Council for Technical Education and Vocational Training

Minor Project on

Home Library Management System (HLMS)

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ABSTRACT

The Home Library Management System is a web application tool created to assist individuals in effortlessly organizing their personal book collections. Its main purpose is to simplify the process of managing your home library, giving users a user-friendly and effective way to keep track of their books.With features like adding new books to your collection, keeping tabs on who has borrowed your books, updating book details, and searching for specific titles, this system is designed to make maintaining your personal library a breeze. Whether you're an avid reader or just want to keep your books in order, the Home Library Management System can help you stay organized and in control of your bookshelf.

Abbreviation

HLMS:- Home Library Management System

HTML:- HyperText Markup Language

CSS:- Cascading Style Sheets

PHP:- Hypertext Preprocessor (It was abbreviated as Personal Home Page)

IDE:- Integrated Development Environment

VS Code:- Visual Studio Code

ISBN:- International Standard Book Number

ER Diagram:- Entity Relationship Diagram

XAMPP:- X(cross platform), Apache, MySQL, PHP, Perl

PC:- Personal Computer

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Chapter I

INTRODUCTION

1.1 Introduction to project:

The "Home Library Management System" project is a user-friendly web application designed to simplify the monitoring and management of book-related data in a home library setting. Developed using a combination of HTML, CSS, and PHP, this system primarily focuses on fundamental library operations, enhancing the overall book management experience.

This web application, crafted using the versatile VS Code IDE, aims to empower users with an efficient solution for maintaining their home libraries. The system boasts a straightforward and intuitive user interface, making it incredibly user-friendly. It's engineered to cater to users of all levels of technical proficiency, ensuring that even those with limited computer skills can effortlessly navigate and utilize its features.

The core functionalities of the "Home Library Management System" include adding new books to the database, keeping track of lending and borrowing activities, and facilitating seamless book searches. These features enable users to efficiently catalog their book collections, monitor who has borrowed a book, and quickly locate specific titles within their library.

In essence, this web application represents a valuable asset for individuals seeking to maintain organized and accessible home libraries. Its simplicity, well-thought-out design, and emphasis on essential library operations make it an ideal tool for book enthusiasts and collectors who wish to enjoy a hassle-free and efficient library management experience.

1.2 Problem Statement:

Managing a home library can be a challenging task, especially when it comes to keeping tabs on the multitude of books in your collection, and without the aid of a management system, the endeavor becomes even more daunting.

1.3 Objectives:

The Basic objectives of this proposal are listed below

a. Efficient Data Entry: One of the primary objectives of the home library management system is to provide users with a streamlined and user-friendly platform for entering comprehensive data about their books. This includes not only basic details like book titles and authors but also extended information such as publication dates, genres and ISBN numbers. The system aims to make the process of cataloging books as efficient and thorough as possible.

b. Effective Book Search: Another key goal is to empower users to find books within their library swiftly and effortlessly. The system should offer a robust search functionality, allowing users to search by various criteria such as author, title or genre. The objective here is to eliminate the frustration of manual searching through shelves and enable users to locate their desired books with just a few clicks.

c. Lending Status Updates: The home library management system aims to simplify the process of tracking books that have been lent to others. Users should be able to update the system with lending information, specifying who has borrowed a particular. This objective helps users maintain accurate records of their books' lending history, ensuring books are returned in a timely manner.

d. Lending Status Check: The system should provide a convenient means for users to check the lending status of their books. This objective ensures that users can quickly ascertain whether a specific book is currently on loan or available for use within their library. It helps prevent confusion and potential issues related to misplaced or forgotten loans.

In summary, the overarching objective of a home library management system is to offer users a comprehensive and user-friendly toolset for managing their book collections. This includes entering detailed book data, facilitating efficient book searches, updating lending information, and providing real-time visibility into the lending status of each book. Ultimately, the system's aim is to enhance the organization and accessibility of a personal book library.

1.4 Literature review:

A thorough examination of existing literature highlights a noticeable gap in the realm of Home Library management solutions. While several applications like 'Goodreads[1]' offer valuable features for tracking personal reading habits, book preferences, and ongoing reads, they primarily serve as tools for readers to document their literary journeys.

Similarly, the website 'Librarika[2]' presents an intriguing option for creating an integrated library system; however, it is primarily tailored for professional or institutional use, rather than the specific needs of personal Home Libraries. This indicates that while there are some available resources in the broader context of library management, they might not cater adequately to the nuanced requirements of individual book enthusiasts.

Ultimately, the absence of dedicated systems designed explicitly for Home Libraries underscores the potential for the development of specialized Home Library Management Systems. Such systems could provide tailored features to assist individuals in organizing, cataloging, and efficiently managing their personal book collections, bridging the existing gap in this niche but essential area of literary management.

Chapter II
REQUIREMENT ANALYSIS AND FEASIBILITY ANALYSIS

2.1 Requirement analysis

2.1.1 Functional Requirement:

1. **Book Cataloging:**

    - Users should be able to add books to their library by entering details such as title, author, genre, ISBN, and publication date.
    - Users should be able to edit or delete book entries.

2. **Search and Retrieval:**

    - Users should be able to search for books within their library based on criteria like title, author and genre.

3. **Lending and Borrowing Management:**

    - Users should be able to mark books as lent to others, specifying the borrower's information.

2.1.2 Hardware requirements:

- PC with processor that can handle Browser
- Monitor
- Keyboard
- Mouse
- Hard Disk

2.1.3 Software requirements:

- HTML,CSS & PHP supporting web browser.
- Windows 7/8/10/11, Linux os, etc.
- XAMPP with MySQL.

2.2 Feasibility analysis:

2.2.1 Operational feasibility:

The project's operational feasibility hinges on its ability to not only be initiated but also to sustain itself effectively while adhering to the predefined operational objectives and constraints. In simpler terms, it possesses the qualities required to be executed and maintained successfully without encountering major obstacles that might impede its overall success.

This means that the project has been meticulously designed and planned to align with its established goals and operational boundaries. It has been structured in a way that accounts for the specific limitations and requirements of its intended environment. By doing so, the project minimizes the likelihood of facing significant issues or barriers that could compromise its progress or achievements.

2.2.2 Technical feasibility:

The project is doable from a technical standpoint because the students who are working on it have the right skills and know-how to use the required tools and technology. Also, all the stuff we need to create the project is available and ready to use. So, we're in a good position to make this project work from a technical perspective.

2.2.3 Economical feasibility:

The economic feasibility of the project is a compelling aspect, primarily because it leverages open-source and freely available software tools. This strategic choice significantly reduces the overall project cost and enhances its financial viability.

One noteworthy example is the utilization of Visual Studio Code (VS Code) as the Integrated Development Environment (IDE). VS Code's availability as a free-to-install and use platform means that there are no licensing fees or ongoing software expenses associated with the development process. This not only minimizes the initial investment but also ensures that the project remains cost-effective throughout its lifecycle.

CHAPTER III
DIAGRAMS

3.1 Data modeling:

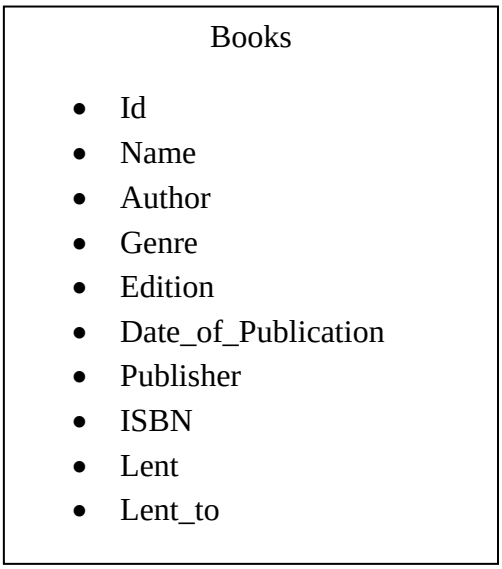


Fig 3.1: Data model

3.2 ER diagram:

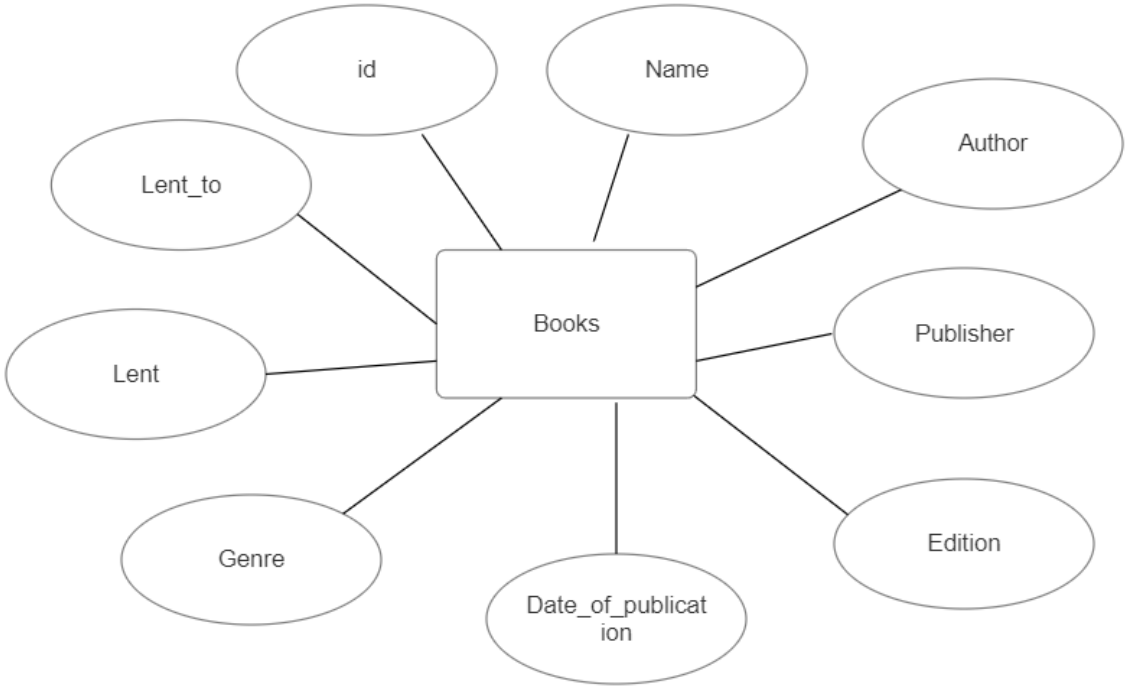


Fig 3.2: ER diagram

3.3 Flowchart:

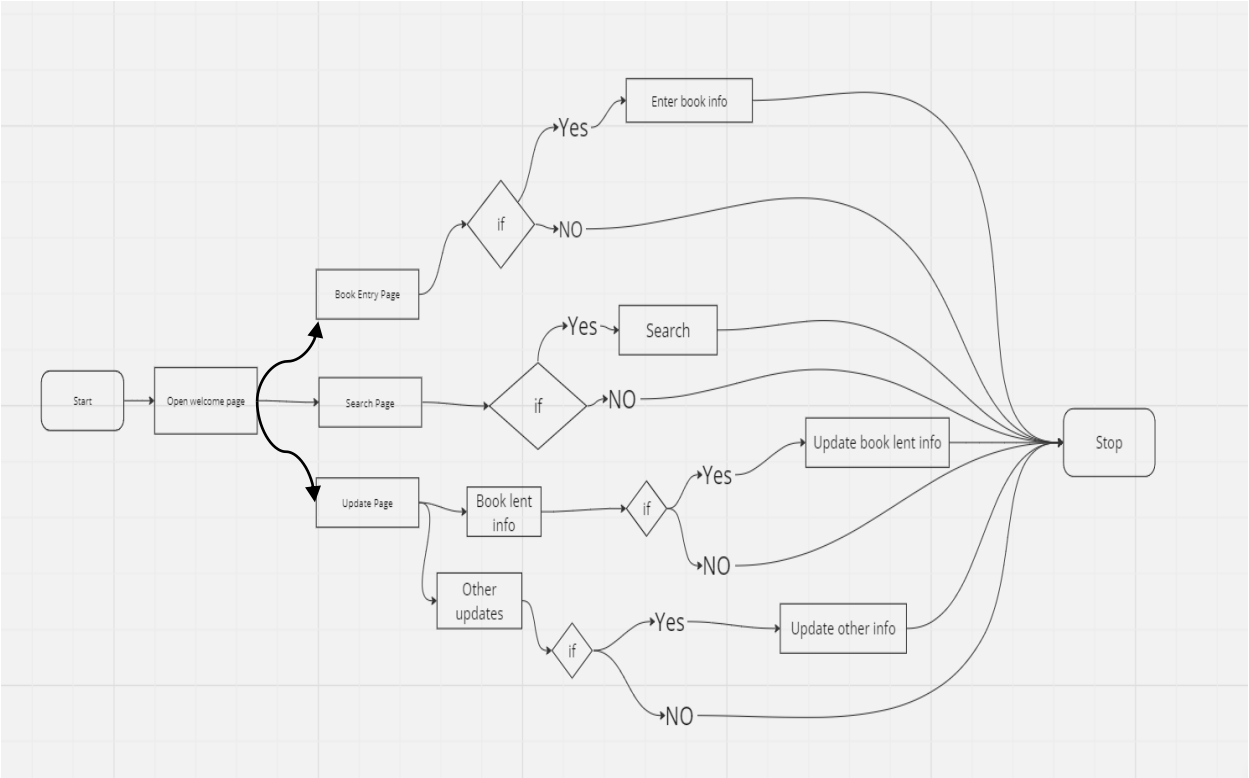


Fig 3.3: Flowchart

3.4 Use case diagram

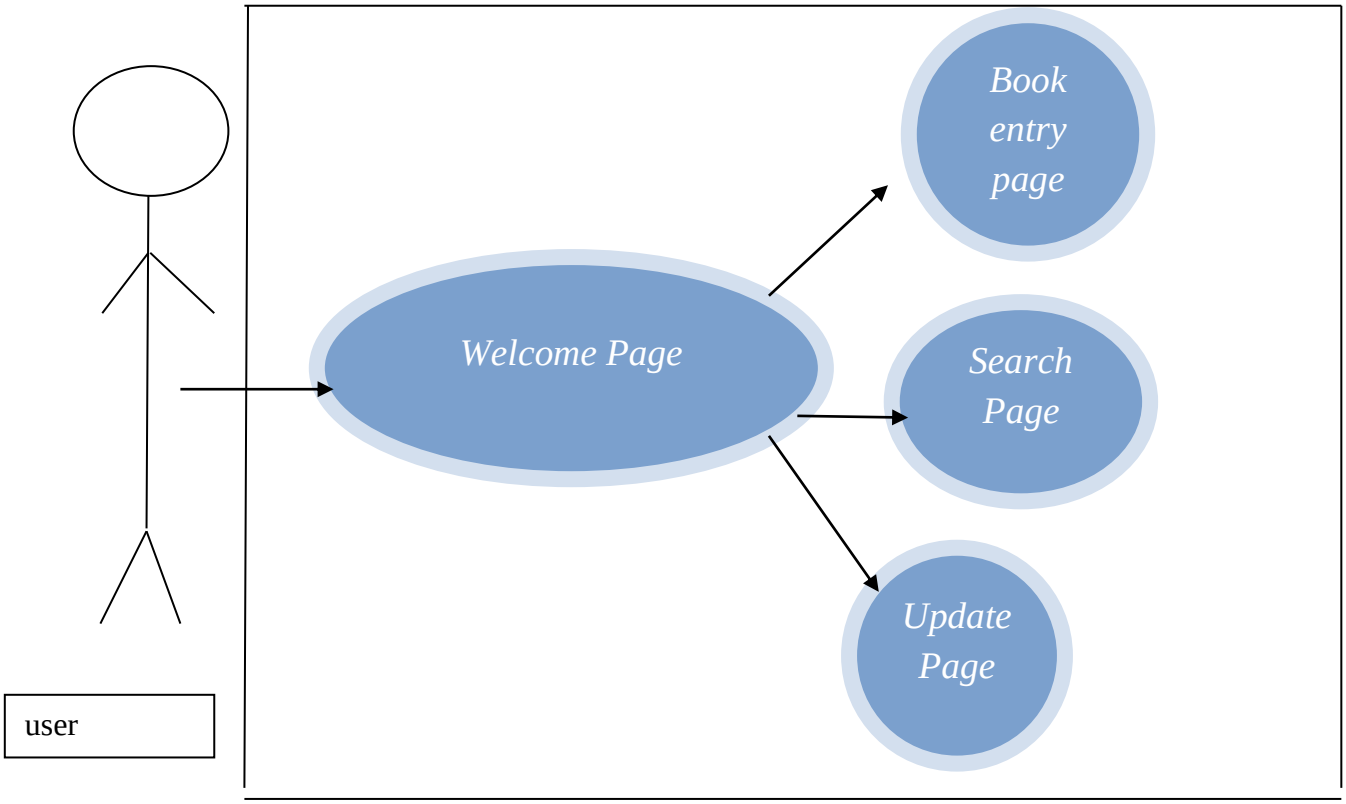


Fig3.4 use case diagram

CHAPTER IV
CONCLUSION

The Home Library Management System should undergo a computerization process to enhance its efficiency. This document outlines the information needed to create a computerized library management system with the aim of improving library organization. This system is tailored to store comprehensive information about the books in the library.

The primary objective of this project is to promote effective and organized record-keeping within the library. While we are initially developing a web application, it's important to note that this project can serve as a foundation for creating a software solution with even more advanced features in the future.

REFERENCE

1. Mike Thelwall and Kayvan Kousha - Goodreads: A Social Network Site for Book Readers, Feb 2016
2. Mayank Yuvaraj – Library automation with cloud based ILMS Librarika: case study of Central University of South Bihar

Appendix A

Welcome page HTML:

```html
<!DOCTYPE html>
<html>
    <head>
        <title></title>
        <link rel="stylesheet" type="text/css" href="project.css">
    </head>
    <body>


    <nav>
        <div class="logo"> <h1 >CreativeHub </h1></div>
        <div class="menu">
            <a href="http://localhost/Library/Form.html"> Book Entry </a>
            <a href="http://localhost/Library/Update.html"> Update </a>
                    <a href="mailto:creativehub2080@gmail.com?subject=Home Library Management System">Conatct us</a>
             <a href="http://localhost/Library/search.php">Search</a>
    </nav>
        <div class="main">
            <div class="section">
                <h3>"HOME LIBRARY MANAGAEMENT SYSTEM"</h3>
                <h1>WELCOME</h1>
                <p>To your own personal library.</p><br>
       </div>
            </div>


    </body>

</html>
```

Book entry form HTML:

```html
<!DOCTYPE html>
<html>
<head>
    <title>Form</title>
    <link rel="stylesheet" type="text/css" href="form.css">
</head>
<div class="main">
    <div class="BookEntry">
        <h2>Book Entry</h2>
        <form action="bookentry.php" method="post">
            <label> Name :</label>
            <br>
            <input type="text" name="bname" id="name" placeholder="book name" required>
            <br><br>
            <label>Author :</label>
            <br>
            <input type="text" name="author" id="name" placeholder="Author" required>
            <br><br>
            <label>Genre :</label>
            <br>
            <input type="text" name="genre" id="name" placeholder="Genre">
            <br><br>
            <label>ISBN :</label>
            <br>
            <input type="text" name="isbn" id="name" placeholder="ISBN">
            <br><br>
            <label>Edition :</label>
            <br>
            <input type="text" name="edition" id="name" placeholder="edition">
            <br><br>
            <label>Publisher :</label>
            <br>
            <input type="text" name="publisher" id="name" placeholder="Publisher Name">
```

```html
            <input type="text" name="dop" id="name" placeholder="publication date">
            <br><br>
            <br>
            <input type="submit" name="submit" id="submit">
        </form>
        </div>



        <div >
            <h2><a href="http://localhost/Library/welcome/welcome.html" style="color: whitesmoke;">Home</a></h2>
            <h2><a href="http://localhost/Library/Update.html" style="color: whitesmoke;">Update</a></h2>

        </div>


</div>
</container>

</div>

</body>
</html>
```

Book entry form CSS:

```css
*{
    margin: 0;
padding: 0;
}
body{
    background:url(aaaa.jpg);
    height: 100vh;
    background-size: cover;
    background-position: center;
}
div.main{
    padding-top: 20px;
    padding-left: 25px;
    display: flex;
    justify-content:space-around;
}
.lamo{
    align-items: center;

}



h2{
    padding: 20px;
    font-family: sans-serif;

}
div.BookEntry{

    padding-left: 70px;
    background-size: cover;
    backface-visibility: 20%;
```

```
    background-color: rgba(0,0,0,0.5);
    width: 40%;
    font-size: 18px;
    border-radius: 10px;
    border:1px solid rgba(255,255,255,0.3);
    box-shadow: 2PX 2PX 15PX rgba(0,0,0,0.3);
    color: #fff;


}
label{
    font-family: sans-serif;
    font-size: 18px;
    font-style: italic;
}
input#name{
    width: 300px;
    border:1px solid #fff;
    border-radius: 3px;
    outline: 0px;
    padding:7px;
    background-color: #fff;
    box-shadow: inset 1px 1px  5px rgba(0,0,0,0.3);
}
input#submit{

    width: 200px;
    padding: 2px;
    font-size: 16px;
    font-family: sans-serif;
    font-weight: 600;
    border:none;
    border-radius: 3px;
```

```
    background-color:green;
    color: #fff;
    cursor: pointer;
    border:1px solid rgba(255,255,255,0.3);
    box-shadow: 1px 1px 5px rgba(0,0,0,0.3);
    margin-bottom: 20px;

}
label,span,h2{
    text-shadow: 1px 1px 5px rgba(0,0,0,0.8);
}
```

Book entry form php:

```php
<?php

    /* MySQL server connection. Assuming you are running MySQL
    server with default setting (user 'root' with no password) */

    $link = mysqli_connect("localhost", "root", "", "library");

    // Check connection

    if (mysqli_connect_error()) {
        die("Database connection failed: " . mysqli_connect_error());
      }

    // Escape user inputs for security
    $name = mysqli_real_escape_string($link, $_POST['bname']);
    $author  = mysqli_real_escape_string($link, $_POST['author']);
    $genre = mysqli_real_escape_string($link, $_POST['genre']);
    $isbn = mysqli_real_escape_string($link, $_POST['isbn']);
    $edition = mysqli_real_escape_string($link, $_POST['edition']);
    $publisher = mysqli_real_escape_string($link, $_POST['publisher']);
    $dop = mysqli_real_escape_string($link, $_POST['dop']);

```

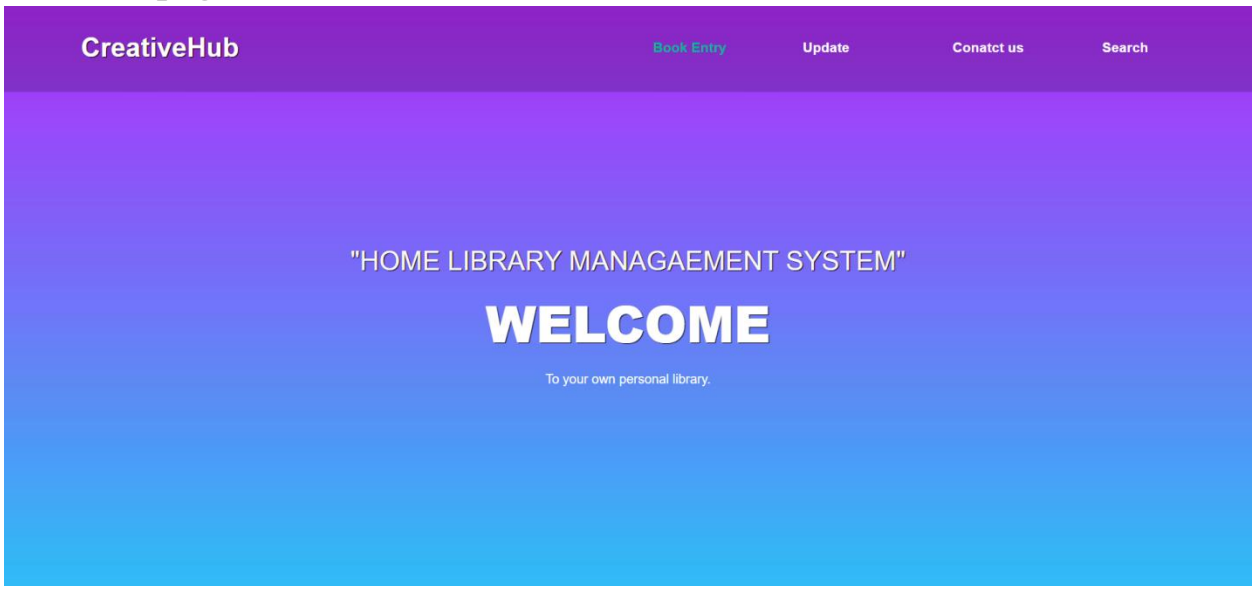
```php

    // insert query execution
    $sql = "INSERT INTO books (Name, Author, Genre, ISBN, Edition, Publisher, Date_of_Publication ) VALUES ('$name', '$author', '$genre',

    if(mysqli_query($link, $sql)){
        echo "Records added successfully.";
    } else{
        echo "ERROR: Could not able to execute $sql. " . mysqli_error($link);
    }

    // close connection
    mysqli_close($link);

?>
```

Database:

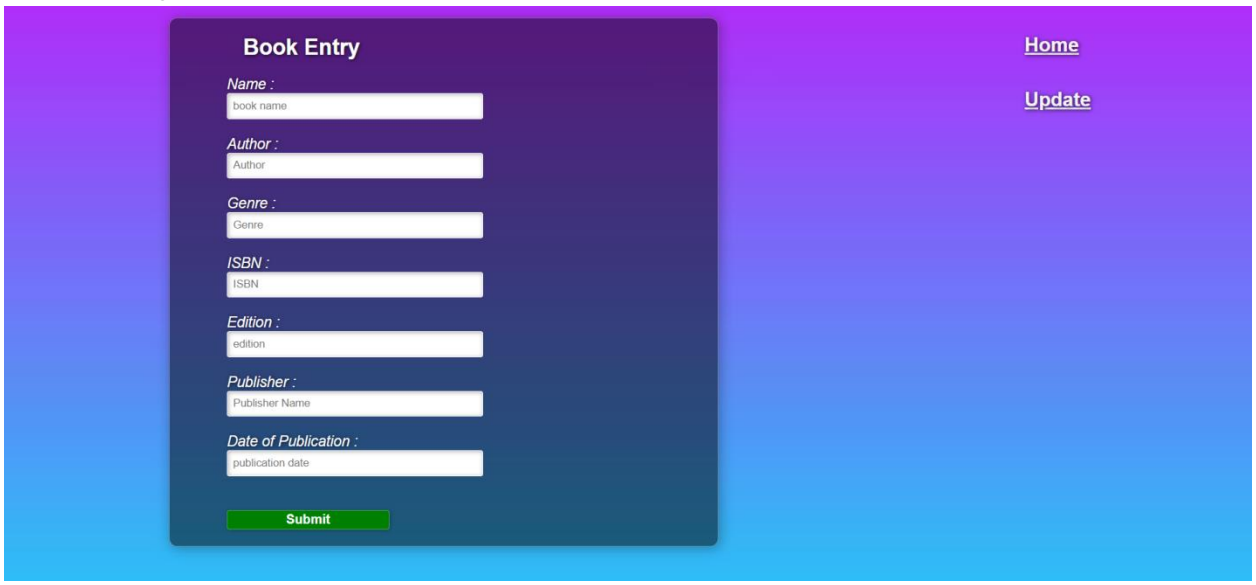
	id	Name	Author	Genre	ISBN	Edition	Publisher	Date_of_publication	Lent	Lent_to
Edit Copy Delete	1	The Hobbit (The lord of the Rings Prelude)	J.R.R Tolkien	Fantasy	978-0-00-837605-5	13th	Harper Collins Publisher	1937 A.D		
Edit Copy Delete	2	The Fellowship of the Ring (The Lord of the Rings ...	J.R.R Tolkien	Fantasy	978-0-00-837606-2	11th	Harper Collins Publisher	1954 A.D	NULL	NULL
Edit Copy Delete	3	The Two Towers (The Lord of the Rings -2)	J.R.R Tolkien	Fantasy	978-0-00-837607-9	11th	Harper Collins Publisher	1954 A.D	NULL	NULL
Edit Copy Delete	4	[The Return of the King (The Lord of the Rings -3)...	J.R.R Tolkien	Fantasy	978-0-00-837608-6	10th	Harper Collins Publisher	1955 A.D	NULL	NULL
Edit Copy Delete	5	Seto Bagh	Daimond Shamsher Rana	Historical Fiction	978-99933-0-781-5	22th	Ratna Pustak Bhandar	2030 B.S	NULL	NULL
Edit Copy Delete	6	Manu	Dr.Devi Prasad Subedi	Mythological Fiction	978-9937-753-45-6	1st	Book Hill Publication	2079 B.S	NULL	NULL
Edit Copy Delete	7	Ramite	Jason Kunwar	Fantasy/Fiction	978-9937-0-8537-3	1st	Red Panda Publication	2077 B.S	NULL	NULL
Edit Copy Delete	8	Of Mice and Men (Musa Manus)	John Steinbeck (Translation Ganesh Paudel)	Dystopian Fiction	978-9937-9351-9-7	1st	Book Hill Publication	2077 B.S	NULL	NULL
Edit Copy Delete	9	Fahrenheit 451	Ray Bradbury	Fiction	978-0-00-654606-1		Harper Collins Publisher	19th Oct 1953 A.D	NULL	NULL
Edit Copy Delete	10	To Kill a Mockingbird	Harper Lee	Fiction	9780099544982	60th Anniversary Edition	Arrow Books Publication	1960 A.D	NULL	NULL
Edit Copy Delete	11	To the Light House	Virginia woolf	Fiction	978-81-8132-032-2		Robin Books Publication	1927 A.D	NULL	NULL
Edit Copy Delete	12	The Bell Jar	Sylvia Plath	Fiction	978-81-8132-034-6		Robin Books Publication	1963 A.D	NULL	NULL

Appendix B

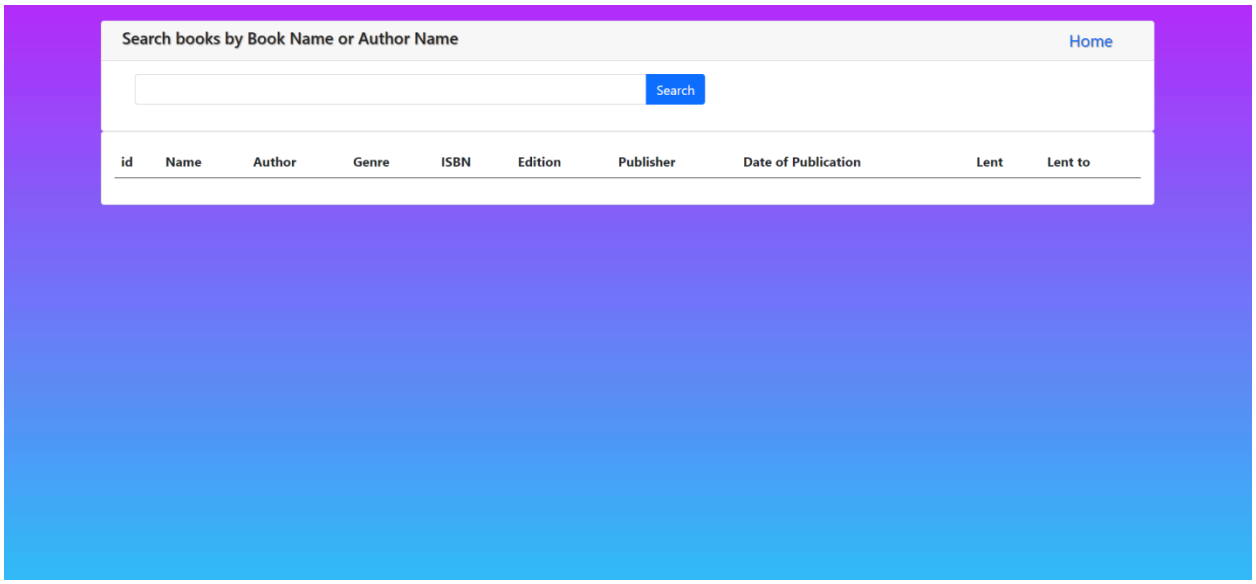
Welcome page:



Book entry form:

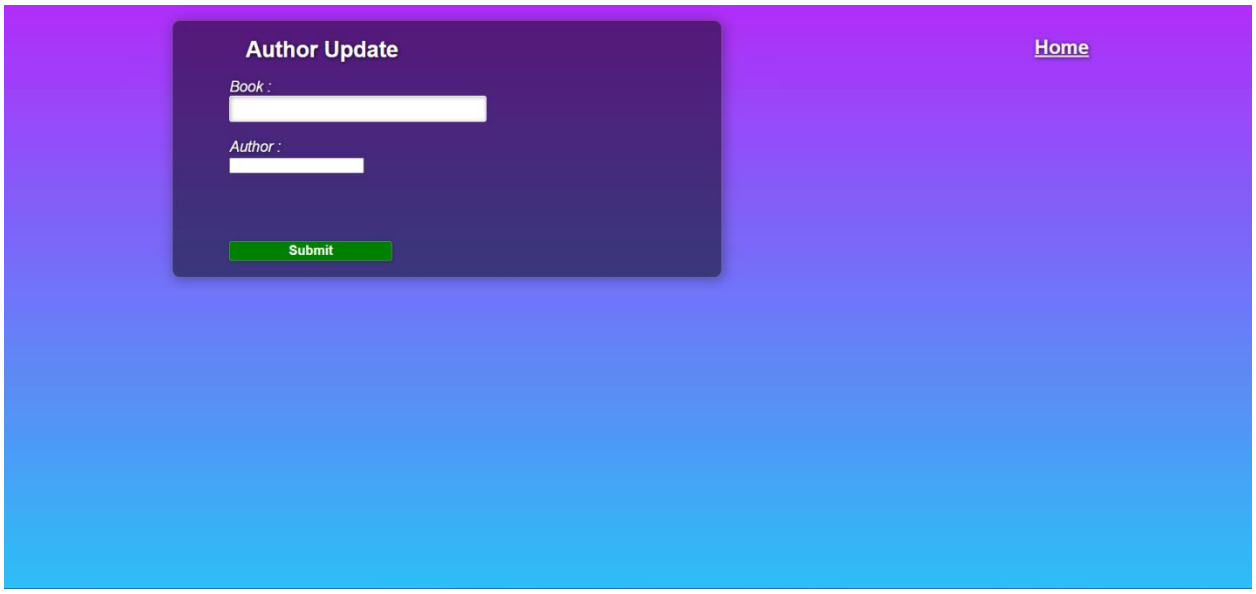
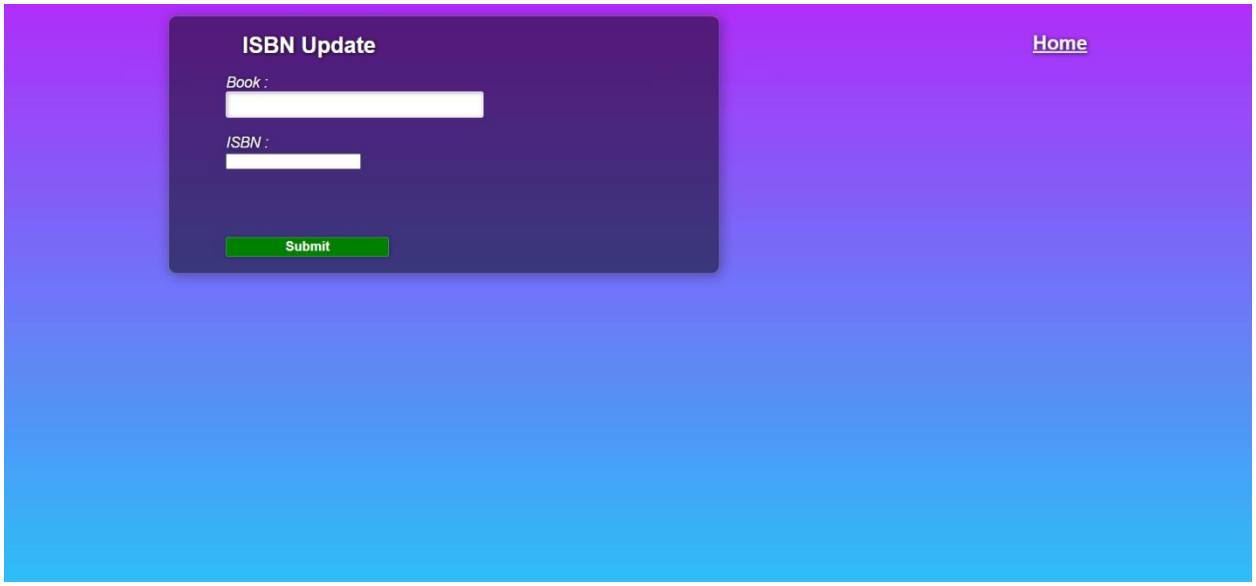


Search page:



Update page:

Author update page:



ISBN update page: