

# **Library Management System**

## **Introductions**

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

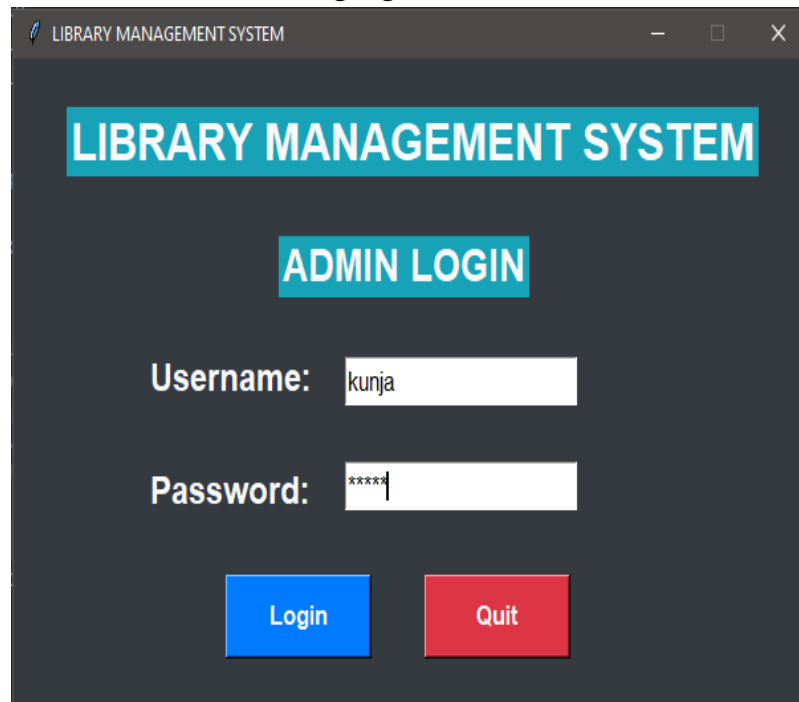
In addition, report module is also included in Library Management System. If user's position is admin, the user is able to generate different kinds of reports like search of students registered, search of books, issue and return reports. All these modules are able to help librarian to manage the library with more convenience and in a more efficient way as compared to library systems which are not computerized.

## **Objectives**

- Improvement in control and performance, system is developed to cope up with the current issues and problems of library. The system can add user, validate user and is also bug free.
- Save cost after computerized system is implemented less human force will be required to maintain the library thus reducing the overall cost.
- Save time librarian is able to search record by using few clicks of mouse and few search keywords thus saving his valuable time.

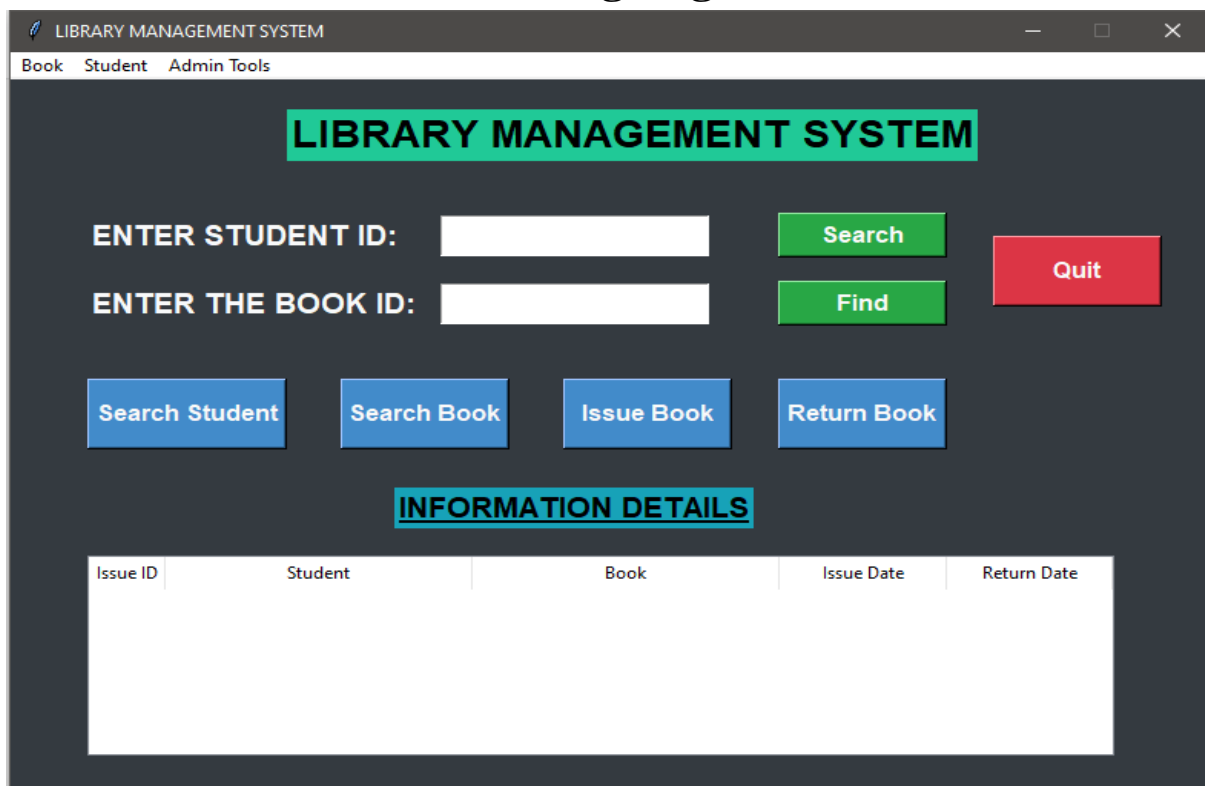
# Functional Requirements

- **Admin Login:** First we have to login



A screenshot of a web browser window titled "LIBRARY MANAGEMENT SYSTEM". The page has a dark background. At the top, there is a teal banner with the text "LIBRARY MANAGEMENT SYSTEM" in white. Below this, there is a teal box with the text "ADMIN LOGIN" in white. Underneath, there are two input fields: "Username:" with the text "kunja" and "Password:" with masked characters "\*\*\*\*\*". At the bottom, there are two buttons: a blue "Login" button and a red "Quit" button.

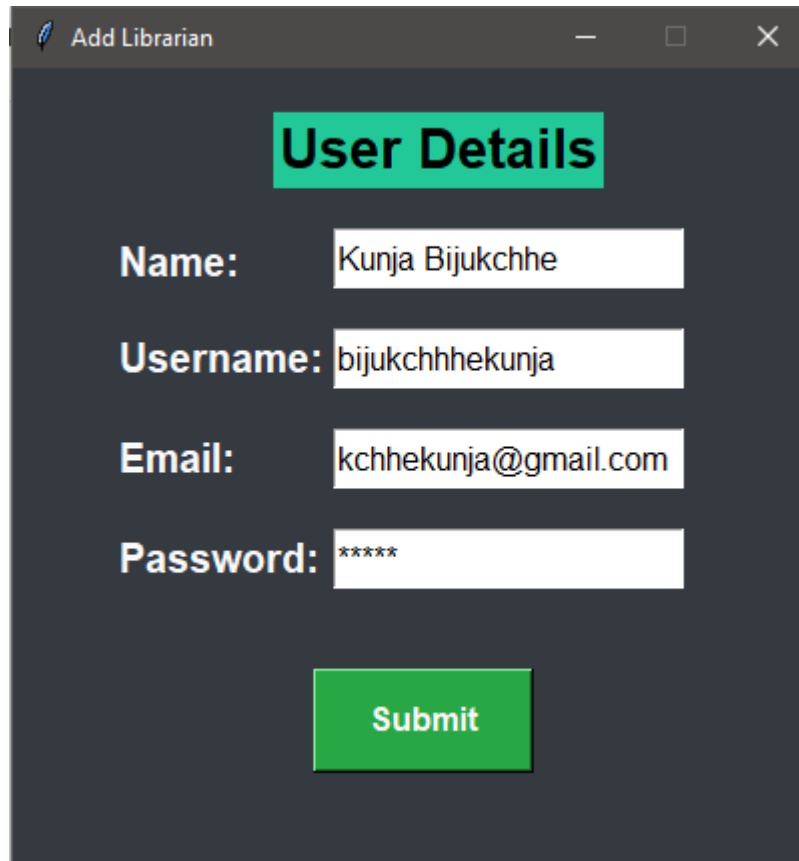
## Starting Page



A screenshot of a web browser window titled "LIBRARY MANAGEMENT SYSTEM". The page has a dark background. At the top, there is a teal banner with the text "LIBRARY MANAGEMENT SYSTEM" in white. Below this, there is a navigation bar with links: "Book", "Student", and "Admin Tools". The main content area has a teal box with the text "LIBRARY MANAGEMENT SYSTEM" in white. Below this, there are two input fields: "ENTER STUDENT ID:" and "ENTER THE BOOK ID:". To the right of the "ENTER STUDENT ID:" field is a green "Search" button. To the right of the "ENTER THE BOOK ID:" field is a green "Find" button. To the right of both input fields is a red "Quit" button. Below these, there are four blue buttons: "Search Student", "Search Book", "Issue Book", and "Return Book". At the bottom, there is a teal box with the text "INFORMATION DETAILS" in white. Below this, there is a table with the following columns: "Issue ID", "Student", "Book", "Issue Date", and "Return Date". The table is currently empty.

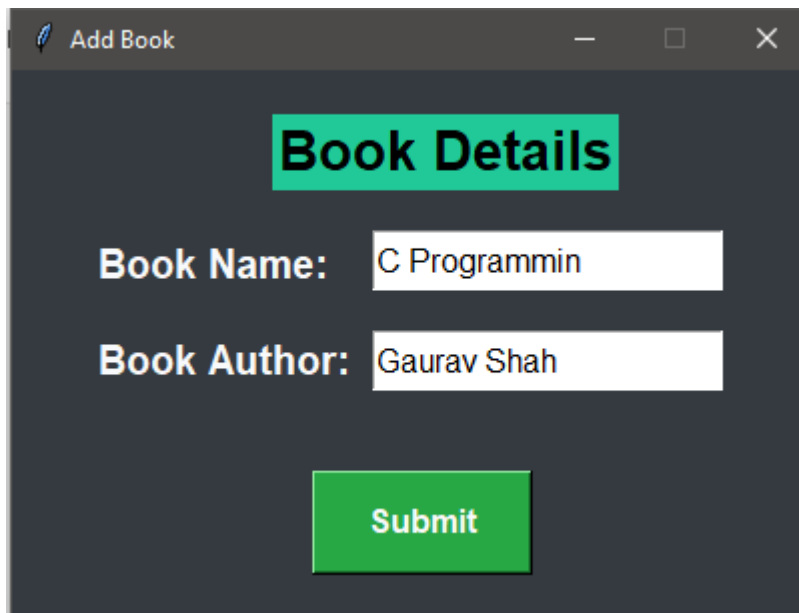
Issue ID	Student	Book	Issue Date	Return Date
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- **Register New Librarian:** In menu bar click on admin tool to add user



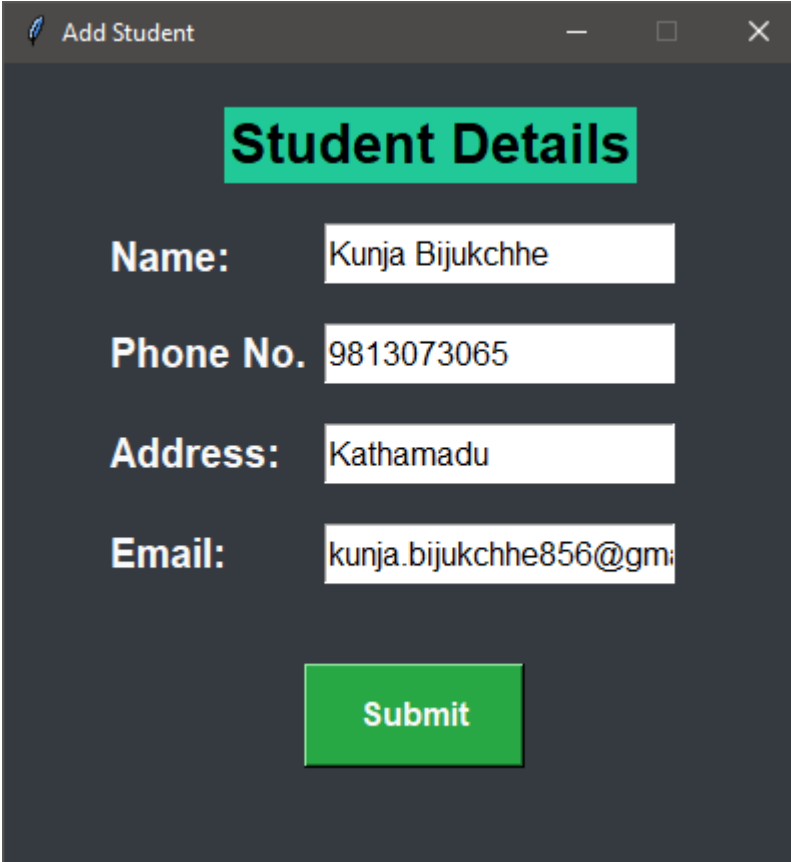
The screenshot shows a window titled "Add Librarian" with a dark gray background. At the top, there is a green header box with the text "User Details". Below this, there are four input fields with labels to their left: "Name:" with the value "Kunja Bijukchhe", "Username:" with the value "bijukchhhekunja", "Email:" with the value "kchhekunja@gmail.com", and "Password:" with the value "\*\*\*\*\*". At the bottom center, there is a green button with the text "Submit".

- **Register New Book:** In menu bar click on book to add book



The screenshot shows a window titled "Add Book" with a dark gray background. At the top, there is a green header box with the text "Book Details". Below this, there are two input fields with labels to their left: "Book Name:" with the value "C Programmin" and "Book Author:" with the value "Gaurav Shah". At the bottom center, there is a green button with the text "Submit".

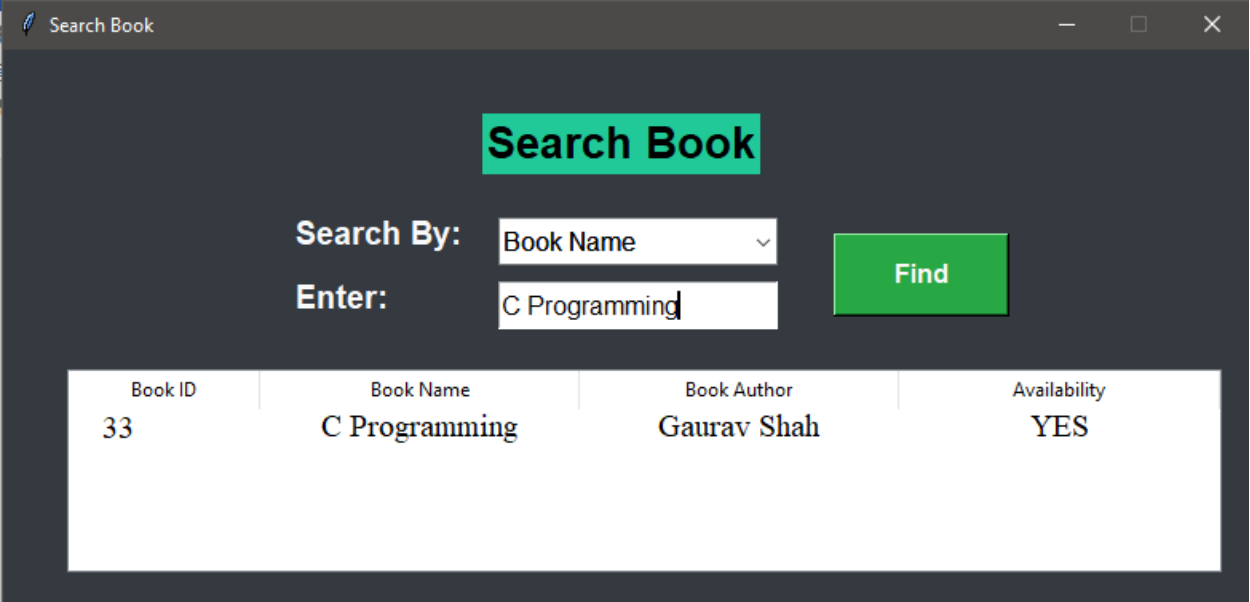
- **Register New Student:** In menu bar click on Student to add student



The screenshot shows a window titled "Add Student" with a dark background. At the top, there is a green button labeled "Student Details". Below this, there are four input fields with labels: "Name:" (Kunja Bijukchhe), "Phone No." (9813073065), "Address:" (Kathamadu), and "Email:" (kunja.bijukchhe856@gmail.com). At the bottom, there is a green "Submit" button.

Field	Value
Name:	Kunja Bijukchhe
Phone No.	9813073065
Address:	Kathamadu
Email:	kunja.bijukchhe856@gmail.com

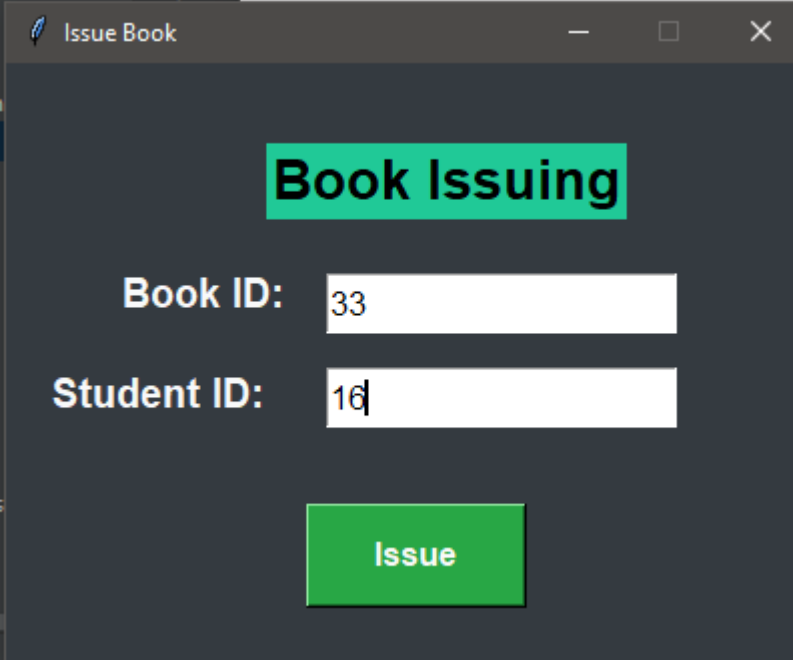
- **Search Book:** In starting GUI, click on Search Book



The screenshot shows a window titled "Search Book" with a dark background. At the top, there is a green button labeled "Search Book". Below this, there are two input fields: "Search By:" (Book Name) and "Enter:" (C Programming). To the right of these fields is a green "Find" button. Below the input fields, there is a table displaying search results.

Book ID	Book Name	Book Author	Availability
33	C Programming	Gaurav Shah	YES

- **Issue Book:** In starting GUI, click on Issue Book



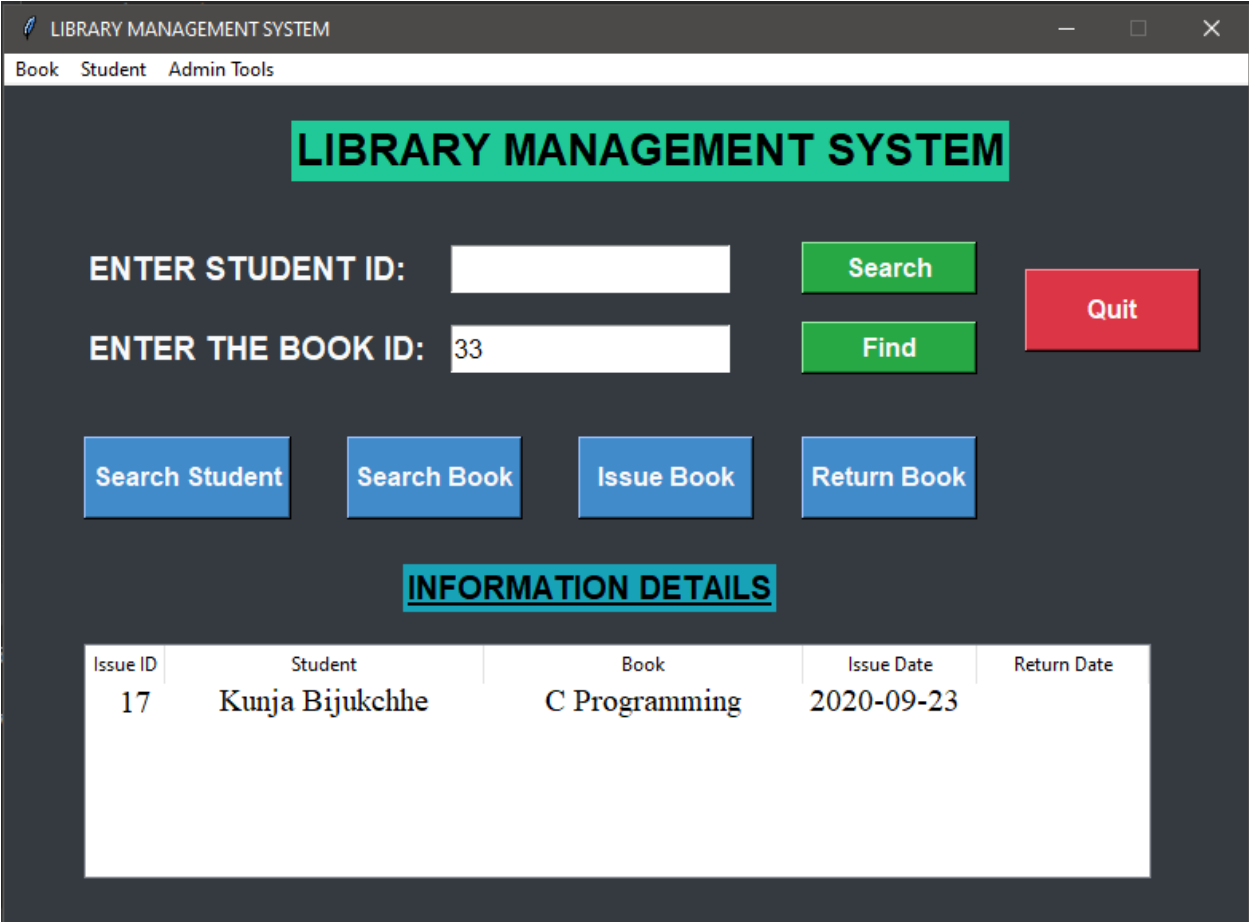
**Book Issuing**

Book ID: 33

Student ID: 16

Issue

This show book has been issued on 2020-09-23



LIBRARY MANAGEMENT SYSTEM

ENTER STUDENT ID:

ENTER THE BOOK ID: 33

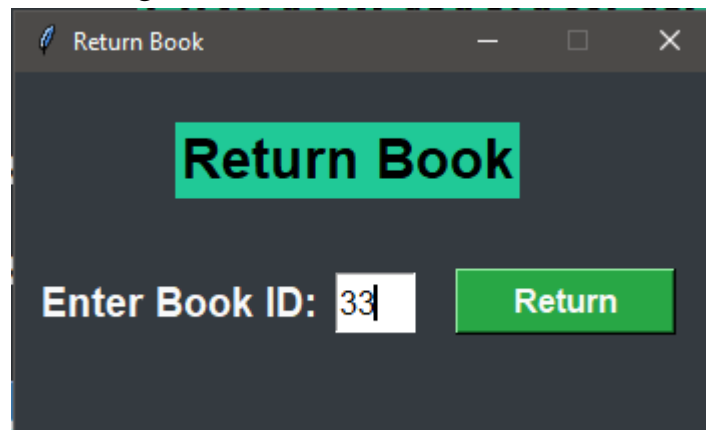
Search Find Quit

Search Student Search Book Issue Book Return Book

**INFORMATION DETAILS**

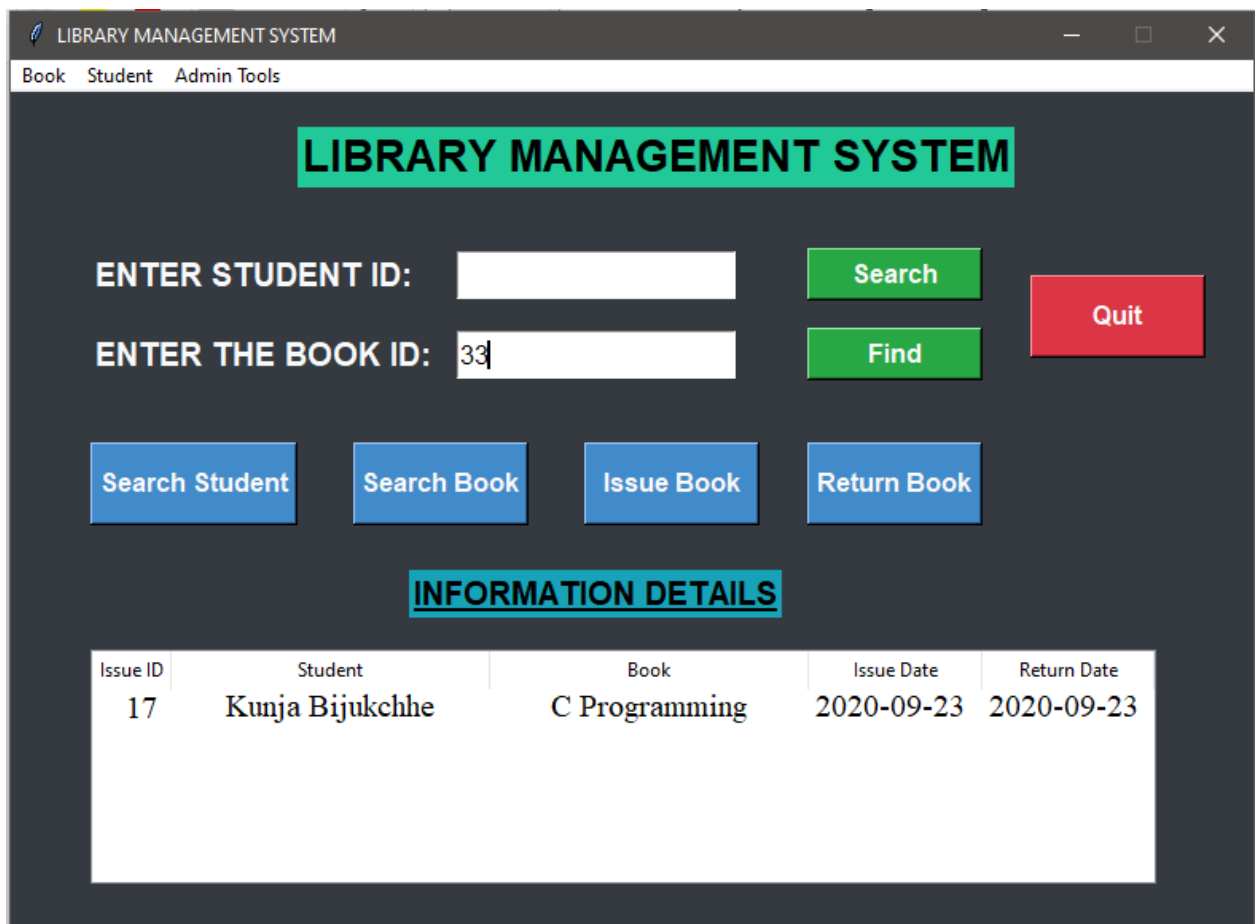
Issue ID	Student	Book	Issue Date	Return Date
17	Kunja Bijukchhe	C Programming	2020-09-23	

- **Return Book:** In starting GUI, click on Return Book



A small dialog box titled "Return Book" with a dark background. It features a green header bar with the text "Return Book". Below the header, there is a label "Enter Book ID:" followed by a text input field containing the number "33". To the right of the input field is a green button labeled "Return".

This show book has been return on 2020-09-23



The main interface of the "LIBRARY MANAGEMENT SYSTEM" is displayed. It has a dark background with a green header bar containing the system name. Below the header, there is a navigation bar with tabs for "Book", "Student", and "Admin Tools". The main area contains several input fields and buttons. There are two rows of input fields: "ENTER STUDENT ID:" and "ENTER THE BOOK ID:". The "ENTER THE BOOK ID:" field contains the number "33". To the right of these fields are green buttons labeled "Search" and "Find", and a red button labeled "Quit". Below these are four blue buttons: "Search Student", "Search Book", "Issue Book", and "Return Book". At the bottom, there is a section titled "INFORMATION DETAILS" which contains a table with the following data:

Issue ID	Student	Book	Issue Date	Return Date
17	Kunja Bijukchhe	C Programming	2020-09-23	2020-09-23

- **Search Student:** In starting GUI, click on Search Student

Student ID	Student Name	Phone Number	Address
16	Kunja Bijukchhe	9813073065	Kathamadu

- **Send Email:** In all menu there is add functionality, while add the book, student librarian there is submit button which send mail given address

### Add Librarian

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**systemlibrarymgmt@gmail.com**

to me ▾

Hi, You have been added as Librarian

Username:bijukchhhekunja

Name:Kunja Bijukchhe

Password:Kunja

Inbox x

Reply

Forward

## Add Book



Book Added Inbox x



**systemlibrarymgmt@gmail.com**

to bcc: me ▼

Book has been added in database  
Book Name:C Programming  
Book Author:Gaurav Shah

↩ Reply

➡ Forward

## Add Student



**systemlibrarymgmt@gmail.com**

to me ▼

Hi, You have been added as Student  
Student Name:Kunja Bijukchhe  
Phone No.9813073065  
Address:Kathamadu

↩ Reply

➡ Forward



## Data Dictionary

For Admin:

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
user	varchar(30)	NO	UNI	NULL	
name	text	NO		NULL	
password	text	NO		NULL	
email	varchar(255)	YES		NULL	

For Book:

Field	Type	Null	Key	Default	Extra
book_id	int	NO	PRI	NULL	auto_increment
name	varchar(300)	NO		NULL	
author	varchar(300)	NO		NULL	
availability	varchar(30)	NO		NULL	

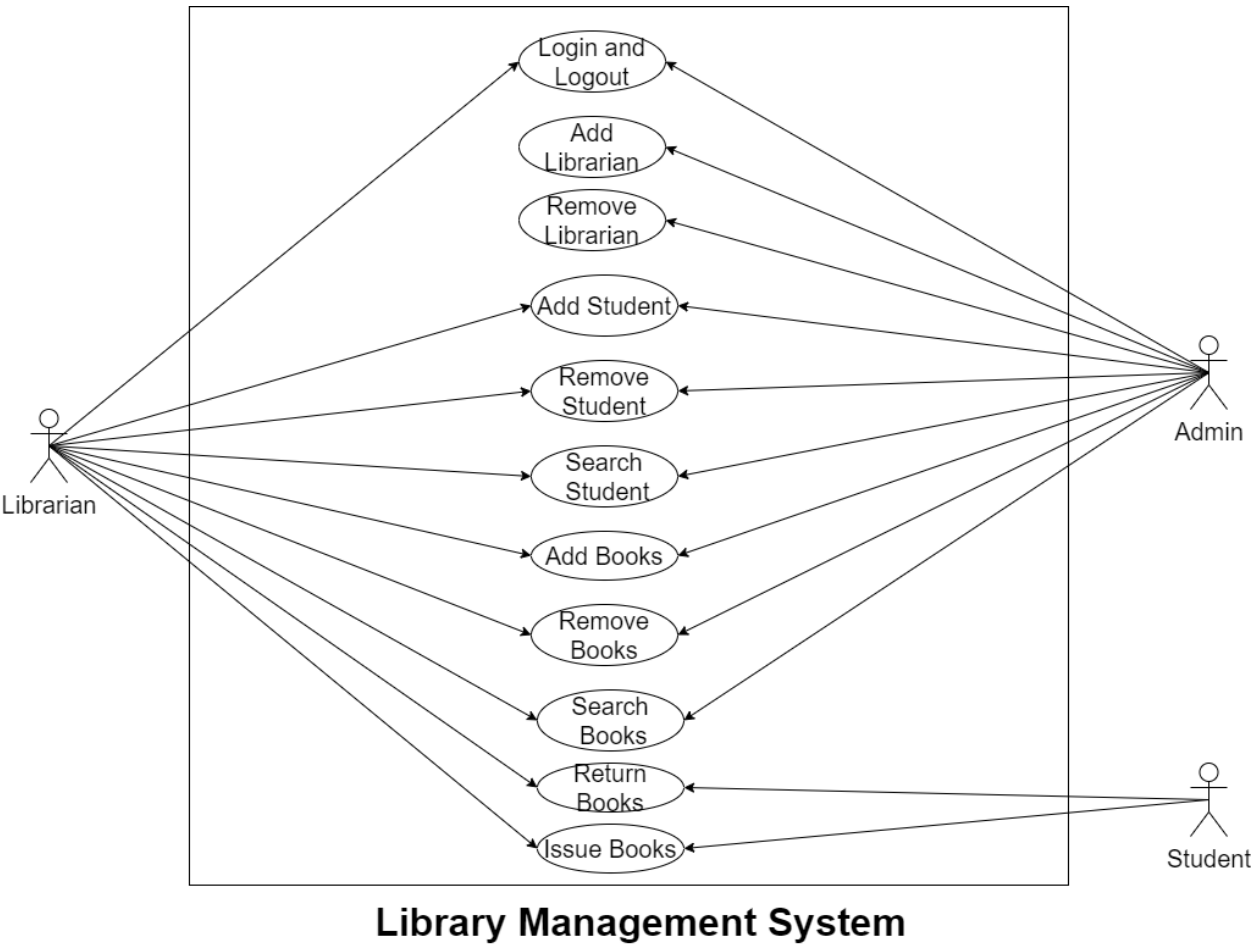
For Issue Book:

Field	Type	Null	Key	Default	Extra
issue_id	int	NO	PRI	NULL	auto_increment
book_id	int	NO	MUL	NULL	
stud_id	int	NO	MUL	NULL	
issue_date	varchar(30)	NO		NULL	
return_date	varchar(30)	NO		NULL	

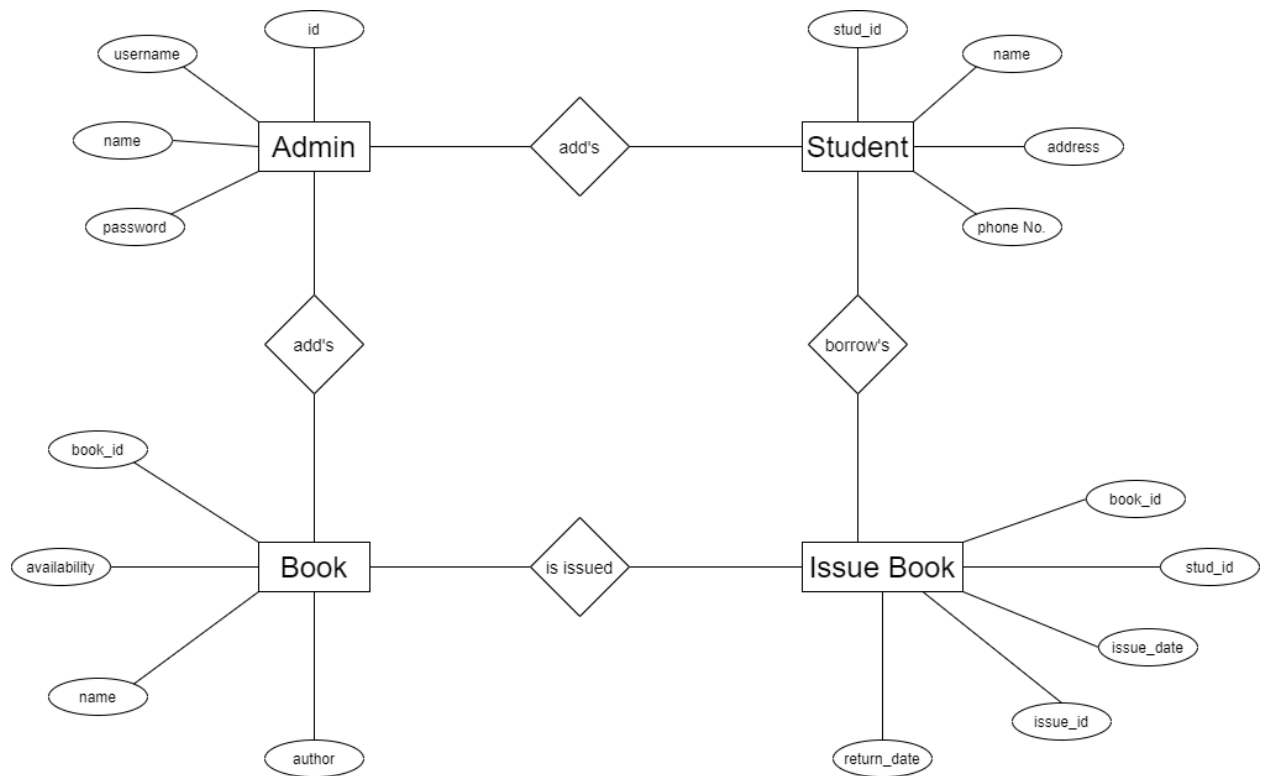
For Student:

Field	Type	Null	Key	Default	Extra
stud_id	int	NO	PRI	NULL	auto_increment
name	varchar(300)	NO		NULL	
phone_number	varchar(30)	NO		NULL	
address	text	NO		NULL	
email	varchar(255)	YES		NULL	

# Use Case Diagram



# ER-Diagram



## Conclusion

This desktop application of library management system which will benefit the students as well as librarian. It makes entire process computerized where librarian can search books, generate reports and do book transactions.