LIBRARY MANAGEMENT

AGENDA

- Introduction
- Technical approach
- Features
- Pages
- Technology Used

INTRODUCTION

- The **Library Management System** is a desktop-based application developed using **Java and JavaFX** to automate and simplify library operations.
- It helps in efficiently managing books, issuing and returning records, and maintaining student transactions with minimal manual effort.
- The system integrates with **MongoDB** to store and retrieve book details, issue records, and return information dynamically.
- A clean and interactive **JavaFX user interface** allows users to add, issue, and return books easily, along with viewing available and issued book lists.
- The system also includes an automatic **fine calculation feature** that computes penalties for late returns, ensuring accuracy and transparency in library management.

TECHNICAL APPROACH

- ***Technology Used:***
  This project is developed using **Java** and **JavaFX** for the front-end user interface, and **MongoDB** as the back-end database to store book and user records efficiently.
- ***Database Integration:***
  All records (books, issued details, return logs) are stored and managed in **MongoDB**, ensuring persistent and dynamic data handling.
- ***User Interface:***
  A simple and clean **JavaFX GUI** has been used with intuitive buttons, labels, and text fields. Each operation (Add, Issue, Return, View) is handled through a dedicated page.
- ***Fine Calculation:***
  The system automatically computes a fine based on the number of late days, ensuring accuracy and transparency in the return process.

KEY FUNCTIONALITIES

- **Add Book:** Allows the librarian to add new books with details such as title, author, publisher, and available copies.
- **Issue Book:** Enables issuing of books to students by verifying book availability and updating stock automatically.
- **Return Book:** Facilitates the return process and automatically calculates fines for late submissions and displays them on screen.
- **Available Books Section:** Displays all books currently available in the library fetched directly from the database.
- **Issued Books Section:** Shows the list of all issued books along with student details and due dates with a proper format.

PAGES

बाबासाहेब भीमराव अम्बेडकर विश्वविद्यालय
BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY
ACCREDITED 'A++' GRADE BY NAAC (2023)
GAUTAM BUDDHA CENTRAL LIBRARY
Librarian login
Student login
ENTER YOUR NAME :
ENTER YOUR LIBRARIAN ID :
ENTER YOUR PASSWORD :
LOGIN

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AVAILABLE BOOKS TO ISSUE
1.Book - artificial intelligence
Book ID : 50102
written by : surya kumar yadav
Published By : morning star
Available copies : 6
2.Book - engineering chemistry
Book ID : 512203
written by : vijay das
Published By : eagle publications
Available copies : 10
3.Book - geography
Book ID : 632330
written by : rk kishan
Published By : morning star
Available copies : 5
4.Book - mathematics
Book ID : 210023
HOME
GO TO ISSUE SECTION

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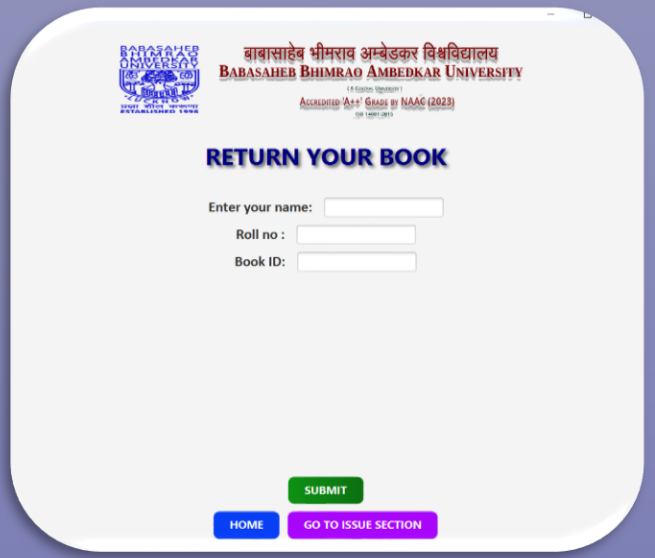
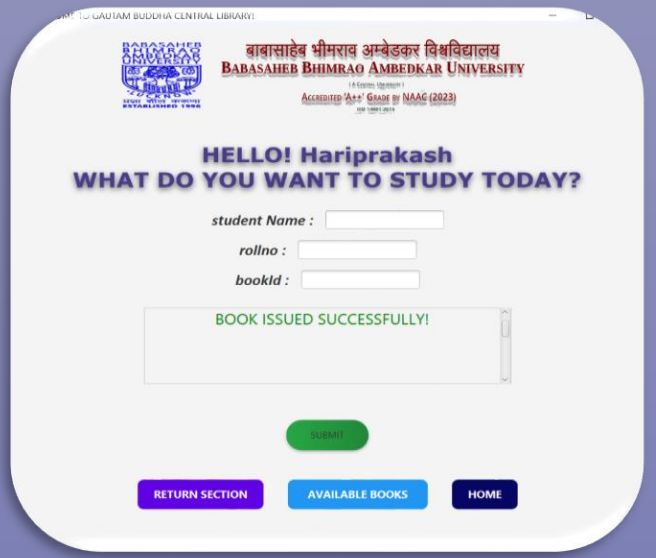
ACCREDITED 'A++' GRADE BY NAAC (2023)
HELLO! Ajay
Add Book to The Library
Book Name:
Author:
publisher:
available copies:
book id:
SUBMIT DETAILS
CHECK ISSUED BOOKS
HOME


बाबासाहेब भीमराव अम्बेडकर विश्वविद्यालय
BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY
ACCREDITED 'A++' GRADE BY NAAC (2023)
RETURN YOUR BOOK
Enter your name:
Roll no :
Book ID:
SUBMIT
HOME
GO TO ISSUE SECTION


बाबासाहेब भीमराव अम्बेडकर विश्वविद्यालय
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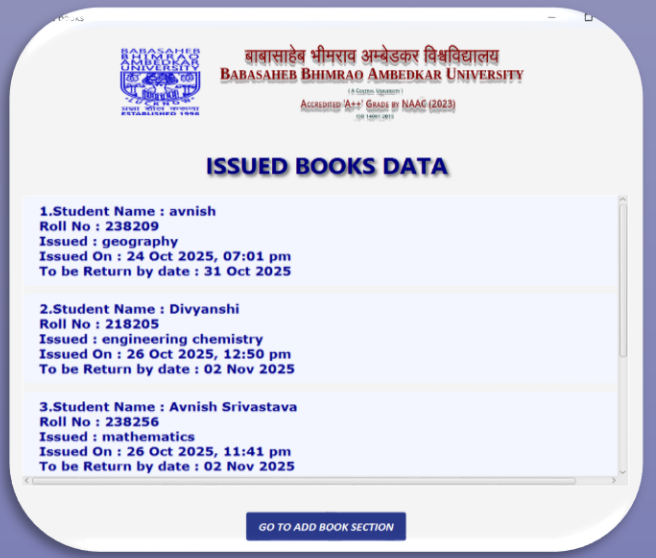
ACCREDITED 'A++' GRADE BY NAAC (2023)
HELLO! Hariprakash
WHAT DO YOU WANT TO STUDY TODAY?
student Name :
rollno :
bookId :
BOOK ISSUED SUCCESSFULLY!
SUBMIT
RETURN SECTION
AVAILABLE BOOKS
HOME


बाबासाहेब भीमराव अम्बेडकर विश्वविद्यालय
BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY
ACCREDITED 'A++' GRADE BY NAAC (2023)
ISSUED BOOKS DATA
1.Student Name : avnish
Roll No : 238209
Issued : geography
Issued On : 24 Oct 2025, 07:01 pm
To be Return by date : 31 Oct 2025
2.Student Name : Divyanshi
Roll No : 218205
Issued : engineering chemistry
Issued On : 26 Oct 2025, 12:50 pm
To be Return by date : 02 Nov 2025
3.Student Name : Avnish Srivastava
Roll No : 238256
Issued : mathematics
Issued On : 26 Oct 2025, 11:41 pm
To be Return by date : 02 Nov 2025
GO TO ADD BOOK SECTION

TECHNOLOGY USED

- *BACKEND : Java*
- *DATABASE : MONGODB*
- *GUI : JavaFX*

THANK YOU