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1. Design Document

Koob Design Document (Ian Miller D23124630)
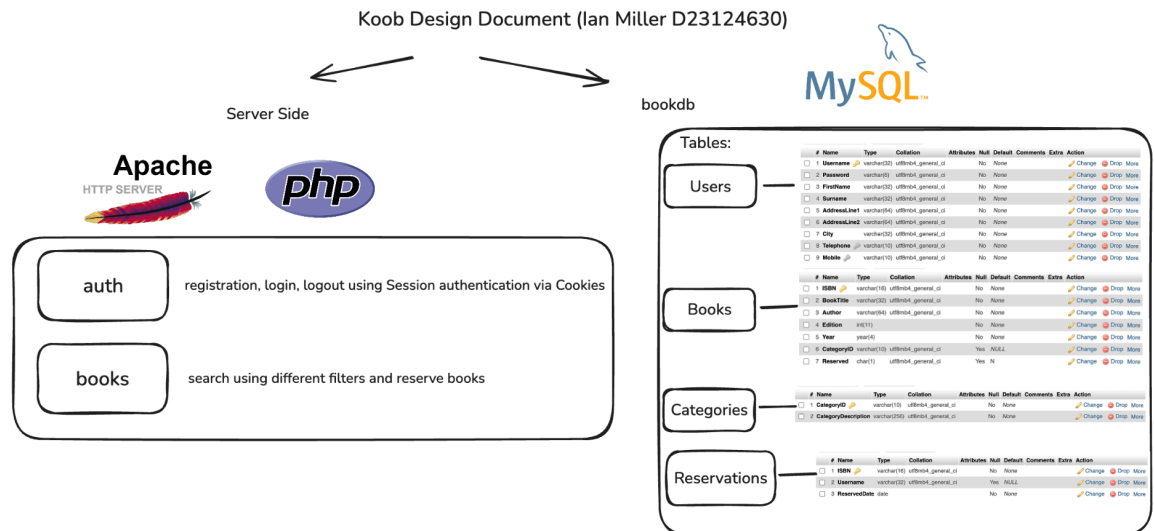
Forward Engineering at phpMyAdmin using SQL:

CREATE table Users (

    Username varchar(32) PRIMARY KEY,

    Password varchar(6) not null,

    FirstName varchar(32) not null,

    Surname varchar(32) not null,

    AddressLine1 varchar(64) not null,

    AddressLine2 varchar(64) not null,

    City varchar(32) not null,

    Telephone varchar(10) UNIQUE not null,

    Mobile varchar(10) UNIQUE not null

);

    CREATE TABLE Categories (

```sql
    CategoryID varchar(10) PRIMARY KEY,

    CategoryDescription varchar(256) not null

);


create table Books (

    ISBN varchar(16) PRIMARY KEY,

    BookTitle varchar(32) not null,

    Author varchar(64) not null,

    Edition int not null,

    Year YEAR not null,

    CategoryID varchar(10) REFERENCES categories (CategoryID) ON
DELETE SET NULL,

    Reserved char(1) DEFAULT 'N'

);


create table Reservations (

    ISBN varchar(16) PRIMARY KEY REFERENCES books (ISBN) ON
DELETE CASCADE ON UPDATE CASCADE,

    Username varchar(32) REFERENCES users (Username) ON DELETE
CASCADE ON UPDATE CASCADE,

    ReservedDate DATE NOT NULL

);
```

2. List of PHP pages used in application

- index.php: starting page of the web site that checks if a user isn't authenticated it renders register and login buttons otherwise greets the user getting access to search books and see current reservations for authenticated user.
- registration.php: allows user to create an account and then redirects to login
- login.php: allows user to login, start the session, set username to Cookies and then redirect to search_books.php and change navbar getting access to search and view book reservations.
- search_book.php: page that allows only authenticated users to search specific books by applying filters by book title, author and book category and allowing them to reserve a book. List 5 rows of data per page as well.
- reservations.php: allows user to view and manage current reservations with the ability to remove them. List 5 rows of data per page as well.

3. Source code

"index.php"

```php
<?php

session_start();

$isAuthenticated = isset($_SESSION['username']);

$username = $isAuthenticated ?

htmlspecialchars($_SESSION['username']) : null;

?>

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport"

content="width=device-width, initial-scale=1.0">
```

```html
        <meta name="description" content="koob is an
advanced Book Reservation System. Login or register to
get started!">
        <title>Welcome to koob</title>
        <link rel="stylesheet" href="styles/index.css">
    </head>
    <body>
        <nav>
            <ul class="navbar">
                <li><a href="index.php">koob</a></li>
                <?php if ($isAuthenticated): ?>
                    <li><a
href="books/search_book.php">Search</a></li>
                    <li><a
href="books/reservations.php">Reservations</a></li>
                    <li><a
href="auth/logout.php">Logout</a></li>
                <?php else: ?>
                    <li><a
href="auth/login.php">Login</a></li>
                    <li><a
href="auth/registration.php">Register</a></li>
                <?php endif; ?>
            </ul>
        </nav>
```

```php
<header>

    <div class="container">

        <h1><span

class="highlight">koob</span></h1>

            <p>Book Reservation System built with

PHP, MySQL and Apache Web Server  </p>

        </div>

    </header>

    <main>

        <div class="cta">

        <?php if (!$isAuthenticated): ?>

            <p>Login or Register to get started!</p>

        <?php else: ?>

            <p>Hi, <?= htmlspecialchars($username);

?>! Enjoy searching and reserving a book.</p>

        <?php endif; ?>

            <div class="links">

                <?php if (!$isAuthenticated): ?>

                    <a href="auth/login.php"

class="btn">Login</a>

                    <a href="auth/registration.php"

class="btn">Register</a>

                <?php else: ?>

                    <a href="books/search_book.php"

class="btn">Search books</a>

                <?php endif; ?>
```

```html
                    </div>

                </div>

            </main>

            <footer>

                <p>&copy; 2024 <span

class="highlight">koob</span>. Created by Ian Miller

(D23124620)</p>

            </footer>

        </body>

        </html>
```

"registration.php"

```php
<?php
session_start();
$isAuthenticated = isset($_SESSION['username']);


if ($_SERVER['REQUEST_METHOD'] === 'POST') {

    $host = 'localhost';

    $db = 'bookdb';

    $user = 'root';

    $pass = '';


    try {
```

```php
        $pdo = new PDO("mysql:host=$host;dbname=$db",
$user, $pass);

        $pdo->setAttribute(PDO::ATTR_ERRMODE,
PDO::ERRMODE_EXCEPTION);

    } catch (PDOException $e) {

        die("Database connection failed: " .
$e->getMessage());

    }


        $username = trim($_POST['username']);

        $password = $_POST['password'];

        $confirm_password = $_POST['confirm_password'];

        $firstname = trim($_POST['firstname']);

        $surname = trim($_POST['surname']);

        $address1 = trim($_POST['address1']);

        $address2 = trim($_POST['address2']);

        $city = trim($_POST['city']);

        $telephone = trim($_POST['telephone']);

        $mobile = trim($_POST['mobile']);


        $errors = [];


    if (empty($username) || empty($password) ||
empty($confirm_password) || empty($firstname) ||
empty($surname) || empty($address1) || empty($address2)
|| empty($city) || empty($telephone) || empty($mobile)) {
```

```php
        $errors[] = "All fields are required.";

    }

    if ($password !== $confirm_password) {

        $errors[] = "Passwords do not match.";

    }

    if (strlen($password) !== 6) {

        $errors[] = "Password must be exactly 6
characters.";

    }

    if (!preg_match('/^\d{10}$/', $telephone)) {

        $errors[] = "Telephone must be 10 numeric
characters.";

    }

    if (!preg_match('/^\d{10}$/', $mobile)) {

        $errors[] = "Mobile must be 10 numeric
characters.";

    }


    $stmt = $pdo->prepare("SELECT COUNT(*) FROM Users
WHERE Username = :username");

    $stmt->execute(['username' => $username]);

    if ($stmt->fetchColumn() > 0) {

        $errors[] = "Username already exists. Please
choose a different username.";

    }
```

```php
        if (empty($errors)) {
            try {
                $stmt = $pdo->prepare("INSERT INTO Users
(Username, Password, FirstName, Surname, AddressLine1,
AddressLine2, City, Telephone, Mobile)
                    VALUES (:username, :password,
:firstname, :surname, :address1, :address2, :city,
:telephone, :mobile)");

                $stmt->execute([
                    'username' => $username,
                    'password' => $password,
                    'firstname' => $firstname,
                    'surname' => $surname,
                    'address1' => $address1,
                    'address2' => $address2,
                    'city' => $city,
                    'telephone' => $telephone,
                    'mobile' => $mobile
                ]);

                $successMessage = "Registration
successful! <a href='login.php'>Click here to
login</a>.";

            } catch (PDOException $e) {
```

```php
                $errors[] = "An error occurred: " .
$e->getMessage();

            }

        }

    }

    ?>



    <!DOCTYPE html>

    <html lang="en">

    <head>

        <meta charset="UTF-8">

        <meta name="viewport"
content="width=device-width, initial-scale=1.0">

        <title>Registration - koob</title>

        <link rel="stylesheet"
href="../styles/index.css">

    </head>

    <body>

        <nav>

            <ul class="navbar">

                <li><a href="../index.php">koob</a></li>

                <?php if ($isAuthenticated): ?>

                    <li><a
href="../books/search_book.php">Search</a></li>

                    <li><a
href="../books/reservations.php">Reservations</a></li>
```

```php
                    <li><a
href="logout.php">Logout</a></li>
                    <?php else: ?>
                    <li><a
href="login.php">Login</a></li>
                    <li><a
href="registration.php">Register</a></li>
                    <?php endif; ?>
            </ul>
        </nav>


        <header>
            <div class="container">
                <h1>Register at <span
class="highlight">koob</span></h1>
                <p>Get access to book reservations!</p>
            </div>
        </header>


        <main>
            <form class="registration-form"
method="POST">
                <?php
                if (!empty($errors)) {
                    echo "<div class='error'>";
                    foreach ($errors as $error) {
```

```php
            echo "<p>$error</p>";

        }

        echo "</div>";

    }

    if (!empty($successMessage)) {

        echo "<div

class='success'>$successMessage</div>";

    }

    ?>

    <div class="form-group">

        <label

for="username">Username:</label>

        <input type="text" id="username"

name="username" maxlength="32" required>

    </div>

    <div class="form-group">

        <label

for="password">Password:</label>

        <input type="password" id="password"

name="password" minlength="6" maxlength="6" required>

    </div>

    <div class="form-group">

        <label for="confirm_password">Confirm

Password:</label>
```

```html
                    <input type="password"
id="confirm_password" name="confirm_password"
minlength="6" maxlength="6" required>
                </div>

                <div class="form-group">
                    <label for="firstname">First
Name:</label>
                    <input type="text" id="firstname"
name="firstname" maxlength="32" required>
                </div>

                <div class="form-group">
                    <label for="surname">Surname:</label>
                    <input type="text" id="surname"
name="surname" maxlength="32" required>
                </div>

                <div class="form-group">
                    <label for="address1">Address Line
1:</label>
                    <input type="text" id="address1"
name="address1" maxlength="64" required>
                </div>

                <div class="form-group">
                    <label for="address2">Address Line
2:</label>
                    <input type="text" id="address2"
name="address2" maxlength="64" required>
```

```html
            </div>

            <div class="form-group">

                <label for="city">City:</label>

                <input type="text" id="city"
name="city" maxlength="32" required>

            </div>

            <div class="form-group">

                <label
for="telephone">Telephone:</label>

                <input type="text" id="telephone"
name="telephone" pattern="\d{10}" maxlength="10"
required>

            </div>

            <div class="form-group">

                <label for="mobile">Mobile:</label>

                <input type="text" id="mobile"
name="mobile" pattern="\d{10}" maxlength="10" required>

            </div>

            <div class="form-actions">

                <button type="submit"
class="btn">Register</button>

            </div>

        </form>

    </main>


    <footer>
```

```html
            <p>&copy; 2024 <span
class="highlight">koob</span>. Created by Ian Miller
(D23124620)</p>

        </footer>

    </body>

    </html>
```

"login.php"

```php
<?php
session_start();
$isAuthenticated = isset($_SESSION['username']);


if ($_SERVER['REQUEST_METHOD'] === 'POST') {
    $host = 'localhost';
    $db = 'bookdb';
    $user = 'root';
    $pass = '';


    try {
        $pdo = new PDO("mysql:host=$host;dbname=$db",
$user, $pass);
        $pdo->setAttribute(PDO::ATTR_ERRMODE,
PDO::ERRMODE_EXCEPTION);
    } catch (PDOException $e) {
```

```php
            die("Database connection failed: " .
$e->getMessage());
        }


        $username = trim($_POST['username']);

        $password = $_POST['password'];


        $errors = [];


        if (empty($username) || empty($password)) {

            $errors[] = "Both username and password are
required.";

        }



        if (empty($errors)) {

            $stmt = $pdo->prepare("SELECT Password FROM
Users WHERE Username = :username");

            $stmt->execute(['username' => $username]);

            $storedPassword = $stmt->fetchColumn();


            if ($storedPassword === $password) {

                $_SESSION['username'] = $username;

                $_SESSION['login_time'] = time();

                $_SESSION['timeout'] = 900;

                header("Location:
../books/search_book.php");
```

```php
                exit;

            } else {

                $errors[] = "Invalid username or
password.";

            }

        }

    }

    ?>
```

```html
    <!DOCTYPE html>

    <html lang="en">

    <head>

        <meta charset="UTF-8">

        <meta name="viewport"
content="width=device-width, initial-scale=1.0">

        <title>Login - koob</title>

        <link rel="stylesheet"
href="../styles/index.css">

    </head>

    <body>

        <nav>

            <ul class="navbar">

                <li><a href="../index.php">koob</a></li>

                <li><a href="login.php">Login</a></li>

                <li><a
href="registration.php">Register</a></li>
```

```php
            </ul>
        </nav>


    <header>
        <div class="container">
            <h1>Login to <span
class="highlight">koob</span></h1>
            <p>Access your account to reserve
books!</p>
        </div>
    </header>


    <main>
        <form class="login-form" method="POST">
            <?php if (isset($_GET['timeout']) &&
$_GET['timeout'] == 1): ?>
                <div class="error">
                    <p>Your session has expired.
Please log in again.</p>
                </div>
            <?php endif; ?>
            <?php
            if (!empty($errors)) {
                echo "<div class='error'>";
                foreach ($errors as $error) {
                    echo "<p>$error</p>";
```

```php
                    }
                    echo "</div>";
                }
                ?>
                <div class="form-group">
                    <label
for="username">Username:</label>
                    <input type="text" id="username"
name="username" maxlength="32" required>
                </div>
                <div class="form-group">
                    <label
for="password">Password:</label>
                    <input type="password" id="password"
name="password" minlength="6" maxlength="6" required>
                </div>
                <div class="form-actions">
                    <button type="submit"
class="btn">Login</button>
                    <a href="../index.php" class="btn
btn-outline">koob</a>
                </div>
            </form>
        </main>


        <footer>
```

```html
            <p>&copy; 2024 <span
class="highlight">koob</span>. Created by Ian Miller
(D23124620)</p>

        </footer>

    </body>

    </html>
```

"logout.php"

```php
<?php
session_start();


$_SESSION = [];


session_destroy();


header("Location: ../index.php");
exit();
?>
```

"search_book.php"

```php
<?php
session_start();
$isAuthenticated = isset($_SESSION['username']);
$username = $isAuthenticated ? $_SESSION['username']
: null;
```

```php
$host = 'localhost';

$db = 'bookdb';

$user = 'root';

$pass = '';


ini_set('display_errors', 1);

ini_set('display_startup_errors', 1);

error_reporting(E_ALL);


try {

    $pdo = new PDO("mysql:host=$host;dbname=$db",
$user, $pass);

    $pdo->setAttribute(PDO::ATTR_ERRMODE,
PDO::ERRMODE_EXCEPTION);

} catch (PDOException $e) {

    die("Database connection failed: " .
$e->getMessage());

}


$successMessage = $_SESSION['success_message'] ??
"";

$errorMessage = $_SESSION['error_message'] ?? "";

unset($_SESSION['success_message'],
$_SESSION['error_message']);
```

```php
// Handle reservation confirmation
if ($_SERVER['REQUEST_METHOD'] === 'POST' &&
isset($_POST['confirm_reserve']) && $isAuthenticated) {
    $isbn = trim($_POST['isbn']);
    try {
        $stmt = $pdo->prepare("SELECT Reserved FROM
Books WHERE ISBN = :isbn");
        $stmt->execute([':isbn' => $isbn]);
        $reserved = $stmt->fetchColumn();


        if ($reserved === 'N') {
            $stmt = $pdo->prepare("INSERT INTO
Reservations (ISBN, Username, ReservedDate) VALUES
(:isbn, :username, CURDATE())");
            $stmt->execute([':isbn' => $isbn,
':username' => $username]);


            $stmt = $pdo->prepare("UPDATE Books SET
Reserved = 'Y' WHERE ISBN = :isbn");
            $stmt->execute([':isbn' => $isbn]);


            $_SESSION['success_message'] = "The book
has been reserved successfully!";
        } else {
            $_SESSION['error_message'] = "The book is
already reserved.";
```

```php
            }

        } catch (PDOException $e) {

            $_SESSION['error_message'] = "Failed to
reserve the book: " . $e->getMessage();

        }

        header("Location: search_book.php");

        exit;

    }


    // Handle search

    $searchResults = [];

    $title = trim($_GET['title'] ?? '');

    $author = trim($_GET['author'] ?? '');

    $category = trim($_GET['category'] ?? '');


    $resultsPerPage = 5;

    $currentPage = isset($_GET['page']) &&
is_numeric($_GET['page']) ? (int)$_GET['page'] : 1;

    $offset = ($currentPage - 1) * $resultsPerPage;


    $query = "SELECT b.ISBN, b.BookTitle, b.Author,
b.Edition, b.Year, b.Reserved, c.CategoryDescription
            FROM Books b
            LEFT JOIN Categories c ON b.CategoryID =
c.CategoryID
            WHERE 1=1";
```

```php
    $params = [];

    if ($title) {
        $query .= " AND b.BookTitle LIKE :title";

        $params[':title'] = "%$title%";

    }

    if ($author) {
        $query .= " AND b.Author LIKE :author";

        $params[':author'] = "%$author%";

    }

    if ($category) {
        $query .= " AND c.CategoryDescription =
:category";

        $params[':category'] = $category;

    }


    $query .= " LIMIT $resultsPerPage OFFSET $offset";


    try {
        $stmt = $pdo->prepare($query);

        $stmt->execute($params);

        $searchResults =
$stmt->fetchAll(PDO::FETCH_ASSOC);

    } catch (PDOException $e) {
        die("Error in SQL Query: " . $e->getMessage());

    }
```

```php
    $totalQuery = "SELECT COUNT(*) FROM Books b LEFT
JOIN Categories c ON b.CategoryID = c.CategoryID WHERE
1=1";

    if ($title) {

        $totalQuery .= " AND b.BookTitle LIKE :title";

    }

    if ($author) {

        $totalQuery .= " AND b.Author LIKE :author";

    }

    if ($category) {

        $totalQuery .= " AND c.CategoryDescription =
:category";

    }


    try {

        $totalStmt = $pdo->prepare($totalQuery);

        $totalStmt->execute($params);

        $totalResults = $totalStmt->fetchColumn();

    } catch (PDOException $e) {

        die("Error counting total results: " .
$e->getMessage());

    }


    $totalPages = ceil($totalResults / $resultsPerPage);
```

```php
    // Handle modal data

    $reserveISBN = $_POST['isbn'] ?? null;

    $reserveTitle = $_POST['bookTitle'] ?? null;

    ?>
```

```html
    <!DOCTYPE html>

    <html lang="en">

    <head>

        <meta charset="UTF-8">

        <meta name="viewport"
content="width=device-width, initial-scale=1.0">

        <title>Search for Books - koob</title>

        <link rel="stylesheet"
href="../styles/index.css">

        <link rel="stylesheet"
href="../styles/search_book.css">

    </head>

    <body>

        <nav>

            <ul class="navbar">

                <li><a href="../index.php">koob</a></li>

                <?php if ($isAuthenticated): ?>

                    <li><a
href="search_book.php">Search</a></li>

                    <li><a
href="reservations.php">Reservations</a></li>
```

```php
            <li><a
href="../auth/logout.php">Logout</a></li>

                <?php else: ?>

                <li><a
href="../auth/login.php">Login</a></li>

                <li><a
href="../auth/registration.php">Register</a></li>

                <?php endif; ?>

            </ul>

        </nav>


        <header>

            <div class="container">

                <h1><span
class="highlight">koob</span></h1>

                <p>Search specific book </p>

            </div>

        </header>


        <main>

            <div class="search-bar">

                <form method="GET">

                    <input type="text" name="title"
placeholder="Search by Title" value="<?=
htmlspecialchars($title) ?>">
```

```php
                    <input type="text" name="author"
placeholder="Search by Author" value="<?=
htmlspecialchars($author) ?>">
                        <select name="category">
                            <option value="">-- Select
Category --</option>
                            <?php
                            $categories = $pdo->query("SELECT
CategoryDescription FROM
Categories")->fetchAll(PDO::FETCH_COLUMN);
                            foreach ($categories as $cat) {
                                $selected = ($category ===
$cat) ? 'selected' : '';
                                echo "<option value=\"$cat\"
$selected>$cat</option>";
                            }
                            ?>
                        </select>
                        <button type="submit">Search</button>
                </form>
            </div>


            <?php if (!empty($successMessage)): ?>
                <div class="message-container">
                    <p class="success"><?=
htmlspecialchars($successMessage) ?></p>
```

```php
                    <a href="reservations.php" class="btn
btn-primary">View My Reservations</a>
                </div>
            <?php endif; ?>

            <?php if (!empty($errorMessage)): ?>
                <p class="error"><?=
htmlspecialchars($errorMessage) ?></p>
            <?php endif; ?>


            <?php if (!empty($searchResults)): ?>
                <table>
                    <thead>
                        <tr>
                            <th>ISBN</th>
                            <th>Title</th>
                            <th>Author</th>
                            <th>Edition</th>
                            <th>Year</th>
                            <th>Category</th>
                            <th>Status</th>
                            <th>Action</th>
                        </tr>
                    </thead>
                    <tbody>
                        <?php foreach ($searchResults as
$book): ?>
```

```php
<tr>
    <td><?= htmlspecialchars($book['ISBN']) ?></td>
    <td><?= htmlspecialchars($book['BookTitle']) ?></td>
    <td><?= htmlspecialchars($book['Author']) ?></td>
    <td><?= htmlspecialchars($book['Edition']) ?></td>
    <td><?= htmlspecialchars($book['Year']) ?></td>
    <td><?= htmlspecialchars($book['CategoryDescription'] ?? 'No Category') ?></td>
    <td class="<?= $book['Reserved'] === 'Y' ? 'reserved' : '' ?>">
        <?= $book['Reserved'] === 'Y' ? 'Reserved' : 'Available' ?>
    </td>
    <td>
        <?php if ($book['Reserved'] === 'N' && $isAuthenticated): ?>
            <form method="POST" style="margin: 0;">
```

```php
                                          <input
type="hidden" name="isbn" value="<?=
htmlspecialchars($book['ISBN']) ?>">
                                          <input
type="hidden" name="bookTitle" value="<?=
htmlspecialchars($book['BookTitle']) ?>">
                                          <button
type="submit" class="btn-reserve">Reserve</button>
                                      </form>
                                  <?php elseif
($book['Reserved'] === 'Y'): ?>
                                      <span
class="reserved">Not Available</span>
                                  <?php else: ?>
                                      <span>Please
login to reserve</span>
                                  <?php endif; ?>
                              </td>
                          </tr>
                      <?php endforeach; ?>
                  </tbody>
              </table>


              <div class="pagination">
                  <?php if ($currentPage > 1): ?>
```

```php
                    <a href="?<?=
http_build_query(array_merge($_GET, ['page' =>
$currentPage - 1])) ?>">Previous</a>
                    <?php endif; ?>


                    <?php for ($page = 1; $page <=
$totalPages; $page++): ?>
                        <a href="?<?=
http_build_query(array_merge($_GET, ['page' => $page]))
?>"
                            class="<?= $page ==
$currentPage ? 'active' : '' ?>">
                            <?= $page ?>
                        </a>
                    <?php endfor; ?>


                    <?php if ($currentPage <
$totalPages): ?>
                        <a href="?<?=
http_build_query(array_merge($_GET, ['page' =>
$currentPage + 1])) ?>">Next</a>
                    <?php endif; ?>
                </div>


            <?php else: ?>
```

```php
                <p>No books found matching your search criteria.</p>

            <?php endif; ?>


            <?php if ($reserveISBN && $reserveTitle): ?>
                <div class="modal">
                    <form method="POST">
                        <h2 class="prompt-text">Confirm Reservation</h2>
                        <p class="prompt-text">Do you want to reserve the book <strong><?= htmlspecialchars($reserveTitle) ?></strong> (ISBN: <?= htmlspecialchars($reserveISBN) ?>)?</p>
                        <input type="hidden" name="isbn" value="<?= htmlspecialchars($reserveISBN) ?>">
                        <button type="submit" name="confirm_reserve" class="btn btn-primary">Yes</button>
                        <a href="search_book.php" class="btn btn-danger">No</a>
                    </form>
                </div>
            <?php endif; ?>
        </main>


        <footer>
```

```html
<p>&copy; 2024 <span
class="highlight">koob</span>. Created by Ian Miller
(D23124620)</p>
    </footer>


    <style>
        .prompt-text {
            color: black;
        }


        .modal {
            position: fixed;
            top: 50%;
            left: 50%;
            transform: translate(-50%, -50%);
            background-color: #fff;
            padding: 20px;
            box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);
            border-radius: 8px;
            z-index: 1000;
            width: 90%;
            max-width: 500px;
        }


        .modal h2 {
            margin-top: 0;
```

```css
}


.modal p {

    margin: 10px 0;

}


.modal .btn {

    display: inline-block;

    margin: 5px;

    padding: 10px 15px;

    text-decoration: none;

    border: none;

    border-radius: 5px;

    cursor: pointer;

}


.modal .btn-primary {

    background-color: #00e676;

    color: #fff;

}


.modal .btn-danger {

    background-color: #ff5252;

    color: #fff;

}
```

```css
        .modal .btn-primary:hover {

            background-color: #00c853;

        }


        .modal .btn-danger:hover {

            background-color: #ff1744;

        }


        .modal a {

            text-decoration: none;

        }
    </style>
</body>
</html>
```

"reservations.php"

```php
<?php
session_start();
$isAuthenticated = isset($_SESSION['username']);
$username = $isAuthenticated ? $_SESSION['username']
: null;


if (!$isAuthenticated) {
    header("Location: ../auth/login.php");
    exit;
}
```

```php
$host = 'localhost';

$db = 'bookdb';

$user = 'root';

$pass = '';


try {

    $pdo = new PDO("mysql:host=$host;dbname=$db",
$user, $pass);

    $pdo->setAttribute(PDO::ATTR_ERRMODE,
PDO::ERRMODE_EXCEPTION);

} catch (PDOException $e) {

    die("Database connection failed: " .
$e->getMessage());

}


// Handle removal confirmation
if ($_SERVER['REQUEST_METHOD'] === 'POST' &&
isset($_POST['confirm_remove'])) {

    $isbn = trim($_POST['isbn']);

    $stmt = $pdo->prepare("DELETE FROM Reservations
WHERE ISBN = :isbn AND Username = :username");

    $stmt->execute([':isbn' => $isbn, ':username' =>
$username]);
```

```php
        $stmt = $pdo->prepare("UPDATE Books SET Reserved
= 'N' WHERE ISBN = :isbn");

        $stmt->execute([':isbn' => $isbn]);


        $_SESSION['success_message'] = "Reservation for
the book has been successfully removed.";


        header("Location: " . $_SERVER['PHP_SELF']);

        exit;

    }


    // Handle modal data

    $removeISBN = $_POST['isbn'] ?? null;

    $removeTitle = $_POST['bookTitle'] ?? null;


    // Success message

    $successMessage = $_SESSION['success_message'] ??
"";

    unset($_SESSION['success_message']);


    // Pagination variables

    $resultsPerPage = 5;

    $currentPage = isset($_GET['page']) &&
is_numeric($_GET['page']) ? (int)$_GET['page'] : 1;

    $offset = ($currentPage - 1) * $resultsPerPage;
```

```php
    // Fetch total reservations count
    $totalQuery = "SELECT COUNT(*) FROM Reservations
WHERE Username = :username";
    $stmt = $pdo->prepare($totalQuery);
    $stmt->execute([':username' => $username]);
    $totalResults = $stmt->fetchColumn();
    $totalPages = ceil($totalResults / $resultsPerPage);


    // Fetch reservations for the current page
    $stmt = $pdo->prepare("
        SELECT r.ISBN, b.BookTitle, b.Author, b.Edition,
b.Year, c.CategoryDescription, r.ReservedDate
        FROM Reservations r
        INNER JOIN Books b ON r.ISBN = b.ISBN
        LEFT JOIN Categories c ON b.CategoryID =
c.CategoryID
        WHERE r.Username = :username
        LIMIT :limit OFFSET :offset
    ");
    $stmt->bindValue(':username', $username,
PDO::PARAM_STR);
    $stmt->bindValue(':limit', $resultsPerPage,
PDO::PARAM_INT);
    $stmt->bindValue(':offset', $offset,
PDO::PARAM_INT);
    $stmt->execute();
```

```php
    $reservations = $stmt->fetchAll(PDO::FETCH_ASSOC);

    ?>



    <!DOCTYPE html>

    <html lang="en">

    <head>

        <meta charset="UTF-8">

        <meta name="viewport"

content="width=device-width, initial-scale=1.0">

        <title>My Reservations - koob</title>

        <link rel="stylesheet"

href="../styles/index.css">

        <link rel="stylesheet"

href="../styles/reservations.css">

    </head>

    <body>

        <nav>

            <ul class="navbar">

                <li><a href="../index.php">koob</a></li>

                <li><a

href="search_book.php">Search</a></li>

                <li><a

href="reservations.php">Reservations</a></li>

                <li><a

href="../auth/logout.php">Logout</a></li>

            </ul>
```

```php
        </nav>


    <main class="reservations-wrapper">
        <h1><?= htmlspecialchars($username) ?>'s
Reservations</h1>


        <?php if (!empty($successMessage)): ?>
            <p class="success"><?=
htmlspecialchars($successMessage) ?></p>
        <?php endif; ?>


        <?php if (!empty($reservations)): ?>
            <table>
                <thead>
                    <tr>
                        <th>ISBN</th>
                        <th>Title</th>
                        <th>Author</th>
                        <th>Edition</th>
                        <th>Year</th>
                        <th>Category</th>
                        <th>Reserved Date</th>
                        <th>Action</th>
                    </tr>
                </thead>
                <tbody>
```

```php
<?php foreach ($reservations as $reservation): ?>
    <tr>
        <td><?= htmlspecialchars($reservation['ISBN']) ?></td>
        <td><?= htmlspecialchars($reservation['BookTitle']) ?></td>
        <td><?= htmlspecialchars($reservation['Author']) ?></td>
        <td><?= htmlspecialchars($reservation['Edition']) ?></td>
        <td><?= htmlspecialchars($reservation['Year']) ?></td>
        <td><?= htmlspecialchars($reservation['CategoryDescription'] ?? 'No Category') ?></td>
        <td><?= htmlspecialchars($reservation['ReservedDate']) ?></td>
        <td>
            <form method="POST" style="margin: 0;">
                <input type="hidden" name="isbn" value="<?= htmlspecialchars($reservation['ISBN']) ?>">
```

```php
                            <input
type="hidden" name="bookTitle" value="<?=
htmlspecialchars($reservation['BookTitle']) ?>">
                                <button
type="submit" class="btn btn-danger">Remove</button>
                                </form>
                            </td>
                        </tr>
                    <?php endforeach; ?>
                </tbody>
            </table>


            <div class="pagination">
                <?php if ($currentPage > 1): ?>
                    <a href="?<?=
http_build_query(array_merge($_GET, ['page' =>
$currentPage - 1])) ?>">Previous</a>
                <?php endif; ?>


                <?php for ($page = 1; $page <=
$totalPages; $page++): ?>
                    <a href="?<?=
http_build_query(array_merge($_GET, ['page' => $page]))
?>"
                        class="<?= $page ==
$currentPage ? 'active' : '' ?>">
```

```php
                    <?= $page ?>
                </a>
            <?php endfor; ?>


            <?php if ($currentPage <
$totalPages): ?>
                <a href="?<?=
http_build_query(array_merge($_GET, ['page' =>
$currentPage + 1])) ?>">Next</a>
                <?php endif; ?>
        </div>
    <?php else: ?>
        <p>No reservations found.</p>
    <?php endif; ?>


    <?php if ($removeISBN && $removeTitle): ?>
        <div class="modal">
            <form method="POST">
                <h2 class="prompt-text">Confirm
Removal</h2>
                <p class="prompt-text">Do you
want to remove the reservation for the book <strong><?=
htmlspecialchars($removeTitle) ?></strong> (ISBN: <?=
htmlspecialchars($removeISBN) ?>)?</p>
                <input type="hidden" name="isbn"
value="<?= htmlspecialchars($removeISBN) ?>">
```

```html
                    <button type="submit"
name="confirm_remove" class="btn
btn-primary">Yes</button>
                        <a href="reservations.php"
class="btn btn-danger">No</a>
                </form>
            </div>
        <?php endif; ?>
    </main>


    <footer>
        <p>&copy; 2024 <span
class="highlight">koob</span>. Created by Ian Miller
(D23124620)</p>
    </footer>


    <style>
        .prompt-text {
            color: black;
        }


        .modal {
            position: fixed;
            top: 50%;
            left: 50%;
            transform: translate(-50%, -50%);
```

```css
    background-color: #fff;

    padding: 20px;

    box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);

    border-radius: 8px;

    z-index: 1000;

    width: 90%;

    max-width: 500px;

}


.modal h2 {

    margin-top: 0;

}


.modal p {

    margin: 10px 0;

}


.modal .btn {

    display: inline-block;

    margin: 5px;

    padding: 10px 15px;

    text-decoration: none;

    border: none;

    border-radius: 5px;

    cursor: pointer;

}
```

```css
        .modal .btn-primary {

            background-color: #00e676;

            color: #fff;

        }


        .modal .btn-danger {

            background-color: #ff5252;

            color: #fff;

        }


        .modal .btn-primary:hover {

            background-color: #00c853;

        }


        .modal .btn-danger:hover {

            background-color: #ff1744;

        }


        .modal a {

            text-decoration: none;

        }
    </style>
</body>
</html>
```

"index.css"

```css
body {
    margin: 0;
    padding: 0;
    font-family: 'Arial', sans-serif;
    background-color: #1a1a1a;
    color: #f5f5f5;
    display: flex;
    flex-direction: column;
    justify-content: space-between;
    min-height: 100vh;
}

header {
    background-color: #000;
    padding: 50px 20px;
    text-align: center;
    border-bottom: 2px solid #333;
}

header .container {
    max-width: 800px;
    margin: 0 auto;
}
```

```css
header h1 {
    font-size: 2.5rem;
    margin: 0;
    color: #fff;
    text-transform: uppercase;
}


header .highlight {
    color: #00e676;
}


header p {
    margin-top: 10px;
    font-size: 1.2rem;
    color: #ccc;
}



main {
    flex: 1;
    display: flex;
    justify-content: center;
    align-items: center;
    text-align: center;
    padding: 20px;
```

```css
}

main .cta {

    max-width: 600px;

}


main .cta p {

    font-size: 1.5rem;

    margin-bottom: 20px;

    color: #f5f5f5;

}


.links {

    display: flex;

    justify-content: center;

    gap: 20px;

}


.btn {

    display: inline-block;

    text-decoration: none;

    padding: 10px 20px;

    font-size: 1.1rem;

    font-weight: bold;

    border-radius: 5px;

    text-align: center;
```

```css
    color: #000;

    background-color: #fff;

    transition: all 0.3s ease;

}


.btn:hover {

    background-color: #00e676;

    color: #fff;

}


footer {

    background-color: #111;

    text-align: center;

    padding: 20px;

    font-size: 0.9rem;

    border-top: 2px solid #333;

}


footer .highlight {

    color: #00e676;

}


.success {

    color: #00e676;

    font-size: 1.2rem;

    text-align: center;
```

```css
    margin: 20px 0;

    padding: 10px;

    background-color: #121212;

    border: 2px solid #00e676;

    border-radius: 5px;

    box-shadow: 0 4px 6px rgba(0, 0, 0, 0.2);

}




/* Navbar styles */

nav {

    background-color: #000;

    border-bottom: 2px solid #333;

    padding: 10px 20px;

}


.navbar {

    list-style: none;

    margin: 0;

    padding: 0;

    display: flex;

    justify-content: flex-start;

    gap: 15px;

}


.navbar li {
```

```css
    display: inline;

}


.navbar a {

    color: #fff;

    text-decoration: none;

    font-size: 1rem;

    padding: 5px 10px;

    transition: background-color 0.3s ease, color 0.3s ease;

}


.navbar a:hover {

    background-color: #00e676;

    color: #000;

    border-radius: 5px;

}
```

"search_book.css"

```css
main {

    display: flex;

    flex-direction: column;

    justify-content: center;

    align-items: center;

    text-align: center;
```

```css
    padding: 20px;

}


.search-bar {

    margin: 20px 0;

    width: 80%;

    max-width: 800px;

    display: flex;

    justify-content: center;

    gap: 10px;

    flex-wrap: wrap;

}


.search-bar input,

.search-bar select,

.search-bar button {

    padding: 10px;

    font-size: 1rem;

    border: 1px solid #ccc;

    border-radius: 5px;

}


.search-bar button {

    background-color: #00e676;

    color: white;
```

```css
    cursor: pointer;

    transition: background-color 0.3s ease;

}


.search-bar button:hover {

    background-color: #00c853;

}


table {

    width: 100%;

    border-collapse: collapse;

    margin: 20px 0;

    font-size: 1rem;

    text-align: center;

}

table th, table td {

    border: 1px solid #ddd;

    padding: 12px;

}

table th {

    background-color: #333;

    color: white;

}


.reserved {

    color: red;
```

```css
    font-weight: bold;

}


.btn-reserve {

    background-color: #00e676;

    color: white;

    border: none;

    padding: 8px 12px;

    cursor: pointer;

    border-radius: 4px;

}


.btn-reserve:hover {

    background-color: #00c853;

}


@media (max-width: 768px) {

    .search-bar {

        flex-direction: column;

    }


    table {

        width: 100%;

    }


    table th,
```

```css
    table td {

        font-size: 0.9rem;

    }

}


.message-container {

    text-align: center;

    margin-top: 20px;

}


.btn-primary {

    display: inline-block;

    text-decoration: none;

    color: white;

    background-color: #00e676;

    padding: 10px 20px;

    font-size: 1rem;

    font-weight: bold;

    border-radius: 5px;

    transition: background-color 0.3s ease;

}


.btn-primary:hover {

    background-color: #00c853;

}
```

```css
.pagination a {

    color: white;

    text-decoration: none;

    padding: 5px 10px;

    border: 1px solid #ccc;

    margin: 0 5px;

    border-radius: 5px;

    background-color: #333;

    transition: background-color 0.3s, color 0.3s;

}


.pagination a.active {

    font-weight: bold;

    background-color: #00c853;

    color: white;

    border-color: black;

}


.pagination a:hover {

    background-color: #555;

    color: white;

}
```

"reservations.css"

```css
body {

    margin: 0;

    padding: 0;

    font-family: 'Arial', sans-serif;

    background-color: #1a1a1a;

    color: #f5f5f5;

}


.reservations-wrapper {

    display: flex;

    flex-direction: column;

    align-items: center;

    justify-content: flex-start;

    min-height: 100vh;

    padding-top: 40px;

}


.reservations-wrapper h1 {

    font-size: 2rem;

    color: #fff;

    margin-bottom: 20px;

    text-align: center;

}


/* Table Styles */
```

```css
table {

    width: 90%;

    max-width: 1200px;

    margin: 20px auto;

    border-collapse: collapse;

    background-color: #222;

    color: #f5f5f5;

    box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);

    border-radius: 8px;

    overflow: hidden;

}


table th, table td {

    padding: 12px 15px;

    text-align: left;

}


table th {

    background-color: #333;

    color: #fff;

    text-transform: uppercase;

    font-size: 0.9rem;

}


table td {

    border-bottom: 1px solid #444;
```

```css
}


table tr:last-child td {

    border-bottom: none;

}


table tr:hover {

    background-color: #444;

}


/* Buttons */
.btn {

    padding: 8px 12px;

    border: none;

    border-radius: 4px;

    font-size: 0.9rem;

    cursor: pointer;

    transition: all 0.3s ease;

}


.btn:hover {

    opacity: 0.9;

}


.btn-danger {

    background-color: #ff5252;
```

```css
    color: white;

}


.btn-danger:hover {

    background-color: #ff1744;

}


.btn-primary {

    background-color: #00e676;

    color: white;

    text-decoration: none;

    text-align: center;

    display: inline-block;

}


.btn-primary:hover {

    background-color: #00c853;

}


/* Success Message */
.success {

    color: #00e676;

    font-size: 1.2rem;

    text-align: center;

    margin: 20px auto;

    padding: 10px;
```

```css
    background-color: #121212;

    border: 2px solid #00e676;

    border-radius: 5px;

    box-shadow: 0 4px 6px rgba(0, 0, 0, 0.2);

    width: 80%;

    max-width: 600px;

}


/* Responsive Design */

@media (max-width: 768px) {

    table {

        font-size: 0.9rem;

    }



    table th, table td {

        padding: 10px;

    }


    .success {

        font-size: 1rem;

        padding: 8px;

    }

}



.pagination a {
```

```css
    color: white;

    text-decoration: none;

    padding: 5px 10px;

    border: 1px solid #ccc;

    margin: 0 5px;

    border-radius: 5px;

    background-color: #333;

    transition: background-color 0.3s, color 0.3s;

}


.pagination a.active {

    font-weight: bold;

    background-color: #00c853;

    color: white;

    border-color: black;

}


.pagination a:hover {

    background-color: #555;

    color: white;

}
```
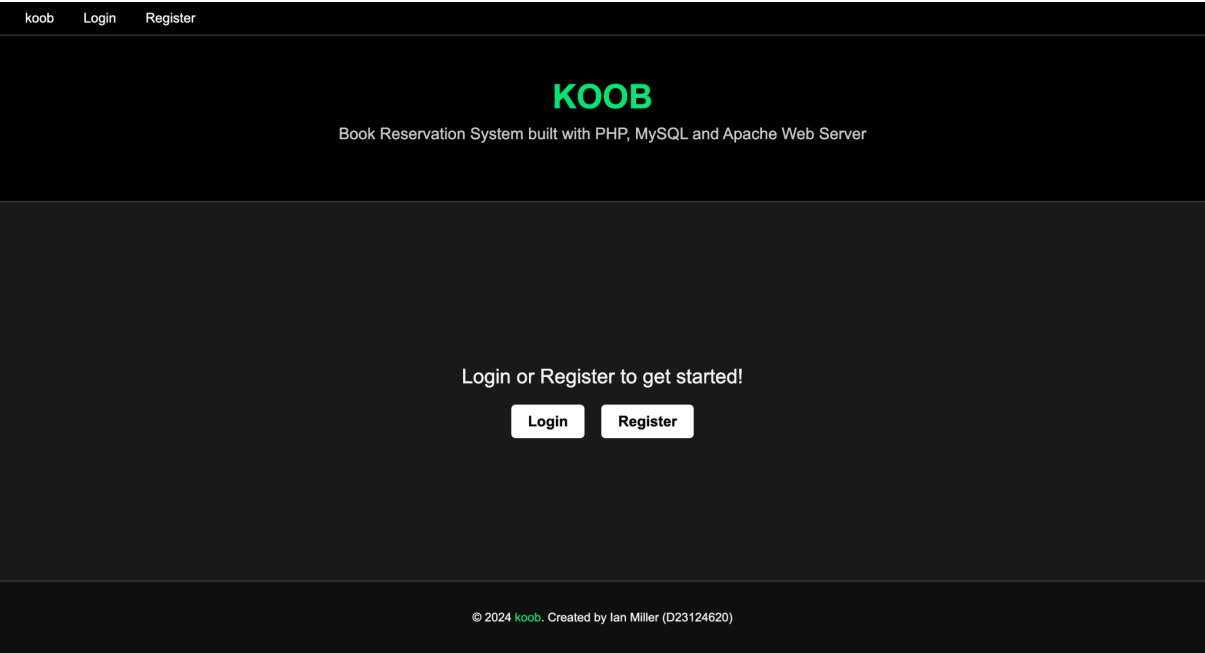
4. Sample screens of functionality

index.php page for unauthorised user

KOOB

Book Reservation System built with PHP, MySQL and Apache Web Server

Login or Register to get started!

[Login] [Register]

registration.php page

REGISTER AT KOOB

Get access to book reservations!

Username: tudstudent
Password: ••••••
Confirm Password: ••••••
First Name: Ian
Surname: Miller
Address Line 1: 13-18 Grangegorman L
Address Line 2: Dublin 7, D07 YE81
City: Dublin
Telephone: 0833907733
Mobile: 0833907731
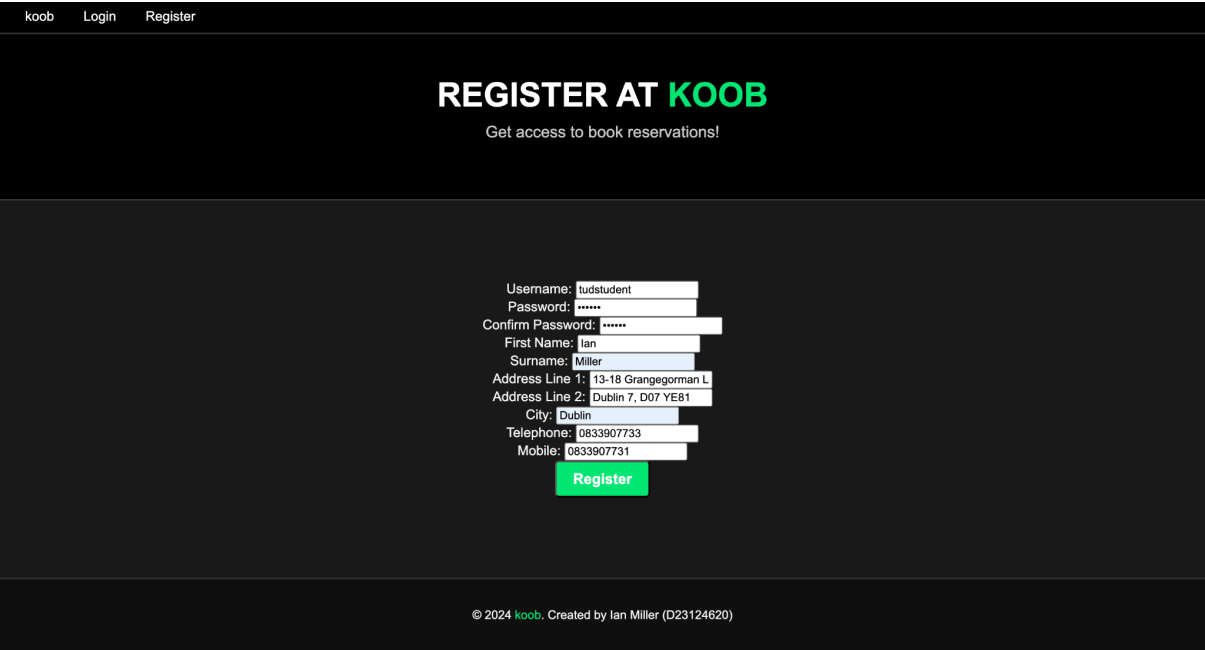
[Register]

REGISTER AT KOOB

Get access to book reservations!

Registration successful! Click here to login.

Username:
Password:
Confirm Password:
First Name:
Surname:
Address Line 1:
Address Line 2:
City:
Telephone:
Mobile:

Register

login.php

LOGIN TO KOOB

Access your account to reserve books!

Username: tudstudent
Password: ••••••

Login   **koob**

search_book.php

KOOB

Search specific book

			Search
Search by Title	Search by Author	-- Select Category --	Search

ISBN	Title	Author	Edition	Year	Category	Status	Action
093-403992	Computers in Business	Alicia Oneill	3	1997	Biography	Available	Reserve
23472-8729	Exploring Peru	Stephanie Birchi	4	2005	Travel	Available	Reserve
237-34823	Business Strategy	Joe Peppard	2	2002	Business	Available	Reserve
23u8-923849	A guide to nutrition	John Thorpe	2	1997	Health	Available	Reserve
2983-3494	Cooking for children	Anabelle Sharpe	1	2003	Cookery	Available	Reserve

1 2 3 Next

KOOB

Search specific book

			Search
Search by Title	Search by Author	-- Select Category --	Search

ISBN	Title	Author	Edition	Year	Category	Status	Action
82n8-308	Computers for idiots	Susan O'Neill	5	1998	Technology	Available	Reserve
9823-23984	My life in picture	Kevin Graham	8	2004	Health	Reserved	Not Available
9823-2403-0	DaVinci Code	Dan Brown	1	2003	Fiction	Available	Reserve
9823-98345	How to cook Italian food	Jamie Oliver	2	2005	Cookery	Reserved	Not Available
9823-98487	Optimising your business	Cleo Blair	1	2001	Business	Reserved	Not Available

Previous 1 2 3 Next

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Search with filters

KOOB

Search specific book

DaVinci Code	Dan Brown	Fiction	Search

ISBN	Title	Author	Edition	Year	Category	Status	Action
9823-2403-0	DaVinci Code	Dan Brown	1	2003	Fiction	Available	Reserve

1

KOOB

Search specific book

Search by Title	Search by Author	Fiction	Search

ISBN	Title	Author	Edition	Year	Category	Status	Action
9823-2403-0	DaVinci Code	Dan Brown	1	2003	Fiction	Available	Reserve
988745-234	Tara Road	Maeve Binchy	4	2002	Fiction	Available	Reserve

1

KOOB

Search specific book

Search by Title	Search by Author	Self-Help ▾	Search

No books found matching your search criteria.
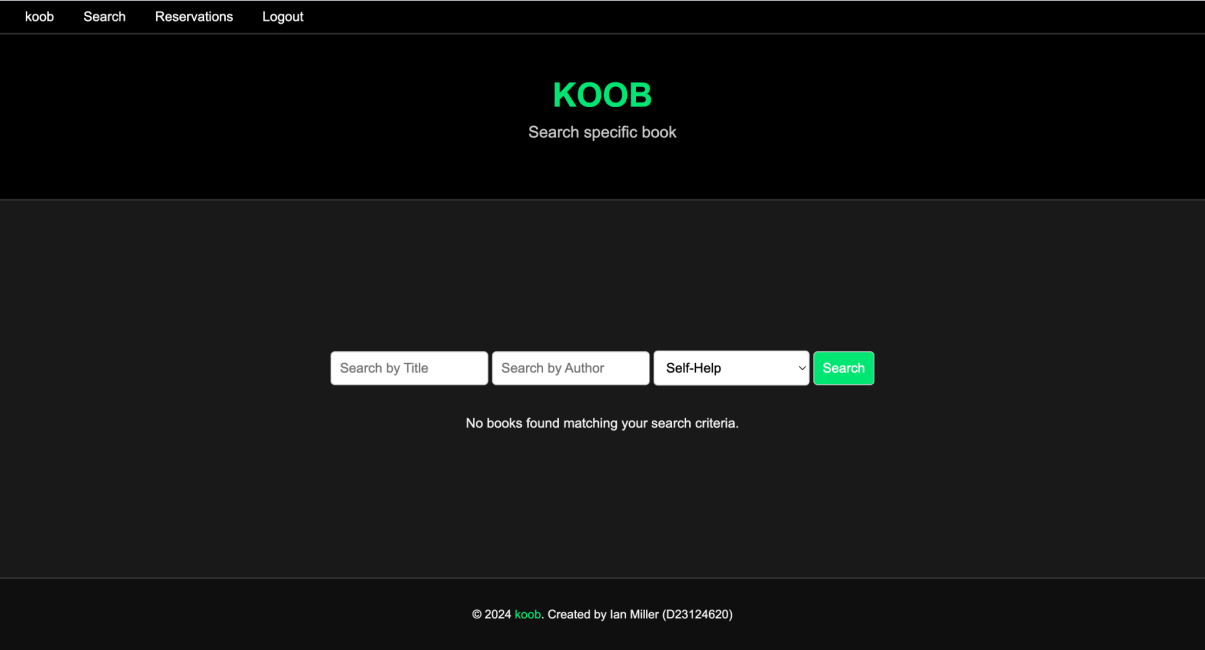
Reserve book on search_book.php page

KOOB

Search specific book

Search by Title	Search by Author	Select Cat...	Search

Confirm Reservation

Do you want to reserve the book **Computers in Business** (ISBN: 093-403992)?

[Yes] [No]

ISBN	Title				Category	Status	Action
093-403992	Computers in Business				Biography	Available	Reserve
23472-8729	Exploring Peru	Stephanie Birchi	4	2005	Travel	Available	Reserve
237-34823	Business Strategy	Joe Peppard	2	2002	Business	Available	Reserve
23u8-923849	A guide to nutrition	John Thorpe	2	1997	Health	Available	Reserve
2983-3494	Cooking for children	Anabelle Sharpe	1	2003	Cookery	Available	Reserve

[1] [2] [3] [Next]

KOOB

Search specific book

| Search by Title | Search by Author | -- Select Category -- ∨ | Search |

The book has been reserved successfully!

View My Reservations

ISBN	Title	Author	Edition	Year	Category	Status	Action
093-403992	Computers in Business	Alicia Oneill	3	1997	Biography	Reserved	Not Available
23472-8729	Exploring Peru	Stephanie Birchi	4	2005	Travel	Available	Reserve
237-34823	Business Strategy	Joe Peppard	2	2002	Business	Available	Reserve
23u8-923849	A guide to nutrition	John Thorpe	2	1997	Health	Available	Reserve

reservations.php

tudstudent's Reservations

ISBN	TITLE	AUTHOR	EDITION	YEAR	CATEGORY	RESERVED DATE	ACTION
093-403992	Computers in Business	Alicia Oneill	3	1997	Biography	2024-12-05	Remove

1

More reservations with limited paging till 5 rows

tudstudent's Reservations

ISBN	TITLE	AUTHOR	EDITION	YEAR	CATEGORY	RESERVED DATE	ACTION
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23472-8729	Exploring Peru	Stephanie Birchi	4	2005	Travel	2024-12-05	Remove
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