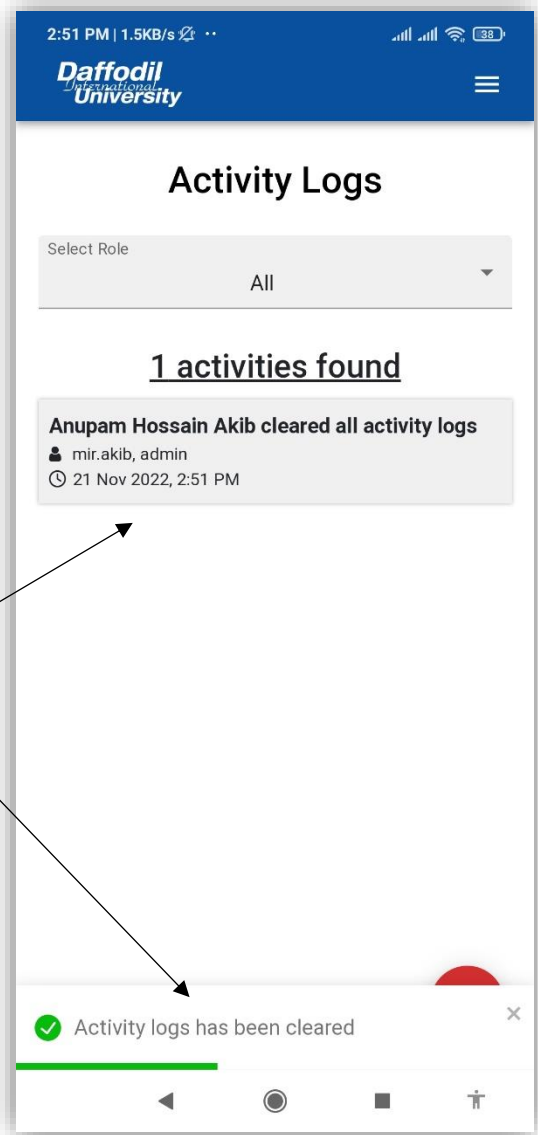


Click here to clear all the activity logs



A confirm box like this will appear when you click on the trash icon. To clear all the activity logs, select 'YES'

Here you can see all the activity logs has been cleared. And the only activity log about the clearing all is recorded



**CHAPTER – 6**  
**CONCLUSION**

## 6.1 Project Summary

“DIU Library Service” is a kind of Library management system with some special features. It is basically a web application and can be used from both desktop and mobile. This project has 3 actors – students, security guards, admin. All actors have to log in before using the system. Using this system student will be able to read Daffodil International University’s library books online even from their home. It will help them to utilize the library properly. They can save any book in their booklist to read them later. Security Guards distribute locker key and mark the locker key that are returned. All the distribution history are recorded with the distribution time, return time and duration. Security Guards can search a student by their student ID to view his/her locker key history individually. Admin can control all the system. Admin can add book, edit book, delete book, add security guards, remove security guards, add admin, edit admin, delete admin, view statistics, activity logs, clear activity logs. Admin can be able to perform this action if he/she has the access. Activity logs of any action by any actors will be recorded to the system and can be viewed by admin.

This project has been finished from planning to implementing within a short time period and make the system ready to go. This system should be updated regularly as the project progress.

## 6.2 Tool and Platform

### Specification of Hardware:

Processor	1.5 GHz or upper
RAM	2 GB recommended
Disk Space	4GB of available hard disk

### Specification of Software:

Operating System (OS)	Windows 10
Front End	React.js, HTML, CSS, Bootstrap, Material UI
Frameworks	React.js, Node.js, Express.js, Bootstrap, MUI
Back End	Node.js, Express.js, PHP
Text Editor	Visual Studio Code
Database	MongoDB (NoSQL)
Web browser	Google Chrome, Mozilla Firefox
Others	MongoDB Compass, Postman

### **6.3 Limitations**

- SMS alert functionality could not be implemented
- PDF book size could not manage to keep large as we don't have any paid storage
- Admin could not edit pdf file/image file due to storage problem
- Risk of unauthorized accessibility

### **6.4 Future Scope**

There are some future scopes of this project which may be useful in future. In future, it is possible to add a feature where student will be able to see his/her own locker key history. We can use Machine Learning technology to distribute the locker key in future. A feature of editing/deleting registered student can be implemented in future for admin role. Book storage can be updated so that we can add more books. For better security, we can use Rest API technology where API key is sent while requesting for data to backend. It will ensure more security. Adding all these features will make the project more interesting, effective and better.

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Plagiarism result is 17% for this report.



**Project Report Library**

to me, NUSRAT ▾

3:24 PM (20 minutes ago)



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**Please read the instruction:**

- **Page Numbering:**
  - a. Preliminary pages must be in lower case roman numerals e.g. i, ii, iii.
  - b. All pages of the main body or from chapter one will be numbered in Arabic numerals e.g. 1, 2, 3.
  - c. All pages have to be arranged according to the table of contents

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## Library Clearance

The section is left blank for library clearance

## Account Clearance

