



**North Western University**

**August 20, 2022**

**Khulna, Bangladesh**

# **LIBRARY MANAGEMENT SYSTEM**



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## **1. Introduction:**

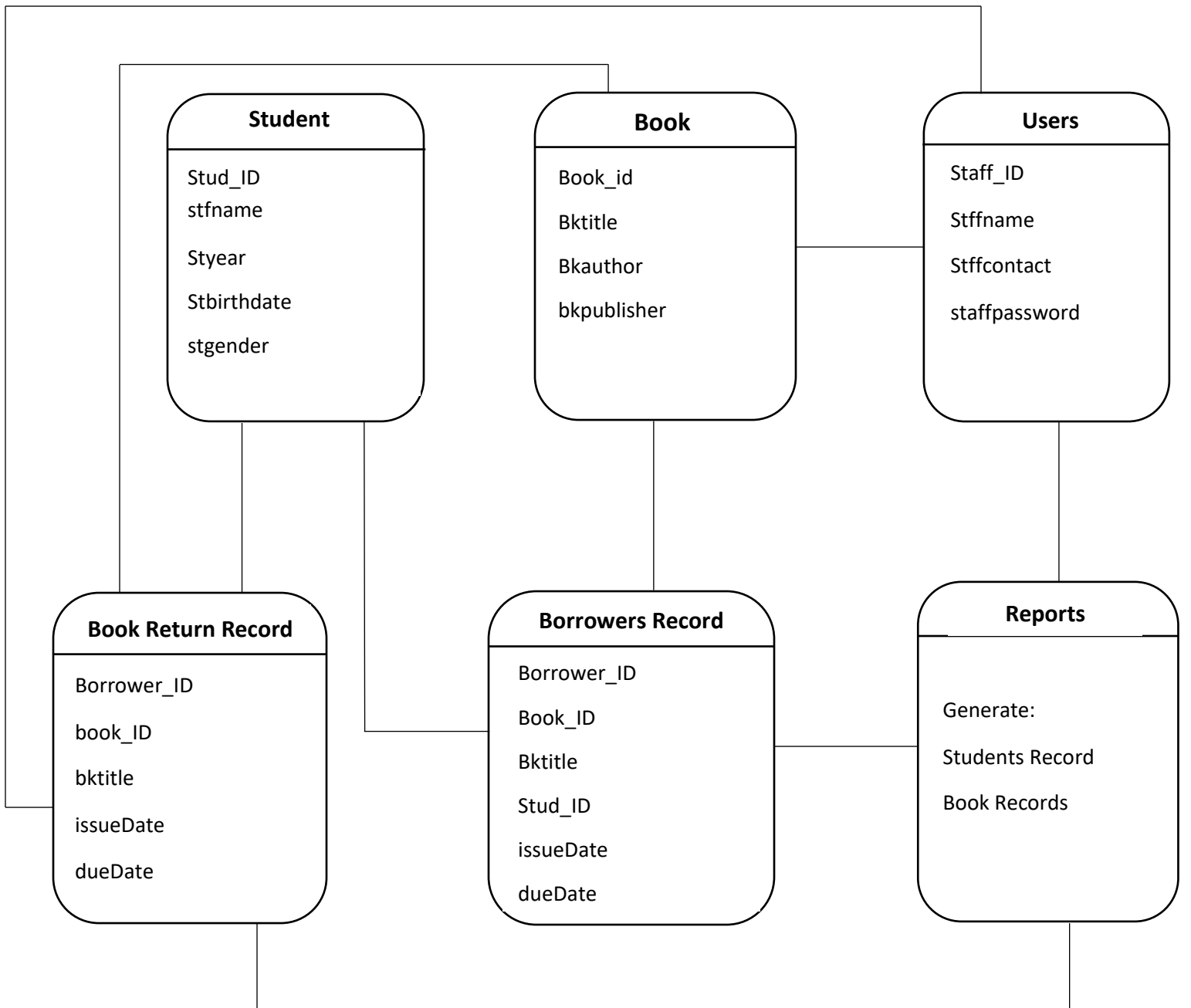
A library management system is software that is designed to manage all the functions of a library. The software solution is designed based on the system requirements, the people involved, the content of the operation and the activity to be performed. This system completely automates all your library's activities. A library is a collection of sources, resources, and services, and the structure in which it is housed; it is organized for use and maintained by a public body, an institution, or a private individual. In the more traditional sense, a library is a collection of books.

## **2. Objectives:**

The Project objectives are-

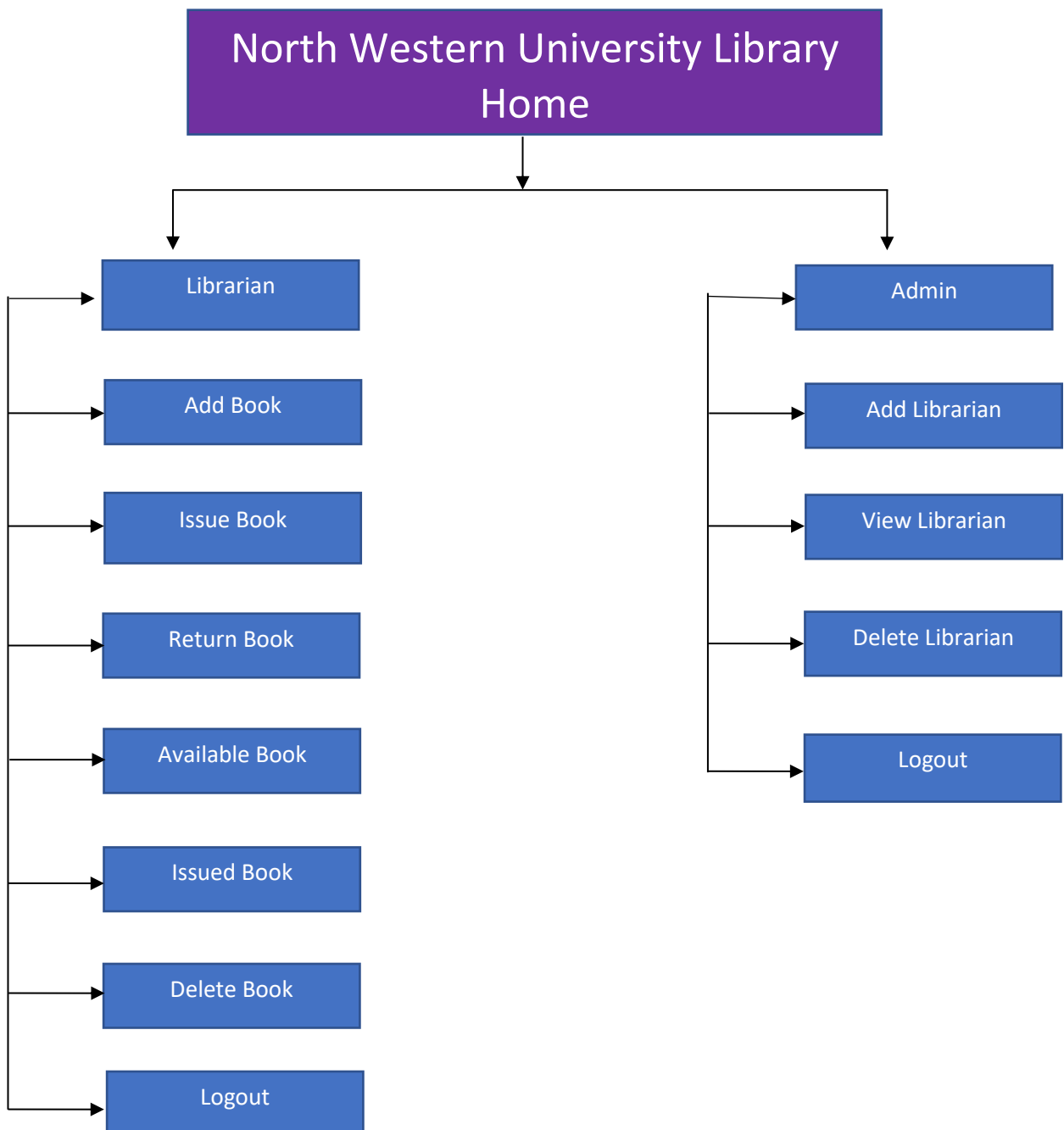
- To eliminate the paper work in the library.
- Simplify search/discovery of library resources.
- Simplify payment system.
- Build Digital University Library infrastructure.
- Build and manage library collections in support of academic programs.
- Managing multiple libraries simultaneously.
- Managing library facilities simply.

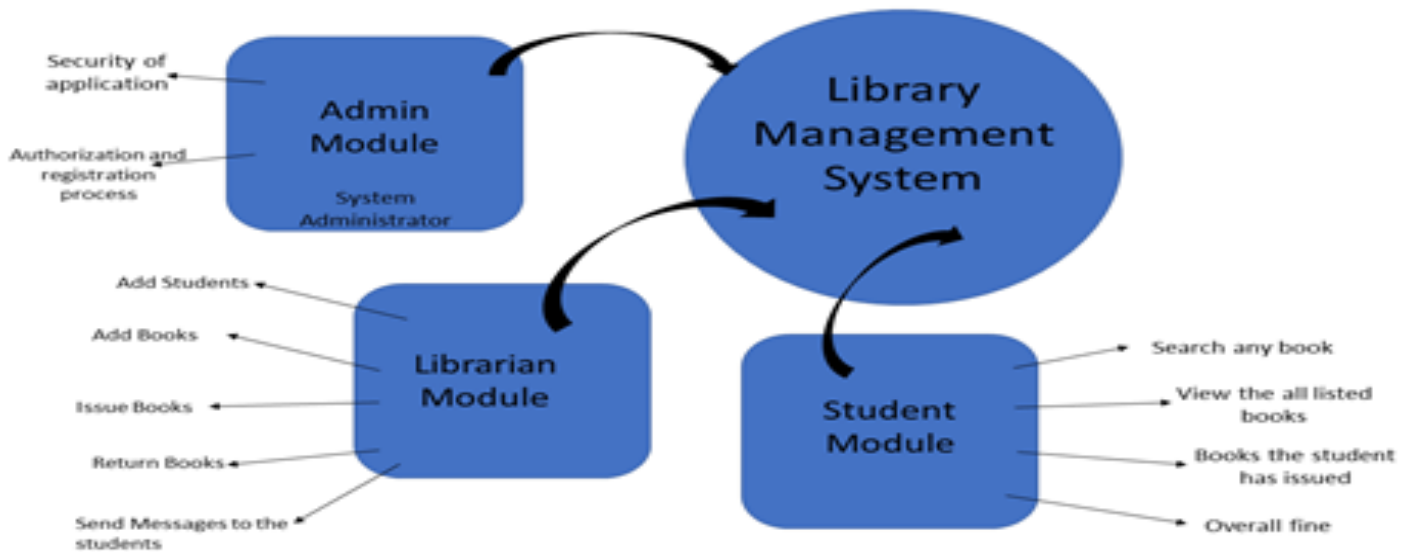
### 3.Entity Relationship Diagram:



#### **4. Site Tree:**

In the North Western Library, there are two Characters. Admin and Librarian. Each has a unique view and their own functionalities. A simple tree can show what these characters can view.





**1. Admin Module:** The programme administrator will be in charge of the admin module. He is the one in charge of the application's security and authorization. Only the admin can register the different librarians with the application and the database. The librarians can only access the application if they are authorized and registered. He has full access to the whole application and manages the overall functioning of the software. If somebody has a problem with anything, they should first contact the administrator.

**2. Librarian Module:** The librarian has full access to the librarian module. So, whenever a librarian opens the application, he has to login in the application with the user id and password provided by the admin. The various actions that he can undertake are visible on the home screen after a successful login. The operations he can perform includes: add new students, add new books, issue books, return books, updating student's details, updating book's details, sending messages to the students regarding various issues (like overdue of the issue book), generating weekly/monthly reports, monitoring any discrepancy in the books stock.

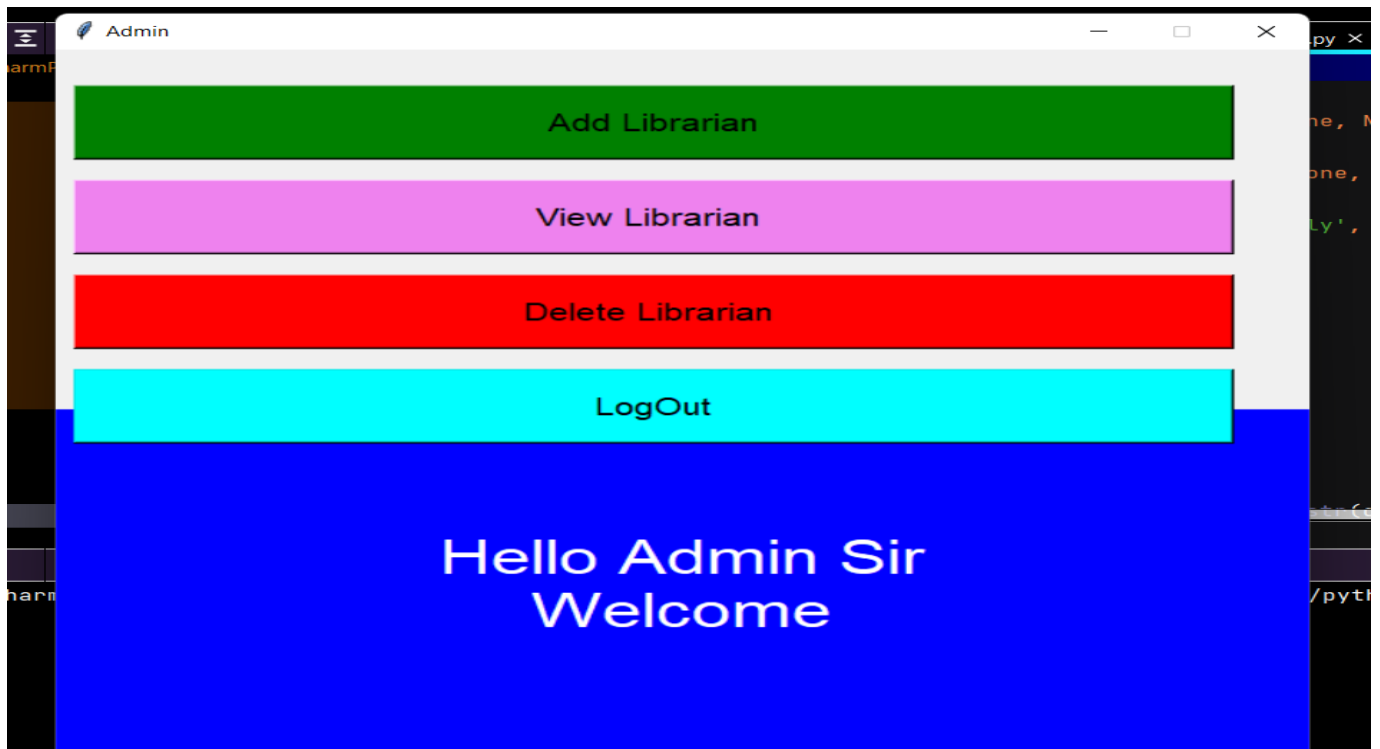
**3. Student Module:** The student module contains details about all the students registered with the library. Only the librarian can register the students with the application after successful verification. The operations that student can perform inside the student module includes: view all books available in the library, search

the availability of a particular book, number of books he has issued from the library, overall fine that he has to pay, submit the queries. Apart from this, the students can cancel their registration from the library

## **5. Description:**

### **Admin Panel**

After login, the admin can view the admin control page of the North Western University Khulna Automation system as follow:



In this page, an admin can view and add the library to the system. He appoints a librarian and also delete to manage it properly.

**After** clicking **Add Librarian** the admin can added many librarians for manage his/her University Library.

NAME

USER ID

BRANCH

MOBILE NO

ADD LIBRARIAN

Please ADD A NEW Librarian

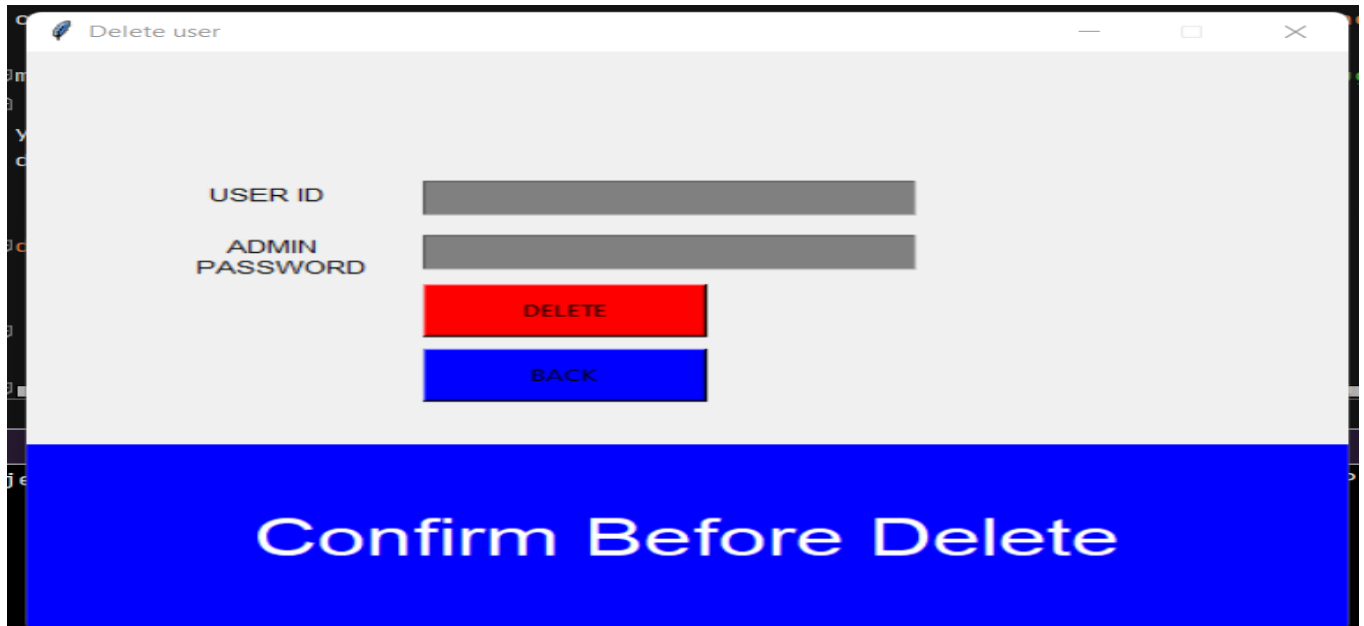
BACK

**After** clicking **View Librarian** the admin can view his/her added librarians for his/her University Library.

Name	User ID	Branch	Mobile No
parag	1234	pk	12345

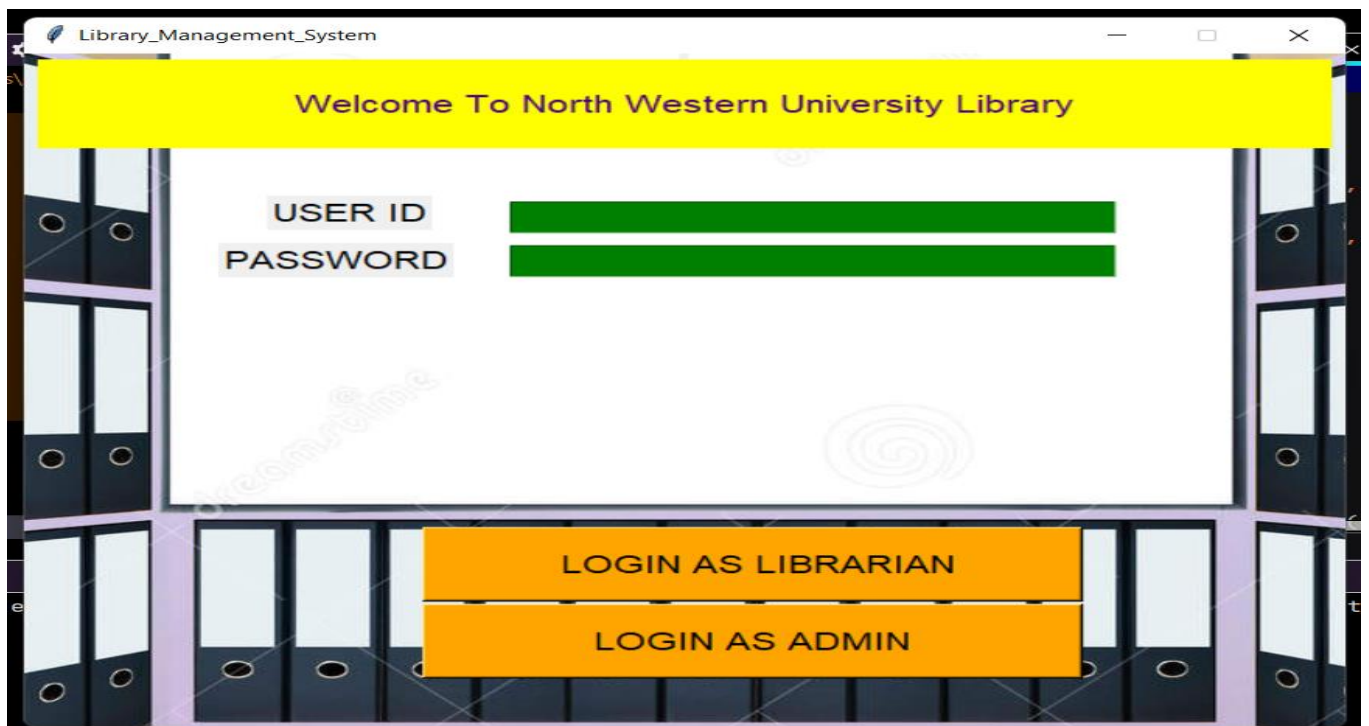


**After** clicking **Delete Librarian** the admin can Delete his/her added librarians for his/her University Library Database. The admin can delete the Librarian by his/her user id and admin password.



The screenshot shows a web browser window titled "Delete user". The form contains two input fields: "USER ID" and "ADMIN PASSWORD", both represented by grey rectangular boxes. Below these fields are two buttons: a red button labeled "DELETE" and a blue button labeled "BACK". At the bottom of the window, there is a large blue banner with the text "Confirm Before Delete" in white.

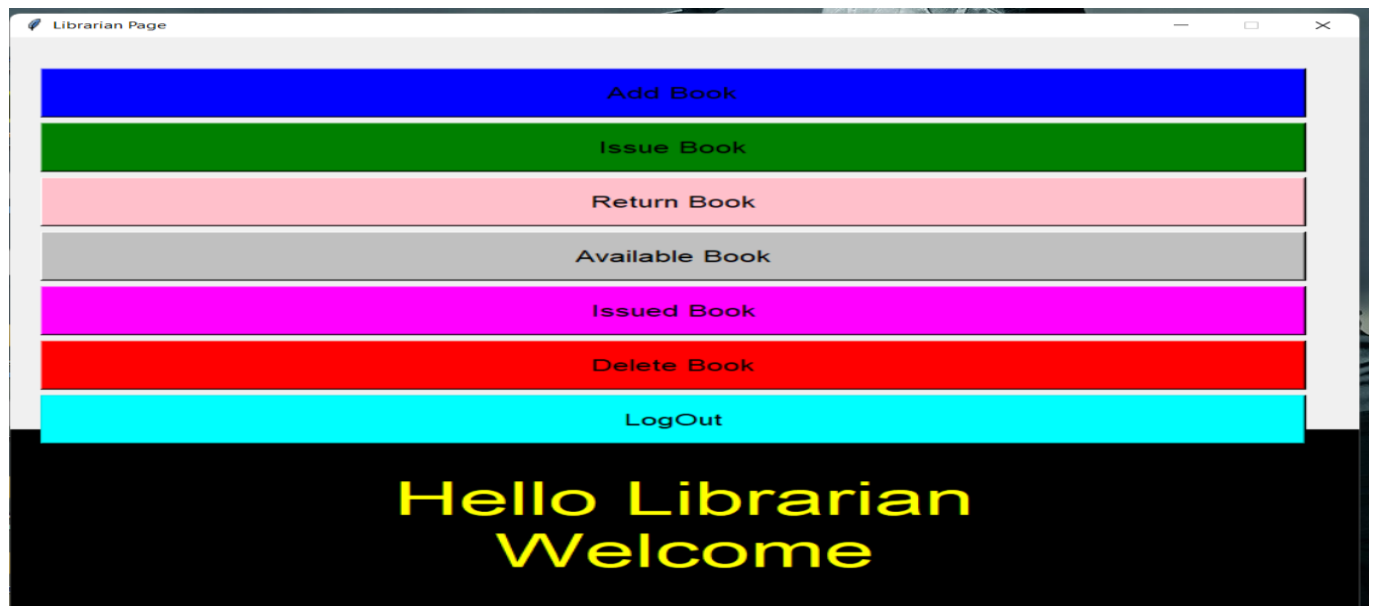
**After** clicking Last Bottom **LOG OUT** the admin can back to the Homepage of University Library.



The screenshot shows the homepage of the "Library\_Management\_System". At the top, there is a yellow banner with the text "Welcome To North Western University Library". Below the banner, there are two input fields: "USER ID" and "PASSWORD", both represented by green rectangular boxes. At the bottom of the page, there are two orange buttons: "LOGIN AS LIBRARIAN" and "LOGIN AS ADMIN". The background of the page features a stylized illustration of bookshelves filled with books.

## Librarian Panel

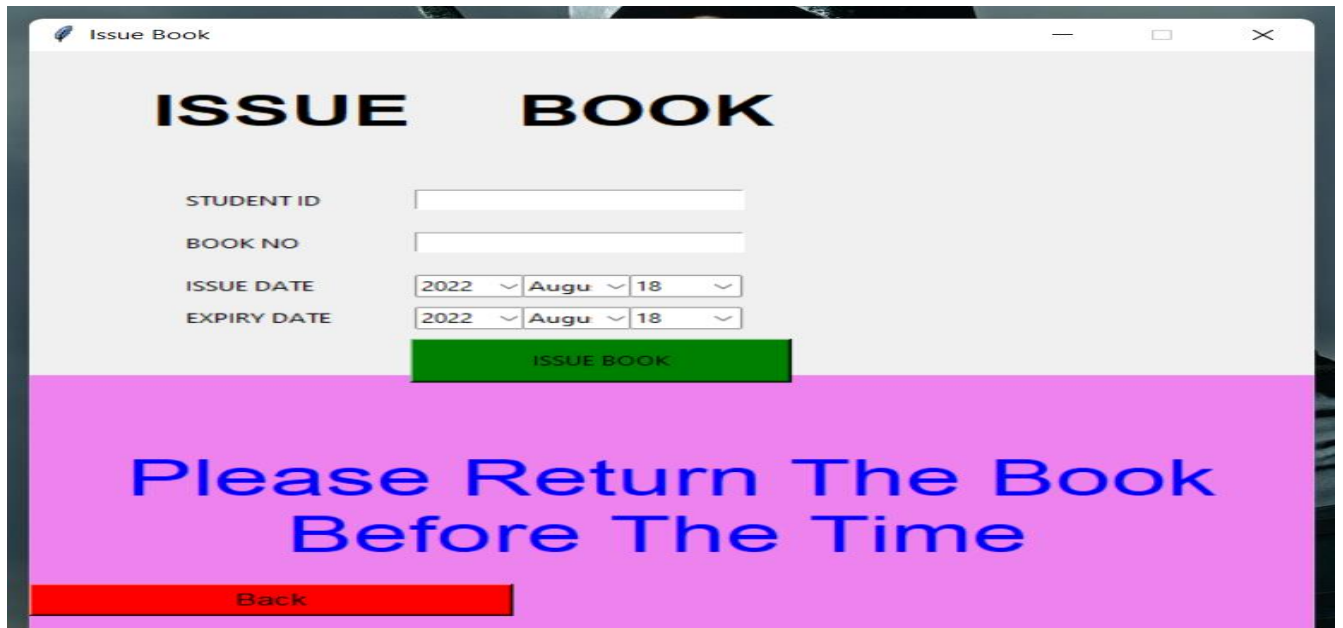
After login as the librarian, the librarian can view the homepage of the North Western University Khulna Automation system as follow:



**After** clicking **Add Book** the Librarian can added many books by its Subject, Title, Autor name, Serial number of book, for his/her University Library Database.

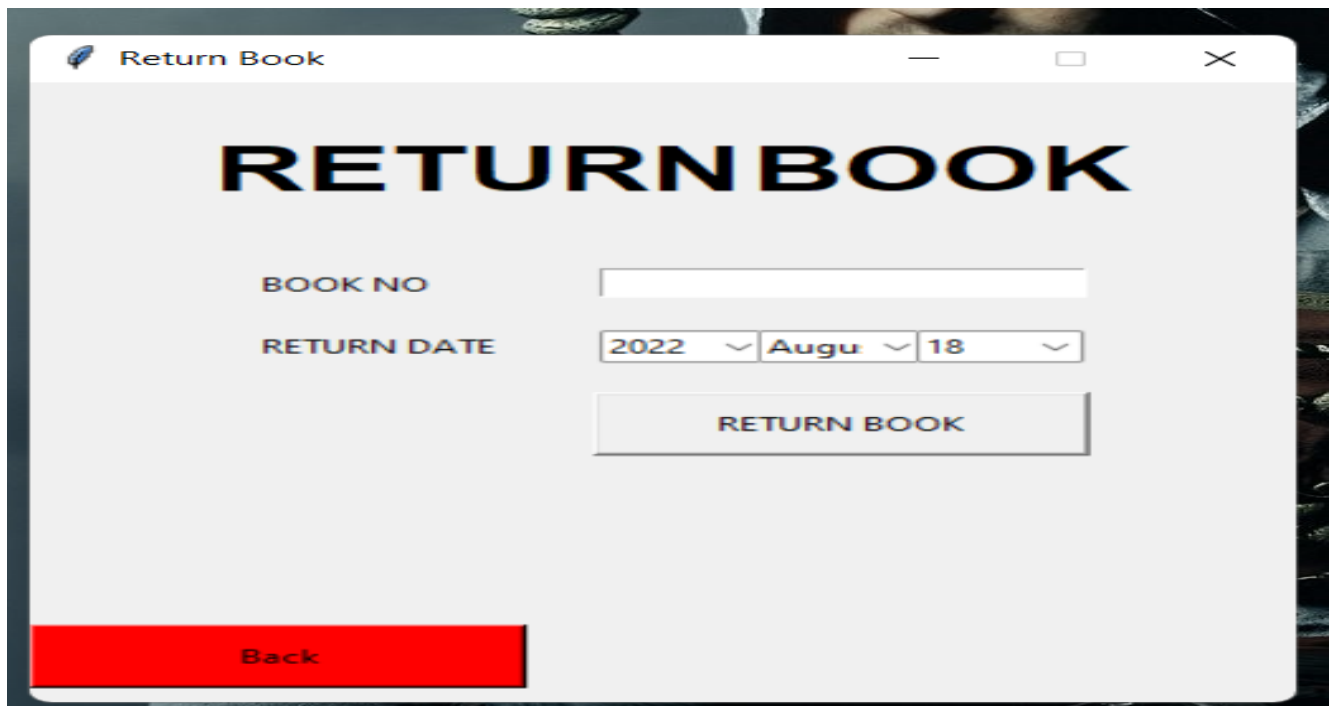
The screenshot shows a web browser window titled "Add Book". It contains a form with four input fields labeled "SUBJECT", "TITLE", "AUTHOR", and "SERIAL NO". Below these fields is a button labeled "ADD BOOK TO LIBRARY". At the bottom of the form, there is a red button labeled "Back". The entire form area has a light grey background, and the bottom section of the page is a solid magenta color with the text "Please Add Some New Book" in blue.

After clicking **Issue Book** the Librarian can Issue many books for a student by his/her Student ID and expire or issue date after added University Library Database.



The screenshot shows a web browser window titled "Issue Book". The main heading is "ISSUE BOOK" in large, bold, black letters. Below the heading, there are four input fields: "STUDENT ID", "BOOK NO", "ISSUE DATE", and "EXPIRY DATE". The "ISSUE DATE" and "EXPIRY DATE" fields are date pickers showing "2022", "Augu", and "18". Below these fields is a green button labeled "ISSUE BOOK". A large pink banner with blue text reads "Please Return The Book Before The Time". At the bottom left, there is a red button labeled "Back".

After clicking **Return Book** the Librarian view the page as follows:



The screenshot shows a web browser window titled "Return Book". The main heading is "RETURNBOOK" in large, bold, black letters. Below the heading, there are two input fields: "BOOK NO" and "RETURN DATE". The "RETURN DATE" field is a date picker showing "2022", "Augu", and "18". Below these fields is a button labeled "RETURN BOOK". At the bottom left, there is a red button labeled "Back".

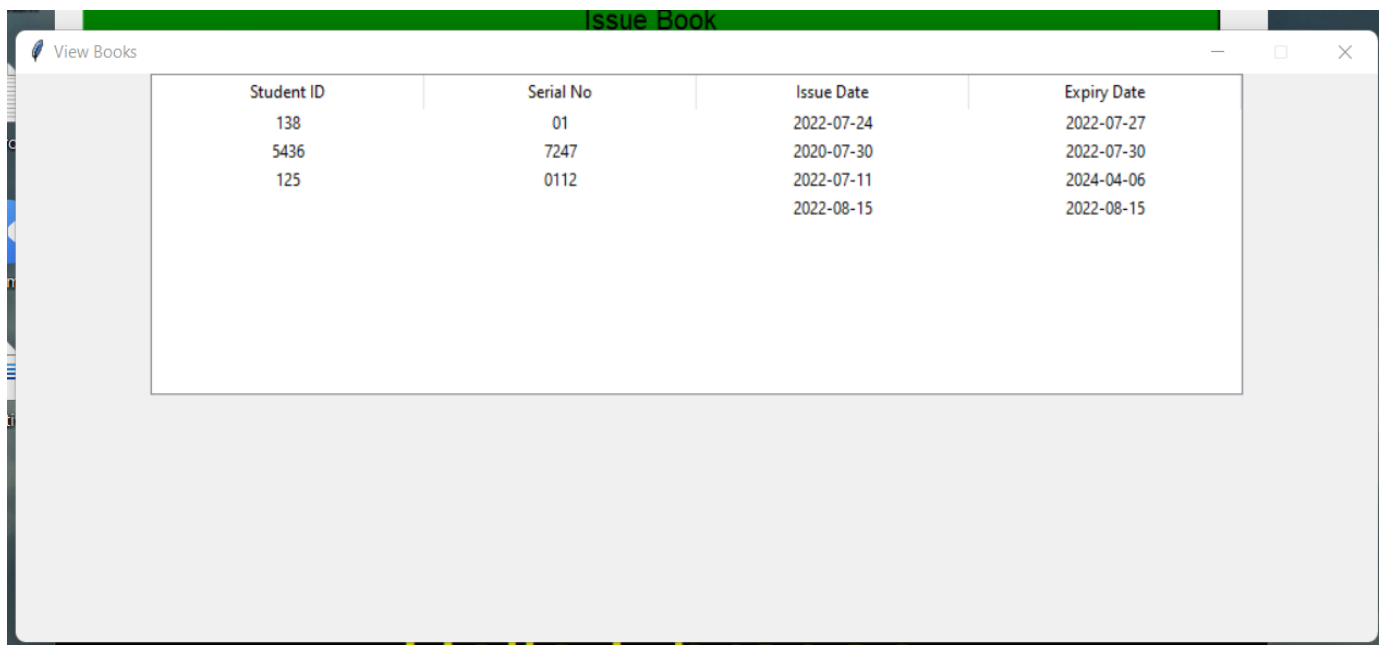
**After clicking Available Book** the Librarian can see how many books are added and what types of books are added in University Library Database.



The screenshot shows a window titled "Available Books" with a table containing five rows of book data. The columns are labeled Subject, Title, Author, and Serial No.

Subject	Title	Author	Serial No
phy	3114	pk	1
phy	guigfdhg	znj	123
pj	hiuu	iuuu	125
hy	kiuhuh	gtr	254
vguft	6u	pk	125

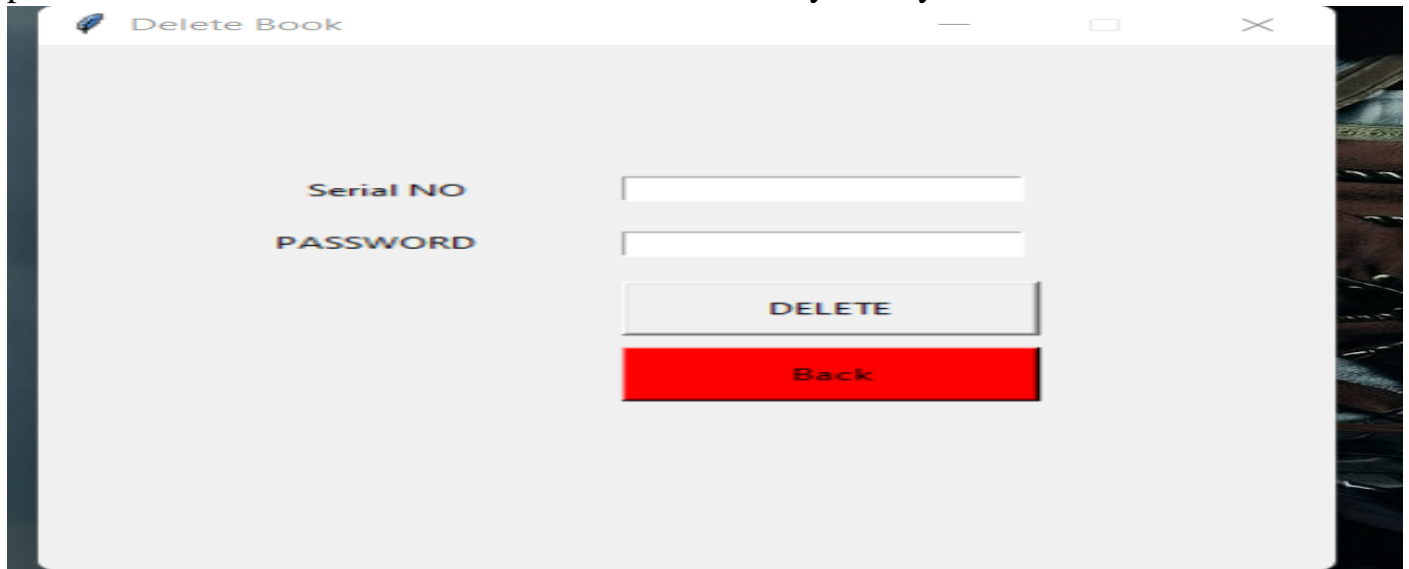
**After clicking Issued Book** the Librarian can see which books are issued and who can issue this book and its issue date or expiry date.



The screenshot shows a window titled "Issue Book" with a table containing four rows of issued book data. The columns are labeled Student ID, Serial No, Issue Date, and Expiry Date.

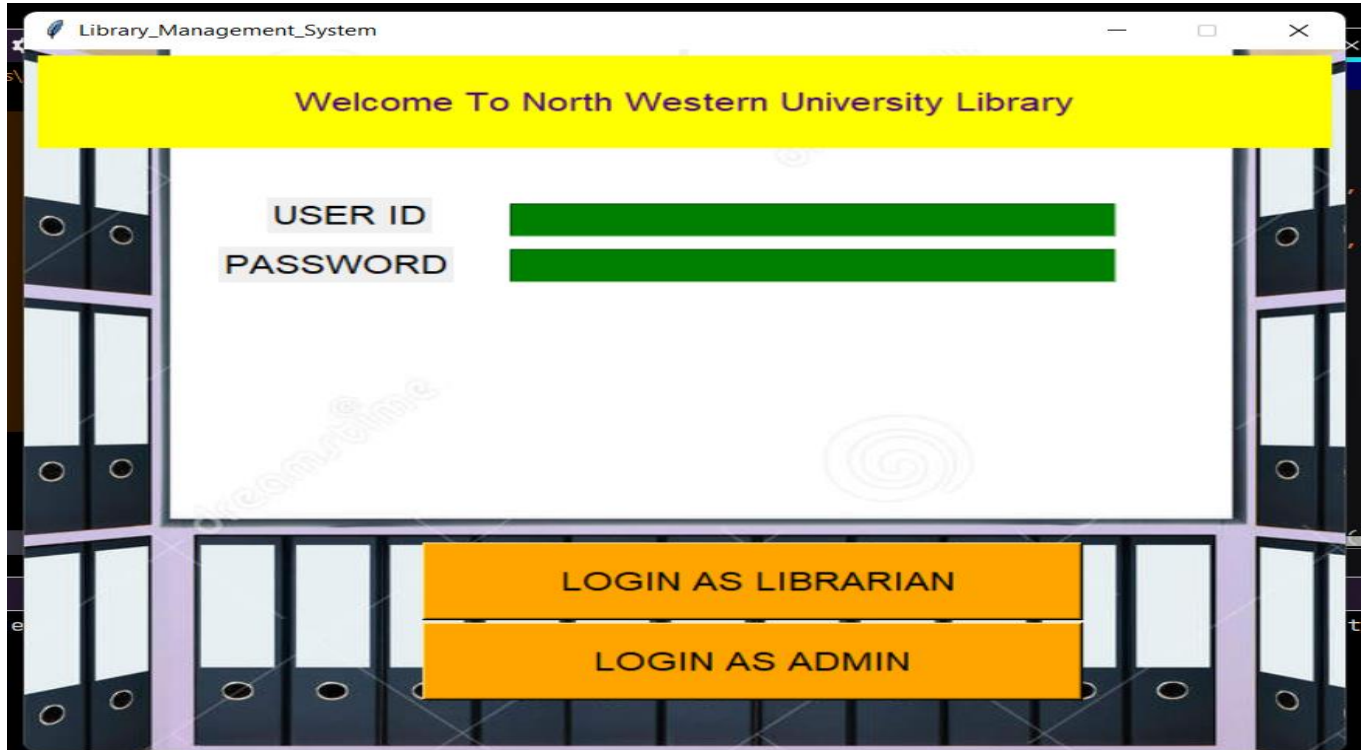
Student ID	Serial No	Issue Date	Expiry Date
138	01	2022-07-24	2022-07-27
5436	7247	2020-07-30	2022-07-30
125	0112	2022-07-11	2024-04-06
		2022-08-15	2022-08-15

After clicking **Delete Book** the librarian can Delete Books by its serial and password and which are not available in the University library database.



The screenshot shows a window titled "Delete Book" with a light gray background. It contains two input fields: the first is labeled "Serial NO" and the second is labeled "PASSWORD". Below these fields are two buttons: a gray button labeled "DELETE" and a red button labeled "Back".

After clicking Last Bottom **LOG OUT** the Librarian can back to the Homepage of University Library.



The screenshot shows the homepage of the "Library\_Management\_System". At the top, a yellow banner reads "Welcome To North Western University Library". Below this, there are two input fields: "USER ID" and "PASSWORD", both with green bars. At the bottom, there are two orange buttons: "LOGIN AS LIBRARIAN" and "LOGIN AS ADMIN". The background features a stylized illustration of bookshelves.

## **6. Dependencies:**

1. PyCharm: The Library Management System (LMS) is built on PyCharm framework. So PyCharm framework is needed to run this system properly.
2. Python 3.9: PyCharm's built in "Python 3.9" is needed to run LMS properly. Also, notification class and other configurations is need to set the notification of various actions.
3. Need to install many PyCharm packages to run this project properly.

## **Special Thanks to:**

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