



Project Report

Project Name : Library Management System

Group no: 05

Group details :

1.Name:Zareen Tasnim

Id:232-115-326

Batch:CSE-59

Section:I

2.Name:Fahija Rahman Ome

Id:232-115-347

Batch:CSE-59

Section:I

3.Name:Rokshana Islam Roita

Id:222-115-077

Batch:CSE-59

Section:J

Submitted to :

Rishad Amin Pulok

Lecturer,

Dept. Of CSE

Metropolitan University, Sylhet

Introduction

A Library Management System is a software that is designed to manage all the functions of a library. It is a computerized system that helps to manage a library's resources and operations. Library Management System can help libraries save time and effort with a variety of tasks. Such as - displaying and adding books, finding books, borrowing and issuing dates, returning books, managing students and reserving books. All of these tasks including logging in and registering every individual manually can be time consuming and tough for any library to manage but the library management system helps to remove this burden from the staff and aiding students by offering them a faster service by handling everything online.

Background Study

Library Management System is an organized collection of information sources which is made accessible especially to the students. The library usually contains the information physically or in a digitalised format. Library system is a software that is developed to handle basic functions of a library technical functions and services to the public. It is used by the librarian to categorically managed by the virtue of using a computerized system where he/she can record various transactions like issue of books, return of books, addition of new books, and addition of new students etc.

Books and user maintenance are also included in this system which would keep the user monitored while using the library. Records are kept in the library on shelves and each shelf are labeled in an alphabetical or numerical order, in which the categories of books available are arranged on different position on the shelves and as well are recorded on the library manuscript and when any book is to be referenced the manuscript is being referred, to know the position of such required book by the person that

requested for the book. By using the library management system, the operation of inventories is paperless. This system provides a user-friendly data entry with dropdown button menu, list box in purpose to make the input easier to understand and use it to ensure that the library items are stored to maintain their security.

With this system there will be no loss of books or member record which generally happens when a non- computerized system is used. All these modules are able to help to manage the library in a more convenient and more efficient way as compared to library systems which are not computerized. And also this system help to reduce and eradicate the problem of loss of books and files in the library. In addition it will be developed and designed to help librarians record in every book of transaction. As for this research, the main purpose of literature review will be to grasp comprehensive ideas on the extent of library management system initiatives and projects that had taken place worldwide and the factors and conditions that had influenced and contributed to their success. The approach to literature review is the browse method where print and electronic sources were looked at, read and digested, looking for some relevance, appropriateness and usefulness of the topic at hand.

Features

1)Login: Our Library Management System allows the Librarian, Teacher & Students to login to the system individually and have access to the facilities that are being provided.

Login as a Librarian -



```
"C:\Users\NG\Desktop\library mangement\for login.exe"
Select to Log In:
1. Librarian
2. Teacher
3. Student
Enter your choice: 1
Enter Username: t12
Enter Password: t12
Login successful as Librarian!
Welcome to the system.

Process returned 0 (0x0)   execution time : 7.203 s
Press any key to continue.

```

Login as a Teacher -



```
"C:\Users\NG\Desktop\library mangement\for login.exe"
Select to Log In:
1. Librarian
2. Teacher
3. Student
Enter your choice: 2
Enter Username: t12
Enter Password: t12
Login successful as Teacher!
Welcome to the system.

Process returned 0 (0x0)   execution time : 8.541 s
Press any key to continue.

```

Login as a Student -

```
"C:\Users\NG\Desktop\library mangement\for login.exe"
Select to Log In:
1. Librarian
2. Teacher
3. Student
Enter your choice: 3
Enter Username: s12
Enter Password: s12
Login successful as Student!
Welcome to the system.

Process returned 0 (0x0)   execution time : 8.040 s
Press any key to continue.
^
```

2)Register : The people who are going to use our library management system can register themselves into our system.

Registering as a Librarian -

```
"C:\Users\NG\Desktop\library mangement\register.exe"
Select your choice
1. for Librarian
2. for Teacher
3. for Student
1
Enter Username: myself
Enter Password: me765
Do you want to enter an email (e) or phone number (p)? e
Enter Email: me8774fg@gmail.com
Librarian registered successfully!

Process returned 0 (0x0)   execution time : 44.319 s
Press any key to continue.
^
```

Registering as a Teacher -

```
"C:\Users\NG\Desktop\library mangement\register.exe"
Select your choice
1. for Librarian
2. for Teacher
3. for Student
2
Enter Username: teach
Enter Password: teac2556
Do you want to enter an email (e) or phone number (p)? p
Enter Phone Number: 7653446278
Teacher registered successfully!

Process returned 0 (0x0)   execution time : 19.650 s
Press any key to continue.
```

Registering as a Student -

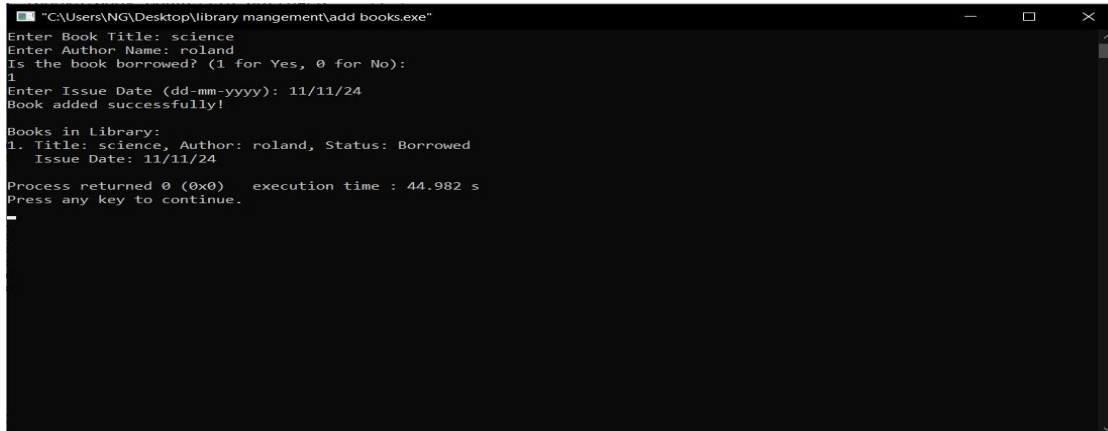
```
"C:\Users\NG\Desktop\library mangement\register.exe"
Select your choice
1. for Librarian
2. for Teacher
3. for Student
3
Enter Username: stu
Enter Password: std457
Do you want to enter an email (e) or phone number (p)? e
Enter Email: std4546@gamil.com
Student registered successfully!

Process returned 0 (0x0)   execution time : 30.677 s
Press any key to continue.
```

3)Displaying and adding books : When a user looks for a book in our system, the book name is displayed along with the author name.

4)Finding and borrowing books : After searching and finding the book, the user can borrow the book if it's available. When a book is borrowed, the issue date is also shown to maintain the records.

Finding, displaying, adding and borrowing a book with the issue date -

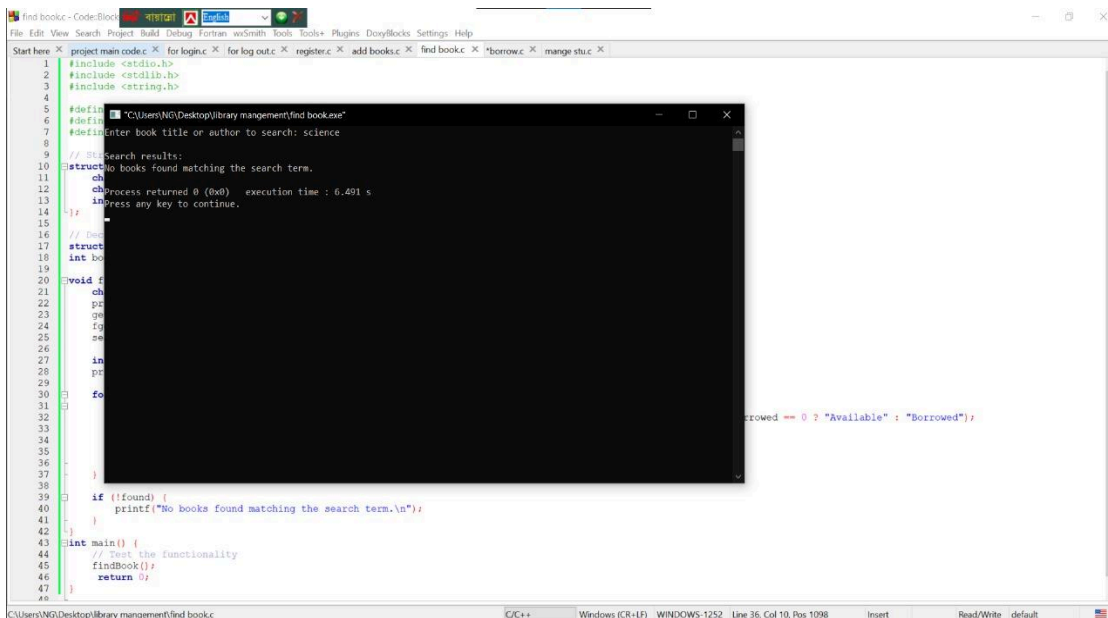


```
"C:\Users\NG\Desktop\library mangement\add books.exe"
Enter Book Title: science
Enter Author Name: roland
Is the book borrowed? (1 for Yes, 0 for No):
1
Enter Issue Date (dd-mm-yyyy): 11/11/24
Book added successfully!

Books in Library:
1. Title: science, Author: roland, Status: Borrowed
   Issue Date: 11/11/24

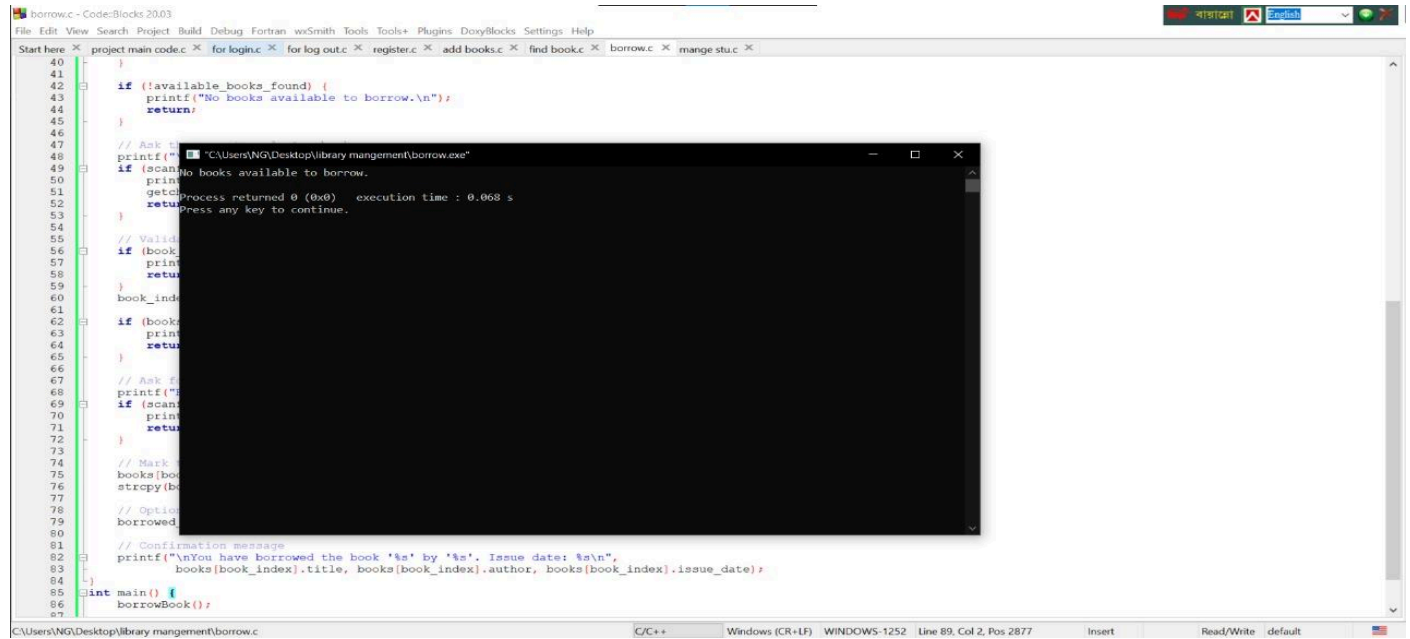
Process returned 0 (0x0)   execution time : 44.982 s
Press any key to continue.
```

In case a book can't be found in the system -



```
find book.c - Code::Blocks
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoryllBlocks Settings Help
Start here X project main code.c X for login.c X for log out.c X register.c X add books.c X find book.c X borrow.c X manage stuc...
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <string.h>
4
5 #define "C:\Users\NG\Desktop\library mangement\find book.c"
6 #define Enter book title or author to search: science
7
8 // Search results:
9 // No books found matching the search term.
10 struct
11 {
12     char process returned 0 (0x0)   execution time : 6.491 s
13     int process any key to continue.
14 }
15
16 // No
17 struct
18 int bo
19
20 void f
21 ch
22 pr
23 ge
24 fg
25 de
26
27 in
28 pr
29
30 fo
31
32
33
34
35
36
37
38
39 if (!found) {
40     printf("No books found matching the search term.\n");
41 }
42
43 int main() {
44     // Test the functionality
45     findBook();
46     return 0;
47 }
48
```

In case a book isn't available to borrow -



The screenshot shows a C++ IDE with the file 'borrow.c' open. The code includes a function 'borrowBook()' that checks if a book is available for borrowing. The execution output shows the following messages:

```
Process returned 0 (0x0)   execution time : 0.068 s
Press any key to continue.

// Ask the user to borrow a book
printf("No books available to borrow.\n");
if (scan)
    printf("No books available to borrow.\n");
    getch();
    return;

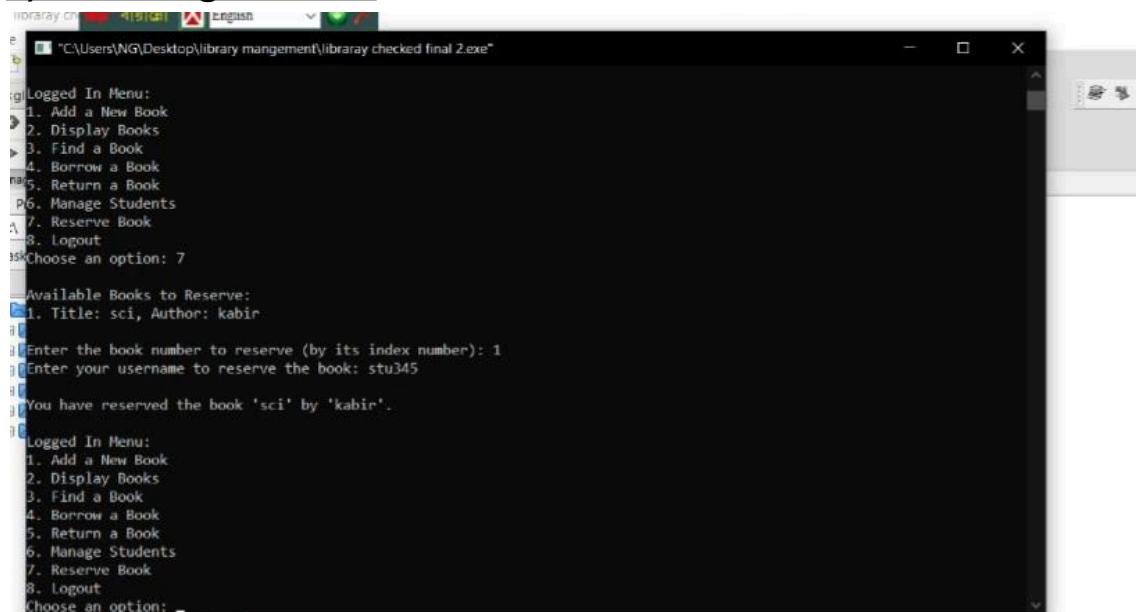
// Valid book index
if (book_index < 0 || book_index > 10)
    printf("Invalid book index.\n");
    return;

// Mark the book as borrowed
books[book_index].status = "Borrowed";
strcpy(books[book_index].author, "Kabir");

// Confirmation message
printf("\nYou have borrowed the book '%s' by '%s'. Issue date: %s\n",
        books[book_index].title, books[book_index].author, books[book_index].issue_date);

int main() {
    borrowBook();
}
```

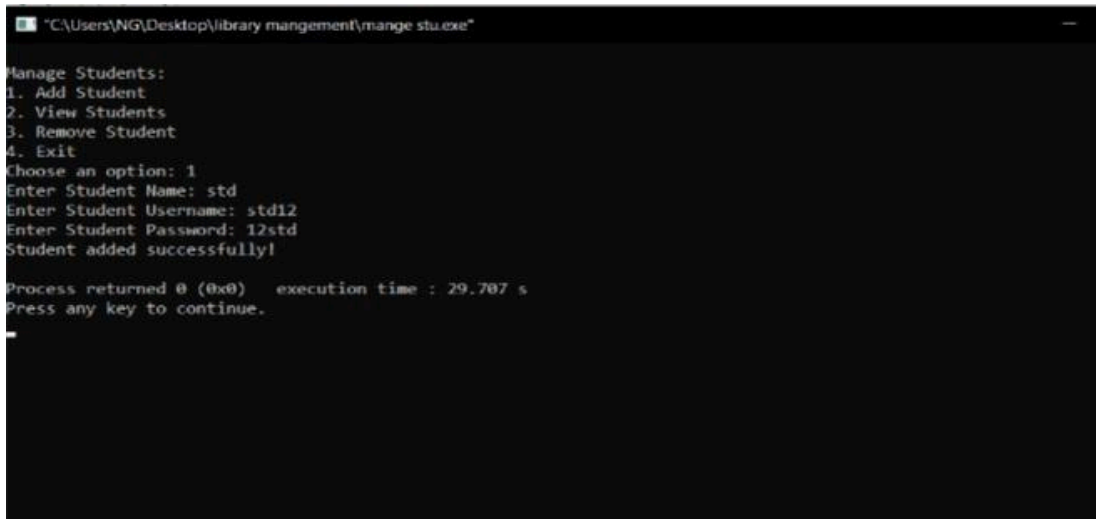
5)Reserving Books : Students can reserve books with their details.



The screenshot shows the 'library checked final 2.exe' application running. The output displays the 'Logged In Menu' with options 1 through 8. Option 7, 'Reserve Book', is selected. The application then displays the 'Available Books to Reserve' list, which includes '1. Title: sci, Author: kabir'. The user enters '1' as the book number to reserve and 'stu345' as the username. The application confirms the reservation: 'You have reserved the book 'sci' by 'kabir'.'. The 'Logged In Menu' is displayed again, and the user enters '7' to select the 'Reserve Book' option.

6)Managing Students :

Teachers and Librarian can manage the students by adding, viewing or removing them from the system.



```
"C:\Users\NG\Desktop\library mangement\mange stu.exe"
Manage Students:
1. Add Student
2. View Students
3. Remove Student
4. Exit
Choose an option: 1
Enter Student Name: std
Enter Student Username: std12
Enter Student Password: 12std
Student added successfully!

Process returned 0 (0x0)   execution time : 29.707 s
Press any key to continue.
```

Limitations

Though the Library Management System is a useful invention, it does have some drawbacks. Such as - Slow Performance, User Interface Complexity, Data Migration Issues, Poor Mobile Accessibility, Inflexible Lending Rules, Security Vulnerability, Compatibility Issues, Lack of User Training, Limited Technical Support, Costly Upgrades, Data Backup and Recovery Issues, User Account Management Issues etc.

Future Scopes

If the system is well funded then it can do wonders in the near future. Several upgrades can be executed. The system can be converted into an advanced one that can help students with notes sharing and storing lectures from teachers for the students to access later. Teachers can also use the same platform to publish announcements for the students here. They can create a question /answer session for students as well where teachers will attend to students' queries making the education system better.

Conclusion

This system will benefit the students as well as the staff of the library. It makes the entire process online where student can search books, staff can generate reports and do book transactions. It also has a facility for student login where students can login and can see the status of books issued as well as request for books or give some suggestions. It has a facility of teacher's login.