



**NDJ20803 DATABASE SYSTEM  
MINI PROJECT**

**FACULTY OF ELECTRONIC ENGINEERING AND  
TECHNOLOGY**

**UNIVERSITI MALAYSIA PERLIS**

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**TITLE:**

**LIBRARY MANAGEMENT SYSTEM  
(BOOKHAVEN)**

**GROUP MEMBERS:**

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## **TABLE OF CONTENTS**

<b>CHAPTER 1</b>	
INTRODUCTION.....	3
PROBLEM STATEMENT .....	5
OBJECTIVE .....	6
SCOPE OF WORK .....	7
<b>CHAPTER 2</b>	
FUNCTIONAL REQUIREMENT .....	8
SYSTEM DESIGN FLOW/FLOW CHART .....	9
ENTITY RELATIONSHIP DIAGRAM (ERD).....	14
RELATIONAL SCHEMA .....	17
<b>CHAPTER 3</b>	
RESULTS.....	22
DISCUSSION .....	66
CONCLUSION.....	67

# **CHAPTER 1**

## **INTRODUCTION**

A library plays an important role in providing access to knowledge and resources, and its efficiency largely depends on the effectiveness of its management system. A library management system is designed to store, organize, and manage large amounts of data, including book records, borrower information, and staff activities. Since this data is entered by both librarians and borrowers, it is essential to have a system that is user-friendly, reliable, and efficient.

Traditional library systems often face challenges such as slow retrieval of book records, difficulty in monitoring late returns, and time-consuming manual processes. These issues reduce the overall efficiency of the library and may lead to user dissatisfaction.

To address these problems, our project introduces a modernized Library Management System. This updated system improves upon older versions by providing faster access to book data, simplifying the borrowing and returning process, and ensuring accurate tracking of records. It is designed to be easy to understand, quick to operate, and highly efficient in managing library activities.

With this system, librarians can minimize the time spent searching for book data, while users can enjoy a smoother borrowing experience. Additionally, the system enhances monitoring of overdue books, helping to improve library services and overall user satisfaction.

## **PROBLEM STATEMENT**

Libraries play a pivotal role in providing access to information, fostering learning, and supporting research within communities. However, the management of large and dynamic collections poses significant challenges. Traditional library management practices often struggle to keep up with the demands of modern users, resulting in inefficiencies, data inaccuracies, and limited accessibility to resources. These limitations can lead to delays in cataloging, slow check-out/check-in processes, and difficulties in managing user accounts effectively.

Furthermore, the integration of digital and physical resources has added complexity to library operations. Libraries must cater to users who expect seamless access to both physical books and digital media, often requiring advanced search capabilities, and real-time inventory updates. The lack of an efficient, integrated system can result in user dissatisfaction, increased staff workload, and reduced overall service quality.

This system seeks to address the issues inherent in current library management systems and practices. It will identify key challenges such as inadequate automation, poor user interfaces, and insufficient resource management, and propose solutions that enhance efficiency, accuracy, and user engagement. By examining existing systems and exploring innovative technological solutions, the goal is to provide actionable recommendations for improving library management in a modern context.

## **OBJECTIVE**

After all of the problems have been settle down, we must always improve our weakness in order to remain on the top tier list of libraries. In addition to develop a library booking system for UniMAP, we need to fixed in order to represent the library as an excellent and highest quality of service for user. The online system needs to be updated to recover all the past errors that have arisen in order to ease the operation of our librarians and the comfort of our borrowers. Here are some of our objectives:

- i. Our system will simplify the method of borrowing and repayment in a fast time and also orderly to the borrower.
- ii. Our librarians can easily track users who are slow to return books or do not pay a fine.
- iii. Our systems provided high quality standard to borrower and systematic system that can define why our system need to be used by any borrowers.

## **SCOPE OF WORK**

The scope of this lab report encompasses the analysis, design, and evaluation of a library management database system to streamline library operations and enhance user experiences. The primary focus areas include:

**1. Database Design and Structure:**

- Developing an efficient database schema that includes tables for books, users, transactions, and staff records.
- Ensuring normalization to prevent data redundancy and maintain data integrity.
- Designing relationships among tables to support complex queries and reporting.

**2. Core Functionalities:**

- Implementing fundamental features such as catalog management, user registration, book check-in/check-out, and reservation handling.
- Enabling real-time inventory updates to reflect current availability and borrowing status.
- Developing user account management capabilities, including user history and account status tracking.

**3. User Interfaces:**

- Creating intuitive interfaces for library staff to add, update, and manage resources.
- Designing user-friendly portals for patrons to search for resources, place reservations, and check their borrowing status.

**4. Security and Data Protection:**

- Ensuring that user and resource data is protected through appropriate authentication and authorization measures.
- Implementing backup and recovery solutions to safeguard data integrity and prevent data loss.

## CHAPTER 2

### FUNCTIONAL REQUIREMENT

- **MYSQL WorkBench**

MySQL Workbench provides a graphical interface that simplifies the development, modeling, and management of MySQL databases. It is used by developers, database architects, and administrators to create and modify databases efficiently.

- **XAMPP Server**

XAMPP is an open-source, cross-platform web server solution stack package developed by Apache Friends. It is widely used for local development and testing of web applications.

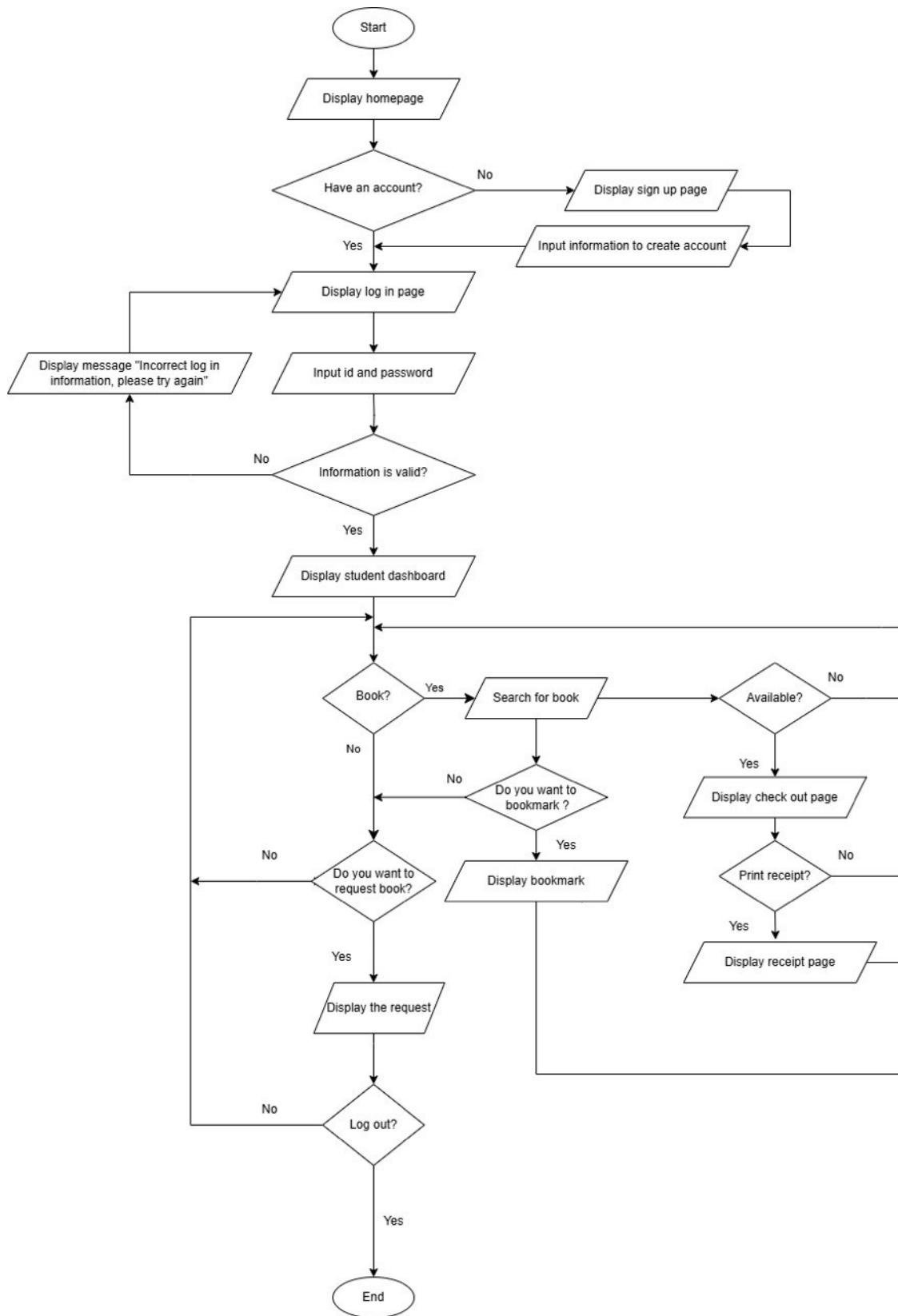
- **Visual Studio Code**

Visual Studio Code (VS Code) is a lightweight, open-source code editor developed by Microsoft. It is widely used by developers for coding in various programming languages, debugging, and collaborating on projects. Although it's a code editor, VS Code offers powerful features that make it suitable for both simple script writing and full-scale software development.

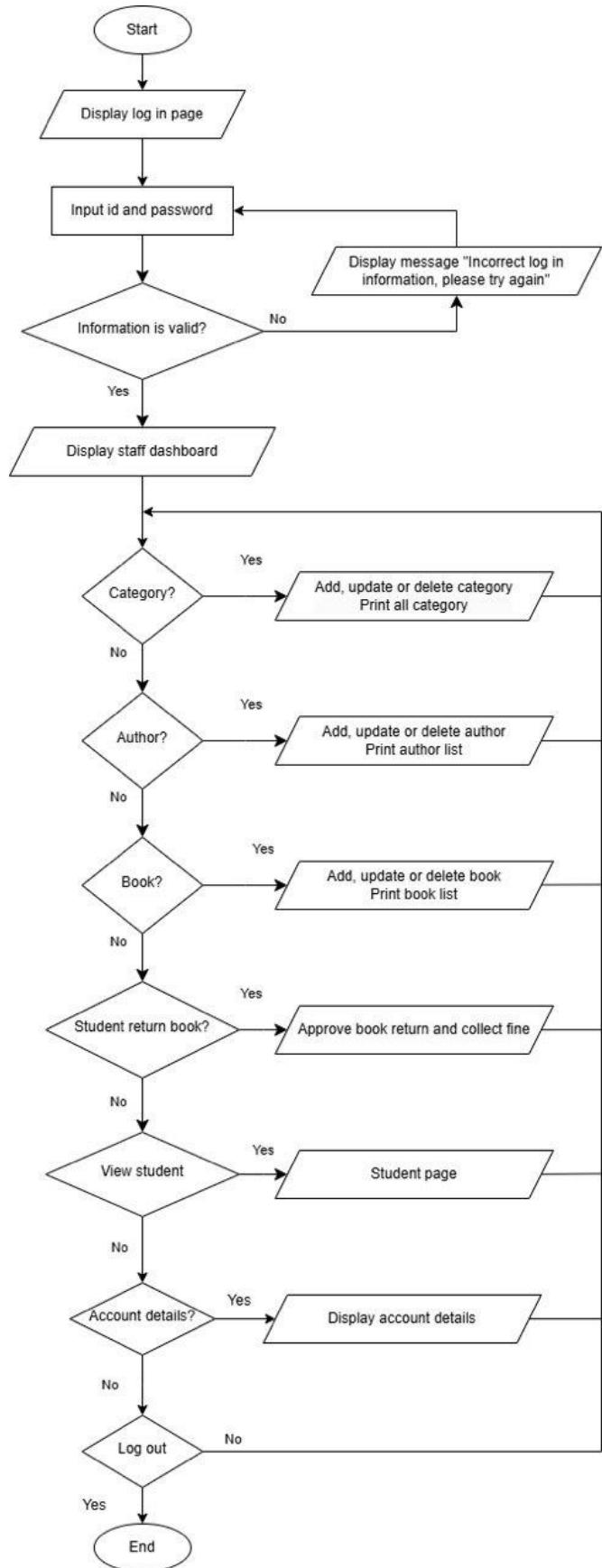
- **phpMyAdmin**

phpMyAdmin is a free and open-source web-based application designed to manage MySQL and MariaDB databases. It provides an easy-to-use interface for database administrators and developers to interact with and manipulate MySQL databases via a web browser. phpMyAdmin simplifies tasks like creating databases, managing tables, executing SQL queries, and performing backups, making it an essential tool for database management in many web development and server environments.

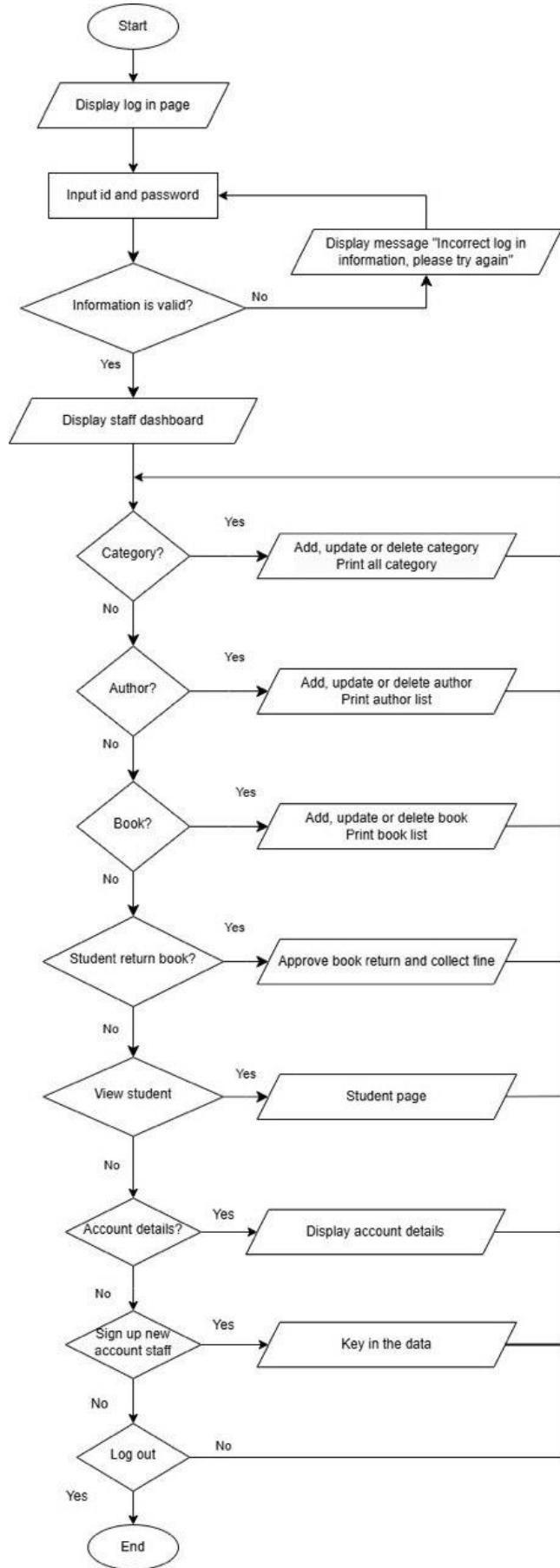
# SYSTEM DESIGN FLOW/FLOW CHART STUDENT



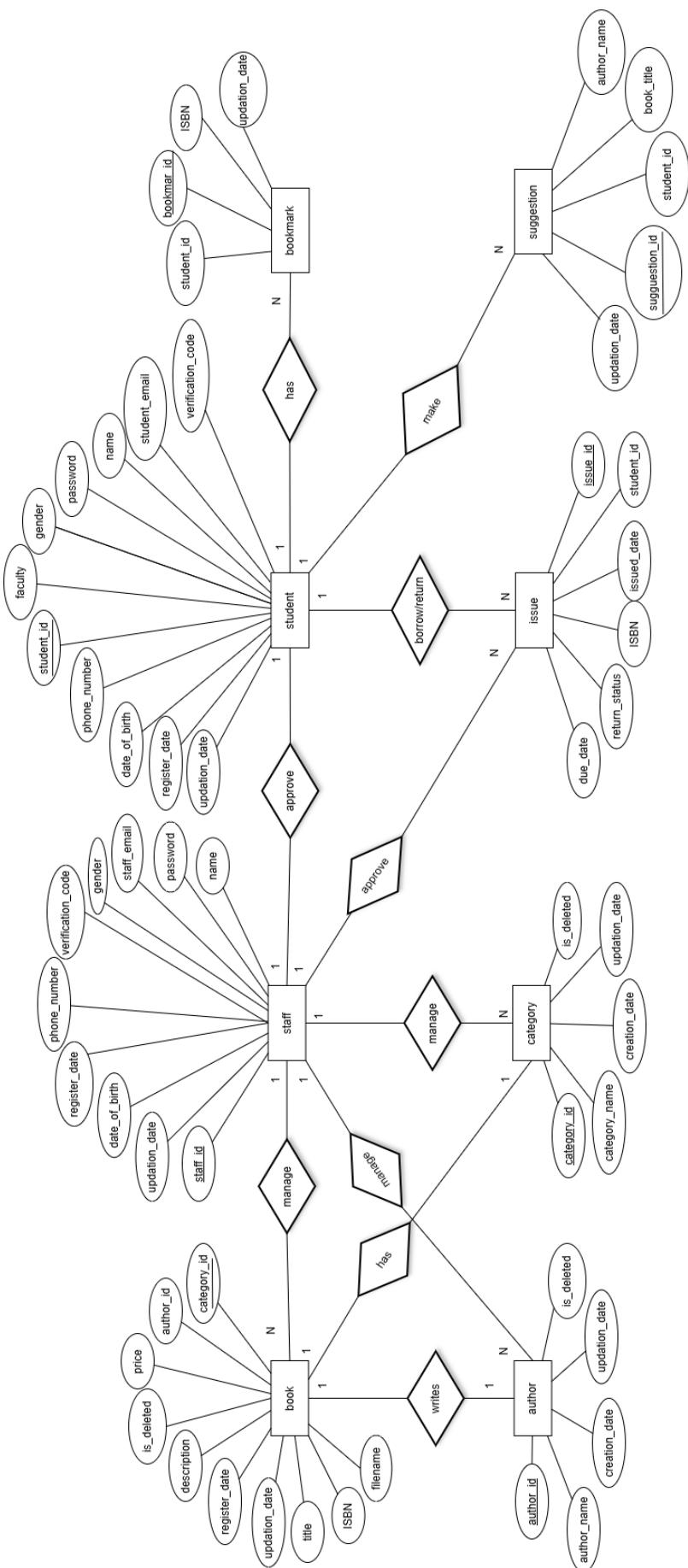
# STAFF

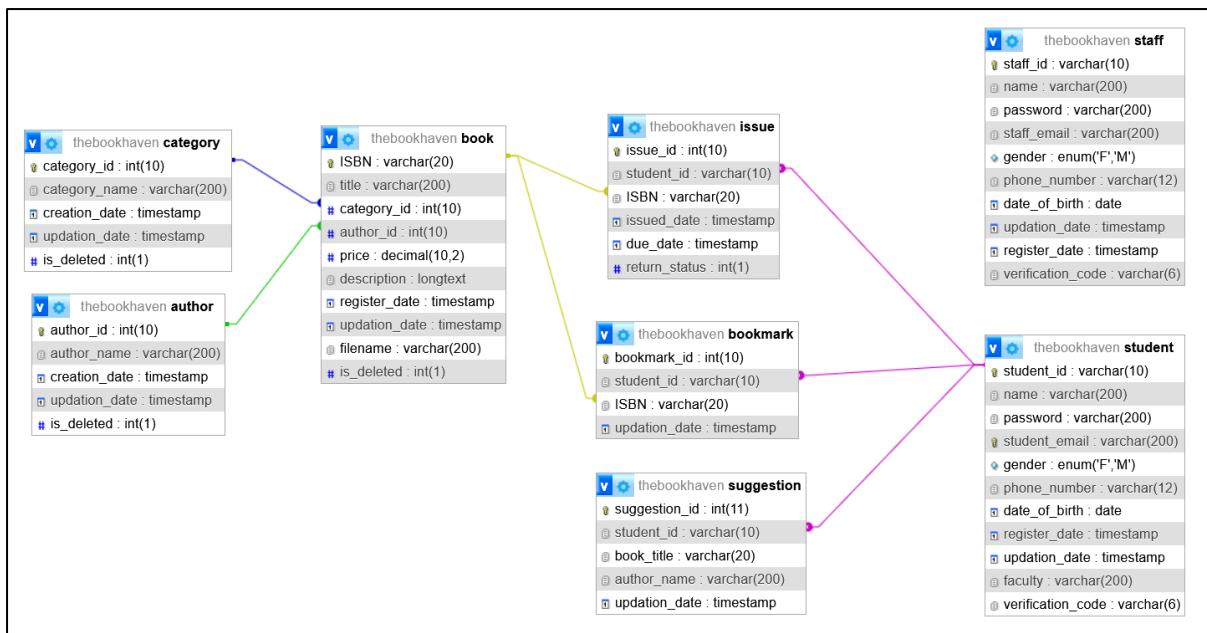


## ADMIN



## ENTITY RELATIONSHIP DIAGRAM (ERD)





## RELATIONAL SCHEMA

staff

<u>staff_id</u>	name	password	staff_email	gender	phone_number	date_of_birth	updation_date	register_date	verification_date
-----------------	------	----------	-------------	--------	--------------	---------------	---------------	---------------	-------------------

author

<u>author_id</u>	author_name	creation_date	updation_date	is_deleted
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category

<u>category_id</u>	category_name	creation_date	updation_date	is_deleted
--------------------	---------------	---------------	---------------	------------

book

<u>ISBN</u>	title	<u>category_id</u>	<u>author_id</u>	price	description	register_date	updation_date	filename	is_deleted
-------------	-------	--------------------	------------------	-------	-------------	---------------	---------------	----------	------------

issue

<u>issue_id</u>	<u>student_id</u>	<u>ISBN</u>	issued_date	due_date	return_status
-----------------	-------------------	-------------	-------------	----------	---------------

student

<u>student_id</u>	name	password	student_email	gender	phone_number	date_of_birth	register-date	updation_date	faculty	verification_code
-------------------	------	----------	---------------	--------	--------------	---------------	---------------	---------------	---------	-------------------

bookmark

<u>bookmark_id</u>	<u>student_id</u>	<u>ISBN</u>	updation_date
--------------------	-------------------	-------------	---------------

suggestion

<u>suggestion_id</u>	<u>student_id</u>	book_title	author_name	updation_date
----------------------	-------------------	------------	-------------	---------------

## staff

Column	Type	Null	Default	Comments
staff_id ( <i>Primary</i> )	varchar(10)	No		
name	varchar(200)	No		
password	varchar(200)	No		
staff_email	varchar(200)	No		
gender	enum('F', 'M')	No		
phone_number	varchar(12)	No		
date_of_birth	date	No		
updation_date	timestamp	Yes	NULL	
register_date	timestamp	No	current_timestamp()	
verification_code	varchar(6)	Yes	NULL	

Indexes								
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	staff_id	27	A	No	

## author

Column	Type	Null	Default	Comments
author_id ( <i>Primary</i> )	int(10)	No		
author_name	varchar(200)	No		
creation_date	timestamp	No	current_timestamp()	
updation_date	timestamp	Yes	NULL	
is_deleted	int(1)	No	0	

Indexes								
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	author_id	57	A	No	

## category

Column	Type	Null	Default	Comments
category_id ( <i>Primary</i> )	int(10)	No		
category_name	varchar(200)	No		
creation_date	timestamp	No	current_timestamp()	
updation_date	timestamp	Yes	NULL	
is_deleted	int(1)	No	0	

Indexes								
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	category_id	7	A	No	

## book

Column	Type	Null	Default	Comments
ISBN ( <i>Primary</i> )	varchar(20)	No		
title	varchar(200)	No		
category_id	int(10)	No		
author_id	int(10)	No		
price	decimal(10,2)	No		
description	longtext	Yes	NULL	
register_date	timestamp	No	current_timestamp()	
updation_date	timestamp	Yes	NULL	
filename	varchar(200)	Yes	NULL	
is_deleted	int(1)	No	0	

### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	ISBN	62	A	No	
				category_id	12	A	No	
				author_id	62	A	No	
				author_id	62	A	No	

## issue

Column	Type	Null	Default	Comments
issue_id ( <i>Primary</i> )	int(10)	No		
student_id	varchar(10)	No		
ISBN	varchar(20)	No		
issued_date	timestamp	No	current_timestamp()	
due_date	timestamp	Yes	NULL	
return_status	int(1)	No		

### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	issue_id	55	A	No	
				student_id	55	A	No	
				ISBN	55	A	No	

## student

Column	Type	Null	Default	Comments
student_id ( <i>Primary</i> )	varchar(10)	No		
name	varchar(200)	No		
password	varchar(200)	No		
student_email	varchar(200)	No		
gender	enum('F', 'M')	No		
phone_number	varchar(12)	No		
date_of_birth	date	No		
register_date	timestamp	No	current_timestamp()	
updation_date	timestamp	Yes	NULL	
faculty	varchar(200)	No		
verification_code	varchar(6)	Yes	NULL	

### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	student_id	32	A	No	
student_email	BTREE	Yes	No	student_email	32	A	No	

## bookmark

Column	Type	Null	Default	Comments
bookmark_id ( <i>Primary</i> )	int(10)	No		
student_id	varchar(10)	No		
ISBN	varchar(20)	No		
updation_date	timestamp	Yes	current_timestamp()	

### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	bookmark_id	4	A	No	
student_id	BTREE	No	No	student_id	4	A	No	
ISBN	BTREE	No	No	ISBN	4	A	No	

## suggestion

Column	Type	Null	Default	Comments
suggestion_id ( <i>Primary</i> )	int(11)	No		
student_id	varchar(10)	No		
book_title	varchar(20)	No		
author_name	varchar(200)	No		
updation_date	timestamp	No	current_timestamp()	

### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	suggestion_id	3	A	No	
student_id	BTREE	No	No	student_id	3	A	No	

# CHAPTER 3

## RESULTS

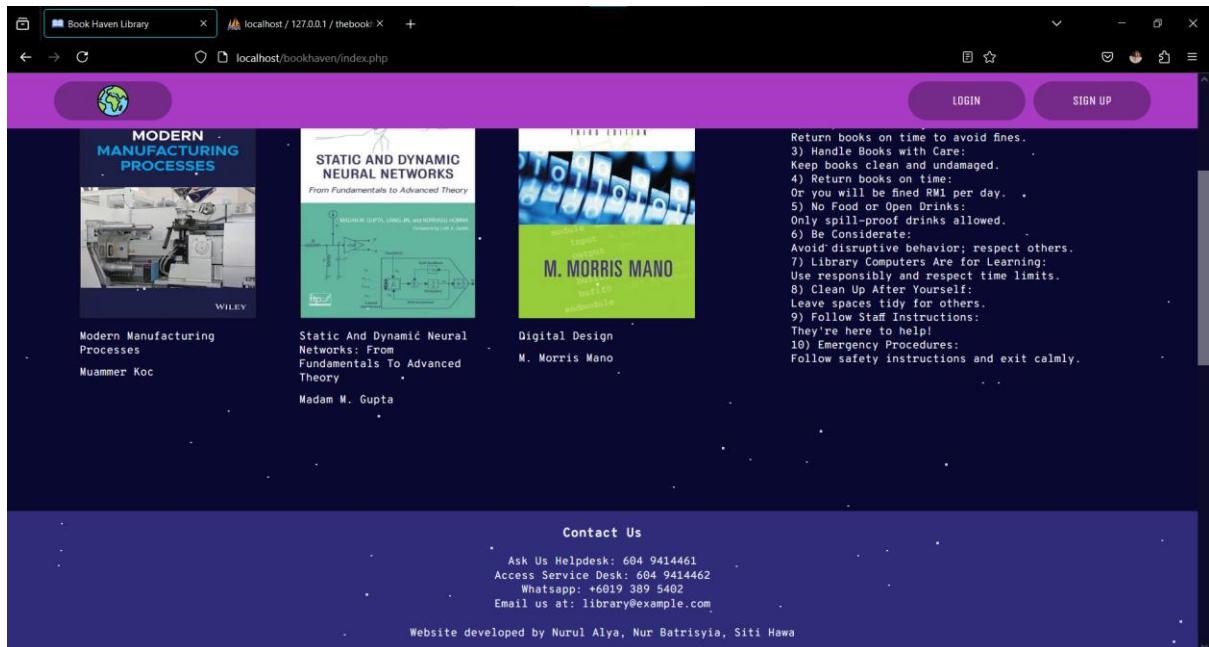
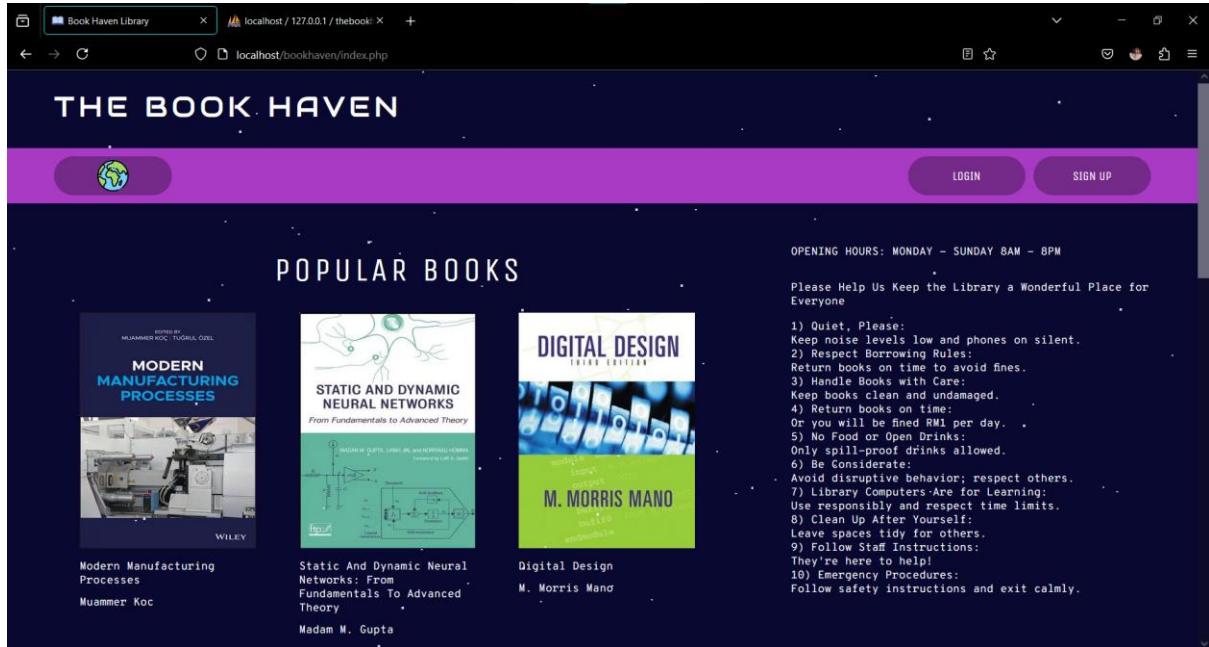


Figure 1 & 2: Front Page

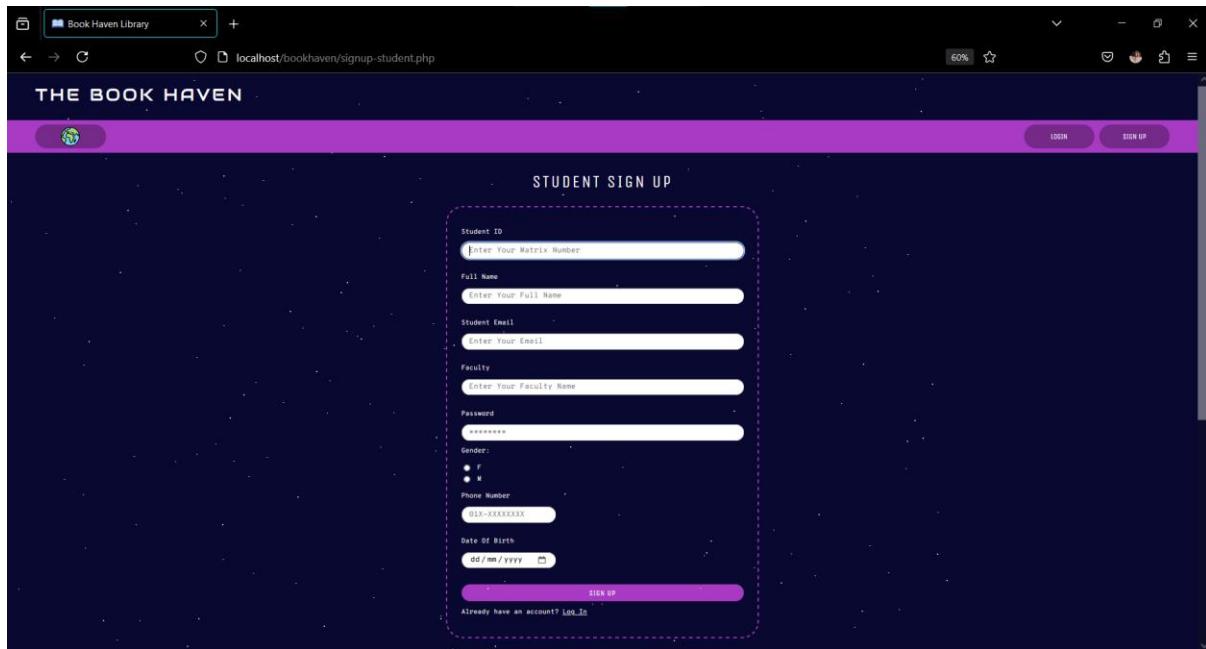
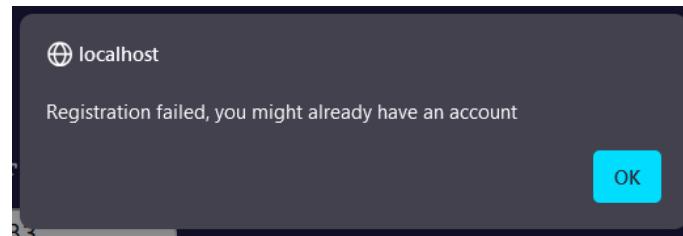
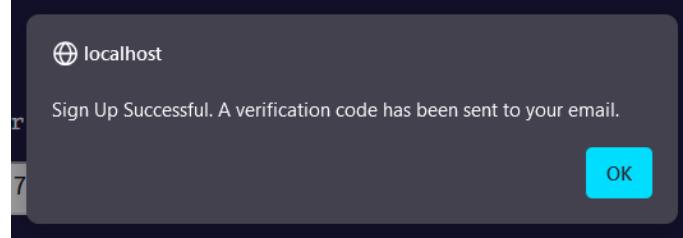


Figure 3: Student Sign Up Page

Students that don't have an account have to sign up and fill all the details. If signup is successful, verification code is sent to student's email. If the account is already registered, a message will popup. Password is stored in hash for security reasons.



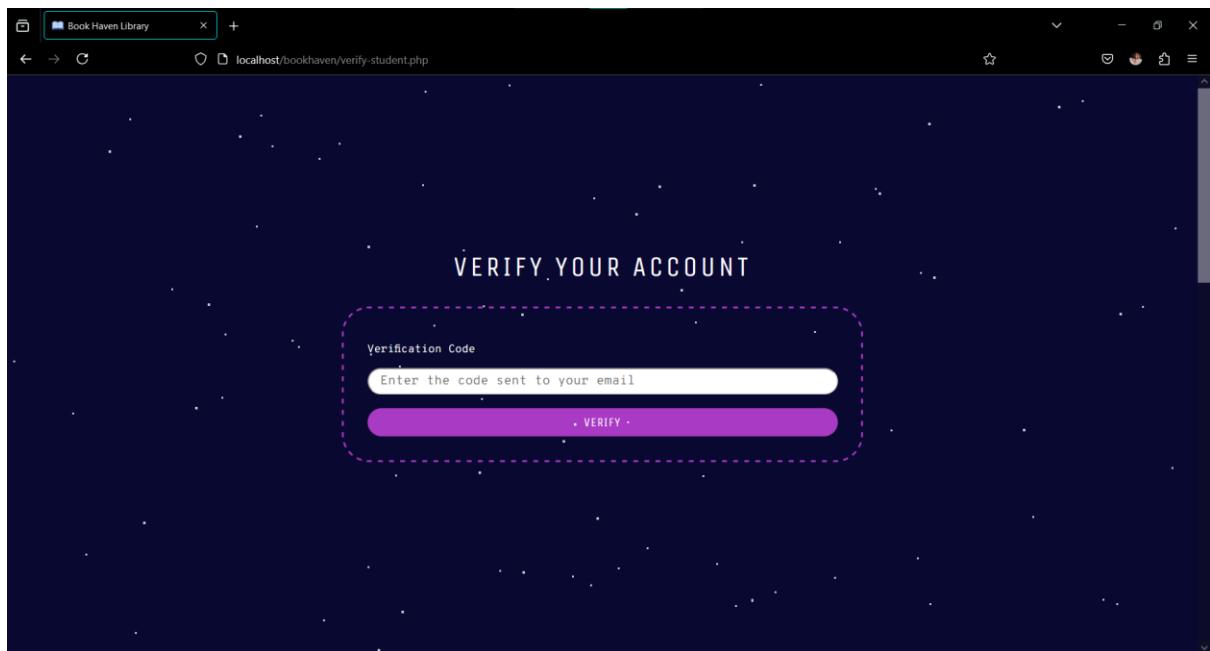
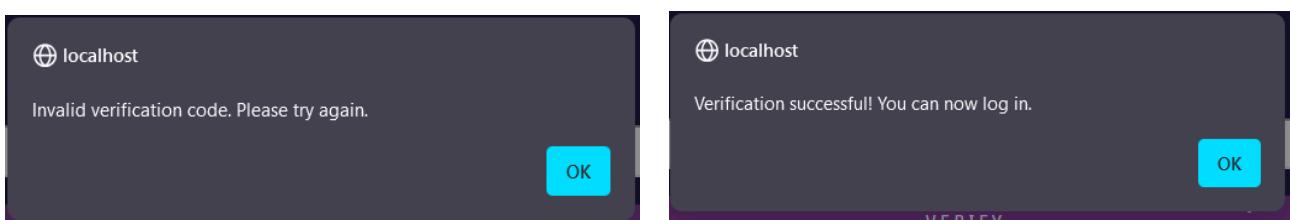


Figure 3.1: Verify Account Page

Student has to enter the correct verification code. Popup will show if the code is correct or incorrect and if account verification is successful, it will bring student to the login page.



Figure 3.2: Verification Code Sent to Email



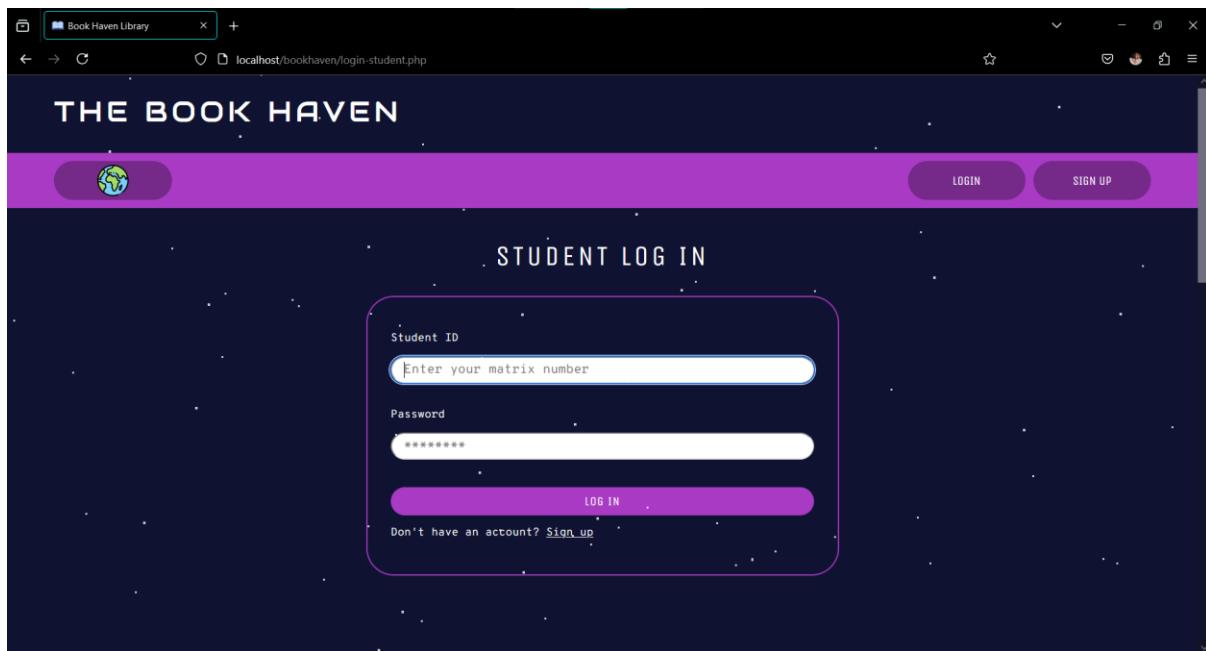
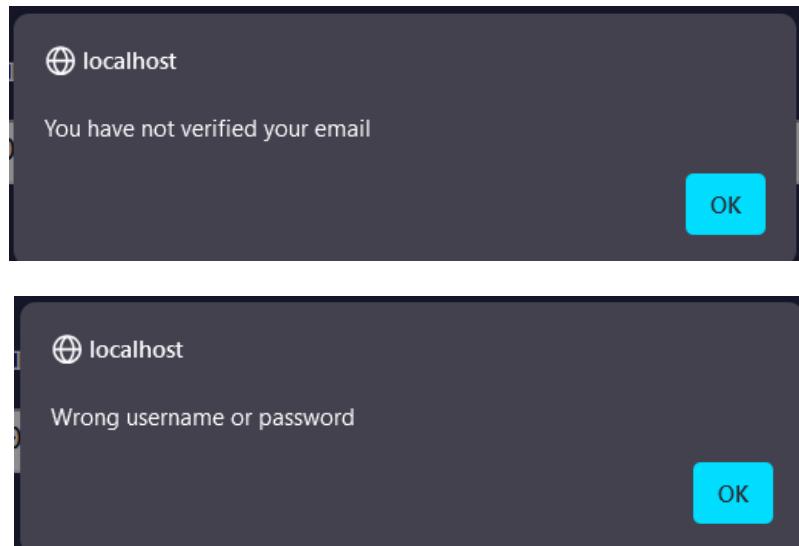


Figure 4: Student Login Page

Student enter matric number and password. If login details is incorrect, a popup will appear. If email is not verified, a popup message will appear and redirect to the verify email page. If login is successful, student is redirected to the student dashboard page.



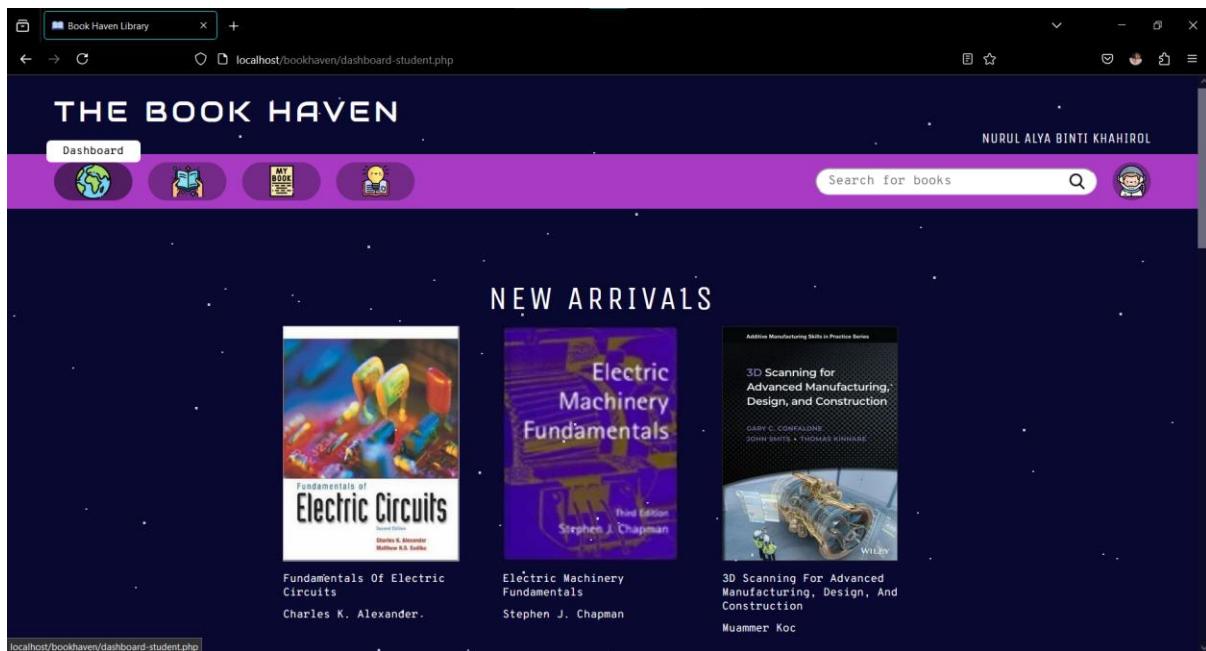


Figure 5: Student Dashboard Page

Displays new arrival books and popular books.

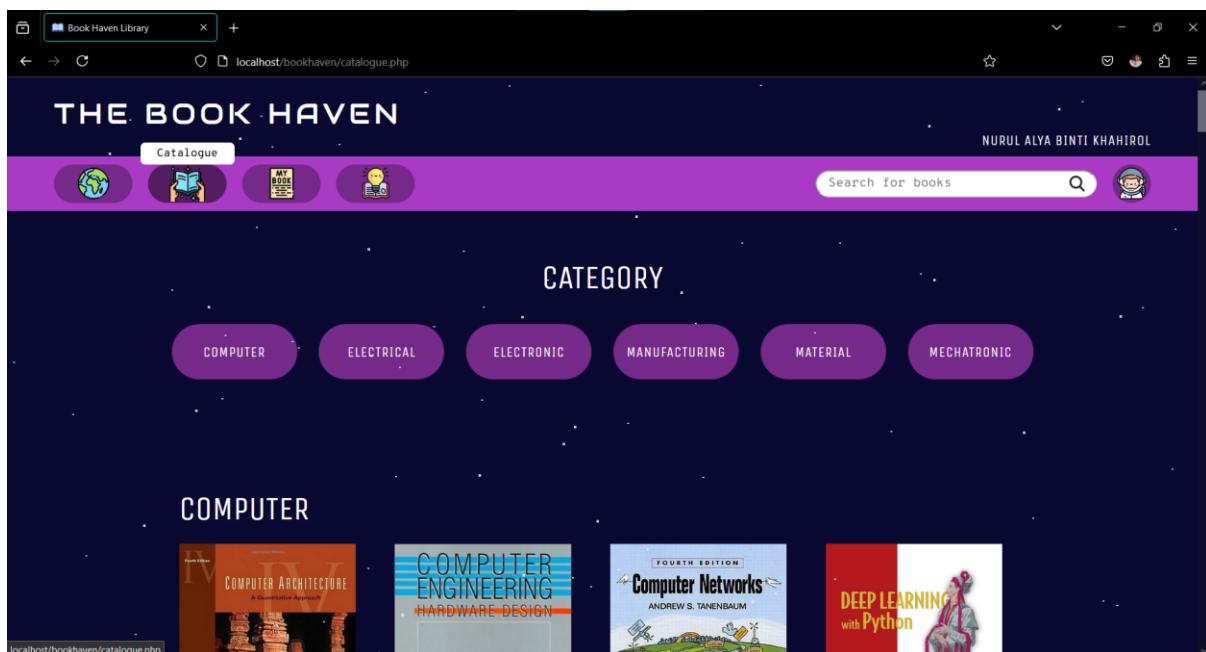


Figure 6: Catalogue Page

Displays all available books and categories. Pressing the category button will scroll to the selected category. If a book is chosen, it will bring students to the book details page. Student can also search for books. Student can press the top button in the bottom right corner to scroll back to the top of the page.

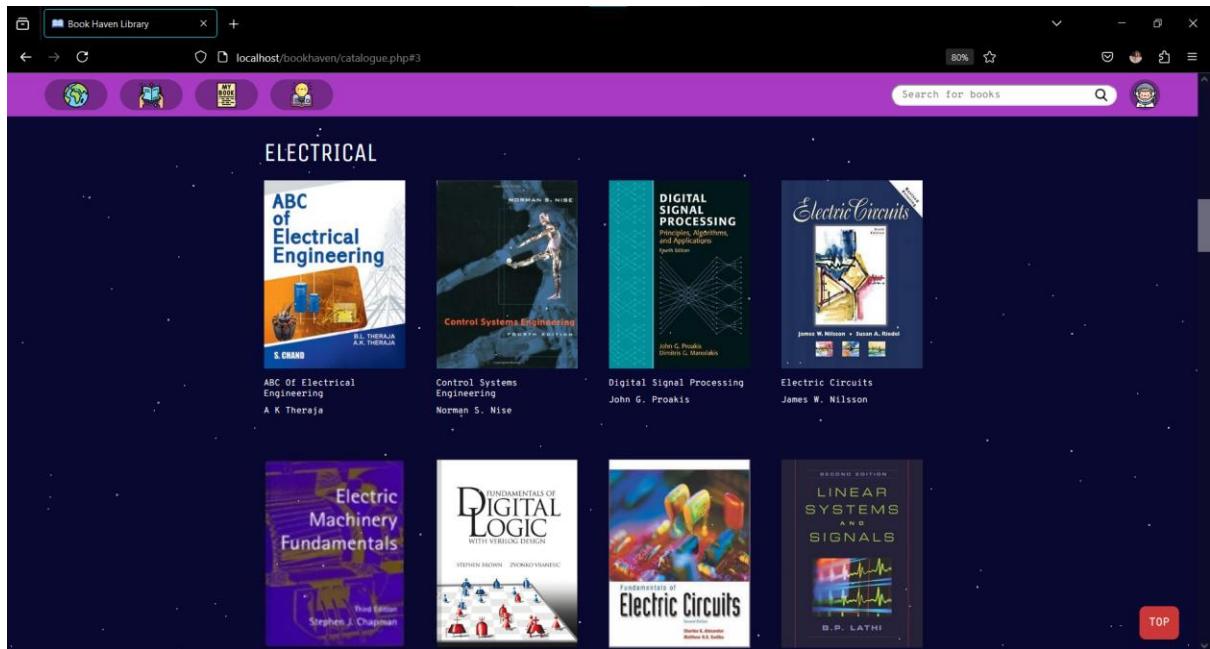


Figure 6.1: Catalogue Page

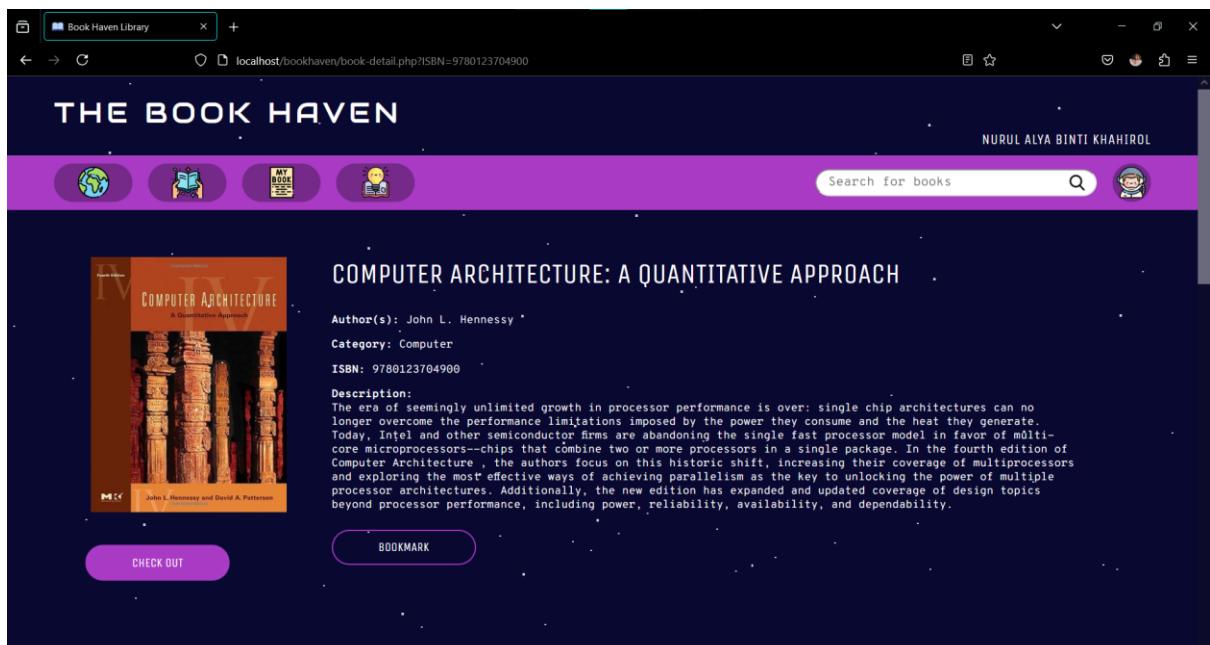
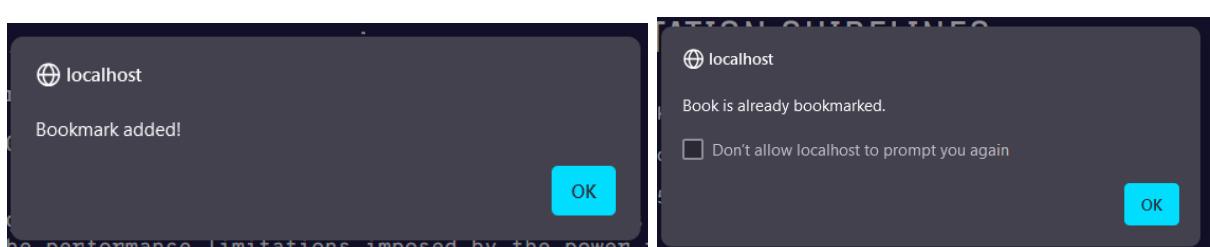


Figure 7: Book Detail Page

Book details page displays book title, author, category, ISBN and description of the selected book.

Student can either bookmark and check out book. System will check if the book is bookmarked or not and if book is already checked out by sending popup messages.



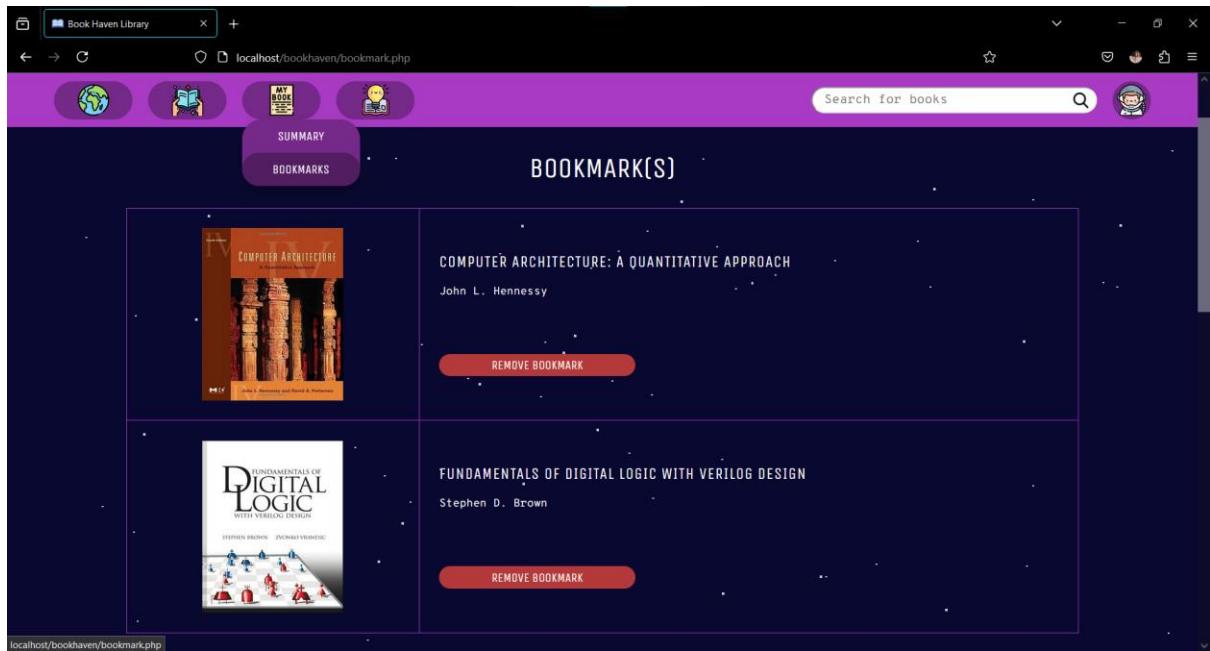
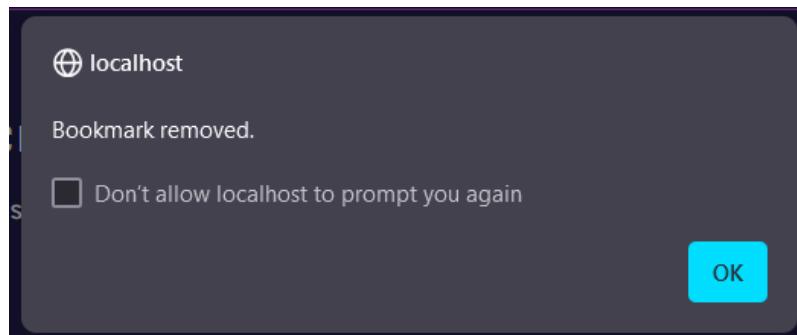


Figure 8: Bookmark Page

Student can view and delete available bookmarks. Popup messages will confirm if bookmark is deleted.



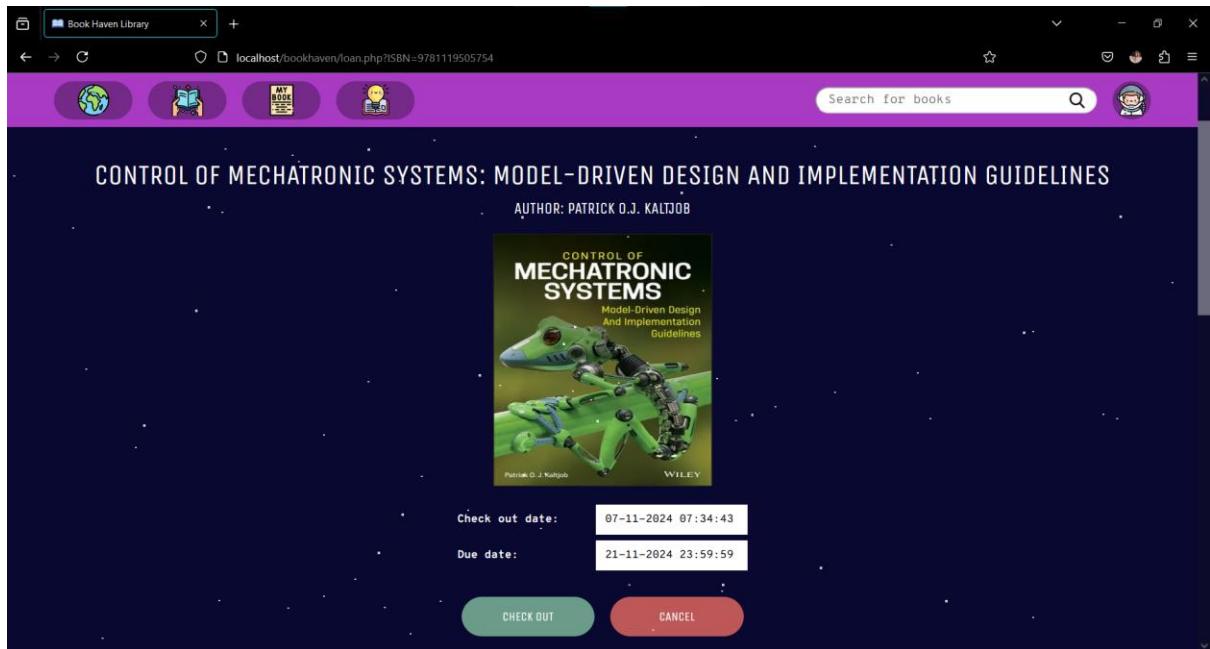


Figure 9: Check Out Page

Student can view check out details, which is checkout date, due date, book title and author and then confirm or cancel check out. Pressing the “check out” button will bring students to the receipt page.

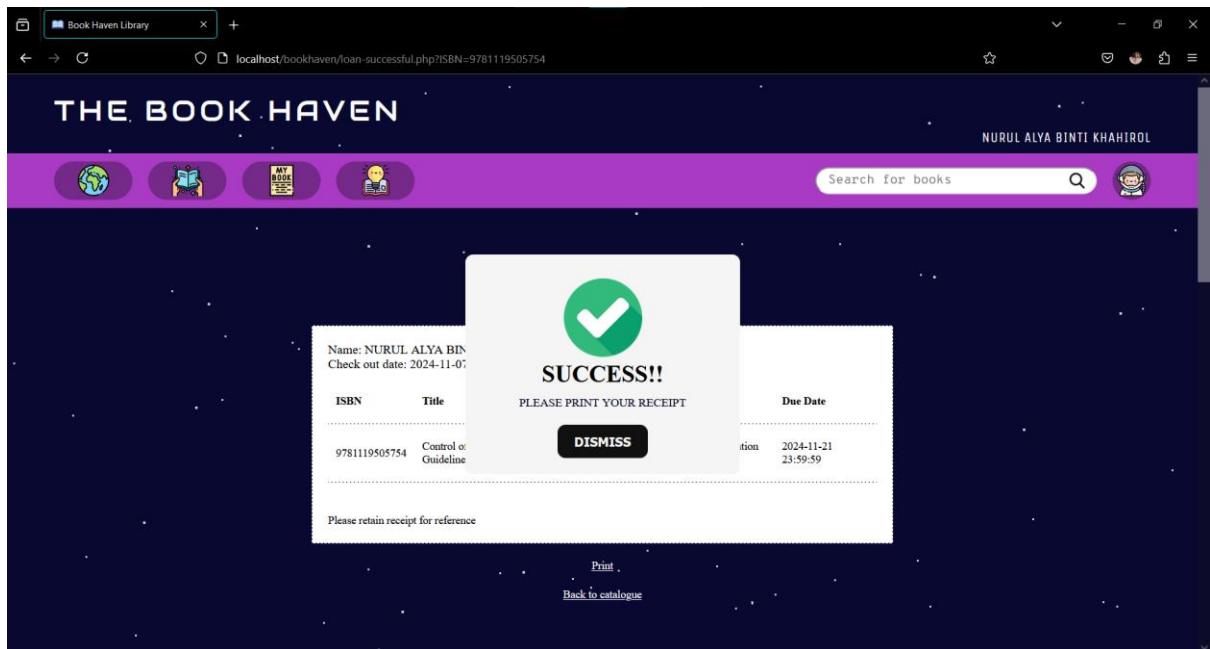


Figure 10: Receipt Page

If checkout is successful, popup will appear and student can print receipt or go back to catalogue. Receipt will display all the details, including student name, check-out date, book ISBN, title and due date.

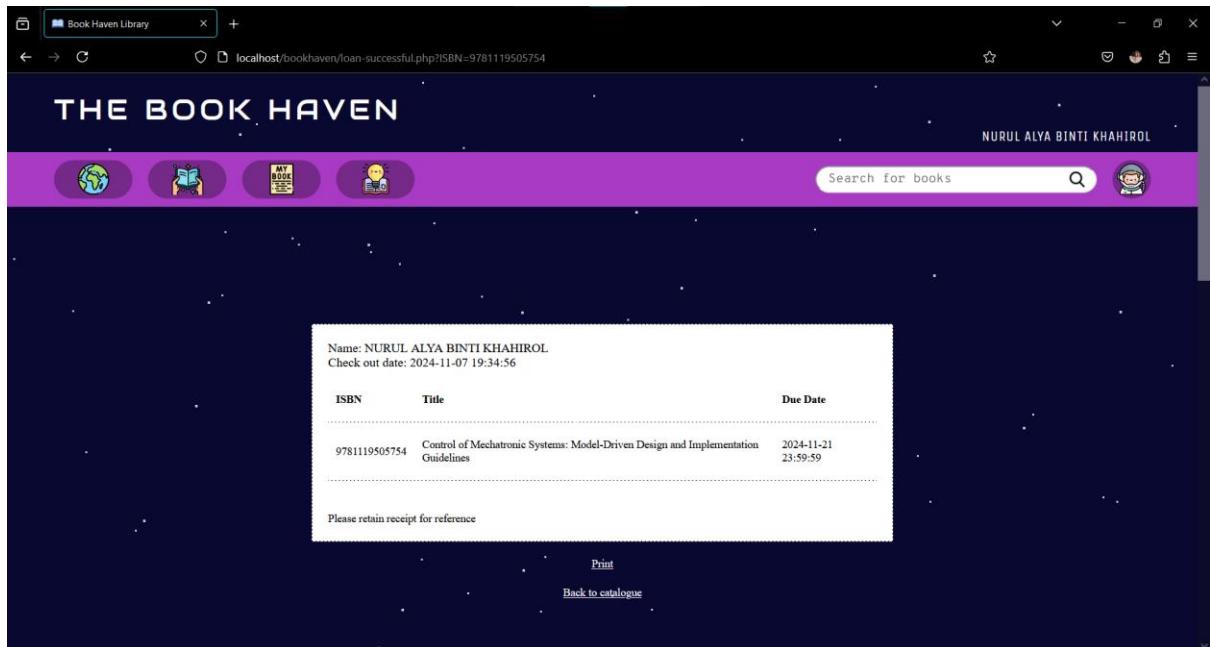


Figure 10.1: Receipt Page

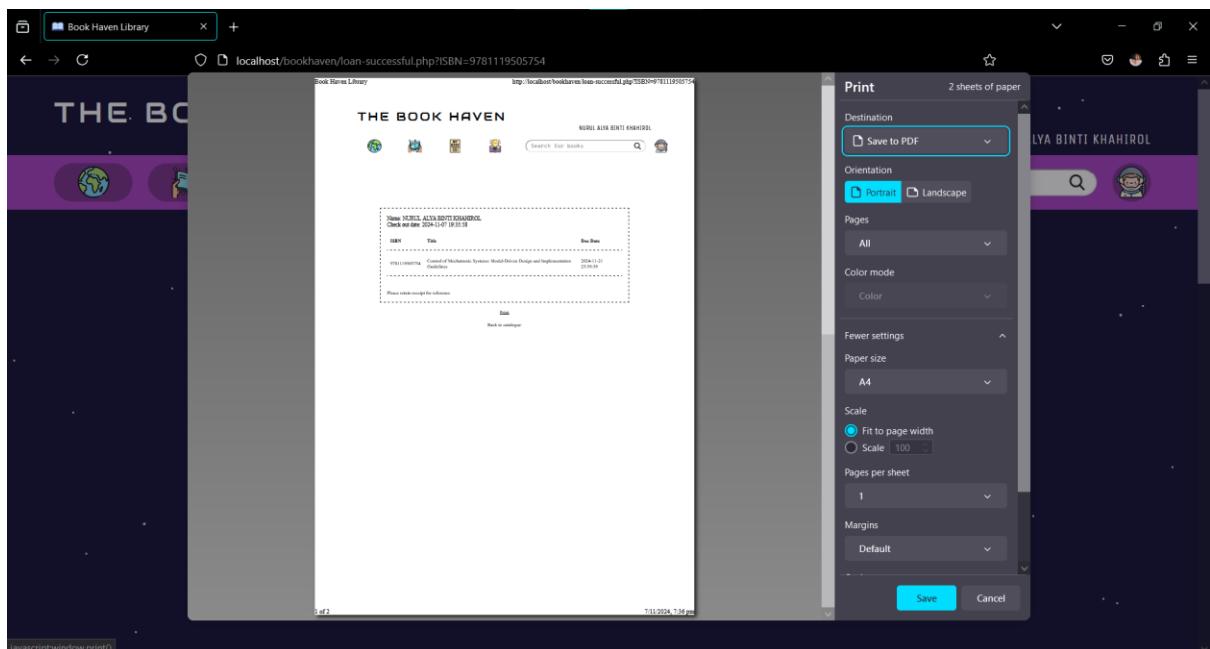


Figure 10.2: Print Receipt Command

The screenshot shows the 'SUMMARY' page of the Book Haven Library. At the top, there are four icons: a globe, a person reading, a book, and a speech bubble. Below them are two buttons: 'SUMMARY' (highlighted in pink) and 'BOOKMARKS'. A search bar with placeholder text 'Search for books' and a magnifying glass icon is positioned at the top right. The user's name, 'NURUL ALYA BINTI KHAHIROL', is displayed. The main content area is titled 'SUMMARY' and contains a table with six columns: TITLE, AUTHOR, DUE DATE, STATUS, and FINE. The table lists three books:

	TITLE	AUTHOR	DUe DATE	STATUS	FINE
	Control of Mechatronic Systems: Model-Driven Design and Implementation Guidelines	Patrick O.J. Kaltjob	2024-11-21 23:59:59	NOT RETURNED	RM 0
	Fundamentals Of Biochemistry	Destin Heilman	2024-10-31 23:59:59	NOT RETURNED	RM 7
	Introduction To Algorithms	Thomas H. Cormen	2024-11-07 19:47:18	RETURNED	RM 0

Figure 11: Summary Page

This page displays all the books that the user has checked out and returned. It will also calculate all the fines if the book is not returned on the due date.

The screenshot shows the 'SEARCH RESULTS FOR 'PROGRAMMING'' page. The search term 'programming' is entered in the search bar. The results section displays two book covers:

- The C Programming Language** (SECOND EDITION) by Brian W. Kernighan and Dennis M. Ritchie. The cover features a large blue 'C' with 'ANSI C' written on it.
- The C++ Programming Language** (SPECIAL EDITION) by Bjarne Stroustrup. The cover features a green 'C++' logo.

Figure 12: Book Search Page

This page will display the search results from user input. It can search for ISBN, book title and author name.

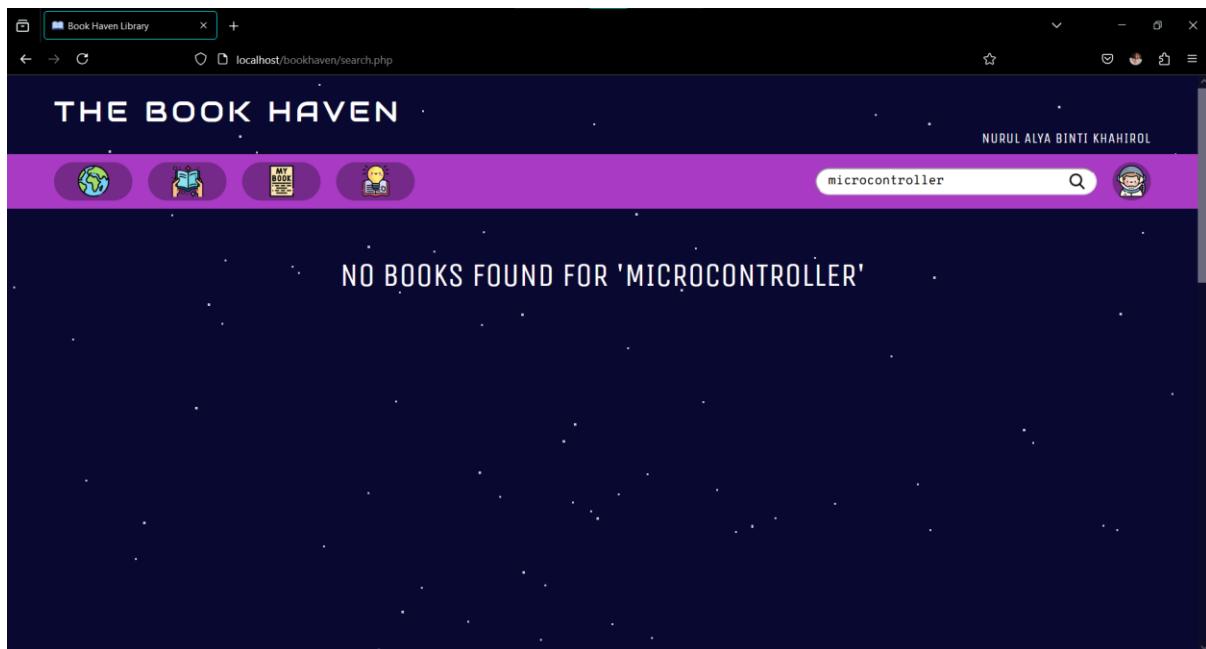


Figure 12.1: Book Search Page

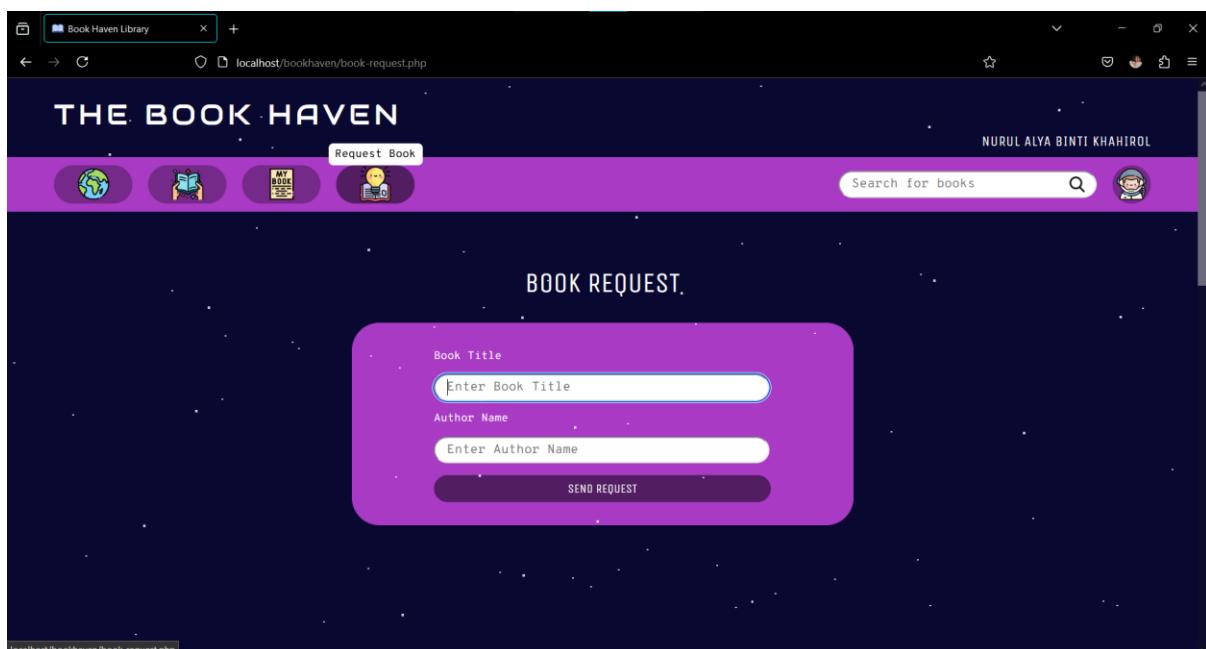
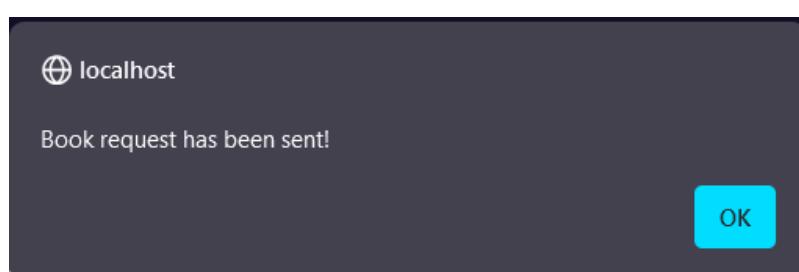


Figure 13: Book Request Page.

Student can request for books on this page if the book they want is not available. Student enters book title and author name. Popup message will tell if the request is sent or not.



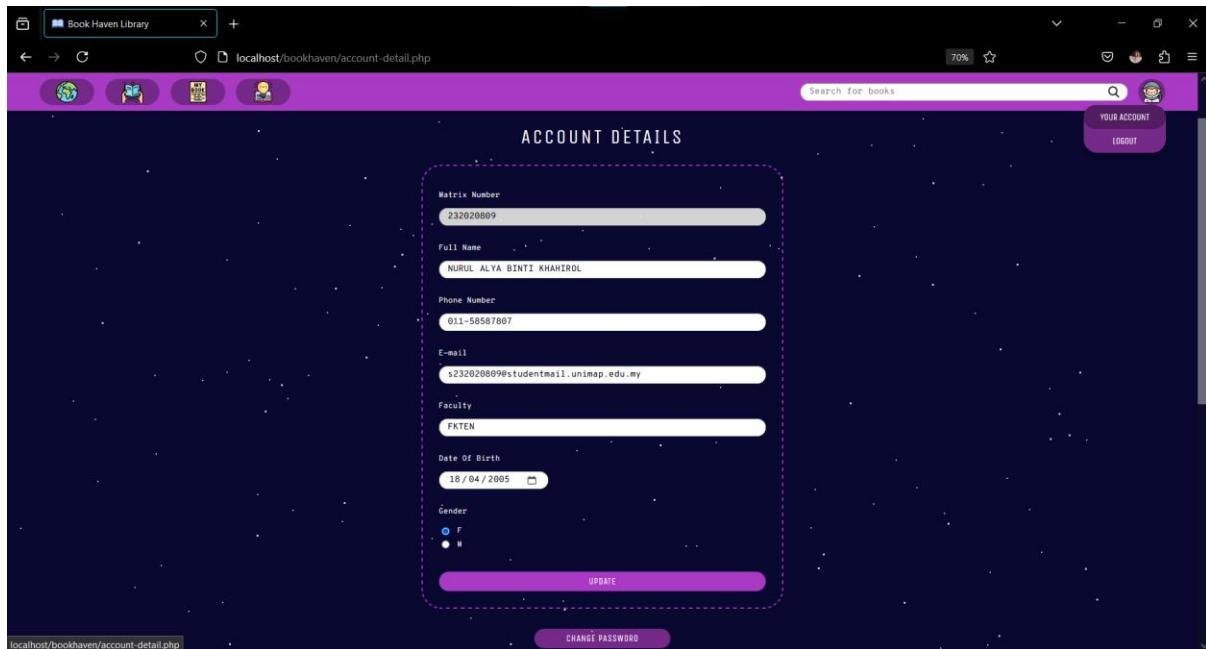
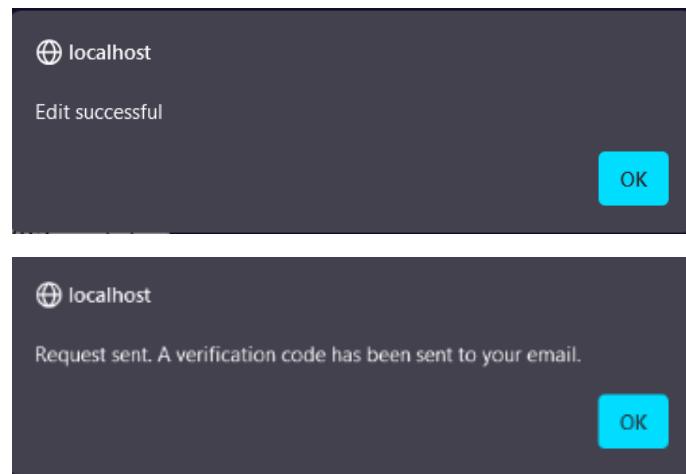


Figure 14: Account Details page

Student can update account details on this page, except matrix number. Popup message will tell if the edit is successful. Student can also change password by clicking the “change password” button. If “change password” button is clicked, a verification code will be sent to the student’s email as a security feature. It will bring you to the verification code to confirm password change.



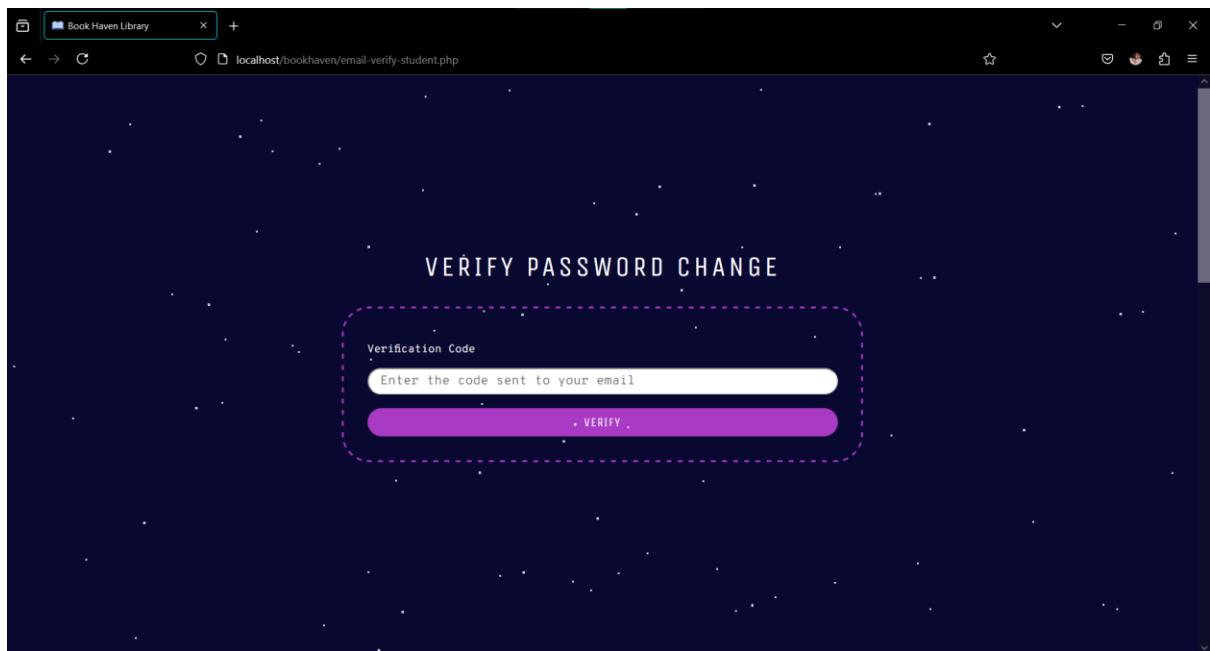


Figure 15: Veirfy Password Change Page

Student needs to enter the correct code to change their password. Popup will tell if the code entered is correct or not.

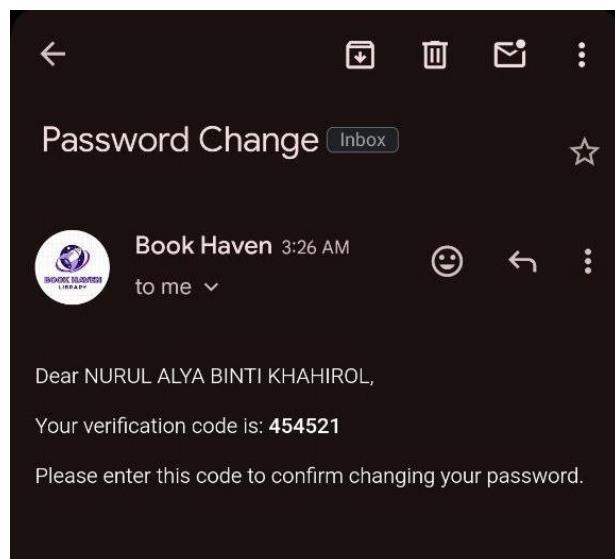
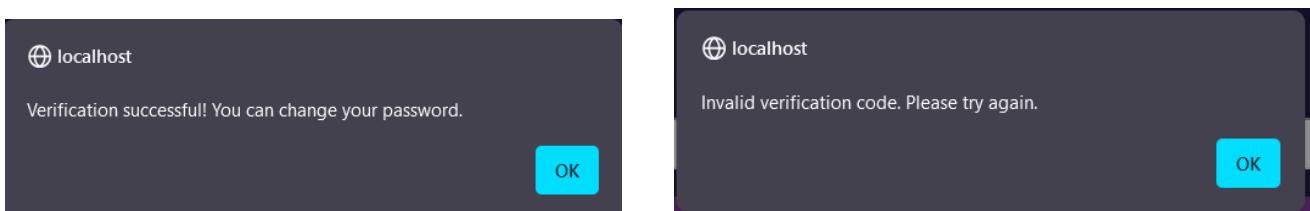


Figure 15.1: Verification Code Sent To Student's Email



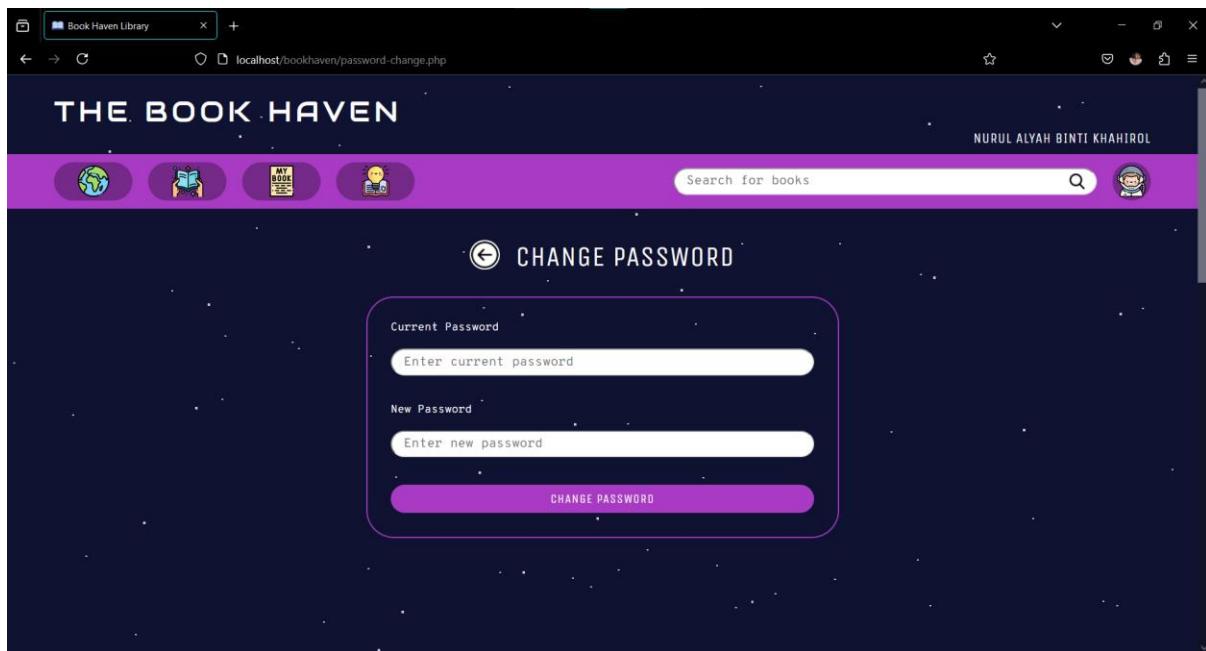
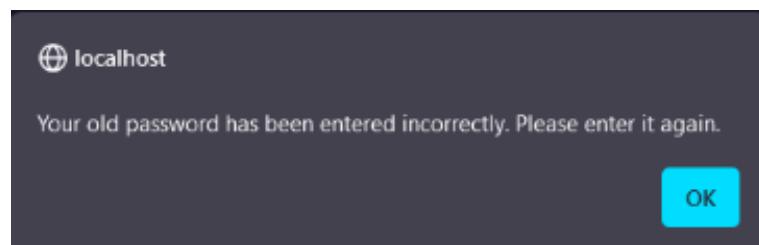
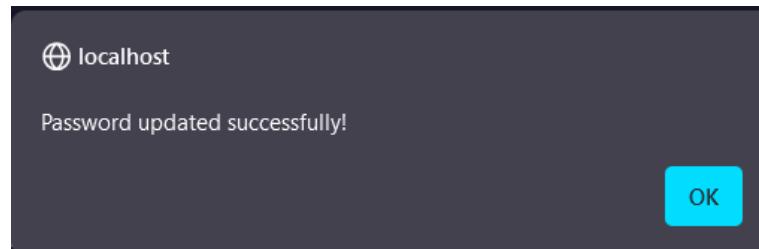


Figure 16: Change Password Page

Student needs to enter the correct current password to change the password. Popup message will tell if the current password is incorrect or not. Student also needs to create a password that is atleast 8 characters long.



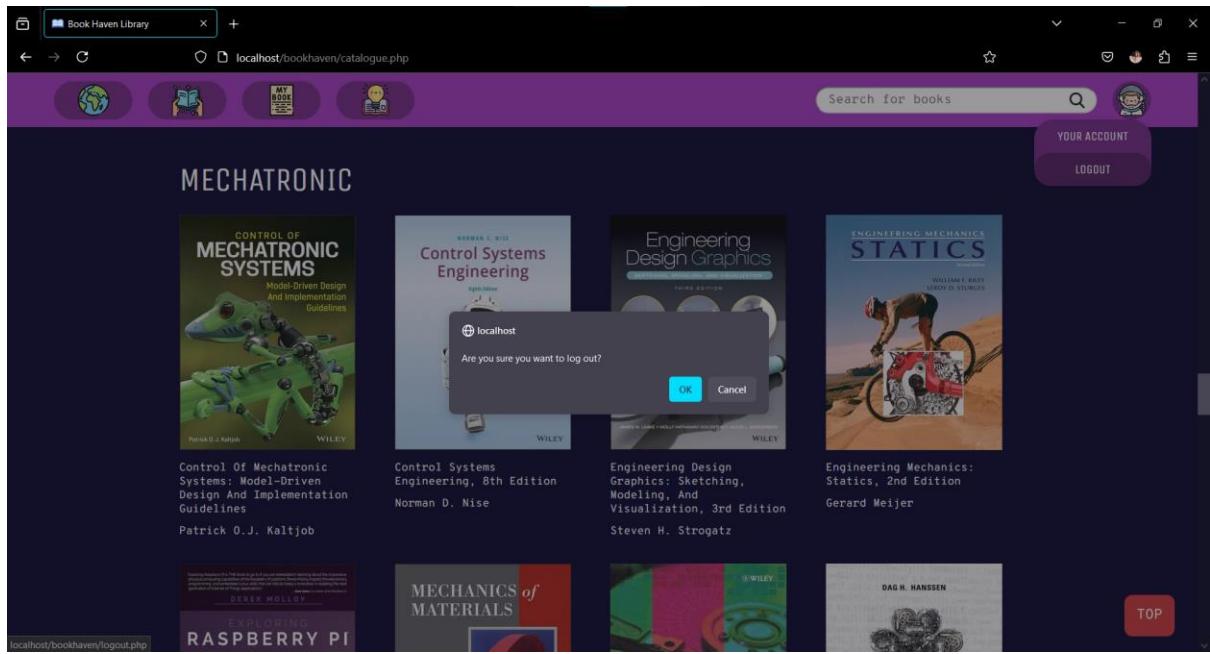


Figure 17: Log out Popup

Student has to confirm if they want to log out or not.

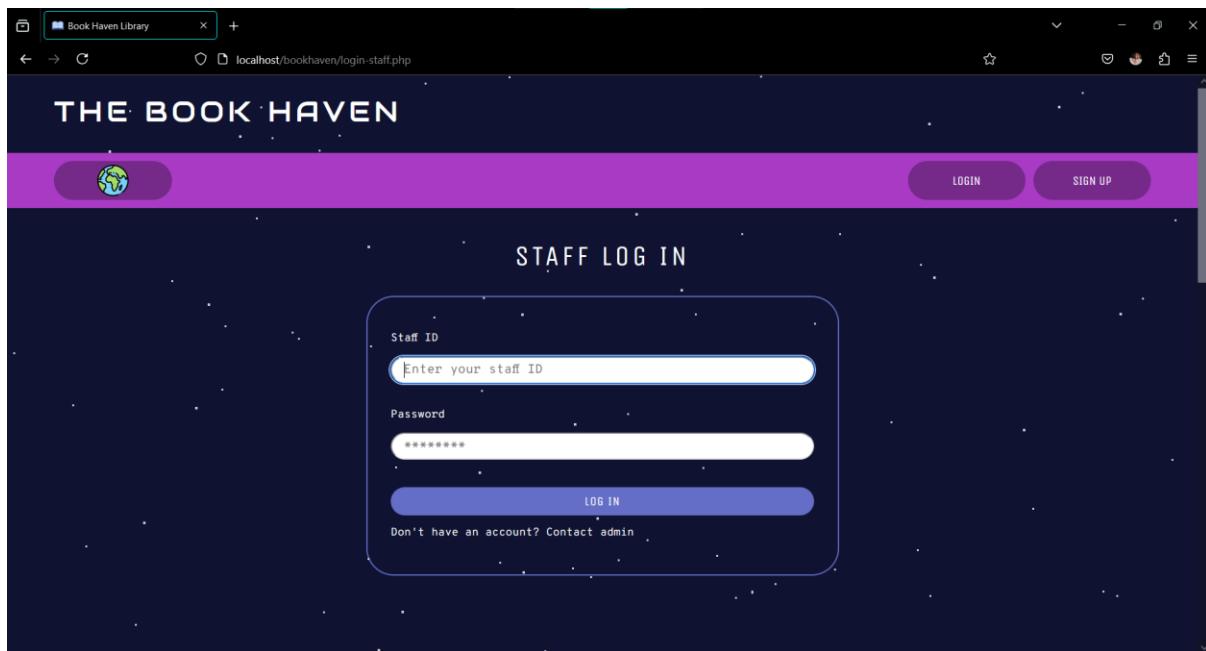
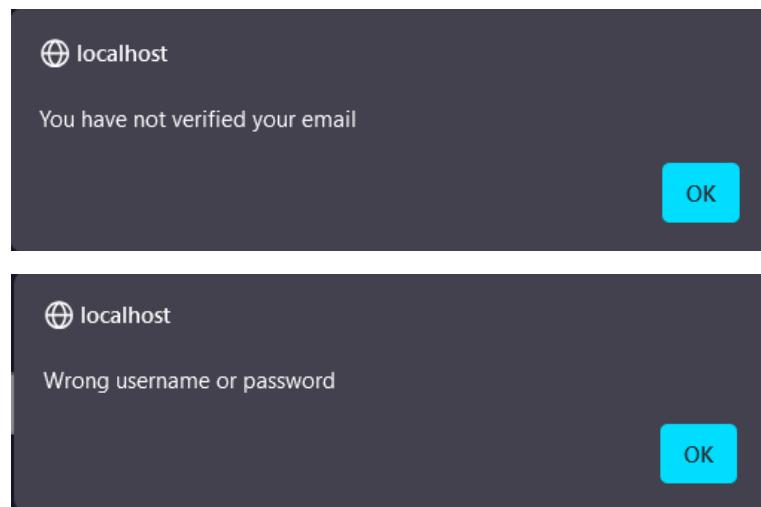


Figure 18: Staff Login Page

Staff and admin login through this page and they need to enter the correct login information. It is the same as student where the email needs to be verified in order to login. Staff will be redirected to staff dashboard and admin will be redirected to admin dashboard.



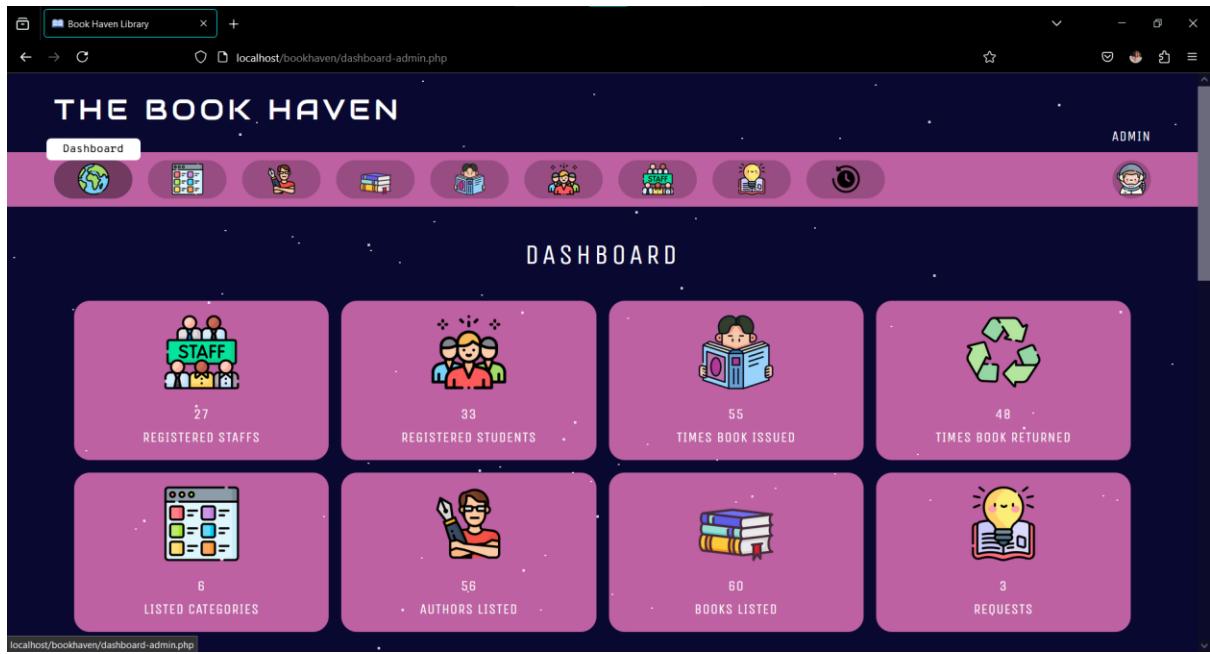


Figure 19: Admin dashboard Page

Admin dashboard displays all the data. Admin has full access. It displays users, books, authors, categories and requests. Admin can click the pictures to go to the selected page. Each number corresponds to the number of data in the database.

#	CATEGORY NAME	CREATION DATE	UPDATION DATE	ACTION
1	Computer	2023-07-31 16:00:00	2024-11-05 16:39:09	<a href="#">EDIT</a> <a href="#">DELETE FOREVER</a>
2	Electrical	2023-07-31 16:00:00	2024-11-04 18:29:44	<a href="#">EDIT</a> <a href="#">DELETE FOREVER</a>
3	Electronic	2023-07-31 16:00:00	.	<a href="#">EDIT</a> <a href="#">DELETE FOREVER</a>
4	Fiction	2024-11-08 03:32:36	2024-11-08 03:32:40	<a href="#">RECOVER</a> <a href="#">DELETE FOREVER</a>
5	Manufacturing	2023-07-31 16:00:00	.	<a href="#">EDIT</a> <a href="#">DELETE FOREVER</a>
6	Material	2023-07-31 16:00:00	.	<a href="#">EDIT</a> <a href="#">DELETE FOREVER</a>
7	Mechatronic	2023-07-31 16:00:00	.	<a href="#">EDIT</a> <a href="#">DELETE FOREVER</a>
8	Non-Fiction	2024-11-07 21:48:04	2024-11-07 21:48:39	<a href="#">RECOVER</a> <a href="#">DELETE FOREVER</a>

Figure 20: Manage Category Page

Staff can choose to add, edit, delete, search and print category on this page. Each action is accompanied by a popup message. Admin can also recover data deleted by staff.

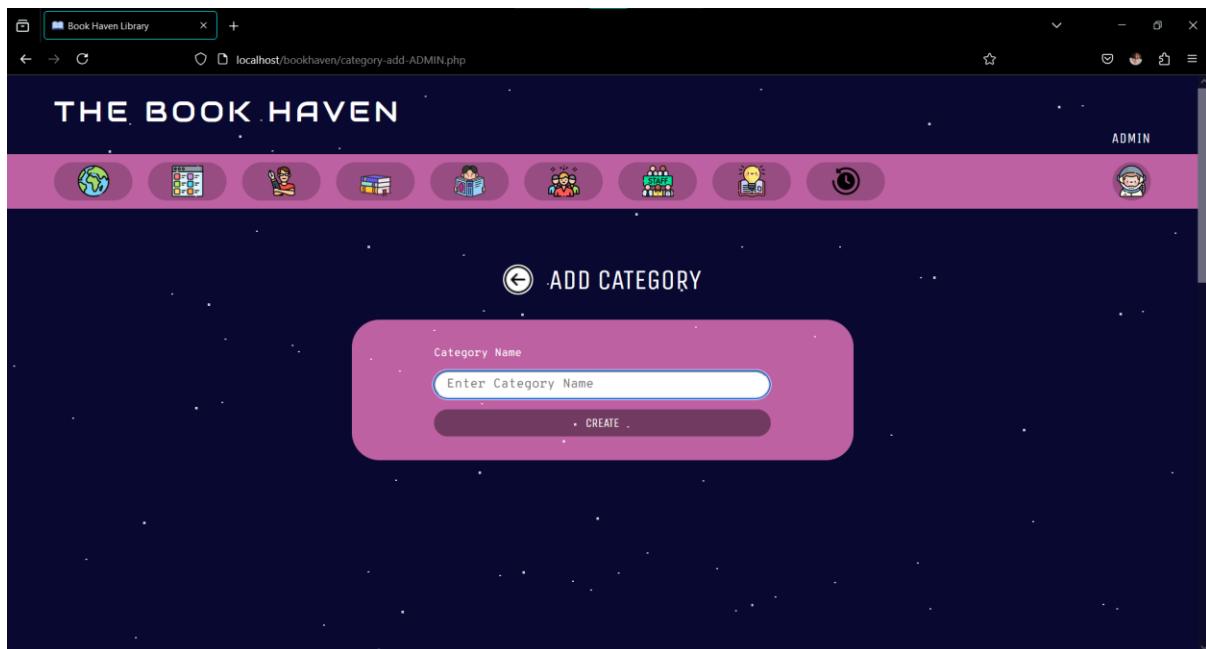


Figure 20.1: Add Category Page

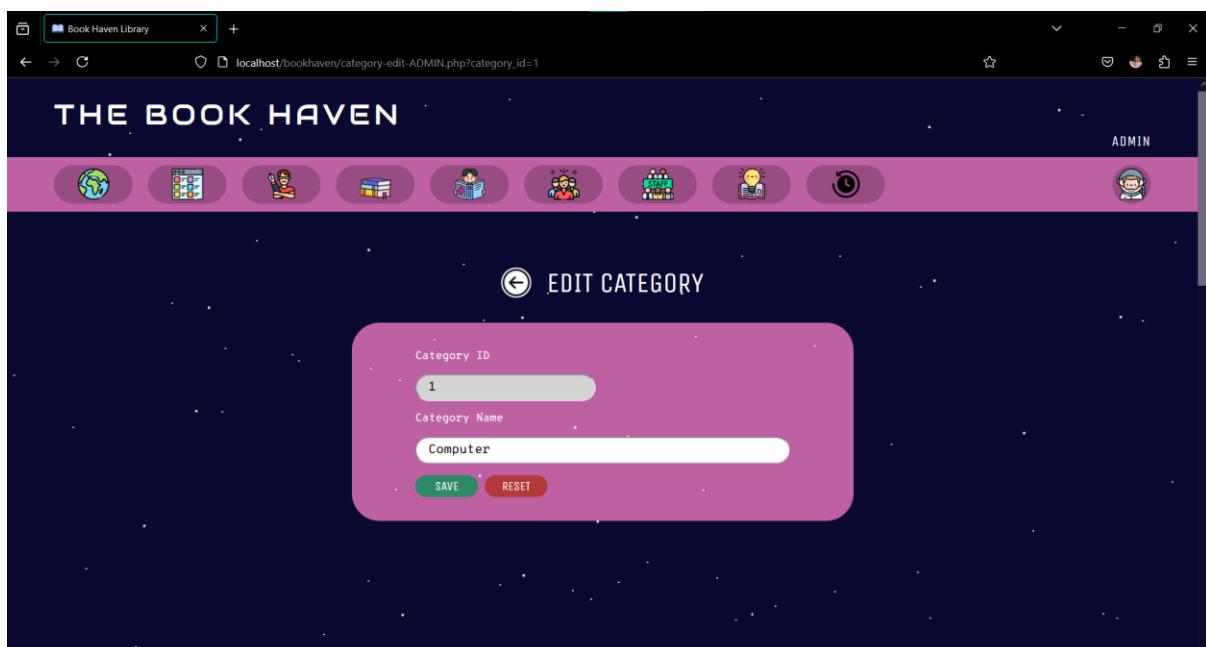


Figure 20.1: Edit Category Page

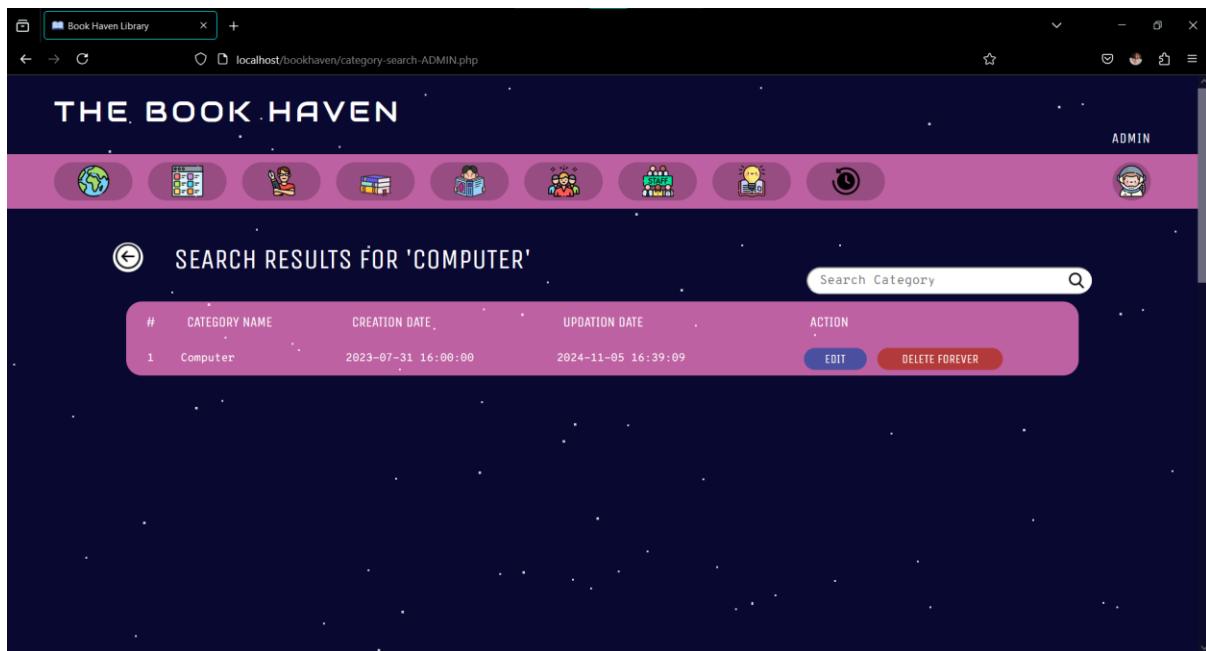


Figure 20.2: Search Results for Category Page

The screenshot shows a web browser window titled "Book Haven Library" with the URL "localhost/bookhaven/category-print.php". The title bar includes standard icons for minimize, maximize, and close. Below the title bar is a dark header with the text "CATEGORY LIST" and a "PRINT" button. The main content area has a white background with a table titled "CATEGORY LIST". The table contains the following data:

#	CATEGORY NAME	CREATION DATE	UPDATION DATE
1	Computer	2023-07-31 16:00:00	2024-11-05 16:39:09
2	Electrical	2023-07-31 16:00:00	2024-11-04 18:29:44
3	Electronic	2023-07-31 16:00:00	
4	Manufacturing	2023-07-31 16:00:00	
5	Material	2023-07-31 16:00:00	
6	Mechatronic	2023-07-31 16:00:00	

Figure 20.3: Print Category List Page

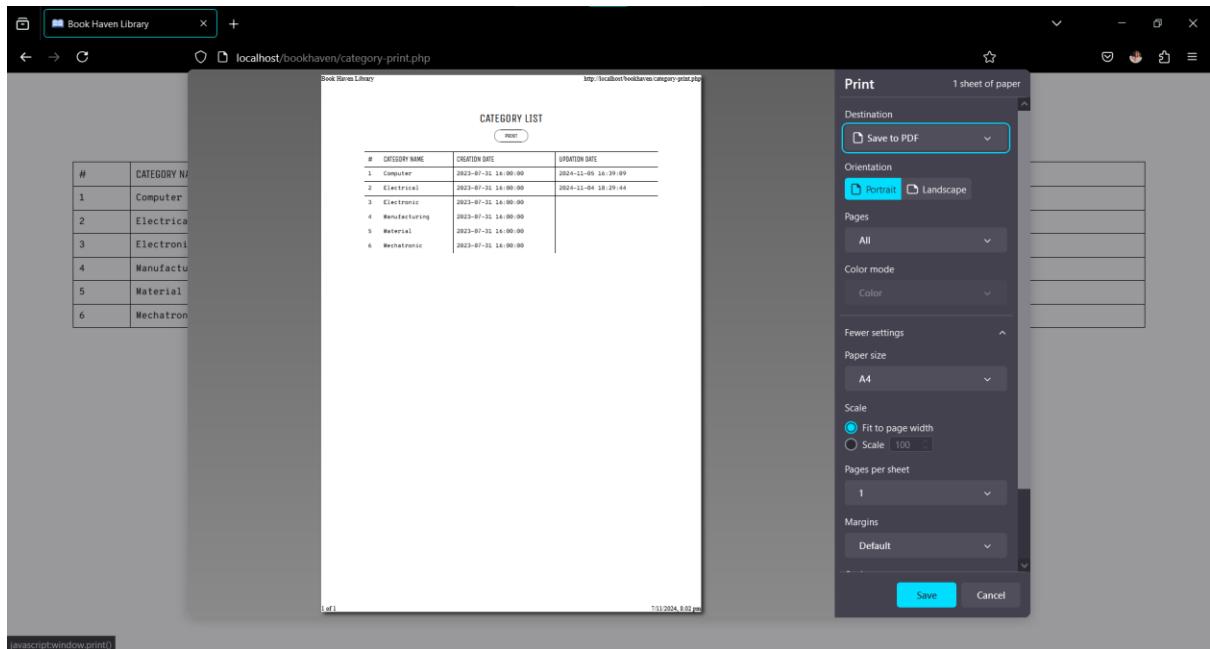


Figure 20.4: Print Command Page

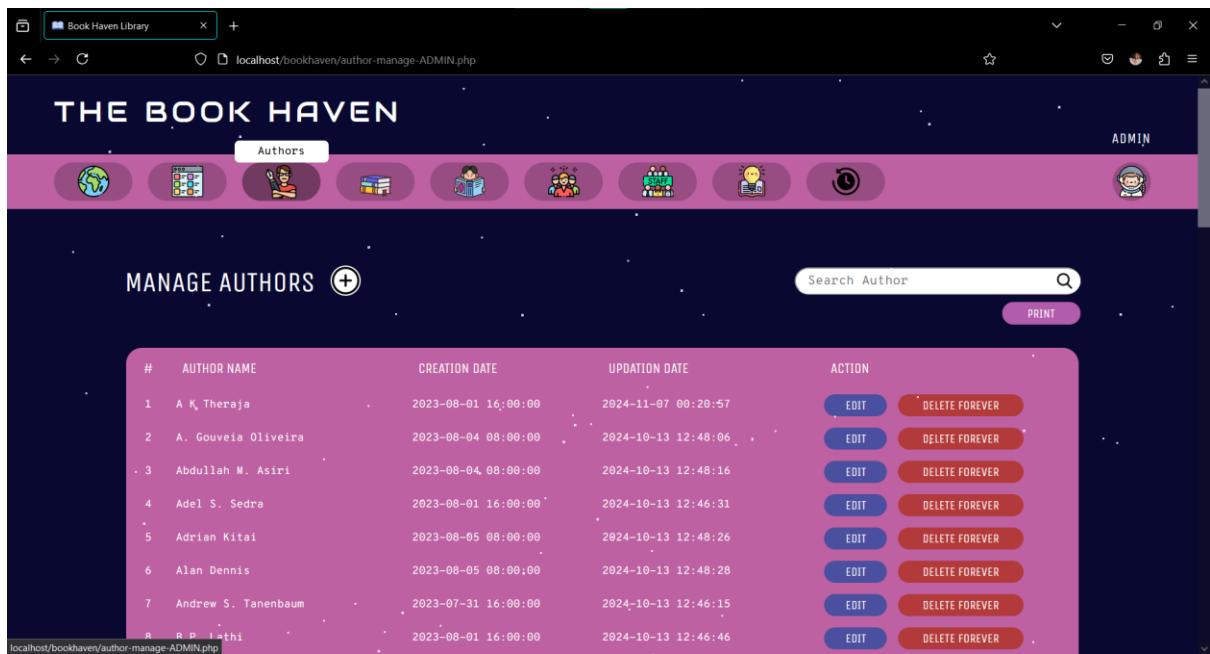


Figure 21: Manage Author Page

Staff can choose to add, edit, delete, search and print author on this page. Each action is accompanied by a popup message.

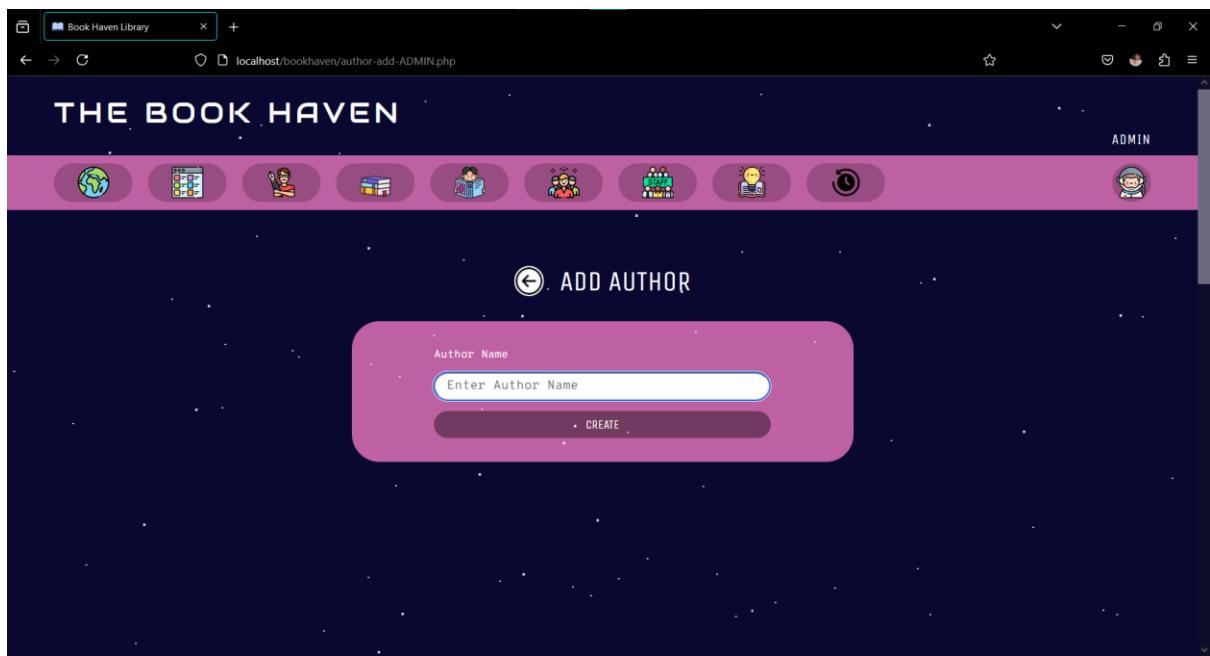


Figure 21.1: Add Author Page

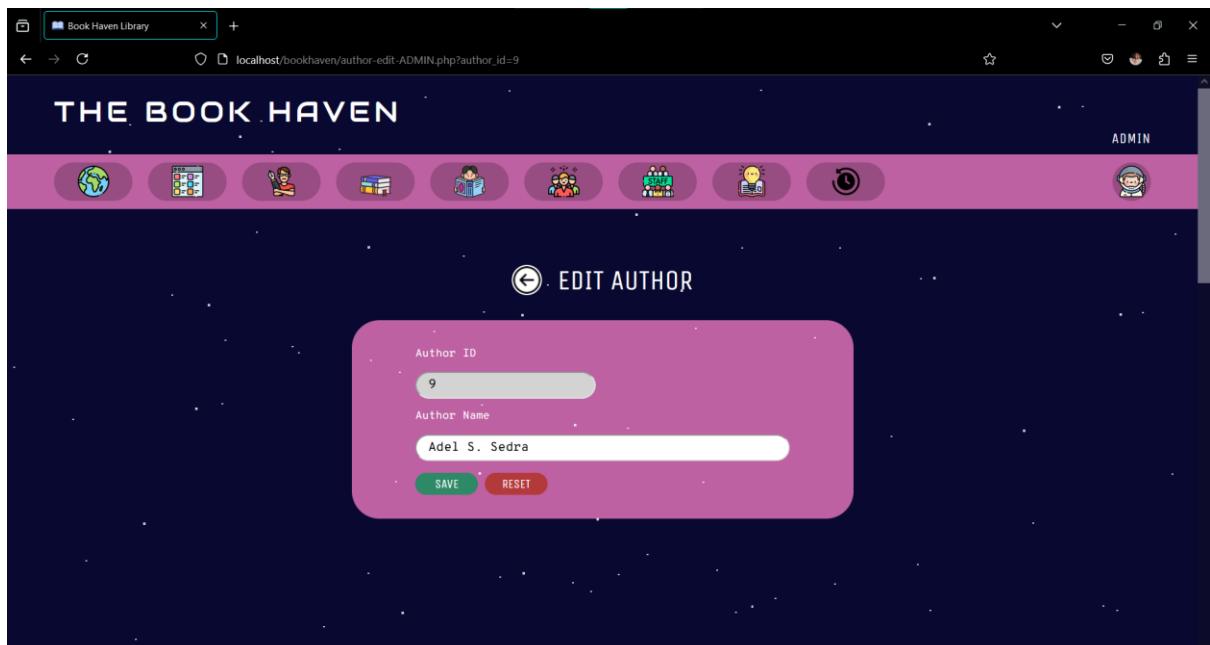


Figure 21.2: Edit Author Page

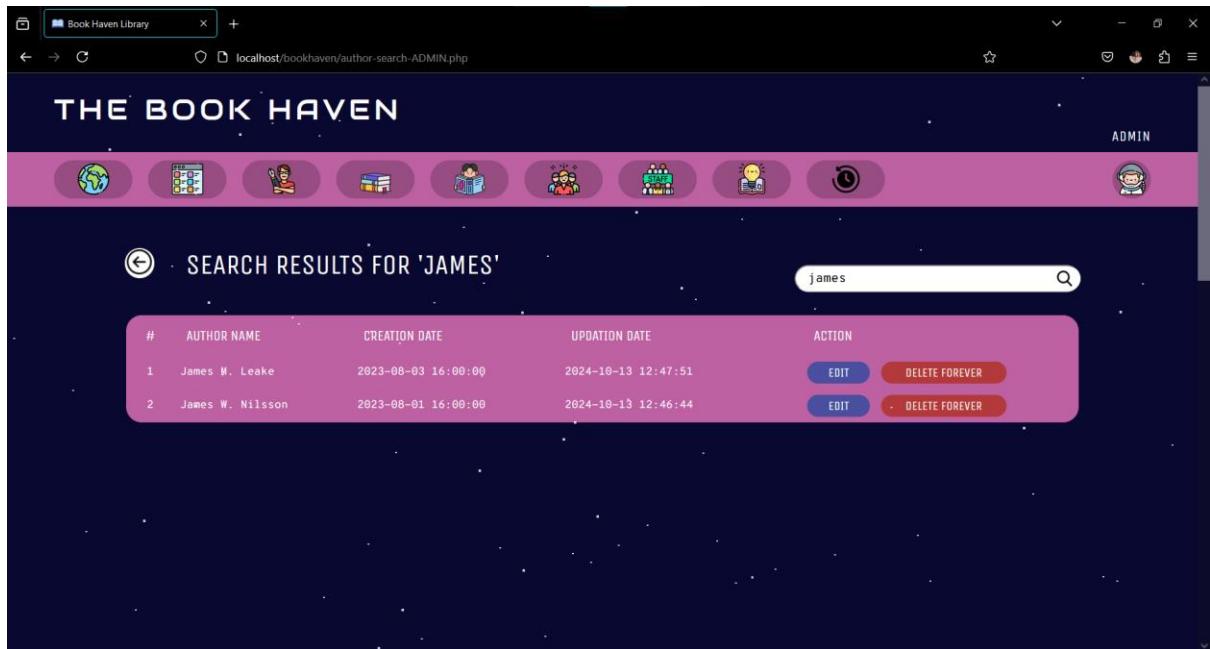


Figure 21.3: Add Author Page

The screenshot shows the 'THE BOOK HAVEN' Admin interface displaying the 'AUTHOR LIST'. At the top, there's a 'PRINT' button. A table lists 20 authors with columns: #, AUTHOR NAME, CREATION DATE, and UPDATION DATE. The data is as follows:

#	AUTHOR NAME	CREATION DATE	UPDATION DATE
1	A K Theraja	2023-08-01 16:00:00	2024-11-07 00:20:57
2	A. Gouveia Oliveira	2023-08-04 00:00:00	2024-10-13 12:48:06
3	Abdullah M. Asiri	2023-08-04 00:00:00	2024-10-13 12:48:16
4	Adel S. Sedra	2023-08-01 16:00:00	2024-10-13 12:46:31
5	Adrian Kitai	2023-08-05 00:00:00	2024-10-13 12:48:26
6	Alan Dennis	2023-08-05 00:00:00	2024-10-13 12:48:28
7	Andrew S. Tanenbaum	2023-07-31 16:00:00	2024-10-13 12:46:15
8	B.P. Lathi	2023-08-01 16:00:00	2024-10-13 12:46:46
9	Bjarne Stroustrup	2023-07-31 16:00:00	2024-10-13 12:46:26
10	Brian W. Kernighan	2023-07-31 16:00:00	2024-10-13 12:46:18
11	Charles K. Alexander	2023-08-01 16:00:00	2024-10-13 12:46:37
12	Dag H. Hansen	2023-08-03 16:00:00	2024-10-13 12:47:40
13	David M. Pozar	2023-08-01 16:00:00	2024-10-13 12:46:28
14	Derek Molloy	2023-08-03 16:00:00	2024-10-13 12:47:42
15	Destin Heilman	2023-08-04 00:00:00	2024-10-13 12:47:59
16	Dr. Mohamed E. El-Hawary	2023-08-05 00:00:00	2024-10-13 12:48:31
17	Ehsan Toyserkani	2023-08-02 16:00:00	2024-10-13 12:47:12
18	Ellen Finkelstein	2023-08-02 16:00:00	2024-10-13 12:47:03
19	Francois Chollet	2023-07-31 16:00:00	2024-10-13 12:46:21
20	Friedhelm Kuyppers	2023-08-04 00:00:00	2024-10-13 12:48:04

Figure 21.4: Print Author List Page

Figure 21.5: Print Author List Command

Figure 22: Manage Book Page

Admin can choose to add, edit, delete, search and print book on this page. Each action is accompanied by a popup message.

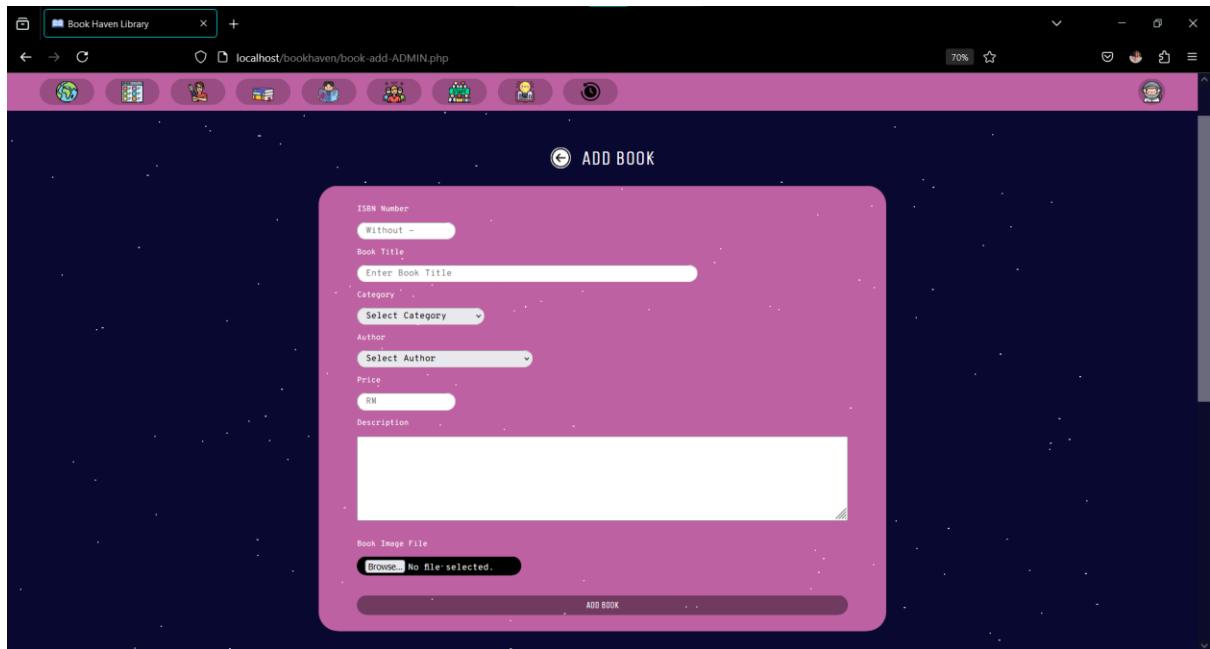


Figure 22.1: Add Book Page

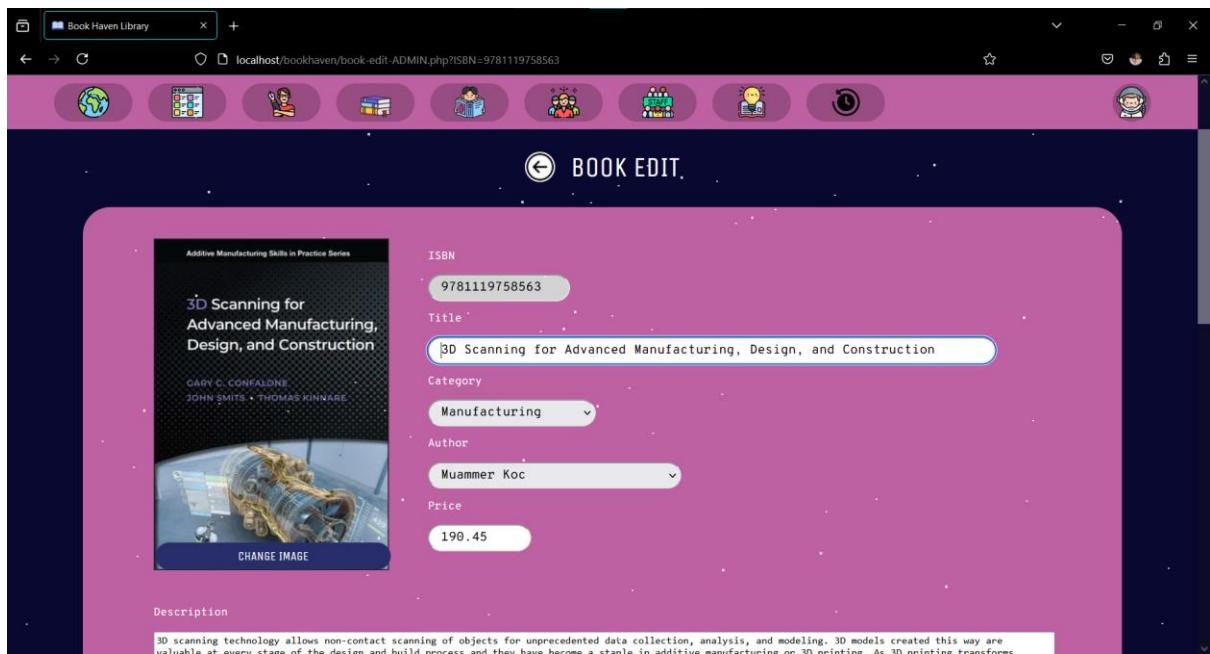


Figure 22.2: Edit Book Page

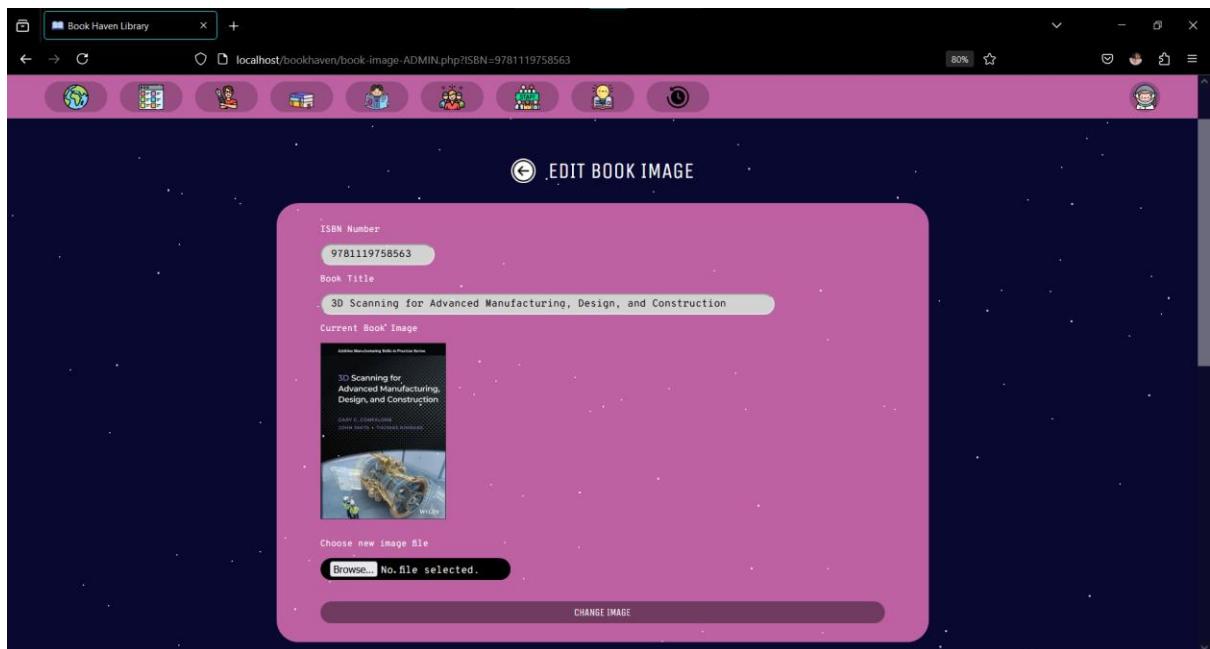


Figure 22.3: Edit Book Image Page

The screenshot shows a web browser window titled 'THE BOOK HAVEN'. The URL in the address bar is 'localhost/bookhaven/book-search-ADMIN.php'. The page has a pink header with various icons and the word 'ADMIN'. The main content area is titled 'SEARCH RESULTS FOR 'PROGRAMMING'' and features a search bar with 'Search Book' and a magnifying glass icon. Below the search bar is a table with two rows of book results:

#	ISBN	BOOK NAME	AUTHOR	CATEGORY	PRICE	ACTION
1	9780131103627	The C Programming Language	Brian W. Kernighan	Computer	RM 70.90	<a href="#">EDIT</a> <a href="#">DELETE FOREVER</a>
2	9780201700732	The C++ Programming Language	Bjarne Stroustrup	Computer	RM 75.50	<a href="#">EDIT</a> <a href="#">DELETE FOREVER</a>

Figure 22.4: Search Results for Book Page

#	STUDENT NAME	ISBN	BOOK TITLE	ISSUED DATE	RETURN DATE	STATUS
1	NURUL ALYA BINTI KHAHIROL	9781119505754	Control of Mechatronic Systems: Model-Driven Design and Implementation Guidelines	2024-11-07 19:34:56	2024-11-21 23:59:59	NOT RETURNED
2	ALIA UMAIRA	9780130621214	Digital Design	2024-11-06 22:22:18	2024-11-20 23:59:59	NOT RETURNED
3	BABAT	9780471448785	Microwave Engineering	2024-11-05 21:23:03	2024-11-19 23:59:59	NOT RETURNED
4	NURUL ALYA BINTI KHAHIROL	9780262032933	Introduction To Algorithms	2024-10-18 19:45:03	2024-11-07 19:47:18	RETURNED
5	MUHAMMAD DINIE BIN ADNAN	9780130621214	Digital Design	2024-01-25 13:27:56	2024-11-05 16:39:44	RETURNED
6	ALIW MUIZ BIN JAILANI	9781119120391	Modern Manufacturing Processes	2023-10-25 12:57:12	2024-11-04 18:56:47	NOT RETURNED

Figure 23: Manage Issued Book Page

Admin can view and change status of book to returned. When “not returned” button is clicked, it will bring admin to the book return page. Admin can also search for students or books and then print the list of issued books. Each action is accompanied by a popup message.

#	STUDENT NAME	ISBN	BOOK TITLE	ISSUED DATE	RETURN DATE	STATUS
1	NURUL ALYA BINTI KHAHIROL	9781119505754	Control of Mechatronic Systems: Model-Driven Design and Implementation Guidelines	2024-11-07 19:34:56	2024-11-21 23:59:59	NOT RETURNED
2	NURUL ALYA BINTI KHAHIROL	9780262032933	Introduction To Algorithms	2024-10-18 19:45:03	2024-11-07 19:47:18	RETURNED
3	NURUL ALYA BINTI KHAHIROL	9781119903482	Fundamentals Of Biochemistry	2024-10-18 19:45:22	2024-10-31 23:59:59	NOT RETURNED

Figure 23.1: Search Results for Issued Books Page

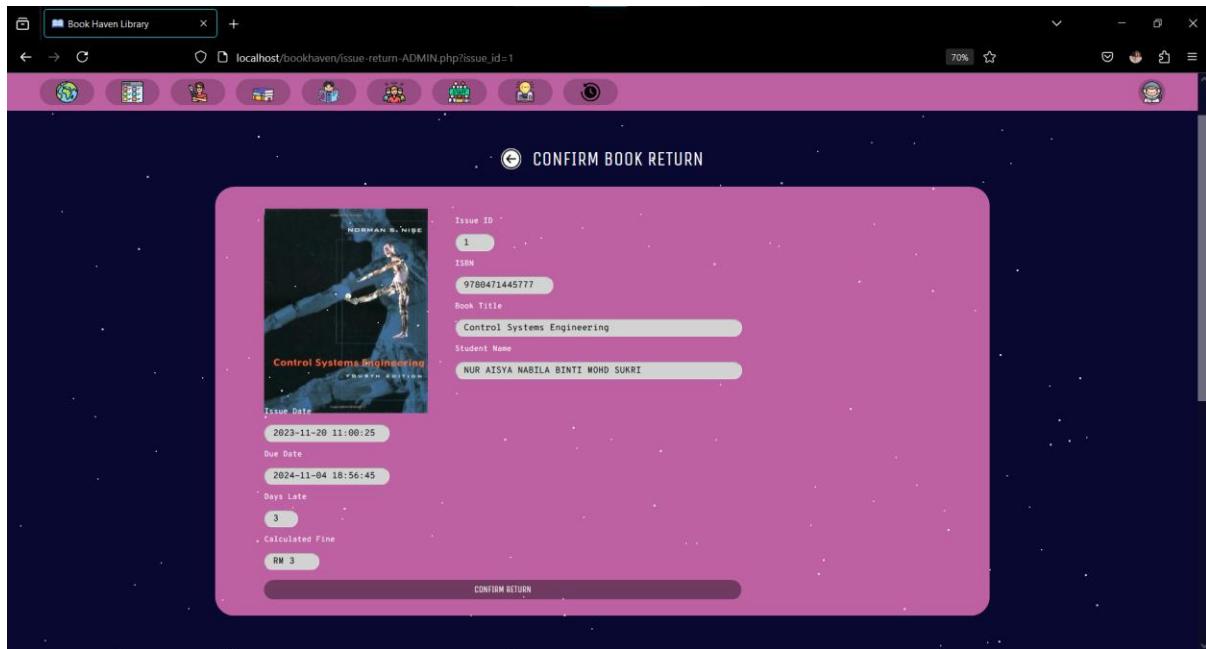


Figure 23.2: Book Return Page

ISSUE LIST						
	STUDENT NAME	BOOK TITLE	ISBN	ISSUED DATE	RETURN DATE	STATUS
1	BABAT	Microwave Engineering	9780471448785	2024-11-05 21:23:03	2024-11-19 23:59:59	NOT RETURNED
2	NUR AISYA NABILA BINTI MOHD SUKRI	Control Systems Engineering	9780471445777	2023-11-20 11:00:25	2024-11-04 18:56:45	NOT RETURNED
3	ALIM MUIZ BIN JAILANI	Modern Manufacturing Processes	9781119120391	2023-10-25 12:57:12	2024-11-04 18:56:47	NOT RETURNED
4	ALIA UMAIRA	Digital Design	9780130621214	2024-11-06 22:22:18	2024-11-20 23:59:59	NOT RETURNED
5	NURUL ALYA BINTI KHAHIROL	Control of Mechatronic Systems: Model-Driven Design and Implementation Guidelines	9781119505754	2024-11-07 19:34:56	2024-11-21 23:59:59	NOT RETURNED
6	NURUL ALYA BINTI KHAHIROL	Fundamentals Of Biochemistry	9781119903482	2024-10-18 19:45:22	2024-10-31 23:59:59	NOT RETURNED
7	NUR AISYA NABILA BINTI MOHD SUKRI	Robotic Process Automation	9781394166930	2023-12-20 00:00:00	2024-01-03 00:00:00	RETURNED
8	NUR AISYA NABILA BINTI MOHD SUKRI	Nonlinear Dynamics And Chaos	9780471876847	2023-12-22 00:00:00	2024-01-05 00:00:00	RETURNED
9	AHMAD ISYRAQ AZEEM NOORHAIZAM	Static and Dynamic Neural Networks: From Fundamentals to Advanced Theory	9780471460923	2023-12-05 15:25:03	2024-10-22 22:06:05	RETURNED
10	MOHAMMAD ARIFF BIN ROSYAM NOR	Computer Engineering: Hardware Design	9780131629264	2024-01-20 00:00:00	2024-02-03 00:00:00	RETURNED
11	MUHAMMAD ALIF BIN DANIEL	The C Programming Language	9780131103627	2023-12-29 10:05:12	2024-01-03 00:00:00	RETURNED
12	ALIM MUIZ BIN JAILANI	Modern Manufacturing Processes	9781119120391	2023-10-25 00:00:00	2023-11-08 00:00:00	RETURNED
13	ALIM MUIZ BIN JAILANI	Modern Manufacturing Processes	9781119120391	2023-11-01 00:00:00	2023-11-15 00:00:00	RETURNED

Figure 23.3: Print Issue List Page

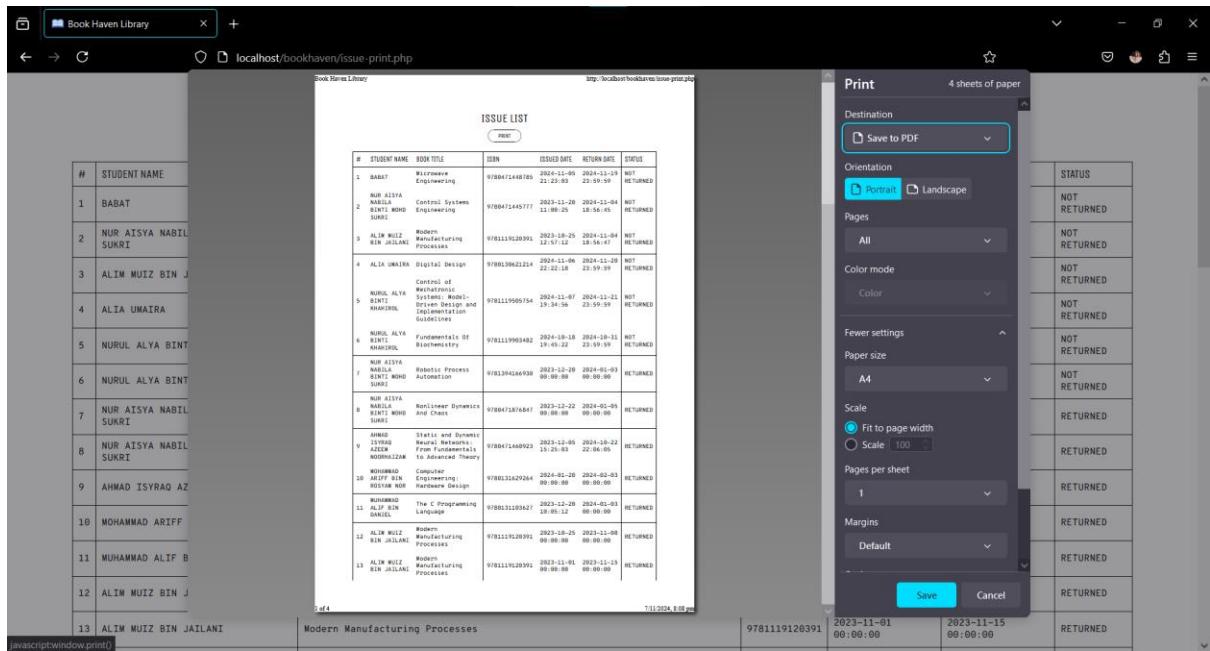


Figure 23.4: Print Issue List Command

#	MATRIX NUMBER	STUDENT NAME	EMAIL	PHONE NUMBER	FACULTY	GENDER	DATE OF BIRTH	REGISTER DATE	ACTION
1	232206476	ACHILLEUS ARTHUR GABRIEL	s232206476@studentmail.unimap.edu.my	010-667 4292	FKTEN	M	2000-04-23	2024-01-04 16:00:00	<button>EDIT</button> <button>DELETE FOREVER</button>
2	232020637	AHMAD ISYRAQ AZEEZ NOORHAIZAM	s232020637@studentmail.unimap.edu.my	016-330 1505	FKTM	M	2004-01-07	2023-12-04 16:00:00	<button>EDIT</button> <button>DELETE FOREVER</button>
3	232020651	ALIA UMaira	m.leorex0@gmail.com	011-16811434	FKTEN	F	2005-08-18	2024-11-06 22:19:26	<button>EDIT</button> <button>DELETE FOREVER</button>
4	202079325	ALIM MUIZ BIN JAILANI	s202079325@studentmail.unimap.edu.my	014-950 1271	FKTE	M	2001-01-01	2023-10-24 08:00:00	<button>EDIT</button> <button>DELETE FOREVER</button>
5	320020694	ALIYA ERINA BINTI ZULKARNAIN	s320020694@studentmail.unimap.edu.my	014-288 6601	FKTM	F	2005-08-17	2023-12-14 16:00:00	<button>EDIT</button> <button>DELETE FOREVER</button>
6	732020641	AMIR AIZAT BIN RAWI	s732020641@studentmail.unimap.edu.my	017-923 8624	FKTE	M	2001-08-12	2023-11-24 16:00:00	<button>EDIT</button> <button>DELETE FOREVER</button>
		AMTRUL HISYAM BIN	s232020651@studentmail.unimap.edu.my	010-866 8951	FKTEN	M	2001-06-18	2023-09-30 16:00:00	<button>EDIT</button> <button>DELETE FOREVER</button>

Figure 24: Manage Registered Students Page

Admin can choose to edit, delete, search and print list of registered students on this page. Each action is accompanied by a popup message.

The screenshot shows a web browser window titled "Book Haven Library" with the URL "localhost/bookhaven/student-search-ADMIN.php". The title bar also displays "THE BOOK HAVEN" and "ADMIN". The main content area is titled "SEARCH RESULTS FOR '232020809'". It features a search bar with the placeholder "Search Student" and a magnifying glass icon. Below the search bar is a "PRINT" button. A table lists student information:

#	MATRIX NUMBER	STUDENT NAME	EMAIL	PHONE NUMBER	FACULTY	GENDER	DATE OF BIRTH	REGISTER DATE	ACTION
1	232020809	NURUL ALYA BINTI KHAHROL	s232020809@studentmail.unimap.edu.my	011-58587807	FKTEN	F	2005-04-18	2024-11-07 19:30:38	<button>EDIT</button> <button>DELETE FOREVER</button>

Figure 24.1: Search Results for Student Page

The screenshot shows a web browser window titled "Book Haven Library" with the URL "localhost/bookhaven/account-detail-student-ADMIN.php?student\_id=232206476". The title bar displays "THE BOOK HAVEN" and "ADMIN". The main content area is titled "STUDENT ACCOUNT DETAIL". It features a form with various input fields:

Matrix Number	232206476
Full Name	ACHILLEUS ARTHUR GABRIEL
Password	J4k4YT73Qw1xb9
Phone Number	019-667 4292
E-mail	s232206476@studentmail.unimap.edu.my
Faculty	FATEN
Date Of Birth	23 / 04 / 2000
Gender	<input type="radio"/> F <input checked="" type="radio"/> M

At the bottom of the form is a pink "UPDATE" button.

Figure 24.2: Edit Student Details Page

Book Haven Library    localhost/bookhaven/student-print.php

STUDENT LIST

PRINT

#	STUDENT ID	NAME	EMAIL	FACULTY	GENDER	PHONE NUMBER	DATE OF BIRTH	REGISTER DATE
1	232206476	ACHILLEUS ARTHUR GABRIEL	s232206476@studentmail.unimap.edu.my	FKTEN	M	010-667 4292	2000-04-23	2024-01-04 16:00:00
2	232020637	AHMAD ISYRAQ AZEEM NOORHAIZAM	s232020637@studentmail.unimap.edu.my	FKTM	M	016-330 1505	2004-01-07	2023-12-04 16:00:00
3	232020651	ALIA UMAIRA	m.leorex08@gmail.com	FKTEN	F	011-16811434	2005-08-18	2024-11-06 22:19:26
4	202079325	ALIM MUIZ BIN JAILANI	s202079325@studentmail.unimap.edu.my	FKTE	M	014-950 1271	2001-01-01	2023-10-24 08:00:00
5	320020694	ALIYA ERINA BINTI ZULKARNAIN	s320020694@studentmail.unimap.edu.my	FKTM	F	014-288 6601	2005-08-17	2023-12-14 16:00:00
6	732020641	AMIR AIZAT BIN RAMLI	s732020641@studentmail.unimap.edu.my	FKTE	M	017-923 8624	2001-08-12	2023-11-24 16:00:00
7	232020650	AMIRUL HISYAM BIN MUHAMMAD	s232020651@studentmail.unimap.edu.my	FKTEN	M	010-866 8951	2001-06-18	2023-09-30 16:00:00
8	232020714	AMMAR HAKIM BIN MAT SAHRI	s232020714@studentmail.unimap.edu.my	FKTE	M	017-266 3691	2003-07-05	2023-10-04 16:00:00
9	770202023	ARISA NURAILI BINTI HASMI	s770202023@studentmail.unimap.edu.my	FKTEN	F	018-627 9673	2004-02-09	2023-11-30 08:00:00
10	622020645	AZAMUDDIN ARSHAD ARIFIN	s622020645@studentmail.unimap.edu.my	FKTEN	M	018-691 8593	2006-02-03	2023-12-29 16:00:00
11	12344	BABAT	s232020793@studentmail.unimap.edu.my	FKTEN	F	01112345	2005-05-18	2024-11-05 21:20:59
12	232323	BABAT	babat2@gmail.com	FKTEN	F	01112345	2005-09-24	2024-11-05 21:18:45
13	872020732	DANIEL ANAS ISKANDAR BIN MOHD KAMIL	s872020732@studentmail.unimap.edu.my	FKTE	M	016-563 3378	2004-07-06	2023-12-31 08:00:00
14	232020698	FAARAH IRWANI BINTI ADENAN	s232020698@studentmail.unimap.edu.my	FKTE	F	012-234 2441	2005-09-08	2023-11-29 16:00:00
15	232020664	HARITH HAikal BIN DINIE	s232020664@studentmail.unimap.edu.my	FKTM	M	011-381 1287	2004-03-07	2024-01-09 16:00:00
16	232020642	MOHAMMAD ARIFF BIN ROSYAM NOR	s232020642@studentmail.unimap.edu.my	FKTE	M	019-254 0759	2006-07-06	2023-01-19 16:00:00
17	232020701	MUHAMMAD AIREEL NAUFAL BIN FARIZUAN	s232020701@studentmail.unimap.edu.my	FKTE	M	011-264 7133	2002-06-07	2024-01-31 16:00:00
18	232020655	MUHAMMAD ALIF BIN DANIEL	s232020655@studentmail.unimap.edu.my	FKTM	M	018-155 5866	2006-03-07	2023-12-19 16:00:00
19	232002069	MUHAMMAD DINIE BIN ADNAN	s232002069@studentmail.unimap.edu.my	FKTM	M	013-975 2883	2003-09-14	2024-01-24 16:00:00
20	622020657	MUHAMMAD HAIQAL BIN MOHD FAZLYSHAM	s622020657@studentmail.unimap.edu.my	FKTE	M	011-155 5015	2000-01-11	2024-01-29 16:00:00

Figure 24.3: Print Student List Page

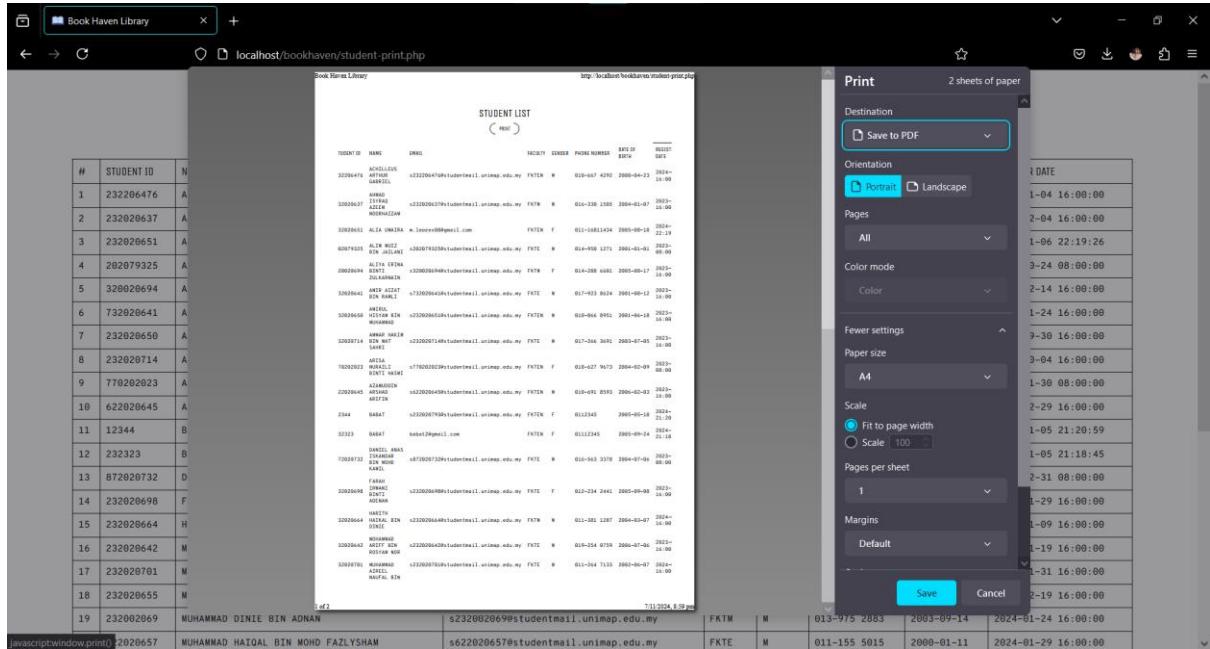


Figure 24.4: Print Student List Command

#	STAFF ID	NAME	EMAIL	GENDER	PHONE NUMBER	DATE OF BIRTH	REGISTER DATE	ACTION
1	S10567	AHMAD FAIZ BIN HAKIMI	ahmad.faiz@gmail.com	M	012-9876543	1985-11-22	2024-11-03 21:49:54	<button>EDIT</button> <button>DELETE FOREVER</button>
2	S10974	AIDA ZULKIFLI BINTI AZIZ	aida.zulkifli@gmail.com	F	015-5614439	1987-04-18	2024-11-03 21:49:54	<button>EDIT</button> <button>DELETE FOREVER</button>
3	S11063	AMY TAN	amy.tan@gmail.com	F	014-2233445	1988-02-29	2024-11-03 21:49:54	<button>EDIT</button> <button>DELETE FOREVER</button>
4	S10493	CHAN HOCK LEE	chan.hocklee@gmail.com	M	012-7890123	1986-08-31	2024-11-03 21:49:54	<button>EDIT</button> <button>DELETE FOREVER</button>
5	S10258	FARID HAKIMI BIN MOHD	farid.hakimi@gmail.com	M	013-4556789	1991-12-04	2024-11-03 21:49:54	<button>EDIT</button> <button>DELETE FOREVER</button>
6	S63546	FATIN NUR AINA BINTI KHAIRULANTAMIZI	fatin.aina@gmail.com	F	013-1112233	1984-09-18	2024-11-03 21:49:54	<button>EDIT</button> <button>DELETE FOREVER</button>
7	S11025	FONG MEI YEE	fong.meiye@gmail.com	F	012-5566778	1986-08-20	2024-11-03 21:49:54	<button>EDIT</button> <button>DELETE FOREVER</button>
		KUMAR	ganesh.kumar@gmail.com	M	017-7888999	1988-09-29	2024-11-03 21:49:54	<button>EDIT</button> <button>DELETE FOREVER</button>

Figure 25: Manage Registered Staff Page

Admin can choose to add, edit, delete, search and print list of registered staff on this page. Each action is accompanied by a popup message.

STAFF SIGN UP

Staff ID  
Enter staff ID

Full Name  
Enter full name

Staff Email  
Enter staff email

Password  
\*\*\*\*\*

Gender:  
 F  
 M

Phone Number  
01X-XXXXXX

Date Of Birth  
dd / mm / yyyy

**SIGN UP**

Figure 25.1: Staff Signup Page

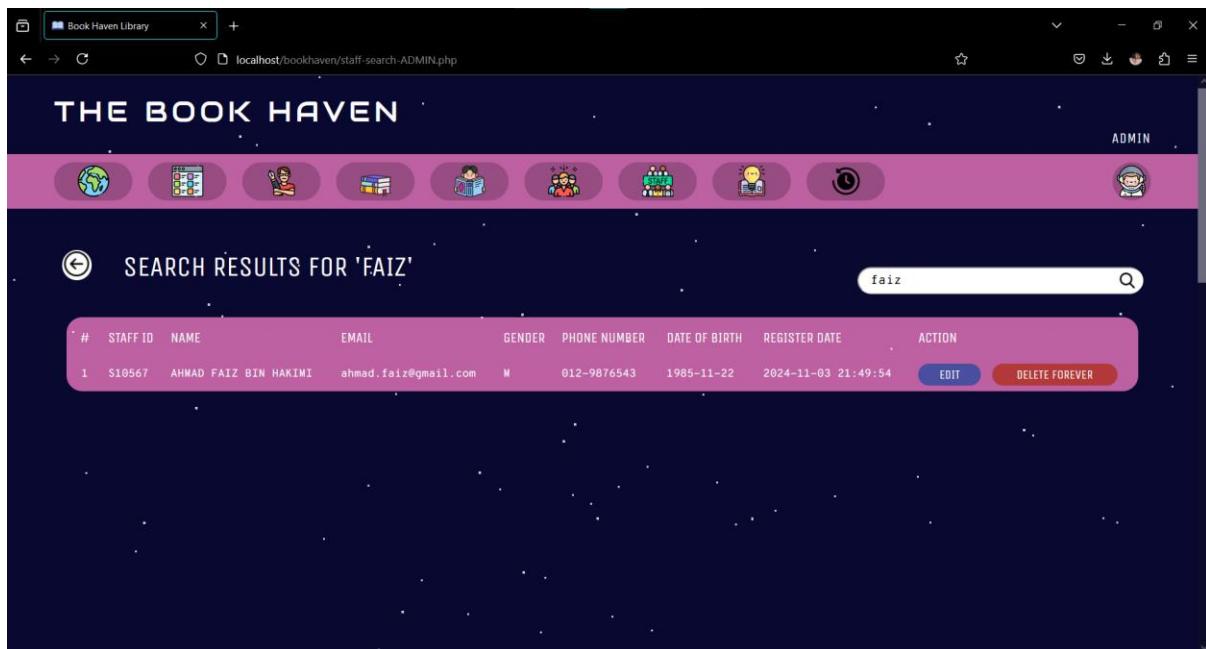


Figure 25.2: Search Results for Staff Page

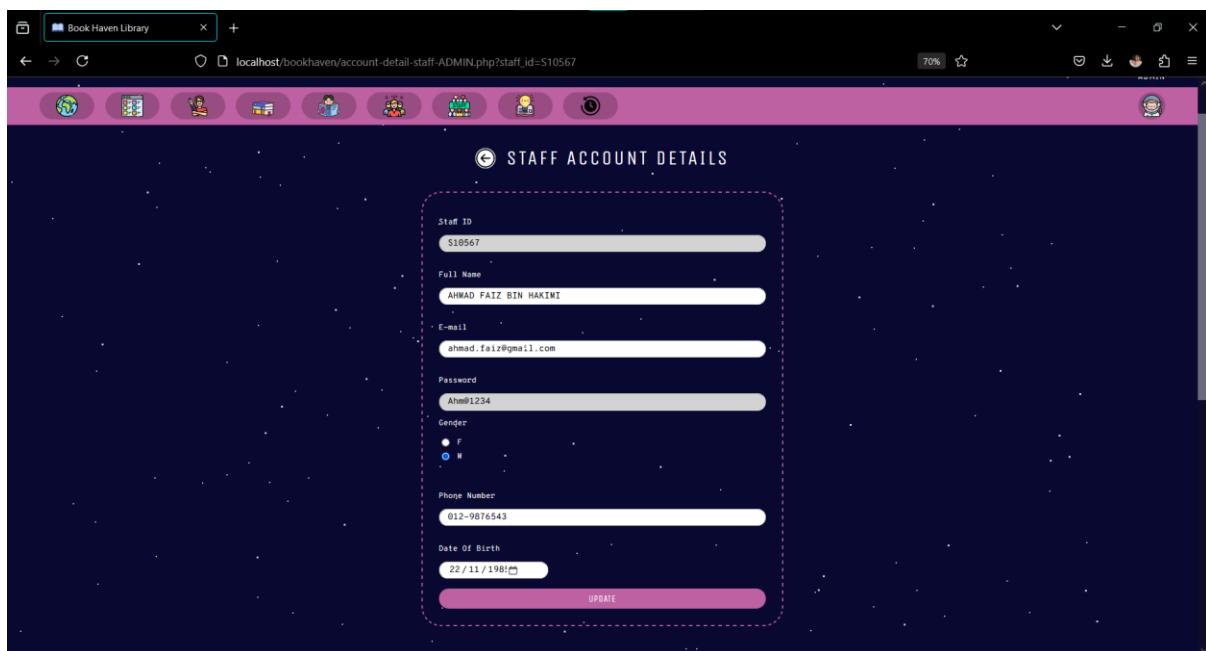


Figure 25.3: Edit Staff Account Details Page

Book Haven Library

localhost/bookhaven/staff-print.php

STAFF LIST

PRINT

#	STAFF ID	NAME	EMAIL	GENDER	PHONE NUMBER	DATE OF BIRTH	REGISTER DATE
1	admin	ADMIN	alyal80405@gmail.com	F	016283812	1992-10-28	2024-11-03 00:05:46
2	S10567	AHMAD FAIZ BIN HAKIMI	ahmad.faiz@gmail.com	M	012-9876543	1985-11-22	2024-11-03 21:49:54
3	S10974	AIZA ZULKIFLI BINTI AZIZ	aiza.zulkifli@gmail.com	F	015-5614439	1987-04-18	2024-11-03 21:49:54
4	S11063	AMY TAN	amy.tan@gmail.com	F	014-2233445	1988-02-29	2024-11-03 21:49:54
5	S10493	CHAN HOCK LEE	chan.hocklee@gmail.com	M	012-7890123	1986-08-31	2024-11-03 21:49:54
6	S10258	FARID HAKIMI BIN MOHD	farid.hakimi@gmail.com	M	013-4556789	1991-12-04	2024-11-03 21:49:54
7	S63546	FATIN NUR AINA BINTI KHAIRULANTAMIZI	fatin.aina@gmail.com	F	013-1112233	1984-09-18	2024-11-03 21:49:54
8	S11025	FONG MEI YEE	fong.meiye@gmail.com	F	012-5566778	1986-08-20	2024-11-03 21:49:54
9	S10712	GANESH KUMAR	ganesh.kumar@gmail.com	M	017-7888990	1988-09-29	2024-11-03 21:49:54
10	S10102	ILMAW HAZIO BIN ZAHARUDDIN	ilmam@gmail.com	M	012-9876543	1985-03-10	2024-11-03 21:49:54
11	S10832	LIM WEI HONG	lim.weihong@gmail.com	M	012-3487654	1992-03-08	2024-11-03 21:49:54
12	S11163	LINA BINTI AZIZ	lina.aziz@gmail.com	F	013-4455667	1994-12-03	2024-11-03 21:49:54
13	S20102	MIODAD BIN KHAIRUDDIN	miodad@gmail.com	M	018-1234567	1990-07-15	2024-11-03 21:49:54
14	S84376	MOHAMAD FAKHRUL IMAN BIN HAIZRUL	fakhrul.iman@gmail.com	M	013-6543210	1990-02-12	2024-11-03 21:49:54
15	S11003	MOHD ALI BIN ABDUL	mohd.ali@gmail.com	M	017-3344556	1990-11-07	2024-11-03 21:49:54
16	S29237	MUHAMMAD AIMAN FIRDAUS BIN AHMAD	aiman.firdaus@gmail.com	M	015-876 5432	1986-06-14	2024-11-03 21:49:54
17	S36472	MUHAMMAD ZAIM ADDIN BIN AZMAN	zaim.addin@gmail.com	M	019-9998877	1991-10-07	2024-11-03 21:49:54
18	S19283	NUR AFRINA BINTI ROZIMAN	afrina.roziman@gmail.com	F	011-7654321	1989-05-29	2024-11-03 21:49:54
19	S12032	NUR AIN AFIAQAH BINTI MOHAMED AZHA	ain.afiqah@gmail.com	F	016-2223344	1992-11-25	2024-11-03 21:49:54
20	S73762	NUR ALEEYA BATRISYIA BINTI AZLIKAMAL	aleya.batrisyia@gmail.com	F	017-1236789	1987-08-05	2024-11-03 21:49:54

Figure 25.4: Print List of Staff Page

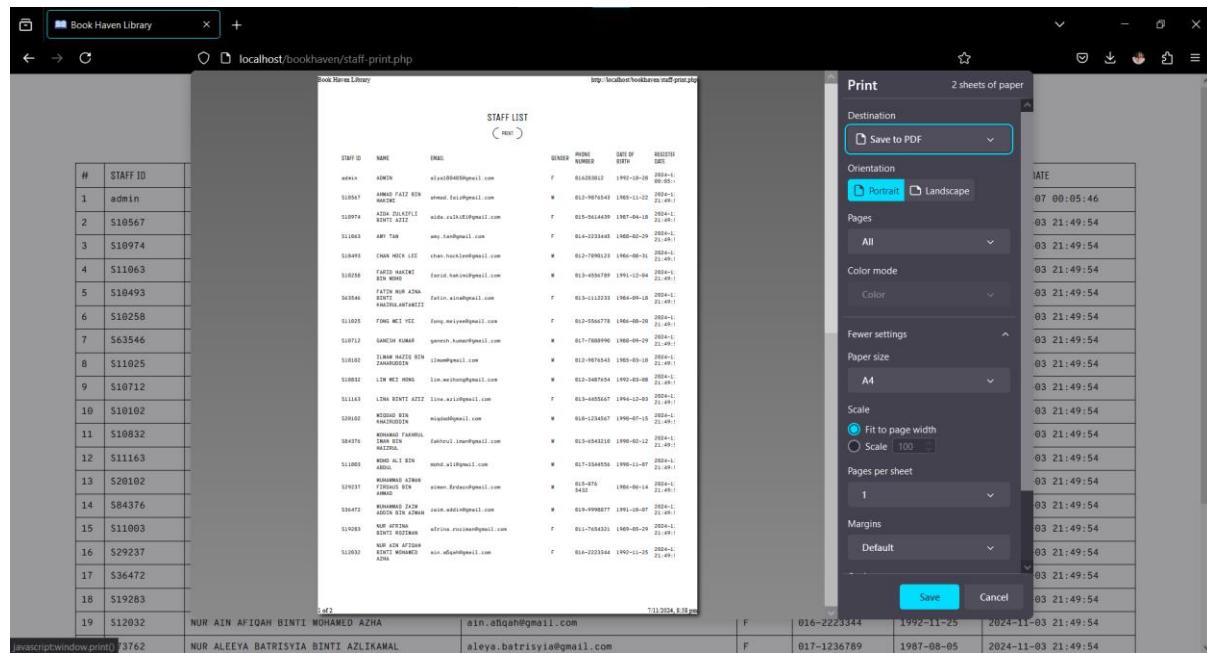


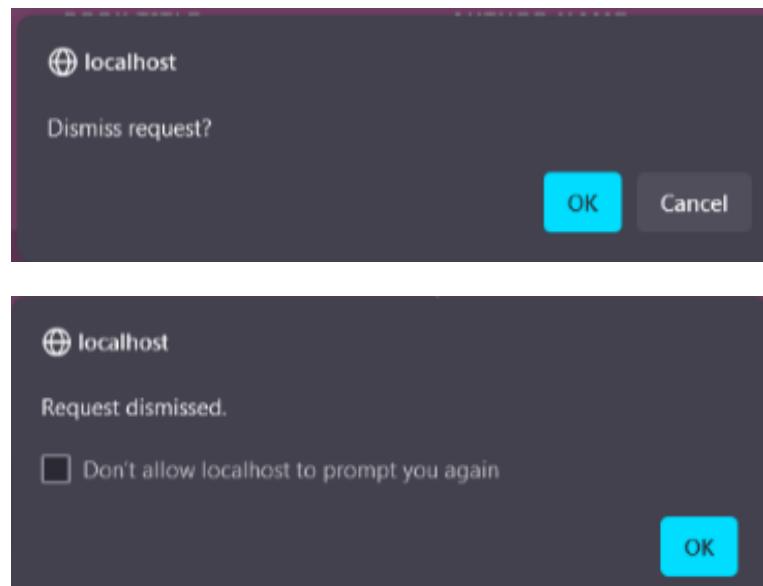
Figure 25.5: Print List of Staff Command

The screenshot shows the 'THE BOOK HAVEN' library management system. At the top, there's a navigation bar with icons for home, search, and user profile. Below it is a pink header bar with the title 'BOOK REQUEST(S)'. The main content area displays a table of book requests:

#	STUDENT ID	STUDENT NAME	BOOK TITLE	AUTHOR NAME	REQUEST DATE	ACTION
1	232020889	NURUL ALYA BINTI KHAHIROL	8051 Microcontroller	Muhammad Ali Mazidi	2024-11-07 19:57:43	<button>DISMISS</button>
2	232020651	ALIA UMAIRA	MICROWAVE	BATRISYIA	2024-11-06 22:20:45	<button>DISMISS</button>
3	12344	BABAT	Microcontroller	Mazidi	2024-11-05 21:22:28	<button>DISMISS</button>

Figure 26: Manage Book Requests Page

Admin can view and dismiss book requests. Pressing “dismiss” button will delete request and popup message will appear.



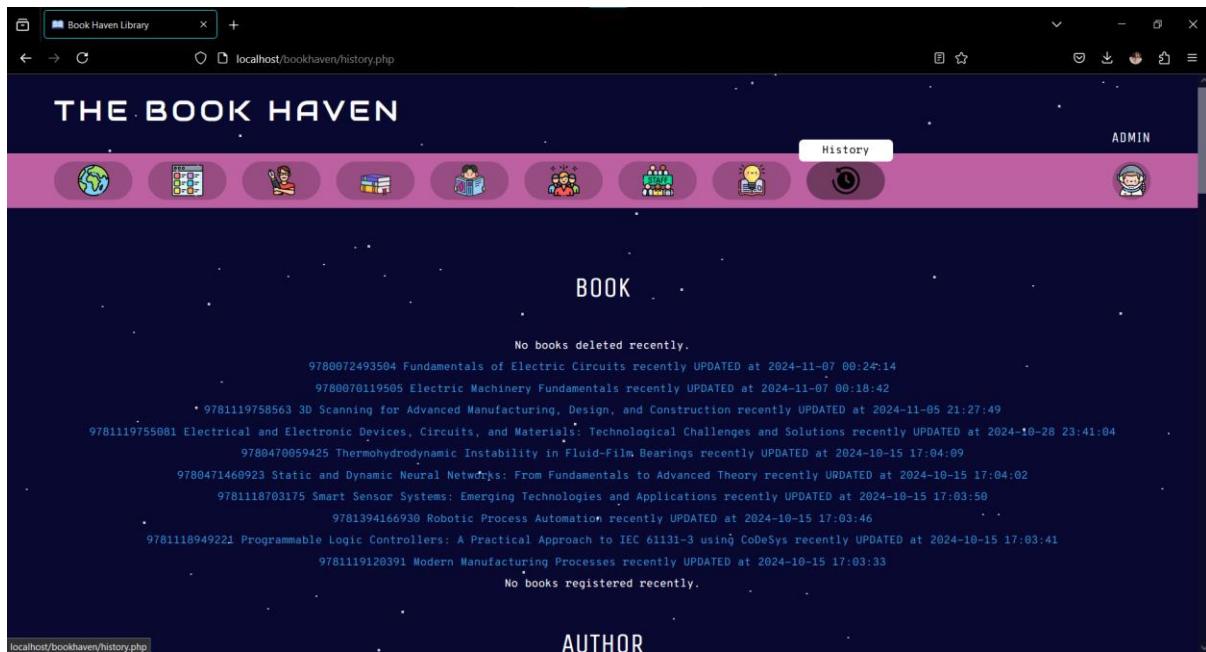


Figure 26: History Page

Admin can view recent updates, deletions and registrations for books, authors, categories, students, staffs, bookmarks , issues and book requests.

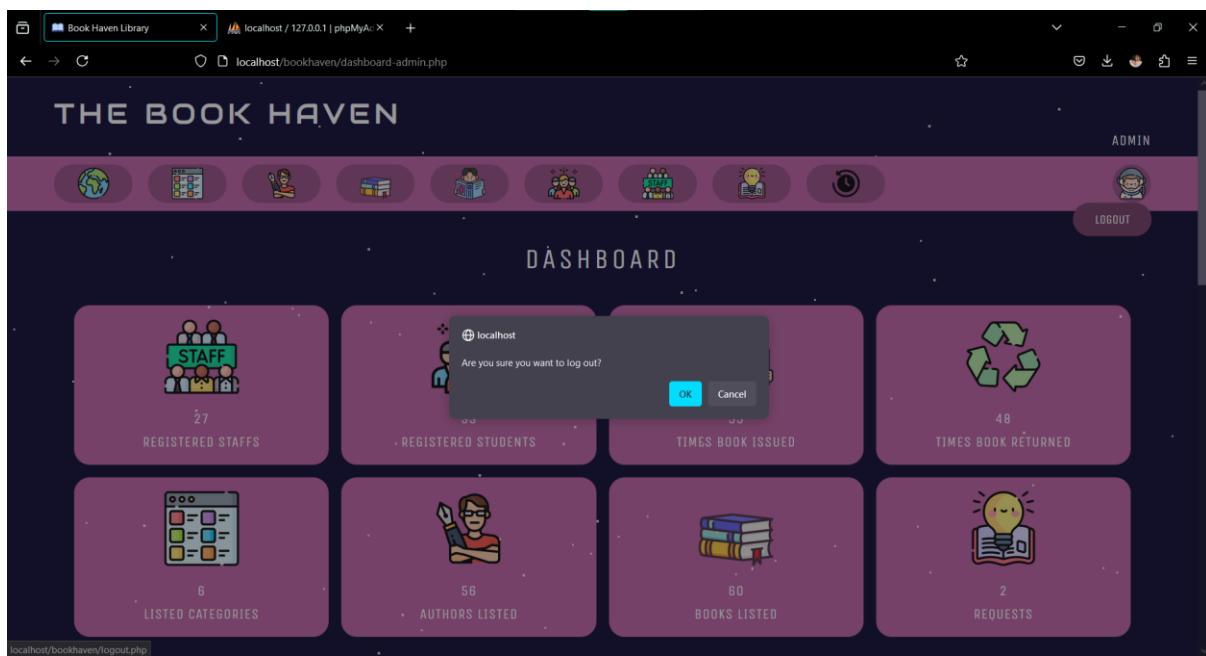


Figure 27: Logout popup

Admin confirms whether to log out or not.

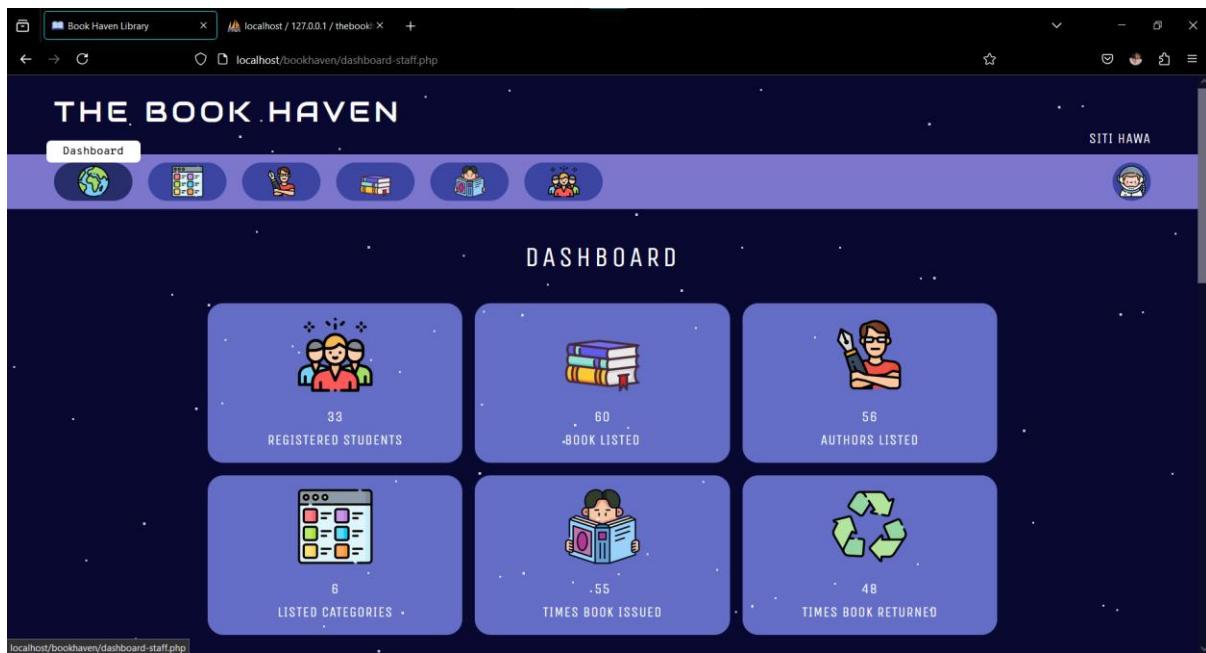


Figure 28: Staff Dashboard Page

Staff can view number of registered students, book listed, author listed, listed categories, times book issued and times book returned.

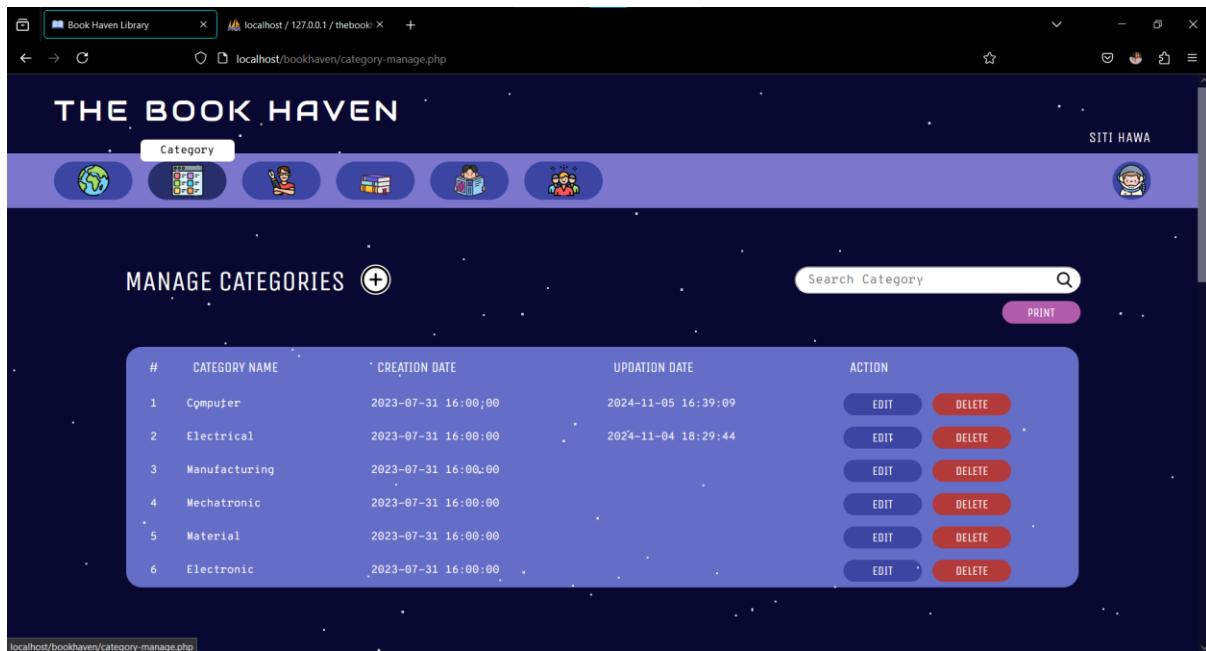


Figure 29: Manage Category Page

Staff can add, edit, search, delete and print category. Deleting the category will only soft delete it, deleted data can be recovered through admin. Each action is accompanied by popup message.

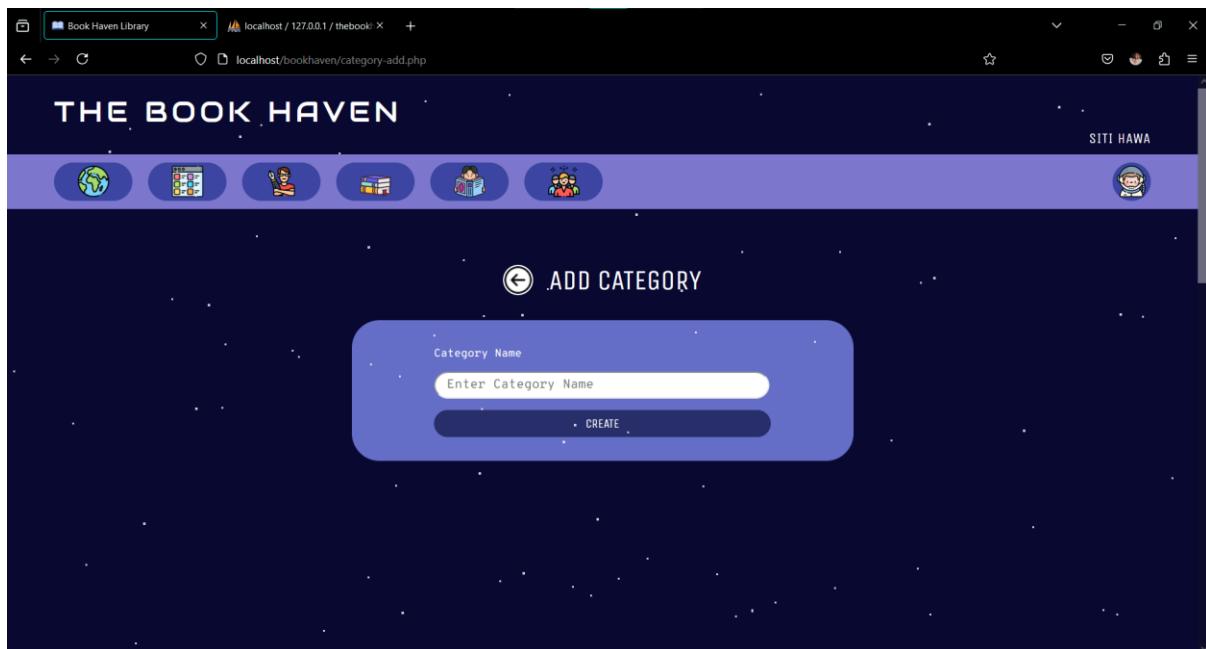


Figure 29.1: Add Category Page

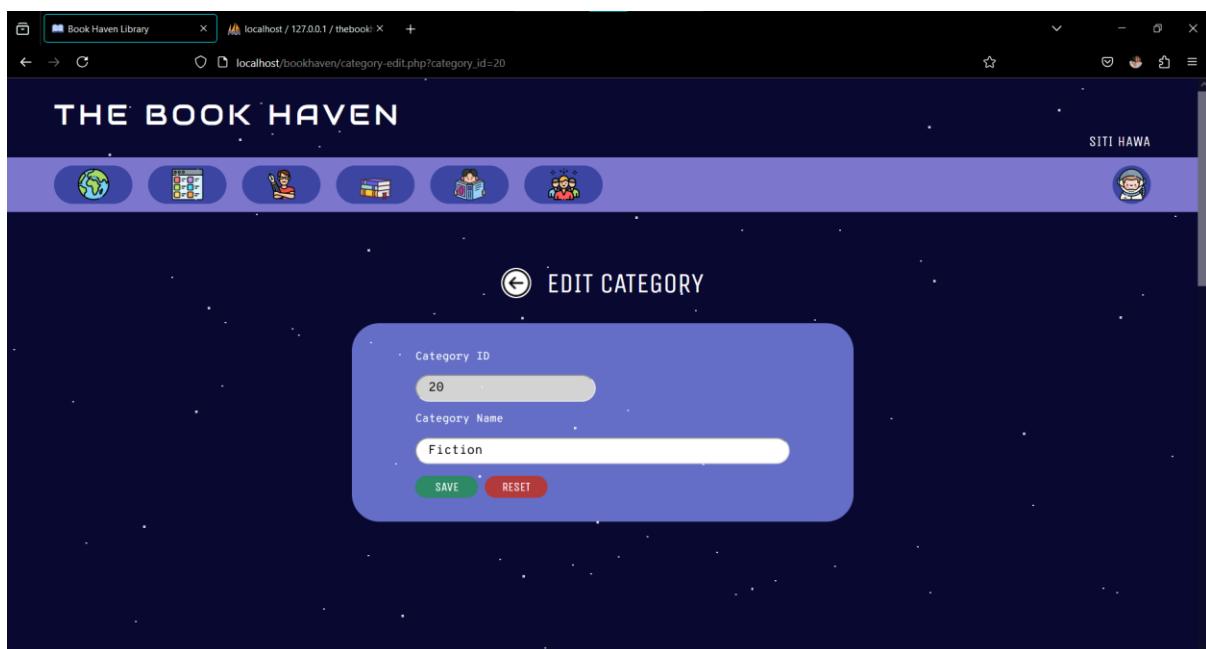


Figure 29.2: Edit Category Page

#	AUTHOR NAME	CREATION DATE	UPDATION DATE	ACTION
1	A K Theraja	2023-08-01 16:00:00	2024-11-07 00:20:57	<button>EDIT</button> <button>DELETE</button>
2	A. Gouveia Oliveira	2023-08-04 08:00:09	2024-10-13 12:48:06	<button>EDIT</button> <button>DELETE</button>
3	Abdullah M. Asiri	2023-08-04 08:00:00	2024-10-13 12:48:16	<button>EDIT</button> <button>DELETE</button>
4	Adel S. Sedra	2023-08-01 16:00:00	2024-10-13 12:46:31	<button>EDIT</button> <button>DELETE</button>
5	Adrian Kitai	2023-08-05 08:00:00	2024-10-13 12:48:26	<button>EDIT</button> <button>DELETE</button>
6	Alan Dennis	2023-08-05 08:00:00	2024-10-13 12:48:28	<button>EDIT</button> <button>DELETE</button>
7	Andrew S. Tanenbaum	2023-07-31 16:00:00	2024-10-13 12:46:15	<button>EDIT</button> <button>DELETE</button>
8	R P. Lathi	2023-08-01 16:00:00	2024-10-13 12:46:46	<button>EDIT</button> <button>DELETE</button>

Figure 30: Manage Author Page

Staff can add, edit, search, delete and print author. Deleting the author will only soft delete it, deleted data can be recovered through admin. Each action is accompanied by popup message.

The screenshot shows the 'ADD AUTHOR' form. It has a text input field labeled 'Enter Author Name' and a blue 'CREATE' button below it. The background features the same purple header bar with icons and the 'THE BOOK HAVEN' logo.

Figure 30.1: Add Author Page

#	ISBN	BOOK NAME	AUTHOR	CATEGORY	PRICE	ACTION
1	9781119758563	3D Scanning for Advanced Manufacturing, Design, and Construction	Muammer Koc	Manufacturing	RM 190.45	<button>EDIT</button> <button>DELETE</button>
2	9788121939096	ABC of Electrical Engineering	A K Theraja	Electrical	RM 100.90	<button>EDIT</button> <button>DELETE</button>
3	978119654971	Alloy Materials And Their Allied Applications	Abdullah M. Asiri	Material	RM 159.99	<button>EDIT</button> <button>DELETE</button>
4	9780470260173	AutoCAD 2009 and AutoCAD LT 2009 Bible	Ellen Finkelstein	Manufacturing	RM 59.99	<button>EDIT</button> <button>DELETE</button>
5	9781119584285	Biostatistics Decoded	A. Gouveia Oliveira	Material	RM 96.99	<button>EDIT</button> <button>DELETE</button>

Figure 31: Manage Book Page

Staff can add, edit, search, delete and print books. Deleting the book will only soft delete it, deleted data can be recovered through admin. Each action is accompanied by popup message.

ADD BOOK

ISBN Number: Without -

Book Title: Enter Book Title

Category: Select Category

Author: Select Author

Price: RM

Description:

Book Image File: BROWSE... No file selected.

ADD BOOK

Figure 31.1: Add Book Page

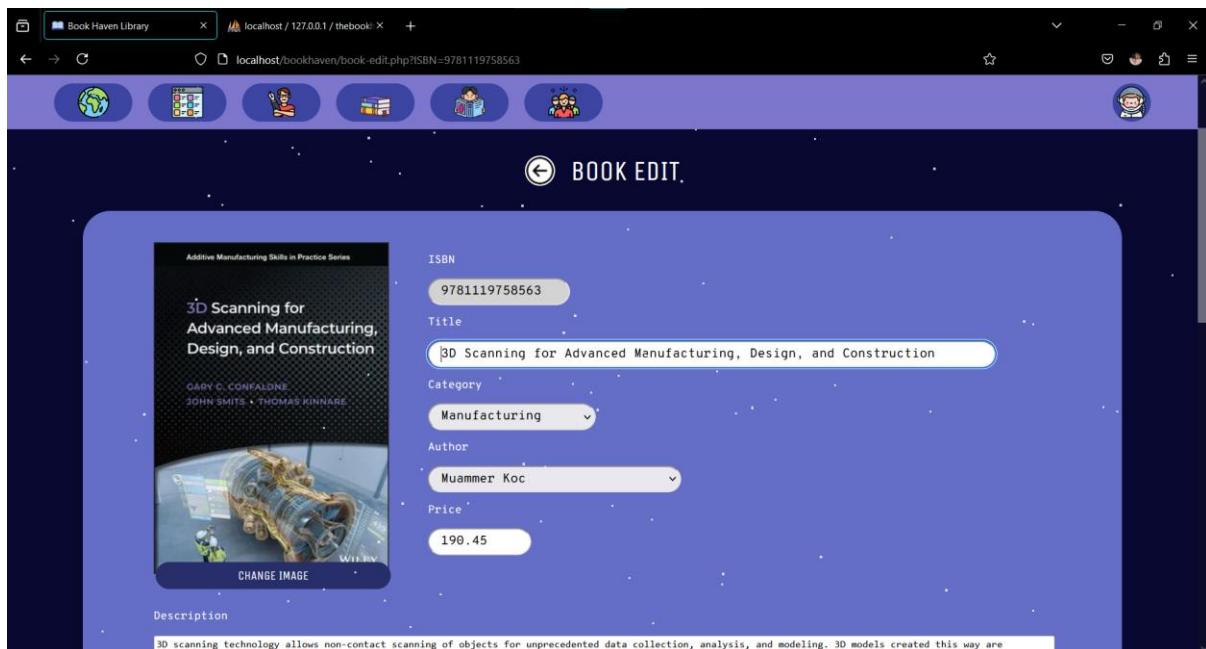


Figure 31.2: Edit Book Page

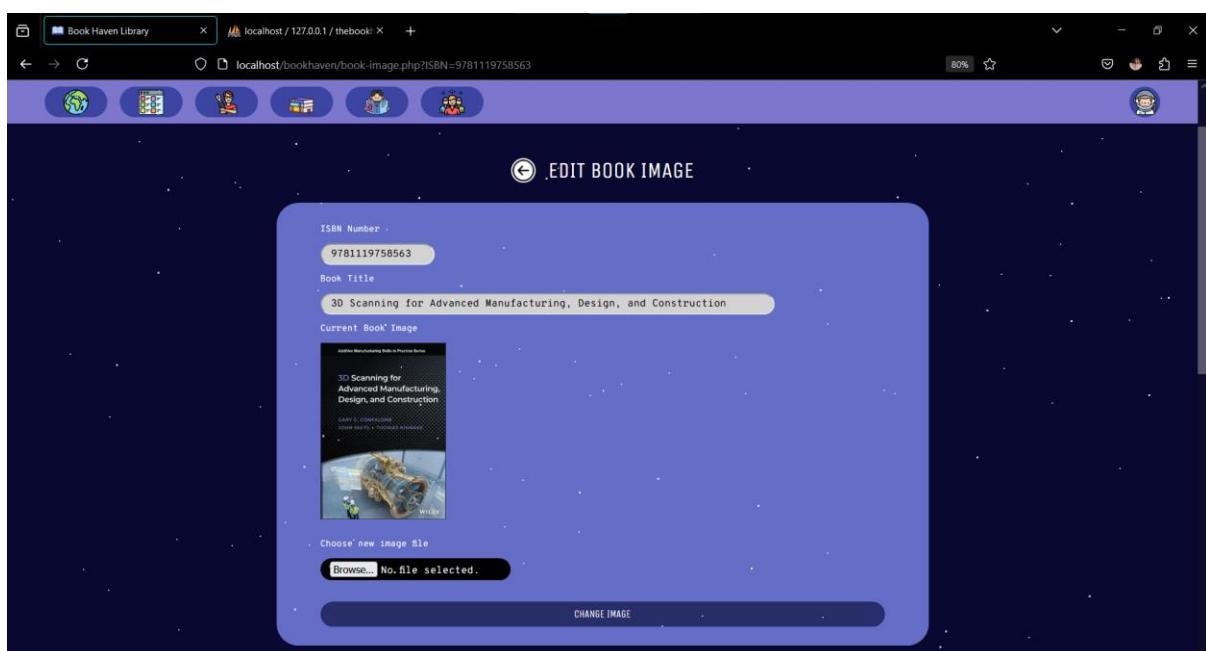


Figure 31.3: Edit Book Image Page

#	STUDENT NAME	ISBN	BOOK TITLE	ISSUED DATE	RETURN DATE	STATUS
1	NURUL ALYA BINTI KHAHIROL	9781119505754	Control of Mechatronic Systems: Model-Driven Design and Implementation Guidelines	2024-11-07 19:34:56	2024-11-21 23:59:59	NOT RETURNED
2	ALIA UMAIRA	9780130621214	Digital Design	2024-11-06 22:22:18	2024-11-20 23:59:59	NOT RETURNED
3	BABAT	9780471448785	Microwave Engineering	2024-11-05 21:23:03	2024-11-19 23:59:59	NOT RETURNED
4	NURUL ALYA BINTI KHAHIROL	9780262032933	Introduction To Algorithms	2024-10-18 19:45:03	2024-11-07 19:47:18	RETURNED
5	MUHAMMAD DINIE BIN ADNAN	9780130621214	Digital Design	2024-01-25 13:27:56	2024-11-05 16:39:44	RETURNED
6	ALIM MUIZ BIN JAILANI	9781119120391	Modern Manufacturing Processes	2023-10-25 12:57:12	2024-11-04 18:56:47	NOT RETURNED

Figure 33: Manage Issued Books Page

Staff can view issued books and change status of “not returned” books to “returned”. It will bring staff to the book return page where it will calculate the fine based on current date and due date of book.

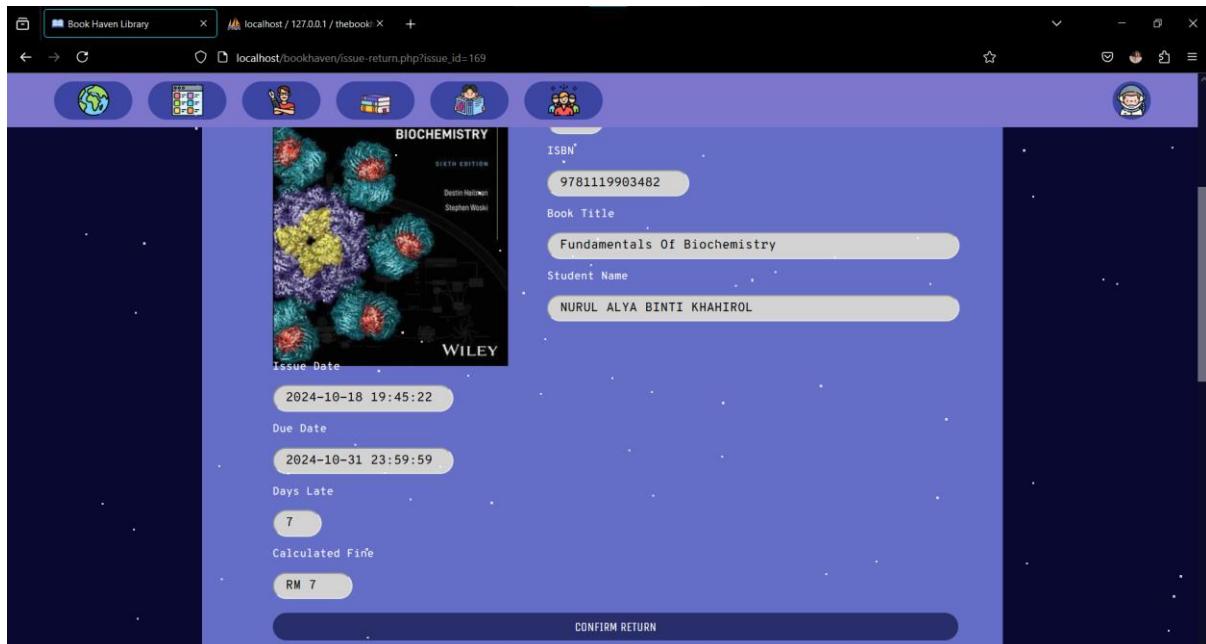
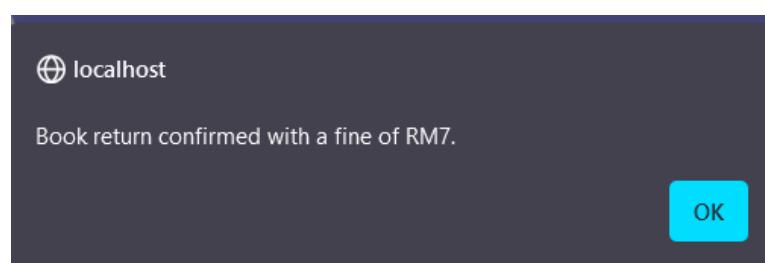


Figure 33.1: Book Return Page



#	MATRIX NUMBER	STUDENT NAME	EMAIL	PHONE NUMBER	REGISTER DATE
1	232206476	ACHILLEUS ARTHUR GABRIEL	s232206476@studentmail.unimap.edu.my	010-667 4292	2024-01-04 16:00:00
2	232020637	AHMAD ISYRAQ AZEEM_NOORHAIZAM	s232020637@studentmail.unimap.edu.my	016-330 1505	2023-12-04 16:00:00
3	232020651	ALIA UMAIRA	m.leorex08@gmail.com	011-16811434	2024-11-06 22:19:26
4	202079325	ALIM MUIZ BIN JAILANI	s202079325@studentmail.unimap.edu.my	014-950 1271	2023-10-24 08:00:00
5	320020694	ALIYA ERINA BINTI ZULKARNAIN	s320020694@studentmail.unimap.edu.my	014-288 6601	2023-12-14 16:00:00
6	732020641	AMIR AIZAT BIN RAMLI	s732020641@studentmail.unimap.edu.my	017-923 8624	2023-11-24 16:00:00
7	232020650	AMIRUL HISYAM BIN MUHAMMAD	s232020651@studentmail.unimap.edu.my	010-866 8951	2023-09-30 16:00:00
8	232020714	AMMAR HAKIM BIN MAT SAHRI	s232020714@studentmail.unimap.edu.my	017-266 3691	2023-10-04 16:00:00
9	770202023	ARISA NURAILI BINTI HASNI	s770202023@studentmail.unimap.edu.my	018-627 9673	2023-11-30 08:00:00
10	622020645	AZAMUDDIN ARSHAD ARIFIN	s622020645@studentmail.unimap.edu.my	010-691 8593	2023-12-29 16:00:00
	BABAT		s232020793@studentmail.unimap.edu.my	0112345	2024-11-05 21:20:59

Figure 34: Registered Student Page

Staff can only view and search for registered students.

#	MATRIX NUMBER	STUDENT NAME	EMAIL	PHONE NUMBER	REGISTER DATE
1	232020637	AHMAD ISYRAQ AZEEM_NOORHAIZAM	s232020637@studentmail.unimap.edu.my	016-330 1505	2023-12-04 16:00:00
2	232020651	ALIA UMAIRA	m.leorex08@gmail.com	011-16811434	2024-11-06 22:19:26
3	232020650	AMIRUL HISYAM BIN MUHAMMAD	s232020651@studentmail.unimap.edu.my	010-866 8951	2023-09-30 16:00:00
4	232020714	AMMAR HAKIM BIN MAT SAHRI	s232020714@studentmail.unimap.edu.my	017-266 3691	2023-10-04 16:00:00
5	12344	BABAT	s232020698@studentmail.unimap.edu.my	0112345	2024-11-05 21:20:59
6	232020698	FARAH IRWANI BINTI ADENAN	s232020698@studentmail.unimap.edu.my	012-234 2441	2023-11-29 16:00:00
7	232020664	HARITH HAikal BIN DINIE	s232020664@studentmail.unimap.edu.my	011-381 1287	2024-01-09 16:00:00
8	232020642	MOHAMMAD ARIFF BIN ROSYAM NOR	s232020642@studentmail.unimap.edu.my	019-254 0759	2023-01-19 16:00:00
9	232020701	MUHAMMAD AIREEL NAUFAL BIN FARIZUAN	s232020701@studentmail.unimap.edu.my	011-264 7133	2024-01-31 16:00:00
10	232020655	MUHAMMAD ALIF BIN DANIEL	s232020655@studentmail.unimap.edu.my	010-155 5866	2023-12-19 16:00:00
11	232020721	MUHAMMAD HAZIM BIN MOHD HANAPI	s232020721@studentmail.unimap.edu.my	013-972 6179	2023-11-04 08:00:00
12	232020688	NUR IMAN DANIA BINTI KAMARUL HISYAM	s232020688@studentmail.unimap.edu.my	012-188 1410	2023-10-09 16:00:00
13	232020809	NURUL ALYA BINTI KHAHIROL	s232020809@studentmail.unimap.edu.my	011-56587807	2024-11-07 19:30:38

Figure 34.1: Search Results for Student Page

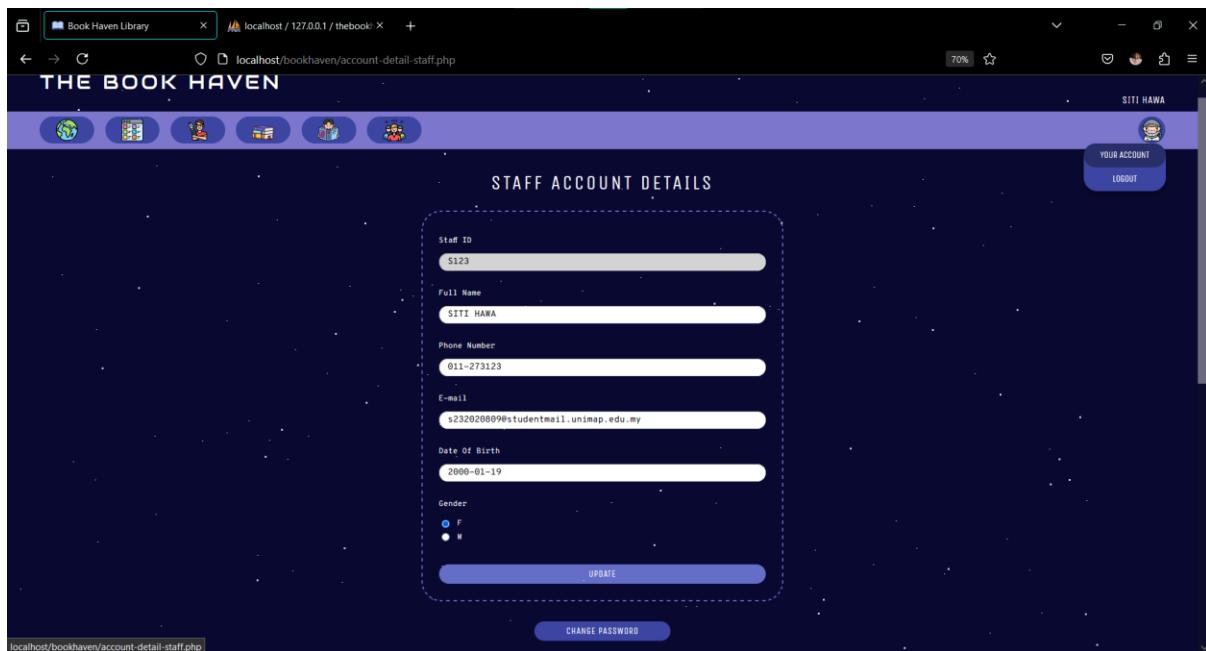


Figure 35: Staff Account Details Page

Staff can edit and update account details. Clicking the “change password” change will send staff a verification code to staff’s email and staff has to enter the correct verification code in order to change password.

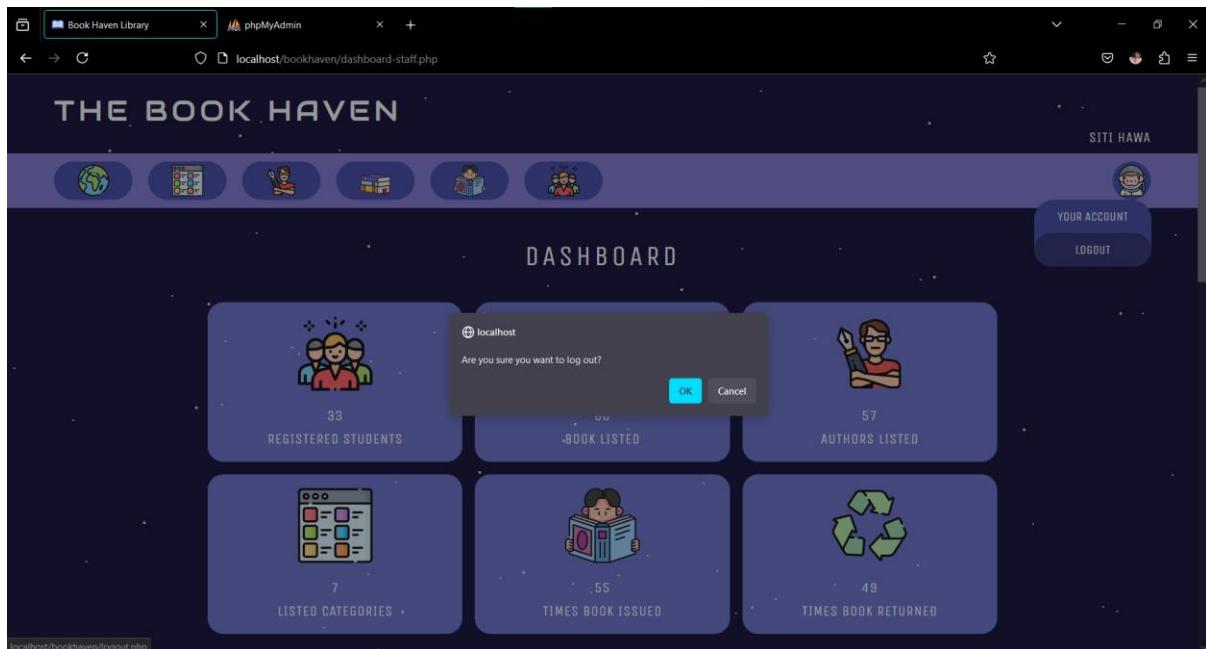


Figure 36: Logout Popup

Staff confirm whether to log out or not.

## DISCUSSION

From this Mini Project, we have learned various skills, including time management and how to build a database system carefully for this project. Initially based on the UNIMAP library system, we transformed it into the Galaxy system. Additionally, we made several innovative improvements from our initial design sketches, such as updating the layout, colours, and images, which enhanced the efficiency and user experience for students. Throughout the project, we learned how to choose and implement the appropriate programming language, write code, and connect everything properly. One of the key aspects of this project was teamwork and how the system functions when receiving input from students.

The system we developed, the Library Management System, helps students, staff, and admins manage and manipulate data via a web interface. We used a MySQL database and PHP, CSS, JavaScript, and HTML as the programming language. Although the project was challenging at the beginning, we successfully generated ideas and built the system using various resources. The database contains 60 books related to engineering students, and the database is named Bookhaven. It includes tables for author, book, bookmark, category, issue, staff, and student. To ensure security, we implemented password hashing in the issue table to prevent unauthorized access.

The data is displayed on the catalogue page for students and the dashboard page for staff and admins. The system is designed to make it easier for students to borrow, return books, and check the availability of books. Students can also bookmark books they wish to borrow. The borrowing period is 14 days, and any overdue books incur a fine of RM1 per day. Students can track their fines in the database and prepare the necessary amount. They can also update their personal information in their account.

For staff, their role includes adding and listing books, notifying students to pay fines, listing all student issues, deleting books, and handling book returns. Staff no longer need to manually calculate fines, as the system automatically updates this data. This greatly simplifies staff work, allowing them to focus on entering data instead of doing calculations. Admins have full control of the system and can monitor its activities. Both admins and staff can generate reports by printing the list of transactions. Staff play a crucial role in managing the system's flow, adding, and removing data as necessary.

## CONCLUSION

This project has provided us with a valuable experience in developing a Library Management System that functions effectively and can be used by students, staff, and administrators. The main objective of this project was to create a user-friendly system that streamlines library management, particularly for students in borrowing and returning books efficiently. Although there were challenges at the outset, particularly in developing the user interface and selecting the appropriate programming language, we were able to overcome these hurdles with strong teamwork and effective communication. We also learned how to structure the database correctly, write the appropriate code, and link system components effectively.

The challenges encountered during the project, such as determining the functionality of each part of the system, were addressed through thoughtful design innovation and continuous system improvements. By using MySQL and PHP, we were able to develop a system that not only meets the basic requirements of the library but also provides security features such as password hashing and role-based access control. With the addition of a dashboard for staff and administrators and a catalogue page for students, the system has streamlined data management and simplified the process of borrowing and returning books. The success of this project can be seen in how well the core functions remained intact and met the objectives. The system allows students to search for books, bookmark titles, view personal information, and borrow books with ease. Staff members can update data, manage fines, and track unreturned books. The administrator plays a key role in ensuring the smooth operation of the entire system and can access all data for reporting or auditing purposes.

Overall, this project has shown the importance of planning, collaboration, and the use of appropriate technology to achieve a well-functioning system. The system not only helps to ease the staff's work but also provides a more organized and efficient experience for students in managing their books. With the experience we gained, we are confident that the knowledge acquired will be highly beneficial for future projects. For future improvements, we suggest expanding the system to support more books and students, as well as adding additional features such as an automated notification system for fines or due dates. Furthermore, improvements in the user interface and system speed could be considered to further enhance the user experience.

In conclusion, this project not only succeeded in meeting its objectives but also provided valuable lessons in project management and system development. We believe that this experience has provided a strong foundation for further exploration and learning in the fields of programming and system development.