

CloudBook

Hamza Khan, Corinna Chang, Wen Hui Cheah

Group 4

6/14/22

Professor Mike Wu

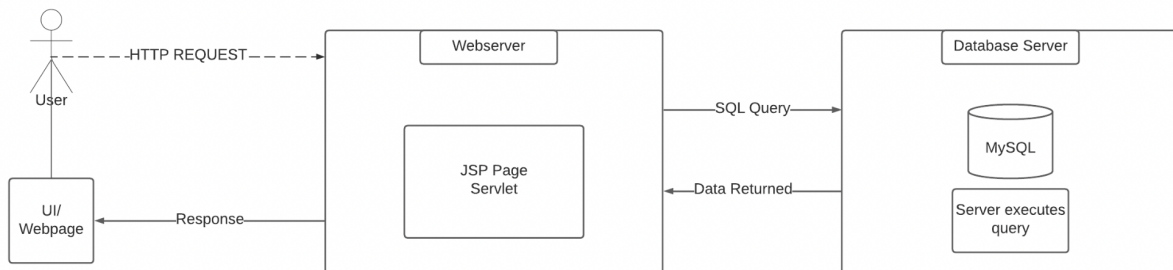
CS-157A

I. Project description

CloudBook will be a database application that will allow users the ability to access a variety of books. The main goal of this application will be to provide a location for users to sell, purchase, and view books. Users will be able to search for books depending on genres, authors, release date, and book ratings. Users will easily be able to navigate through the application due to its simplistic UI, while still being able to search for the exact book they are looking for. The stakeholders of the application will predominantly be the buyers and sellers on CloudBook. The motivation behind this application is to provide our users a location to purchase physical and pdf books at a discounted price while also allowing them the ability to sell their books once they are finished reading.

II. System Environment

Structure Diagram



Hardware and Software Used

Apache Tomcat, Eclipse IDE, IntelliJ IDEA, Visual Studio Code

RDBMS

MySQL Community Server 8.0.29

Application Languages

Java, SQL, HTML, CSS, JavaScript

III. Functional Requirements

This application gives users the ability to sell and purchase books and gives admins the power to manage this application to prevent users from abusing this application. Users would be required to create an account where, other than selling and buying books, they would be given the functionality to list their books and edit or remove them to give a more accurate depiction of the listed books. Users could also search the existing database to get a clearer understanding of what relevant information to include or what price to set. Users have sufficient access for the functionalities of this application. The UI of this application would focus on simplicity to emphasize on its user friendliness, with the main focus on its functionality. Users should be able to search available listings for the books that they want and make modifications on the listing, namely adding, editing, and deleting a listing. Other than that, admins are given the functionality to create and delete accounts. This to prevent scams and fake accounts which could threaten the safety and privacy of legitimate users.

Functions

A. Search Book

- a. Users will be able to search the CloudBook database to find books by title, author, genre, publication date, subject, and book ID number (ISBN). There will be a search bar at the top of the application page to implement this function.

B. Sort Books

- a. The price and the condition of each book will be displayed, along with seller rating and book rating, which are also criterias that the books could be sorted based on.
- b. The system will sort the books depending on the user's sorting preferences by choosing the criteria explained above, if no relevant books are found, the user will be notified.

C. View Book Description

- a. Users will be able to view the book's description and some background information on the author when they click on the book in the search page.
- b. Each book will have a unique ID number, which is an ISBN that will be displayed to prevent any misleading information that may affect users.

D. Create Account for Users

- a. Admin accounts: Admin level features would be given namely, managing accounts such as creating and deleting accounts, as admins are responsible for oversight and dealing with issues that could come up such as fake accounts and scams. They are also responsible for reviewing reported accounts or listings and removing them as needed.
- b. User accounts: Users with accounts would be allowed to buy and sell books.

- c. Each account has a unique login username, password, and email which will be stored in the database. Users will also be required to input their shipping address and a payment method when they purchase books.

E. Buy Book

- a. A user will be able to purchase a book.
- b. Books are either physical or in pdf format.

F. Sell book

- a. Users will be able to post books to sell on the platform by including relevant information about each book, such as the condition, price, and ISBN or any other unique features on the book.

G. Edit Listing

- a. Users will be able to change the listing information, including the price of the book or add more information about the book, if desired.
- b. Users are allowed to remove the listing from the platform if the book is no longer available.

H. Put Books in Cart

- a. Each user will have a cart to allow easy checkout when multiple books are purchased at the same time.

IV. Non-functional Issues

Graphical User Interface

For the GUI portion of our project, we will mainly use HTML and CSS to design the website. Our main goal is to keep the GUI user friendly, simple, and easy to navigate. The search page will be a form that allows users to search up books by filling out specific requirements. After the search, users can list the results in desired order with a drop list based on traits listed in the previous section. There will also be a page for users to sign in to their account or create a new account. New users will have to fill out a form with their personal information and create a unique login username and password. A user account can put up new listings and edit them as needed. In addition, all users can go to their cart to view items that they have saved. An admin account will have all the functionalities listed above, in addition to oversight privileges, such as deleting another user's listing or suspending their account.

Security

To protect the account of each user, they are required to login with their unique username and password. In addition, users have the option to enable two-factor authentication with their email account or phone number. When creating a password, the user will be prompted to select a complex password that cannot be easily guessed or cracked by brute force. The user must pass all security requirements before saving or updating their password. When an account is logged in from a new device, a notification will be sent to the user through email or text.

Personal and private information of all users are automatically hidden from other users by default. However, users have the option to manually make certain information public. Personal information of users will be encrypted and stored in a secure server. It cannot be accessed by any users and is only accessed during system operations, such as when a user

logins into their account or a confirmation email needs to be sent for a new device login alert.

Any operations that involve using sensitive information will also be encrypted.

Access Control

Accounts are split into two types: admins and users. Since admins are responsible for monitoring users and taking any appropriate actions when needed, they have many privileges that users do not have. Admins can delete or flag suspicious accounts and listings to ensure the safety of other users. However, admins are limited to moderate user listings and other actions. To ensure the privacy and security of every user, admins will not have access to personal information of users. In addition, admins do not have the privilege to directly alter the underlying software in any way.

Users are able to perform actions in relation to selling and buying books. They can create, edit, or delete their own listings, but not those of other users. In addition, users can search through listings posted by other users. Users are allowed to report other users, which will then be reviewed by admins for further actions if necessary. Similar to restrictions placed on admins, users are not allowed to see sensitive information of other users.

The developers are the only ones allowed to make any changes to the functionality of the software running the CloudBook website. However, they do not have the ability to moderate user accounts or view personal information of users.