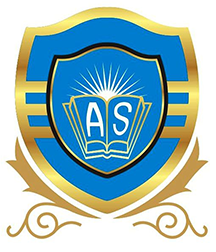
**PURBANCHAL UNIVERSITY**

ARYAN SCHOOL OF ENGINEERING

MID-BANESHWOR, KATHMANDU

**DEPARTMENT OF SCIENCE & TECHNOLOGY**



**A PROPOSAL ON**

**[Library Management System]**

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**SUBMITTED TO:**

DEPARTMENT OF SCIENCE & TECHNOLOGY

**May, 2025**

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# **Acknowledgement**

I would like to say thank you to everyone who helped me complete this project named “Library Management System.”

First, I am very grateful to my teacher, **Er. Sunil kumar Ram sir**, for helping me with advice, ideas, and support. Without their help, this project would have been very difficult to finish.

I also want to thank all the other teachers in the Department of science and Technology who shared their knowledge and gave useful tips during my work.

A big thanks to my friends and classmates for sharing their thoughts and helping me when I had any problems.

# **Introduction**

The project titled “Library Management System” is a library management software for monitoring and controlling the transactions maintain the records related to Book purchase, Issue Book, Return Book, Search Book and Member, Fine collection, and all the necessary requirements for the library to management. The purpose of the site is to computerizing and centralizing student and admin details is to simplify the task of maintaining records of library users and administrative staff.

The project “Library Management System” is developed in C-programming which are eligible for running in windows console screen. The library management system is fully automated library service and will be a web-based application where only the registered user can access to the system.

**Background**

In the past, most libraries used **manual** systems to keep records of books and members. This meant writing everything on paper, which was **slow** had **more mistakes** and was hard to manage when the library became big.

Today, many things are done with **computers** so using software to manage a library makes the work **easier** and **faster**. It also helps reduce mistakes and saves time.

The **Library Management System** project was created to make library tasks **simple** and well-organized. It helps in:

* Adding new users and books
* Issuing and returning books
* Searching for books
* Collecting fines

The system is made using **C programming**, and it works on the **Windows console screen**. The aim is to help librarians and students by **automating** the whole process.

This system is also meant to be **secure**, as only registered users can log in and use it. It gives a better way to keep track of books and people in the library.

### **Problem Statements**

In many libraries, the work is still done by hand. This causes several problems, such as:

* Fast report generation is not feasible.
* Tracking books becomes challenging.
* Proper maintenance of information regarding book issuance and returns is lacking.
* Books and member records can get lost or damaged.
* It takes a long time to issue or return books
* It is difficult to search for books or check availability
* More errors happen when writing by hand.
* Keeping track of fines and due dates becomes confusing.

### **Objective**

The main goal of the LibraryManagementSystem project is to make library work easier, faster, and moreaccurate. This project wants to:

* Replace manual work with a computer**-**basedsystem
* Help in adding, issuing, returning, and searching books quickly
* Keep all records of books and members in a safe and organized way.
* Reduce human errors in handling library tasks
* Save time for both students and librarians
* Allow only registered users to access the system to keep it secure
* Make fine collection simple and clear.

#### **Applications**

The **Library Management System** can be used in many places to make book management **easier** and **faster**. Below are some places where this system is **useful**.

1. **Schools and Colleges**
   * To manage textbooks, reference books, and student borrowing records
   * To help teachers and students find books quickly
2. **Public Libraries**
   * To handle large numbers of books and members
   * To keep the library **organized** and efficient
3. **Research Centers and Universities**
   * To track valuable research books and journals
   * To ensure only **authorized** users can access certain materials.
4. **Private Institutions and Training Centers**
   * To maintain small or medium-sized libraries for students and trainers
5. **Offices or Organizations with In-house Libraries**
   * For managing books and reports within the organization
   * To reduce time spent searching for materials.

##### **System Requirements**

To run the **Library Management System**, your computer should have some basic software and hardware. Below are the requirements:

**Hardware Requirements**

* **Processor:** Intel Pentium or higher.
* **RAM:** Minimum 2 GB.
* **Hard Disk Space:** At least 100 MB of free disk space.
* **Keyboard and Monitor:** For input and display.

**Software Requirements**

* **Operating System:** Windows 7, 8, 10 or later
* **Compiler:** Any C language compiler (like Turbo C, Dev C++, Visual studio code)
* **Text Editor:** Notepad or any IDE for writing code
* **Console:** Windows command prompt (for output).

# **Literature Review**

A Library Management System is designed to automate, manage and look after the overall processing of a library, especially in Open and Distance Learning (ODL) institutions. Efforts have been made to continually improve on library management systems, such as application login through ID cards, circulation of materials, centralized database, user identification through their ID cards, theft detection statistics and reporting web-based module etc. More specifically, the aim is to simplify library process and in turn save time and cost. An integrated library system can be such a robust enterprise resource management system that can continually adapt and fulfil the requirements and needs of patrons.

Enhanced library management system has been designed to overcome the problem of existing System to provide the feasible solution to the user. It has some features which makes it different from normal library management System modules. Admin module, librarian module and student module. Every module has its own login page in this application. It is developed to manage the daily activities of a library in an efficient way

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# **Methodology**

To make the Library Management System, we first learned how a real library works. We saw that writing everything in registers takes a lot of time and causes many problems. So, we planned to create a computer program to help manage books and users easily.

We chose the **C programming language** because it is simple and works well on a basic computer. We decided to add important features like **adding books, issuing books, returning books, searching for books,** and **calculating fines.**

We started by making the main structure of the program, and then we created the smaller parts step by step. We used **functions, loops,** and **file handling** in C to write the code. File handling helped us save the data like book details and member information, even after the program was closed.

We also made a **login system**, so only the right person (admin) can use the system. The program has a **menu**, where users can choose what they want to do, like add a book or search for a book.

After writing the code, we tested every part to make sure it works well. If we found any mistake, we corrected it. In the end, we checked the whole system and found that it worked properly and was easy to use.

# **Expected Results**

The main goal of this project is to create a working **Library Management System** using C programming. Below are the **results** we expect from the system:

1. Easy Book Management

* Add new books.
* View all books,
* Search books by title or author.  
  This should be **fast** and **simple**.

2. Issue and Return of Books

* Issue a book by entering its ID.
* Return a book easily.
* Check if a book is available or already issued.

3. Member Record Keeping

* Member name and ID.
* Which book they have taken.
* Issue and return dates.

4. Fine Calculation

* Fine for late returns based on days.
* This helps maintain discipline and timely returns.

5. Secure Login

* Only registered users (like admin) should be able to log in. This keeps the system **secure** and prevents **unauthorized** access.

# **Conclusion**

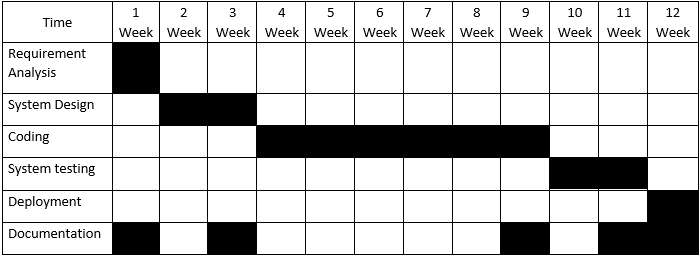
The Library Management System project helps to make library work faster, easier, and more organized. It replaces the old manual system with a computerized system using C programming. It saves time and reduces mistakes, making the work of students and library staff better and more efficient. This project also helped us understand how real software works, and how to apply what we learned in programming to solve real-life problems.

In the future, this system can be improved by adding features like user login with password encryption, book history, and online access.

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4. **Discussions with Teachers and Friends**
   * For new ideas, error fixing, and improvements.

**Gantt chart**

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