

Online Library Management System

Spring 2019

Course: Web Programming Languages (CS 6314.001)

Designed and developed by:

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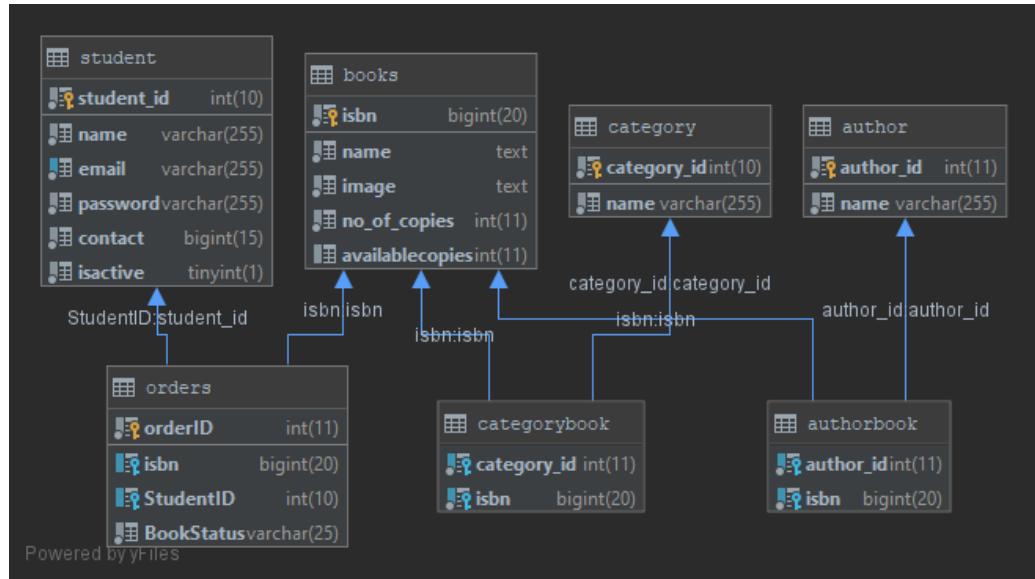
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Project Description

- **Project Title:** Online Library Management System
- **Description:** Much of the functioning of a library could be automated using the available technologies. Instead of dealing with files (papers) the use of a good Database together with a proper front end would not only reduce the operating cost but also make the task of the Librarian easier. The most important thing is that an automated system of this sort can be customized to suit the needs of the users and provide good service to them. Aim of the project is to develop software which would automate the functioning of a library over a network.
- **Assumptions:** Here, we have assumed that there are two types of users, Admin and Students. Another assumption is that a user can only check out only single copy of book at a time. Also, students will need Admin's (here the Librarian's) permission to get the book issued. Student will seek the permission for issuing the book and Admin will decide if he/she wants to issue the book to the particular student or not. In addition to this, Admin will also approve or deny the user registration requests. Admin will also be able to insert, update, delete books, categories and authors.

Database Design

- **Database used:** MySQL – open source relational database management system.
- **Server version:** 5.7.23 - MySQL Community Server (GPL)
- **Database Design:**
 - Database Name: library
 - Tables: author, book, category, orders, student, authorbook, categorybook
 - Database Design:



- o Database Design Queries:

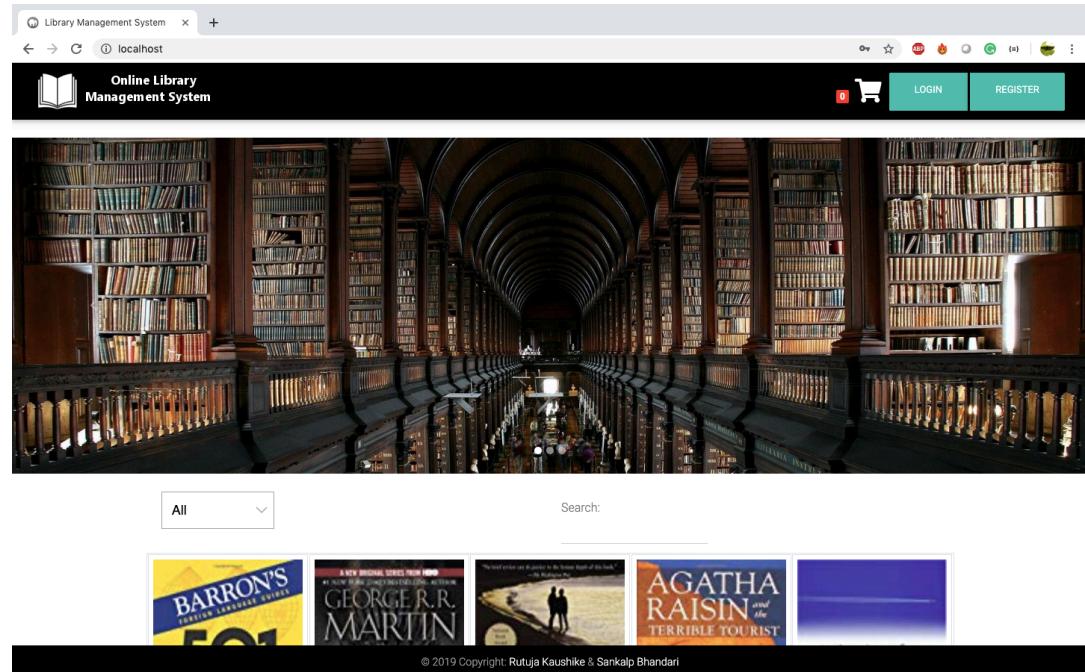
Technologies Used

- Server-side: PHP
- Client-side: JavaScript
- Front-end: HTML, CSS, Material Design for Bootstrap 4
- Back-end: MySQL
- Solution Stack: MAMP

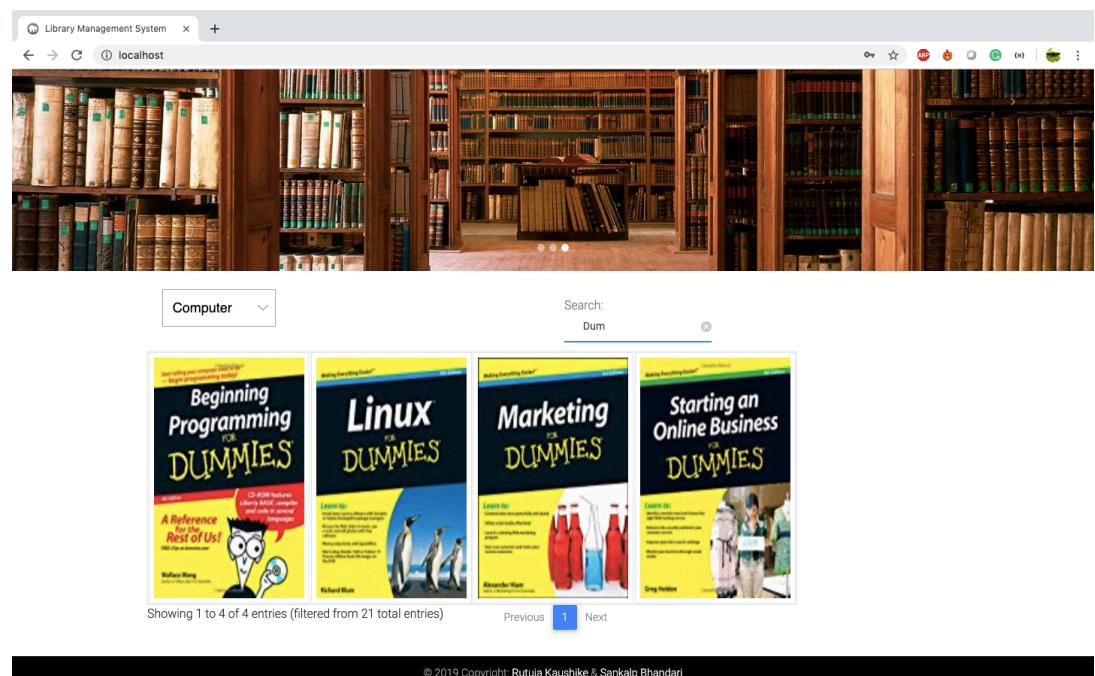
Screenshots for main functionalities

- Home Page

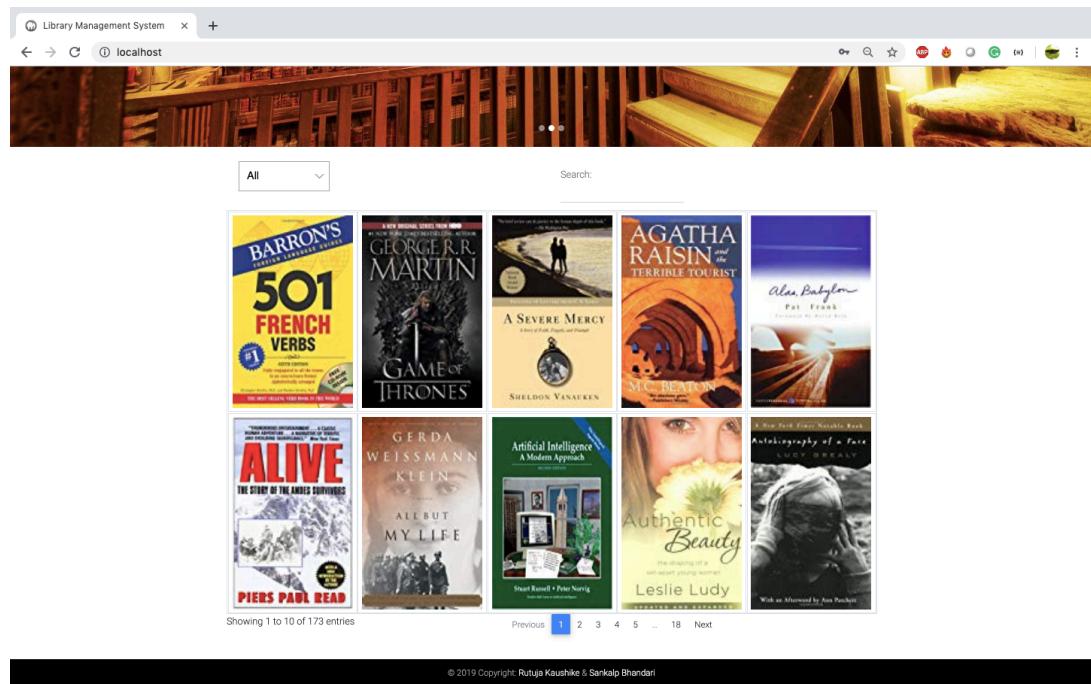
Online Library Management System



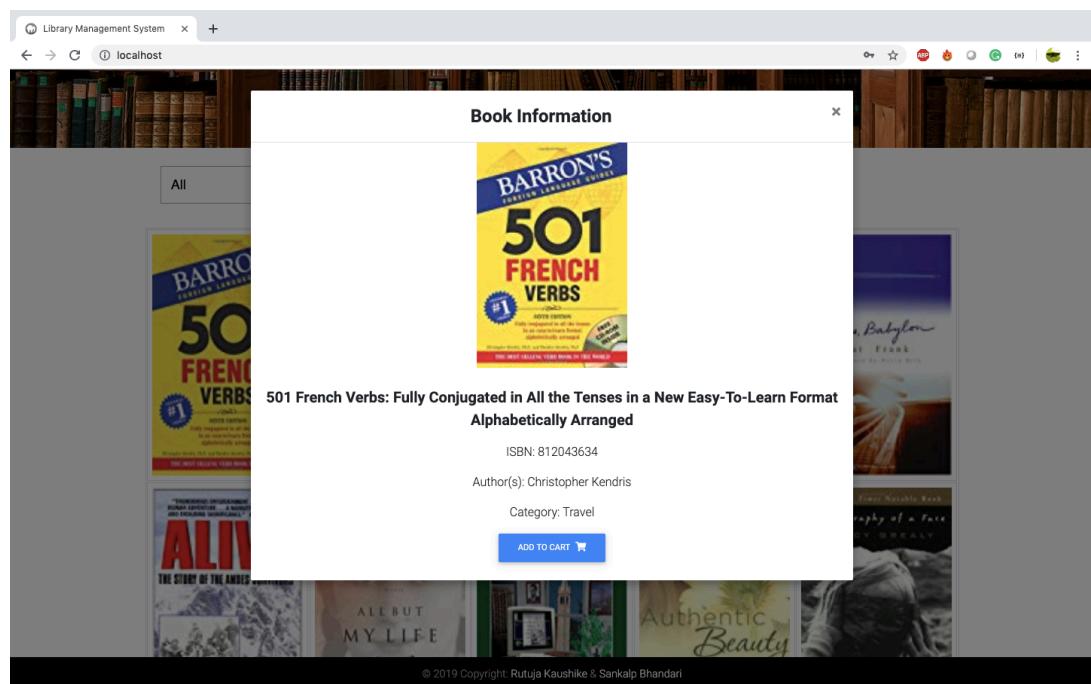
- Filtering based on category = computer and searching for term ‘Dum’



- Implementation of Pagination

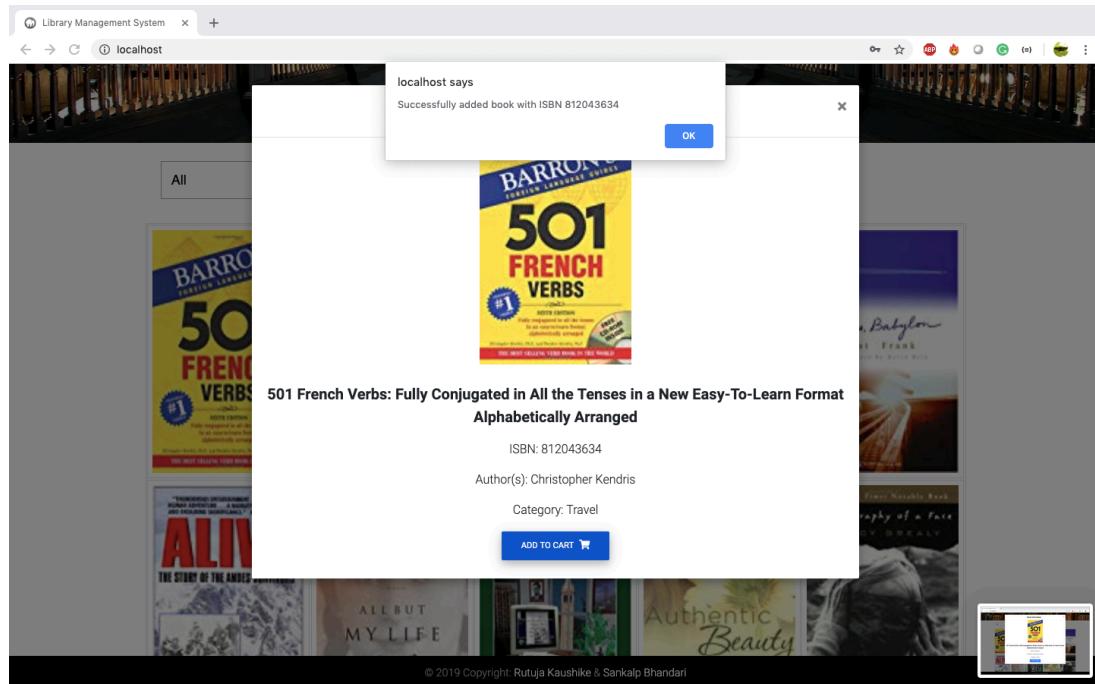


- Book information shown as a user clicks on the book

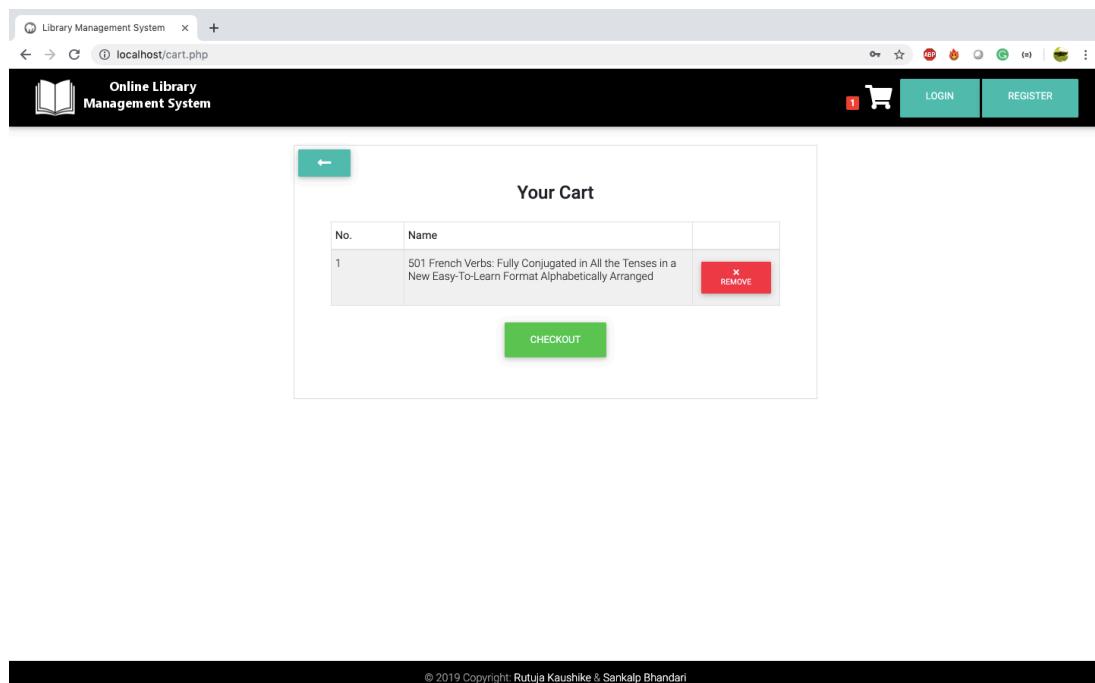


Online Library Management System

- Adding book to the cart.

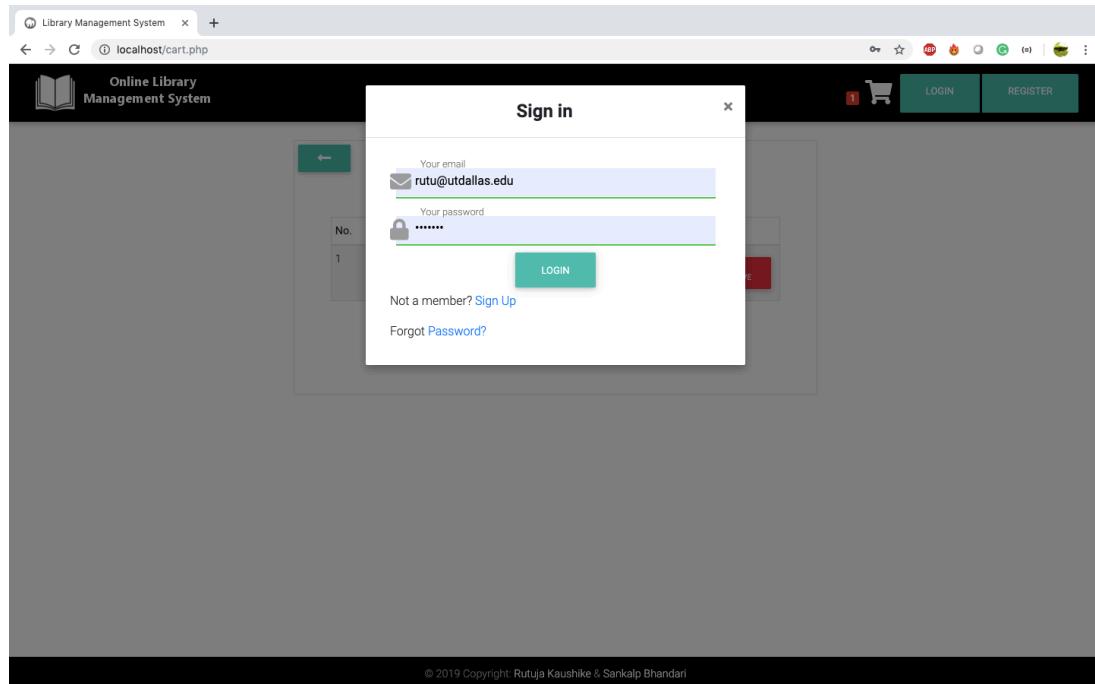


- Displaying books in a cart

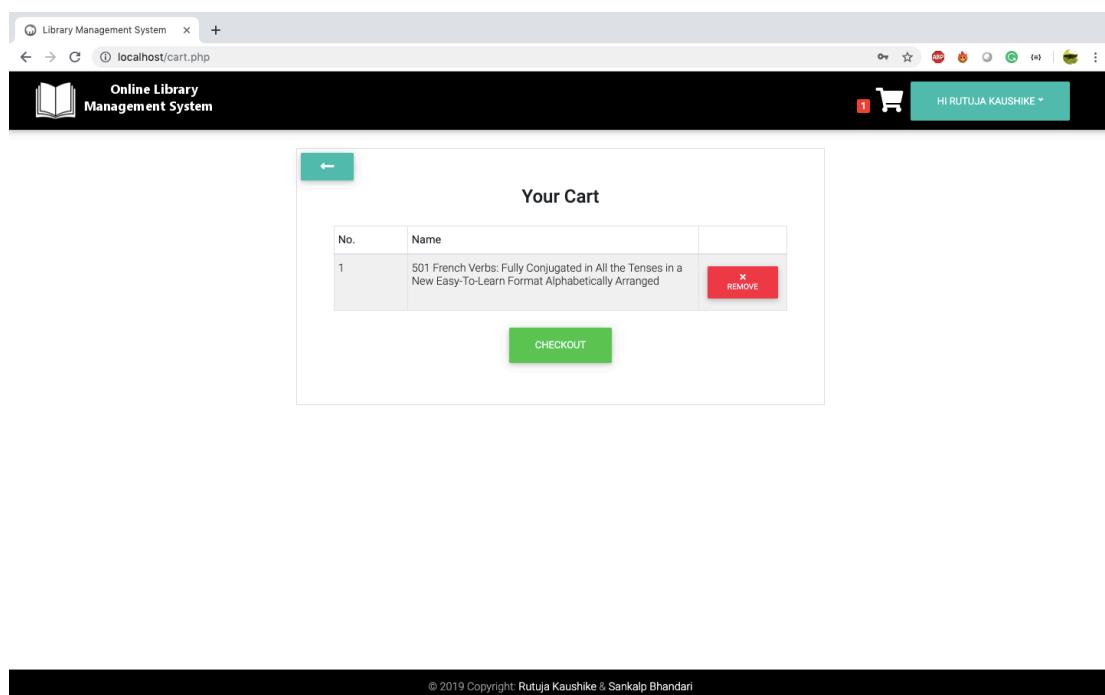


Online Library Management System

- If attempted checking out without logging in, login link pops up

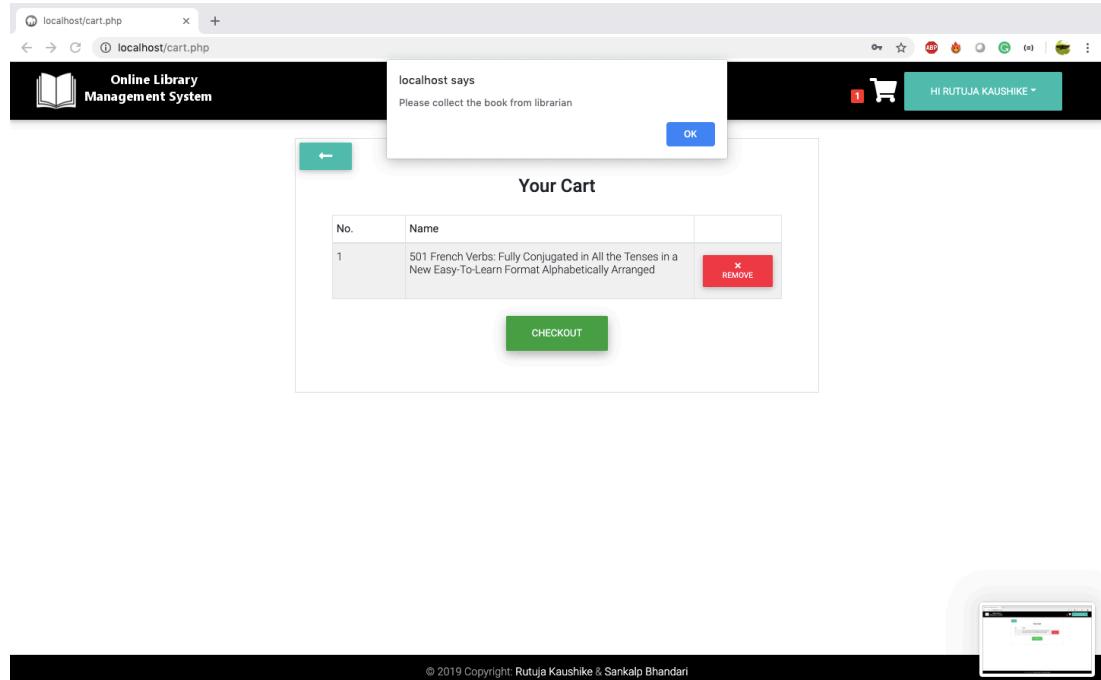


- Cart after logging in

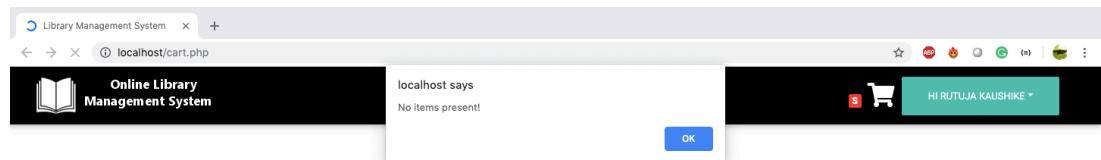


Online Library Management System

- After checking out, all the orders go to the Librarian for approval

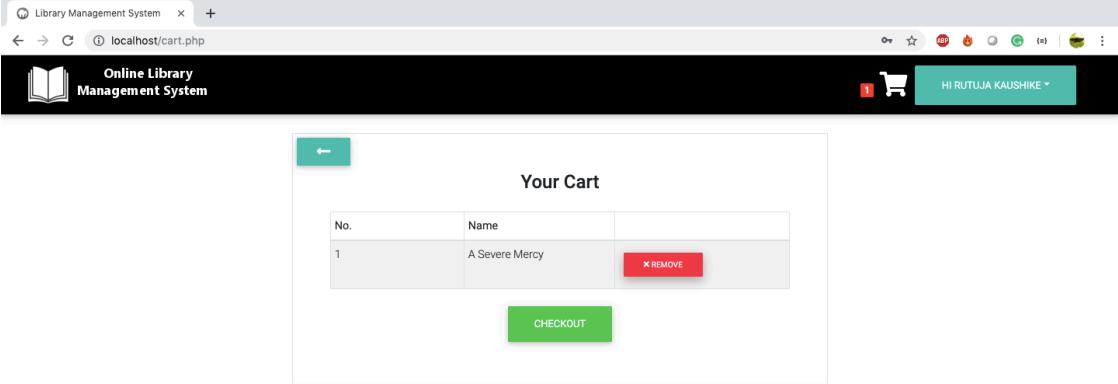


- If you click Cart which is empty, this will be the result



Online Library Management System

- Cart before removing a book

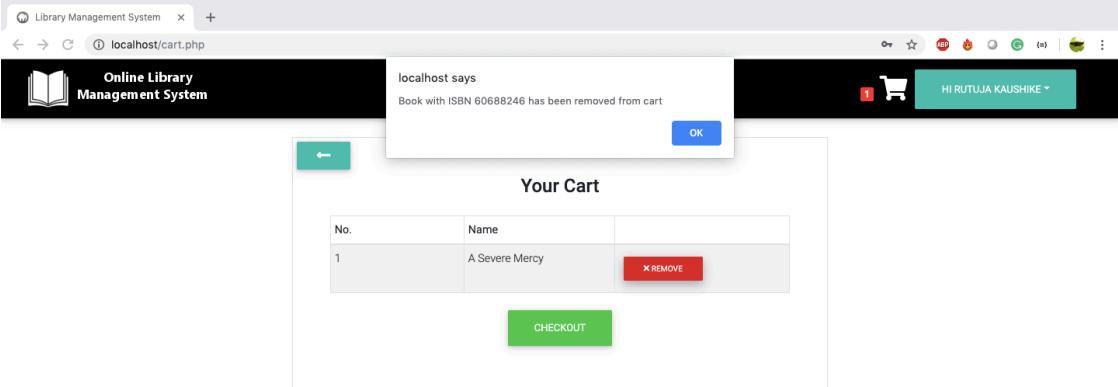


The screenshot shows a web browser window for 'Library Management System' at 'localhost/cart.php'. The title bar says 'Your Cart'. The main content area displays a table with one row:

No.	Name	
1	A Severe Mercy	X REMOVE

Below the table is a green 'CHECKOUT' button. In the top right corner of the browser window, there is a shopping cart icon with a '1' and a user profile 'HI RUTUJA KAUSHIKI'.

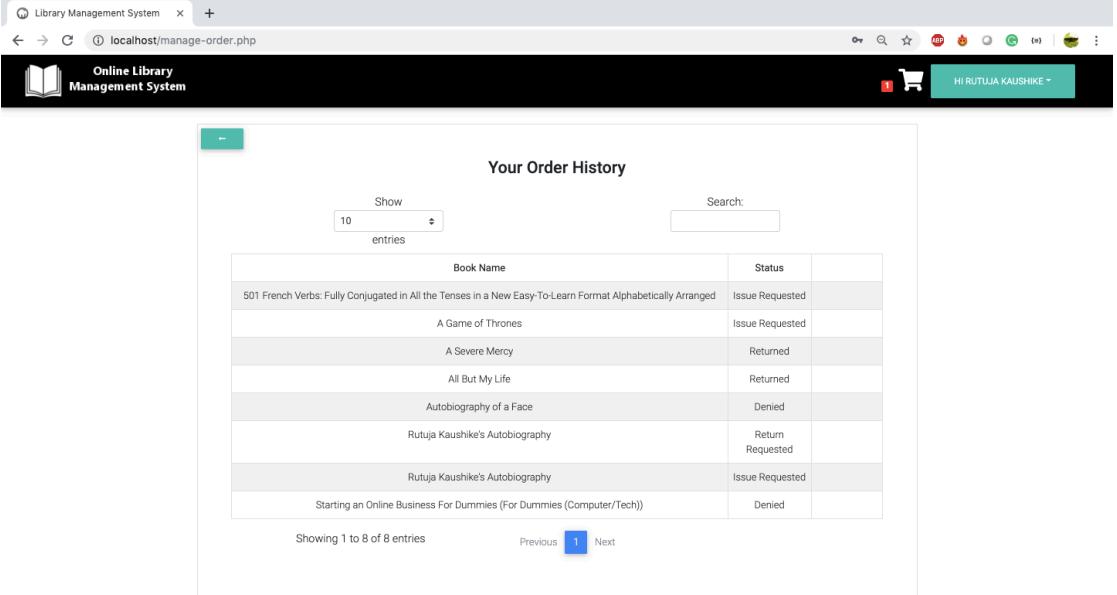
- Cart after removing an element



The screenshot shows a web browser window for 'Library Management System' at 'localhost/cart.php'. A modal dialog box is displayed in the center of the screen with the message: 'localhost says Book with ISBN 60688246 has been removed from cart' and an 'OK' button. The background shows the 'Your Cart' page with the same table structure as the previous screenshot, but the 'X REMOVE' button is now grayed out.

Online Library Management System

- Order history of a student



The screenshot shows a web browser window titled "Library Management System" with the URL "localhost/manage-order.php". The page header includes the "Online Library Management System" logo and a user session "HI RUTUJA KAUSHIK". A shopping cart icon with a red notification badge is also present.

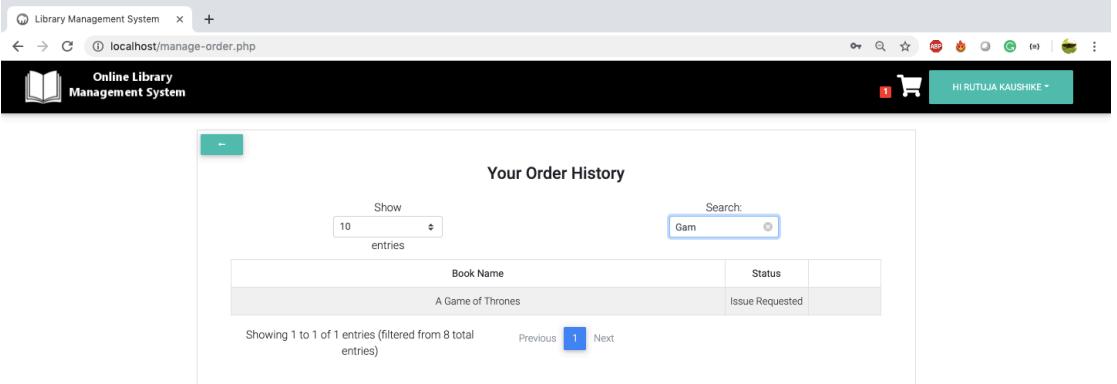
The main content area is titled "Your Order History". It features a search bar with "Search:" and a dropdown menu "Show" set to "10 entries". Below this is a table with columns "Book Name" and "Status". The table contains the following data:

Book Name	Status
501 French Verbs: Fully Conjugated in All the Tenses in a New Easy-To-Learn Format Alphabetically Arranged	Issue Requested
A Game of Thrones	Issue Requested
A Severe Mercy	Returned
All But My Life	Returned
Autobiography of a Face	Denied
Rutuja Kaushik's Autobiography	Return Requested
Rutuja Kaushik's Autobiography	Issue Requested
Starting an Online Business For Dummies (For Dummies (Computer/Tech))	Denied

At the bottom, it says "Showing 1 to 8 of 8 entries" with navigation buttons "Previous" and "Next".

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- Searching enabled in Orders page



The screenshot shows the same "Your Order History" page as above, but with a search term "Gam" entered into the search bar. The results show one entry:

Book Name	Status
A Game of Thrones	Issue Requested

Below the table, it says "Showing 1 to 1 of 1 entries (filtered from 8 total entries)" with navigation buttons "Previous" and "Next".

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Online Library Management System

- Admin Dashboard

The screenshot shows the Admin Dashboard with the following data:

Category	Value
Books Listed	166
Book Issue/ Return Requests	4
Account Activate Requests	2
Registered Users	6
Authors Listed	166
Categories Listed	13

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- Books are managed by Admin

The screenshot shows the Manage Books page with the following data:

ISBN	Book Name	Image	No of Copies
60523808	Who Says Elephants Can't Dance? Inside IBM's Historic Turnaround		6
6055971	I Never Had It Made: An Autobiography of Jackie Robinson		7
60688246	A Severe Mercy		5
60741872	Alas		6
60746378	Mayo Clinic Guide to a Healthy Pregnancy		10

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Online Library Management System

- Searching enabled in Books

Manage Books

Show: 10 entries

Search: Rutuja Kaushik

ADD BOOK

ISBN	Book Name	Image	No of Copies
1234567890	Rutuja Kaushik's Autobiography		1

Showing 1 to 1 of 1 entries (filtered from 173 total entries)

Previous **1** Next

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- Adding a book

Add Book

1234567899

How to train your dragon

3

Upload Book Cover Choose file Browse

Select Author(s) Rutuja Kaushik

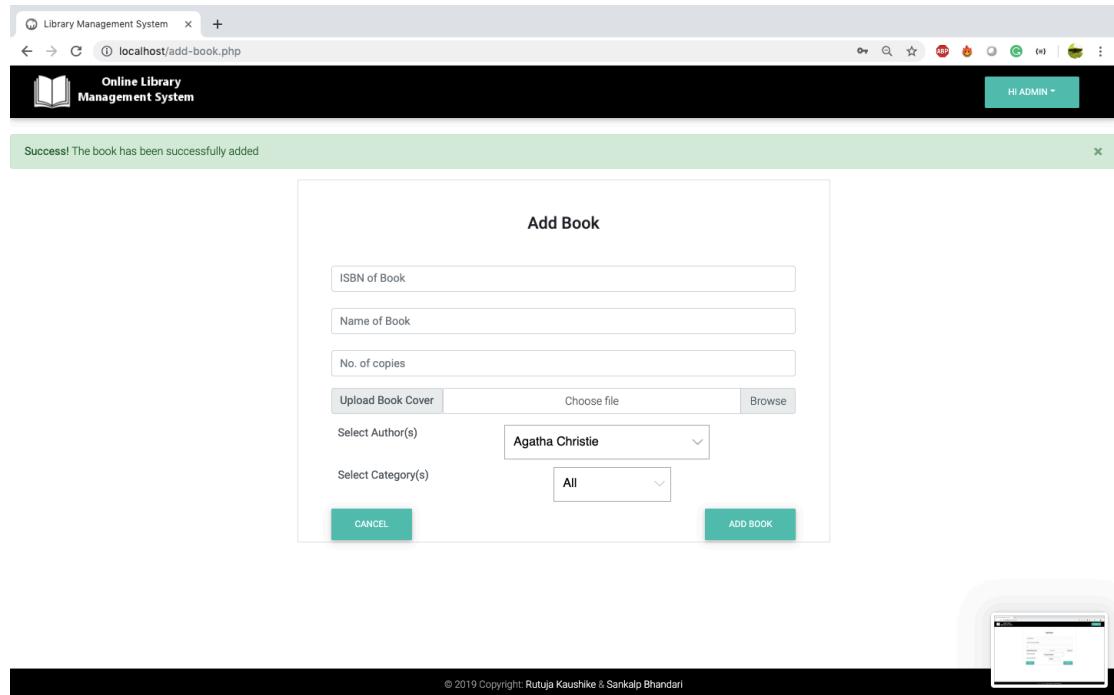
Select Category(s) History

CANCEL ADD BOOK

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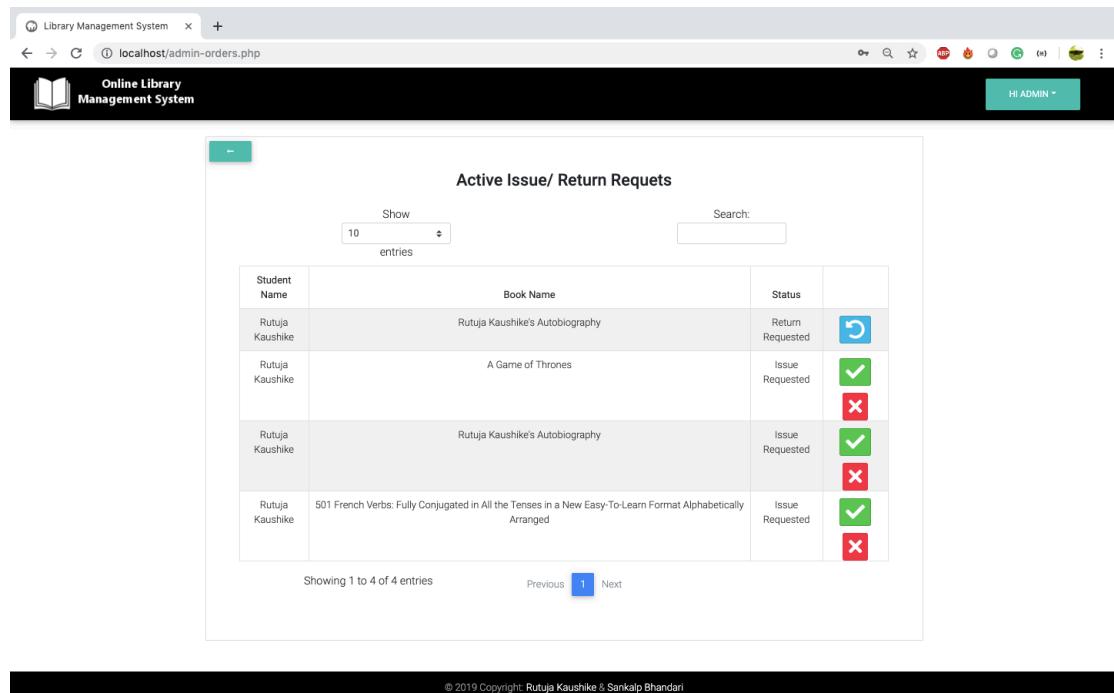
Online Library Management System

- Book added successfully



The screenshot shows a web browser window for 'Library Management System' at the URL 'localhost/add-book.php'. The title bar says 'Success! The book has been successfully added'. The main form is titled 'Add Book' and contains fields for ISBN of Book, Name of Book, No. of copies, Upload Book Cover (with 'Choose file' and 'Browse' buttons), Select Author(s) (set to 'Agatha Christie'), and Select Category(s) (set to 'All'). There are 'CANCEL' and 'ADD BOOK' buttons at the bottom.

- Book issue approval portal



The screenshot shows a web browser window for 'Library Management System' at the URL 'localhost/admin-orders.php'. The title bar says 'Active Issue/ Return Requests'. The table has columns for Student Name, Book Name, Status, and actions. The data is as follows:

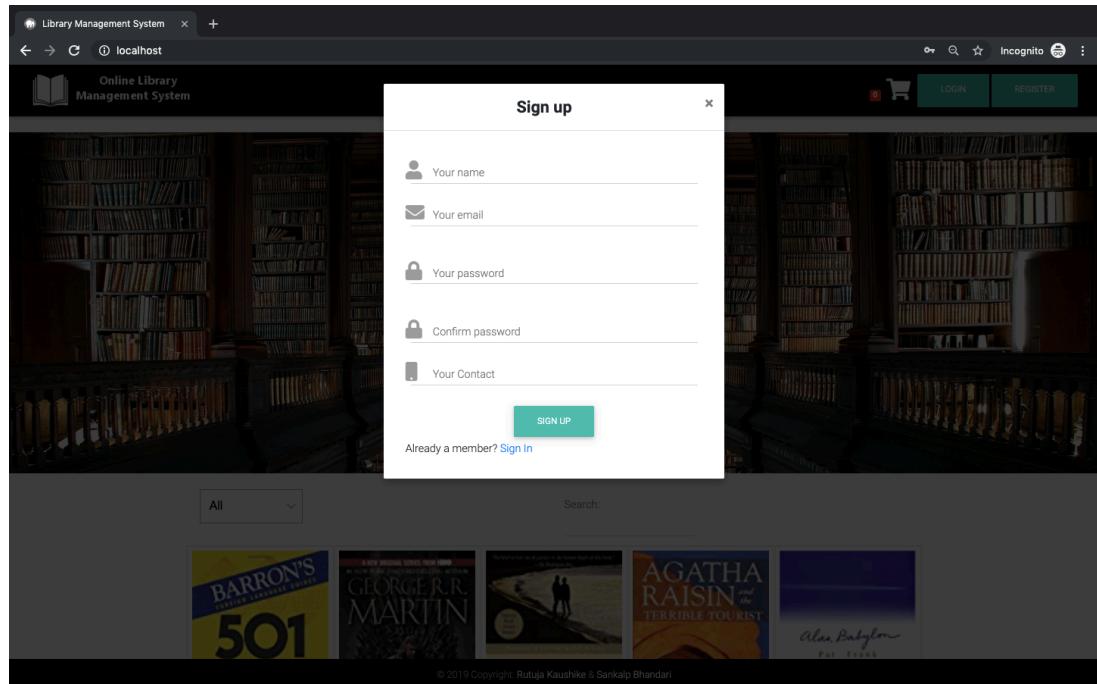
Student Name	Book Name	Status	
Rutuja Kaushik	Rutuja Kaushik's Autobiography	Return Requested	⟳
Rutuja Kaushik	A Game of Thrones	Issue Requested	✓ ✗
Rutuja Kaushik	Rutuja Kaushik's Autobiography	Issue Requested	✓ ✗
Rutuja Kaushik	501 French Verbs: Fully Conjugated in All the Tenses in a New Easy-To-Learn Format Alphabetically Arranged	Issue Requested	✓ ✗

Showing 1 to 4 of 4 entries

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Online Library Management System

- Registration of new students



- Approving registered users

ID	Name	Email	Contact	Status
1001	Deepak	deepak@utdallas.edu	12345	INACTIVE

Online Library Management System

- Registered student directory

The screenshot shows a web browser window titled "Library Management System" with the URL "localhost/get_student.php". The page is titled "Manage Students" and displays a table of student records. The table has columns for ID, Name, Email, Contact, and Status. The status column contains buttons labeled "ACTIVE" (green) and "INACTIVE" (red). The data in the table is as follows:

ID	Name	Email	Contact	Status
1000	Sankalp Bhandari	sankalp@utdallas.edu	1234567890	ACTIVE
1001	Deepak	deepak@utdallas.edu	12345	INACTIVE
1004	dp	dp@utdallas.edu	1234567	ACTIVE
1005	pp	pp@utdallas.edu	12345	ACTIVE
1006	sb	sb@utdallas.edu	12345	ACTIVE
1007	Rutuja Kaushik	rutu@utdallas.edu	4692233822	ACTIVE

Below the table, it says "Showing 1 to 6 of 6 entries" and has "Previous" and "Next" buttons. At the bottom, there is a copyright notice: "© 2019 Copyright: Rutuja Kaushik & Sankalp Bhandari".

- Manage Authors page having similar functionality as of Managing Books

The screenshot shows a web browser window titled "Library Management System" with the URL "localhost/manage-authors.php". The page is titled "Manage Authors" and displays a table of author records. The table has columns for Author ID and Author Name. Each row contains a checkbox in the last column. The data in the table is as follows:

Author ID	Author Name	
1	Ernest Hemingway	<input checked="" type="checkbox"/>
2	Daniel Quinn	<input checked="" type="checkbox"/>
3	Barack Obama	<input checked="" type="checkbox"/>
4	Franz Kafka	<input checked="" type="checkbox"/>
5	Bill Bryson	<input checked="" type="checkbox"/>
6	Caroline B. Cooney	<input checked="" type="checkbox"/>
7	James Herriot	<input checked="" type="checkbox"/>
8	Thomas Kempis	<input checked="" type="checkbox"/>
9	Ann Rule	<input checked="" type="checkbox"/>

At the top right of the page, there is a "ADD AUTHOR" button. At the bottom, there is a copyright notice: "© 2019 Copyright: Rutuja Kaushik & Sankalp Bhandari".

- Manage Categories page having similar functionality as of Managing Books

Category ID	Category Name	
1	Business	<input checked="" type="checkbox"/>
2	Computer	<input checked="" type="checkbox"/>
3	Education	<input checked="" type="checkbox"/>
4	Health	<input checked="" type="checkbox"/>
5	Kids	<input checked="" type="checkbox"/>
6	Literature	<input checked="" type="checkbox"/>
7	Romance	<input checked="" type="checkbox"/>
8	Science	<input checked="" type="checkbox"/>
9	Sports	<input checked="" type="checkbox"/>

Work Division

- Work was divided equally among both team members. Both the members designed the database together and normalized it. After that, the work was divided equally and implemented individually. At the end, the pages created were integrated as a project giving the complete project flow. The individual task assignments are as follows:

No.	Name	Tasks
1	Rutuja Kaushike	Designing and implementing the front-end and back-end of the Cart module, designing the index page, header and footer pages
2	Sankalp Bhandari	Designing and implementing the front-end and back-end of the Admin module, implementing pagination on Index page