

DEPARTMENTAL LIBRARY MANAGEMENT SYSTEM

¹Diksha Bhawe, ²Akshata Raghav, ³Shrushti Kode, ⁴Sridhari Yayavaram

¹Associate Professor, ²Student, ³Student, ⁴Student

¹Department of Computer Engineering

¹Shivajirao S. Jondhale College of Engineering, Dombivli, India.

ABSTRACT: The paper titled Departmental Library Management System is library management software for monitoring and controlling the transaction in a library. The paper " Departmental Library Management System" is developed in HTML & PHP which mainly focuses on basic operation in a library like requesting books, returning books, managing books and users, etc. It is cross platform web application. This software is easy to use for both beginners and advanced users.

I. INTRODUCTION

Departmental library management system is a web-application which refers to other library system and it is suitable to use by small and medium size library. It is divided into online and offline. In this document, we will only mention about online system which is a website and a small part of offline system. It is used by admin and normal user. The website is developed to help a normal user to avail the library facility. For example, to know if this book currently exists in the library. Admin can implement the website. They can update for the website and also can see same report.

II. LITERATURE SURVEY:

The use of Relational Databases [1][4], helped in developing the database and performing the database transactions effectively and efficiently. Most of the times this approach requires a huge Number of transactions to achieve decent accuracy, for this reason the system has yet to be implemented comparatively on a large scale.

The Working with Forms and Database [3], helped in developing user interactive pages for the actions that can be performed through this system. To give the best designs to the website, rather the best structure, HTML and CSS Programming [1], was used to construct the web pages effectively.

The major problem found in the actual system [2][5], was user database inefficiency, and less interactive and was not able to meet user expectations as surveyed by us. Also, the drawback of the system generated in the papers referred is the incapability of handling concurrent users.

EXISTING SYSTEM:

The transactions of books are being done manually due to which each transaction was consuming more time. Also the list of transactions made in the library was allowed to modify by unauthorized users due to which the data integrity could not be maintained. The current manual library operations enumerated below:

a) File lost: If there are a lot of members who queue up to borrow books and if the books are not kept back at their original places, this leads to missing of books due to such messy environment.

- b) Lack of security: The data of manual library was not secured with respect to confidentiality of the transactions related to books.
- c) Lack of information: Reports and updates with respect to library transactions and services were not well disseminated.
- d) Slow retrieval of the data: The viewing of library reports and files in terms of issuing books and returning of books were not well established.
- e) Time consuming: The library services in terms of issuing of books through the library cards consumed a lot of time.
- f) Misplaced library cards: The loss of cards leads to a problem of not being able to keep a track on issue/return transactions of books.

Hence by conducting a survey of users, about the basic problems faced during performing basic operations of library, the decision to convert the manual library management system into computerized system was taken.

PROPOSED SYSTEM:

This project aims and objectives that will be achieved after completion of the website were carried out in this sub chapter. The succession of the system also will be evaluated through this sub chapter.

The project objectives are: -

- To allow user to request for book via online.
- To provide convenience to the user to search book online.
- To design a user-friendly graphical user interface.

The proposed system maintains the integrity database and also reduces the redundancy of the data.

III. SYSTEM REQUIREMENT:

a) User interface: It may contain buttons or icons whichever may be interactive.

b) Hardware interfaces:

- Windows 7 or above
- Processor: Pentium or above.
- Hard disk: 40 GB.
- RAM: 256 MB or more.

c) Software interfaces:

- HTML

- CSS
 - JAVA SCRIPT
 - PHP
- d) Database: MySQL.

IV. SYSTEM IMPLEMENTATION:

- First, we collect data from different sources about library management. We visit different libraries. We also visit different sites of library management on internet.
- After collecting and analyzing these data, we find out the key points which are needed to accomplish this term paper.
- Depending upon these key terms we design architecture and flow diagrams which show the inter relationship among these data, management authority and users. Based on these architecture and the flow diagrams, we write a source code in HTML, PHP. The source code and sample output are shown in the appendix.
- The purpose of the system is to satisfy these key terms such as:
 - a) By using library management system, the operation of managing inventories is paperless.
 - b) This system will store all the books and user's information that consist book id, book name, author name and racks to the system database.
 - c) It also provides search function to help student find the book by book name.

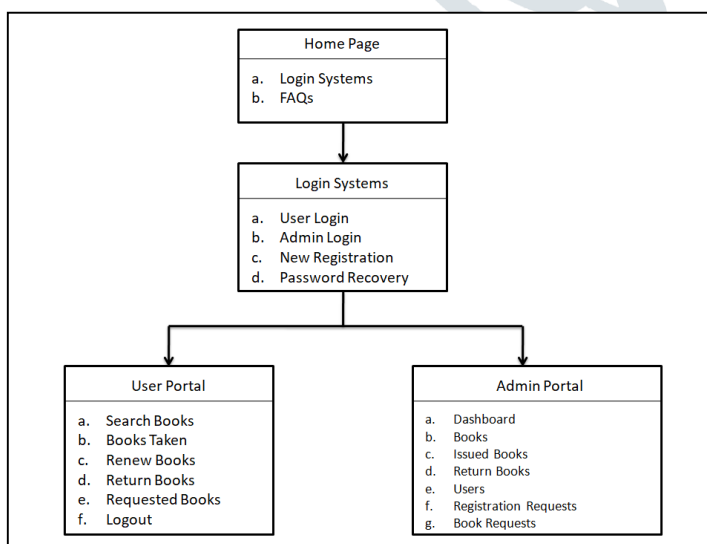


Fig. Block diagram of Departmental Library Management System

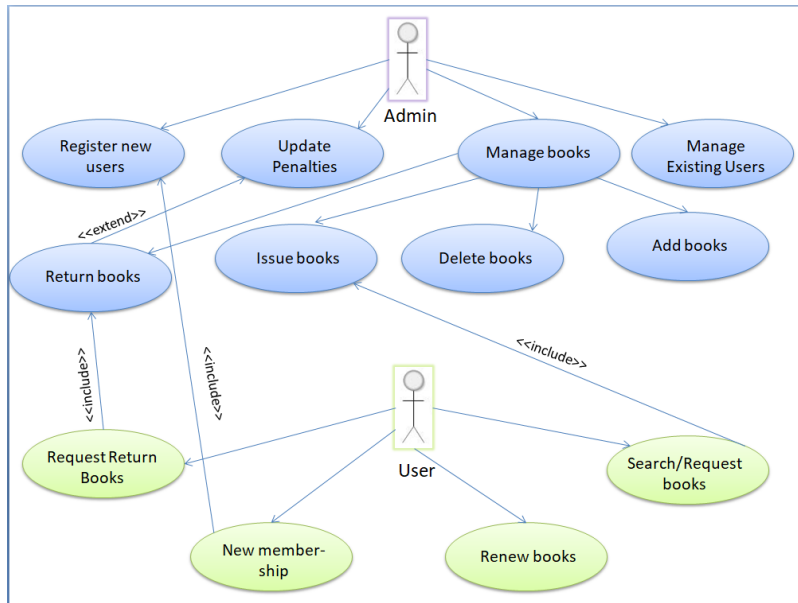


Fig. Use case diagram

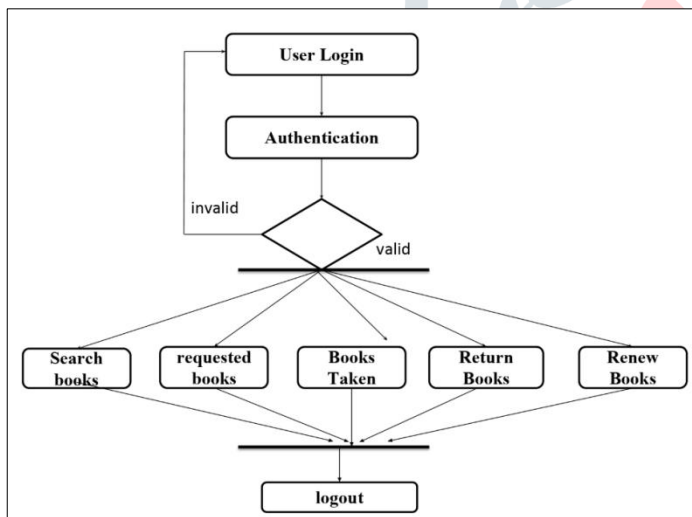


Fig. Flowchart of user module

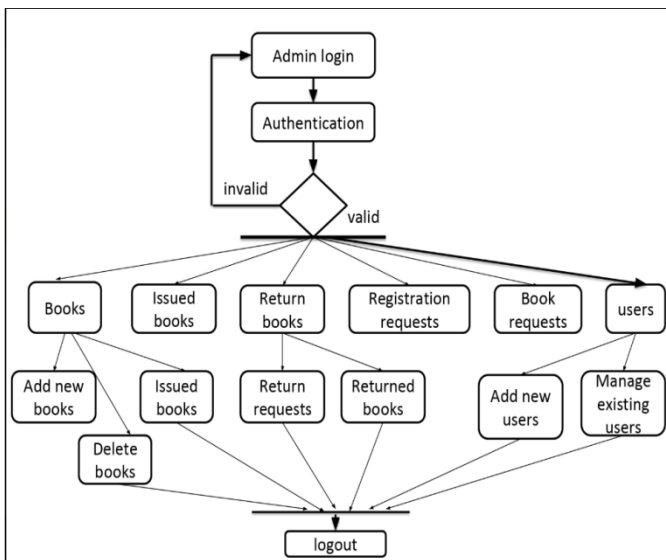


Fig. Flowchart of admin module

➤ At the starting, a home page is displayed on the screen, from where user will be provided an option to login to his account. User will also be provided with a link to view the Frequently Asked Questions (FAQs). Modules are explained below:

1. User Module

- User can login with the credentials given. If the user is not registered, he can register himself and wait for the approval from admin to re login.
- On the user login page, user can check if he is registered by the admin or not.
- Login would be successful after the user is authenticated.
- If the user forgets his password, the facility of recovering the password is also provided.
- User can access four modules on successful login:
 - ❖ Search Books:
 - This module is made efficient and user interactive.
 - User needs to choose a particular subject of which the book is required.
 - Followed by the selection of the desired book.
 - If the selected book is available, user can request for it.
 - ❖ Requested Books:
 - User can view the books he has requested.
 - The list of the books will be shown only until the book is not issued.

❖ Books Taken:

- The books borrowed by the user will be listed here.
- If the returning date of the book is crossed, then the respective penalty will also be displayed.

❖ Renew Books:

- User can renew the return date of the books taken.
- This facility will be available only if the current date is the returning date of the book.

❖ Return Books:

- User can request for returning of the books taken by him anytime.
- Until the admin doesn't approve the request of the return, or doesn't receive the book in person, the book will be remained under the user stating that the book is still held by the user.

2. Admin module

- Admin can login with the credentials given.
- Login would be successful after the user is authenticated.
- If the admin forgets his password, the facility of recovering the password is also provided.
- There will be only one admin who can handle the entire system.
- On successful login, admin will be provided with brief information about all the modules involved in the system on the very first page of the admin portal.

- Admin can access six major modules on successful login:

❖ Books:

- Admin can perform three actions on the page such as add new books, delete the books, issue books.
- The issue books module will have the list of book requests and admin can select one of the requests and issue the book to the corresponding user.
- The book will be issued only after certain conditions for issuing are satisfied.
- Whenever admin issues a book, corresponding entries will be made into the database.

❖ Issued Books:

- Admin can view the details of issued books like the book name, issued to whom, issuing date, etc.

❖ Returned Books:

- Admin can view the details of return requests made by the user.
- Admin can also accept the requests when the book is handed over in person.
- ❖ Registration Requests:
 - Whenever a user requests to register himself, all the requests will shown to the admin on this page.
- ❖ Book Requests:
 - Whenever a user requests for a book, all the requests will shown to the admin on this page.
- ❖ Manage Users:
 - Admin can perform two actions such as register new users and manage existing users.
 - Manage existing users includes managing the status of the users which means admin can either keep the user active or blocked based on the conditions of returning the books.

V. RESULTS

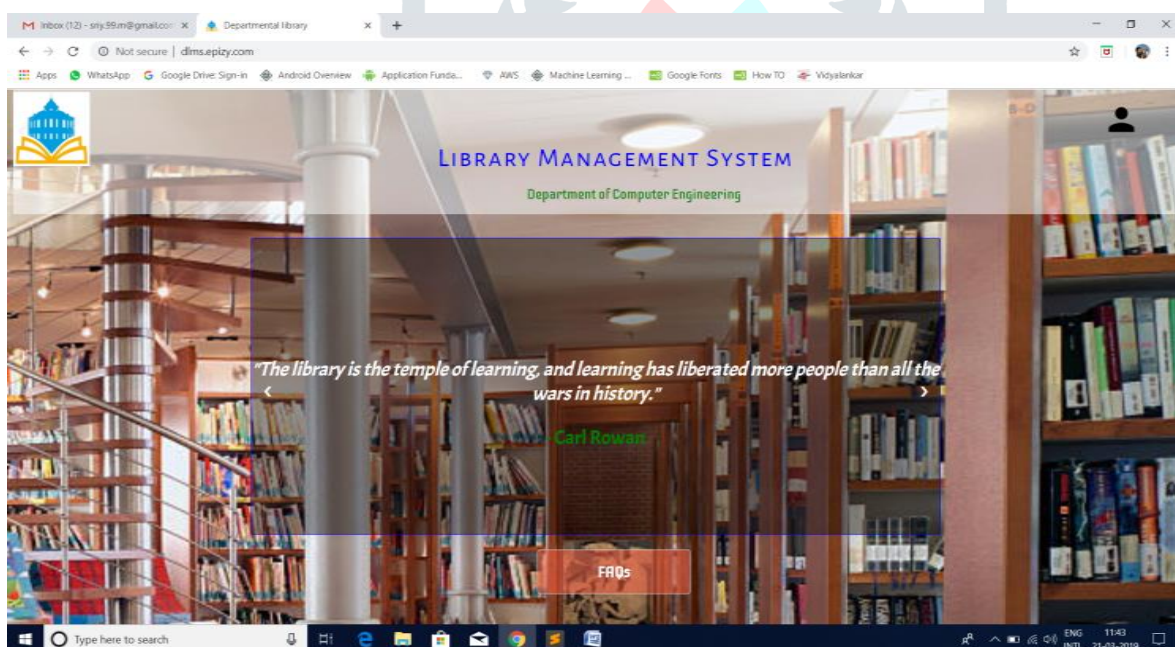


Fig. Home Page

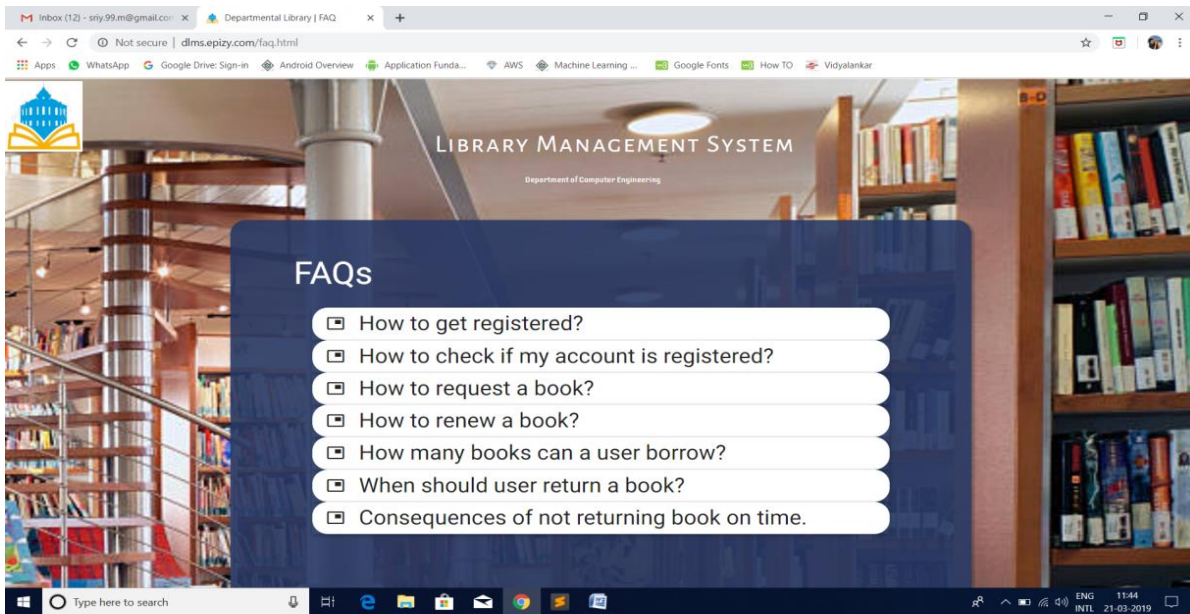


Fig. FAQs page

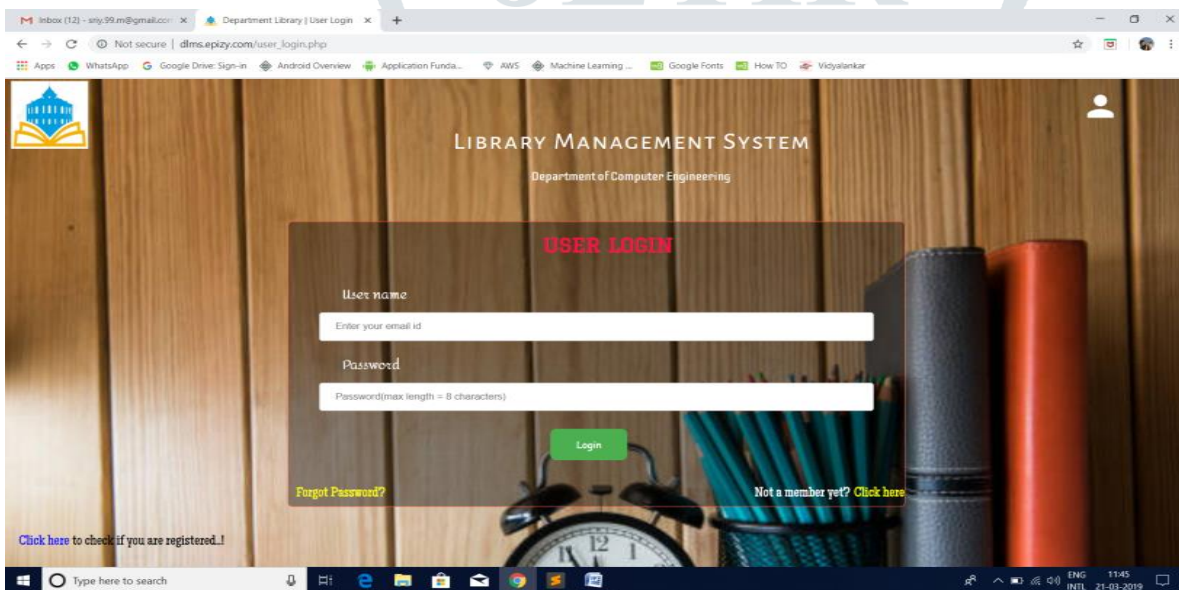


Fig. User Login page

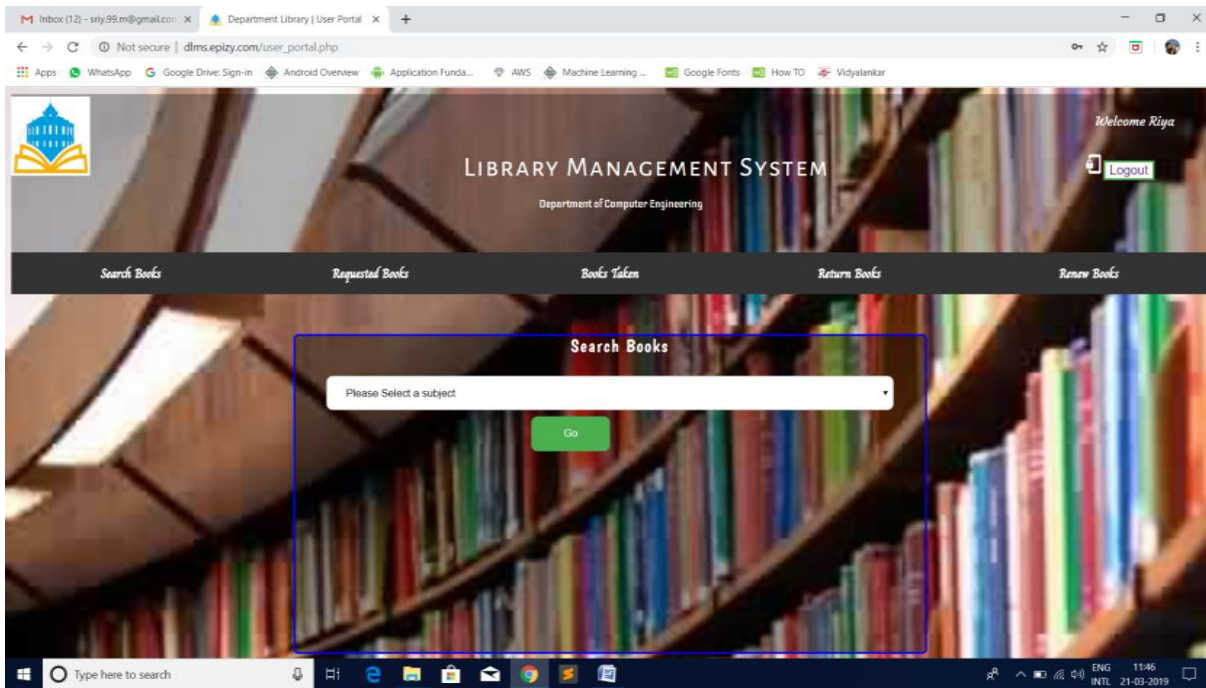


Fig. User Portal page

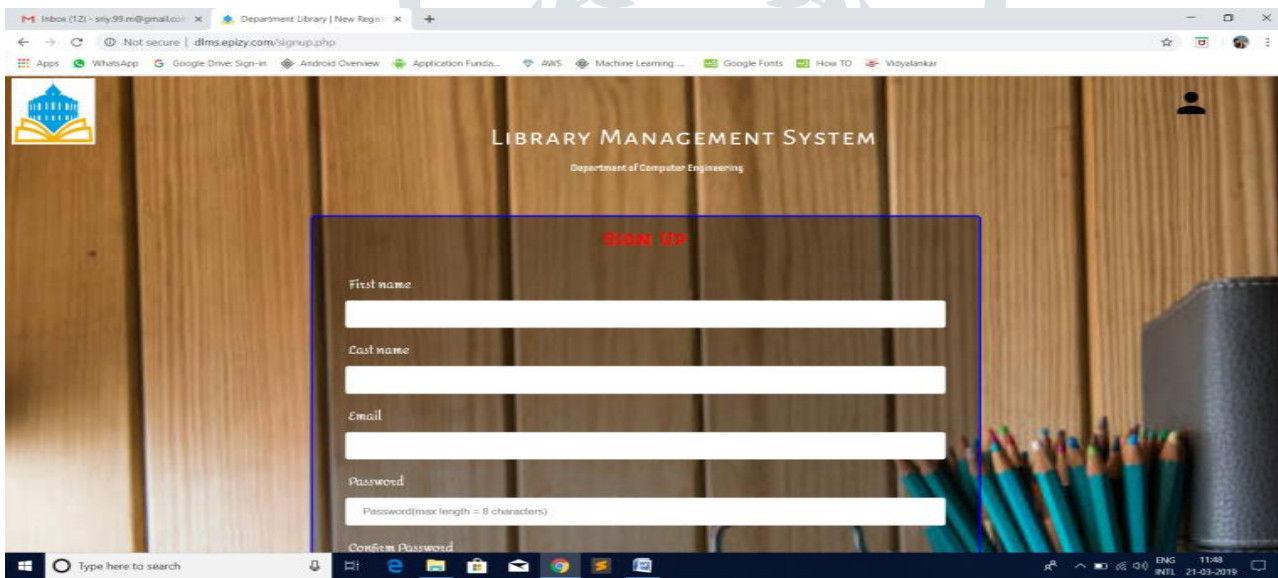


Fig. New Registration page

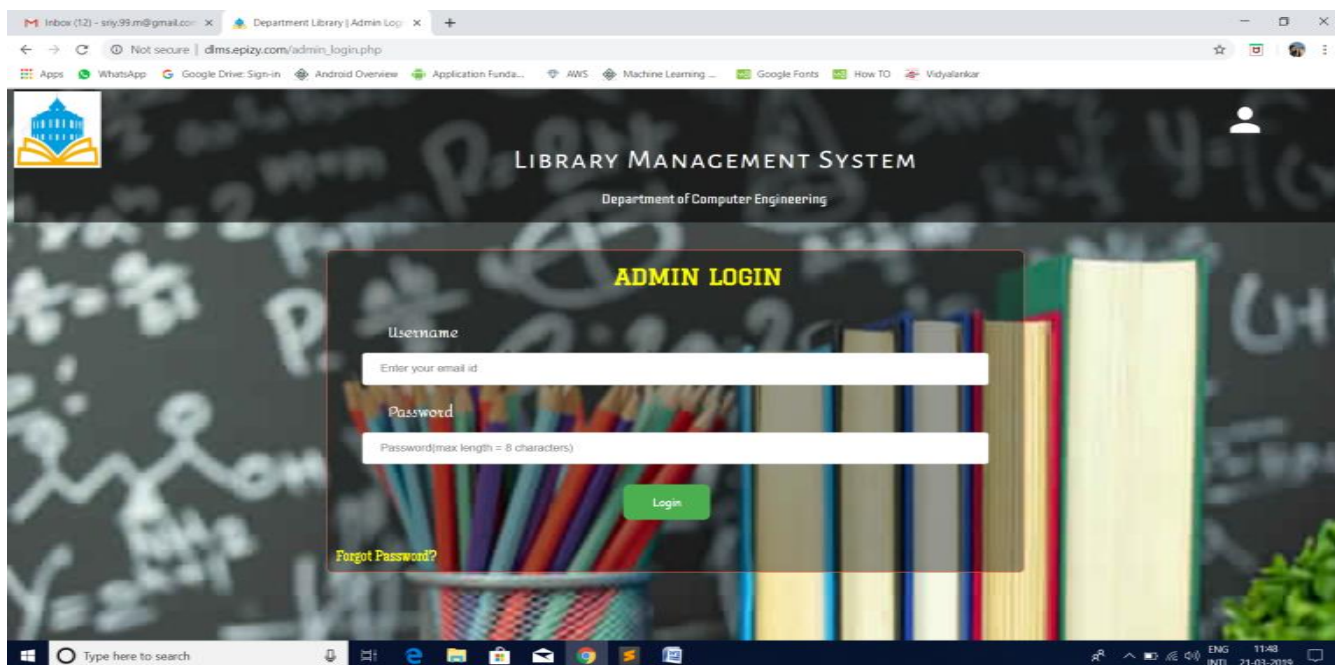


Fig. Admin login page

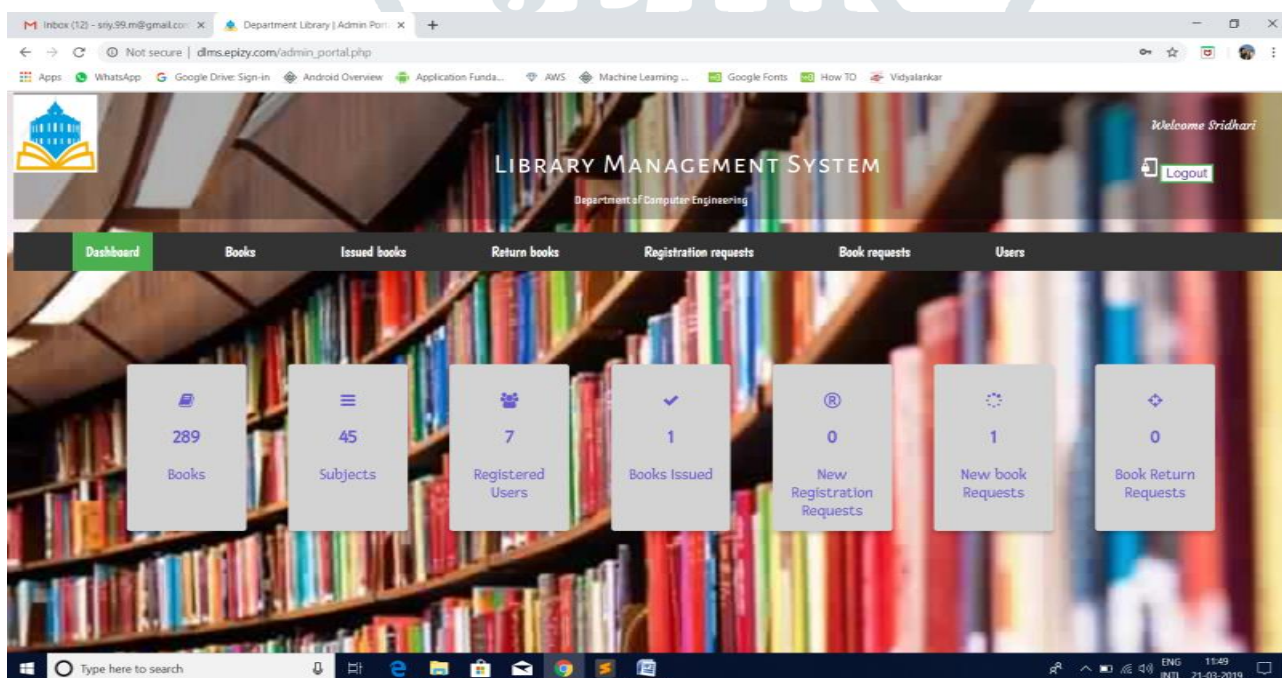


Fig. Admin Portal page

VI. CONCLUSION

This paper is only a humble venture to satisfy the needs in a made within a limited time frame at the beginning of the software paper and should be updated regularly as the paper progresses requirements of the organization. This 'Departmental Library Management System' has been computed successfully and was also tested successfully by taking few test cases. It is user friendly, and has required options, which can be used by user to perform desired operations.

VII. ACKNOWLEDGMENT

We sincerely wish to thank our project guide **Prof. Diksha Bhave** for her ever encouraging and inspiring guidance helped us to make our project a success. Our project guide made us ensure with her expert guidance, kind advice and timely motivation which helped us to determine about our project.

We would like to thank our project co-ordinator **Dr. Uttara Gogate** for all the support we needed from her for our project.

We also express our deepest thanks to our H.O.D. **Prof. P.R. Rodge** whose benevolent helps us making available the computer facilities to us for our project in our laboratory and making it true success. Without his kind and keen co-operation our project would have been stifled to stand still.

Lastly, we would like to thank our college principal **Dr. J.W. Bakal** for providing lab facilities and permitting us to go on with our project. We would also like to thank our colleagues who helped us directly or indirectly during our project.

REFERENCES:

1. Abraham Silberschatz, Henry Korth, Database System Concepts, Mc Grew Hill Education, 6th edition, 2011.
2. Ashutosh Tripathi, Ashish Srivastava, "*Online Library Management System*", IOSRJEN, 2012.
3. DT Editional Services, Web Technologies, Dreamtech Press, 2, 2017.
4. Elmasri, Navathe, Fundamentals of Database System, Pearson Education, 6th edition, 2010.
5. Sahana Karanth, Nireeksha, Anvitha K., "*An Advanced Library Management System*", IJLTEMAS, 2017.