A close up of a clock

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**Dept of Computer Science**

**CS- 4430/5430: DATABASE MANAGEMENT SYSTEMS**

Hybrid-Book Collection Library management system

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**Abstract:**

Hybrid-Book Collection Library management system is a project which aims in developing a computerized system to maintain all the daily works of library. The impact of revolution in Information technology on the academic community is assessed. Libraries play a vital part here in the context of libraries application can justifies only when the users of the library and information service and their informational needs warrant this. The main aim of this project is to develop a system that can be used manage library resources efficiently and effectively and reduce human efforts.

Hybrid-Book Collection Management System is a system which maintains the information about any kind of media such as books, Cd's, e-books, videos present in the Book Collection Database. Its functionalities should be like online library management system, but it should also able to provide the users with Cd's, e books and videos. Any registered user can take CD, books from the book collection management system similar to library management. Along with this, registered users should be able to get the e-book version, should be able to read online portal whenever user logins to the system. If the registered user searches for some videos the book collection system should also provide that video and should able to play in the online portal.

**Overview**

Hybrid libraries are a composition of traditional prints like books/magazines and electronic material like audio books, eJournals, eBooks and many more. These libraries are becoming a preference over public and academic libraries. Previously these e-resources were just CDs of specialized database searches.

The present system manages all library information across ledgers and files. Maintenance of all data related to books, borrowers and librarians is done manually using conventional procedures. These methods are not effective and lead to mismanagement of data. It is difficult for a user to check the availability of a book and to make reservations.

The proposed system maintains a centralized repository of information using which one can access the required information in a convenient manner. The system provides facilities to find details of books and magazines, to register books, to cancel registrations and other activities. The system incorporates the details related to authors and publishers as well.

**Existing System:**

The present system manages all library information across ledgers and files. Maintenance all data related to books, borrowers and librarians is done manually using conventional procedures. These methods are not effective and lead to mismanagement of data. It is difficult for a user to check the availability of a book and to make reservations.

**Proposed System:**

The proposed system maintains a centralized repository of information using which one can access the required information in a convenient manner. The system provides facilities to find details of books and magazines, to register books, to cancel registrations and other activities. The system incorporates the details related to authors and publishers as well.

**Project Requirements (SRS)**

This application consists following modules.

**1. Librarian Module**

**2. User Module**

**3. Admin Module**

1. **Librarian module:**

The librarian has access over issue/return of books, CDs, videos, and eBooks. They can view all the user’s and library’s details and applications. They can also view all the library transaction details such as user’s issue and return details.

**Librarian Use case Diagram:**

Librarian

**Librarian State chart Diagram:**

Librarian

Login Home

Transactions

Logout

View Librarians

View Members

Return

Issue

**Librarian Activity Diagram:**

View Transactions

View Library

Return

Issue

Librarian

**Librarian Sequence Diagram:**

Logout

View Librarians

View Members

Transaction

Return

Issue

Librarian Home

Signin

1: username()

2: Password()

3: valid()

4: Invalid()

5: Issue Library()

6: Return Library()

7: View Transaction Details()

8: View Users Details()

9: View Librarian Details

10: logout()

1. **User module:**

A user will be able to login to the system. They can view the library’s collection of books, CDs, videos and eBooks. They can search using the name of author or subject. They can also view their transaction details.

**User Use case Diagram:**

User

**User State chart Diagram:**

Logout

eBooks

Videos

CDs

Books

User

Login Home

View Library

My Transaction

Search By Author

Search By Bookname

**User Activity Diagram:**

[View Transaction]

Transaction

View Library

Registration

Logout

[eBooks]

[Videos]

[Cds]

[Books]

Login

User

**User Sequence Diagram:**

My Transaction

Search

By Author

Search By Bookname

View Library

User Home

Sign out

Login

1: username()

2: Password()

3: valid()

4: Invalid()

5: View Books()

6: View CDs()

7: View Videos()

8: View eBooks()

9: search by Bookname()

10: Search By Author()

11: View Transaction Deatails()

12: Logout()

1. **Admin module :**

The administrator who manages the application. Librarian can add, delete, edit and update details of the library but, an admin can add new librarian, new user, update/delete librarian and user details. They have the accessibility of viewing all the library details too.

**Admin Use case Diagram:**

Administrator

**Admin State chart Diagram:**

Login

Admin

Login Home

Transactions

Manage Library

Manage Librarian

Manage User

Add Librarian

Logout

Add Library

Add User

**Admin Activity Diagram:**

Manage Librarian

Manage Library

Manage User

Add Librarian

Admin Home

Logout

Add Library

Add User

Admin

**Admin Sequence Diagram:**

Add Users

Admin Home

Add Librarian

Manage Users

Manage Librarian

Manage Library

Add Library

Signin

Transaction

1: username()

Logout

3: Password()

2: valid()

4: Invalid()

5: Add Users()

6: Manage Users()

7: Add Librarian Details()

8: Manage Library()

9: Add Library Details()

10: Manage Library()

11: View Transaction details()

**E-R Diagram**

**A picture containing umbrella, standing

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**PERFORMANCE REQUIREMENTS**

Performance is measured in terms of the output provided by the application. Requirement specification plays an important part in the analysis of a system. Only when the requirement specifications are properly given, it is possible to design a system, which will fit into required environment. It rests largely with the users of the existing system to give the requirement specifications because they are the people who finally use the system. This is because the requirements have to be known during the initial stages so that the system can be designed according to those requirements. It is very difficult to change the system once it has been designed and on the other hand designing a system, which does not cater to the requirements of the user, is of no use.

The requirement specification for any system can be broadly stated as given below:

• The system should be able to interface with the existing system

• The system should be accurate

• The system should be better than the existing system

The existing system is completely dependent on the user to perform all the duties.

**SOFTWARE REQUIREMENTS:**

Operating System : Windows

Technology : Java and J2EE

Web Technologies : Html, JavaScript, CSS

IDE : My Eclipse

Web Server : Tomcat

Database : Oracle

Java Version : J2SDK1.5

**HARDWARE REQUIREMENTS:**

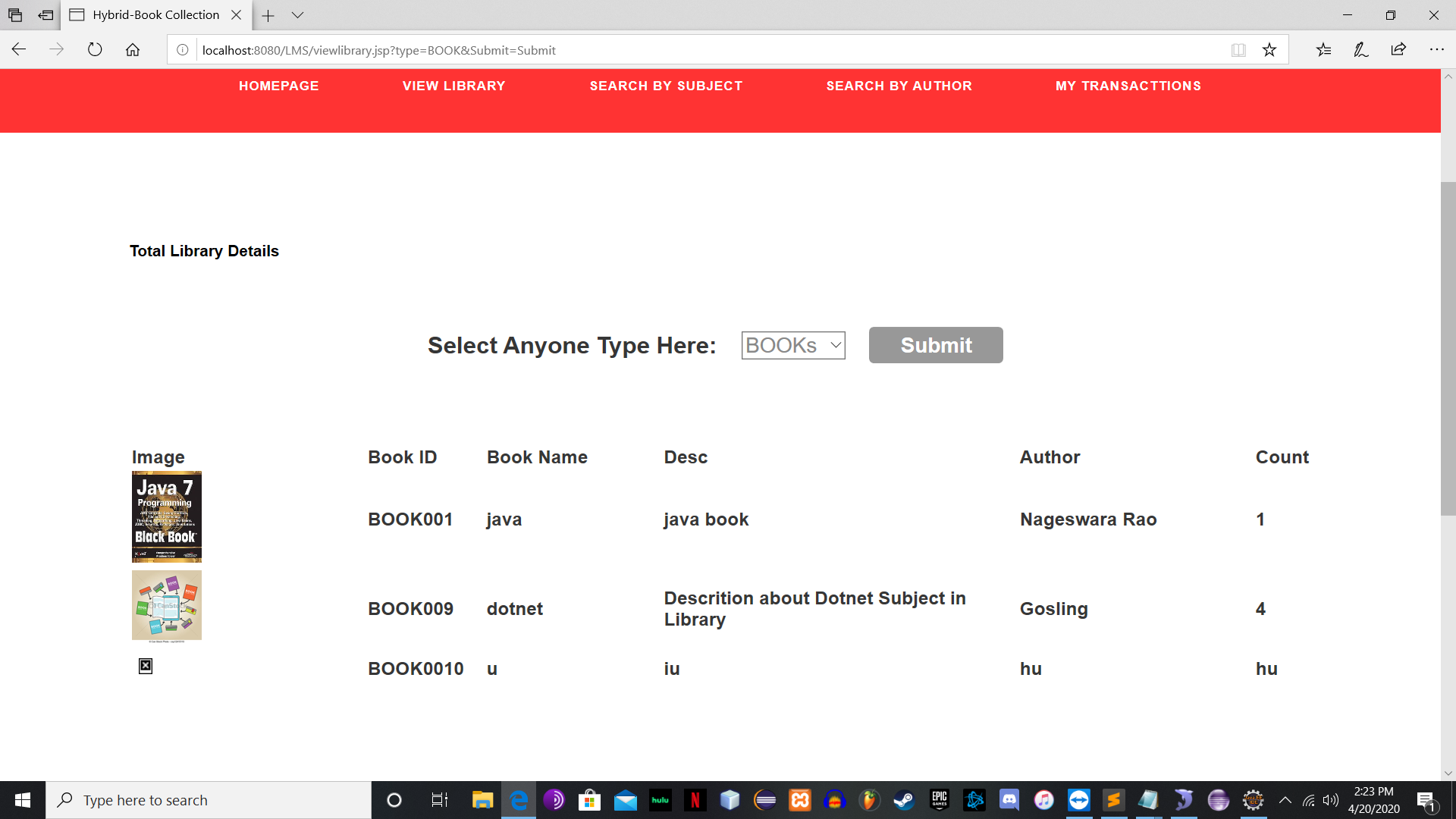
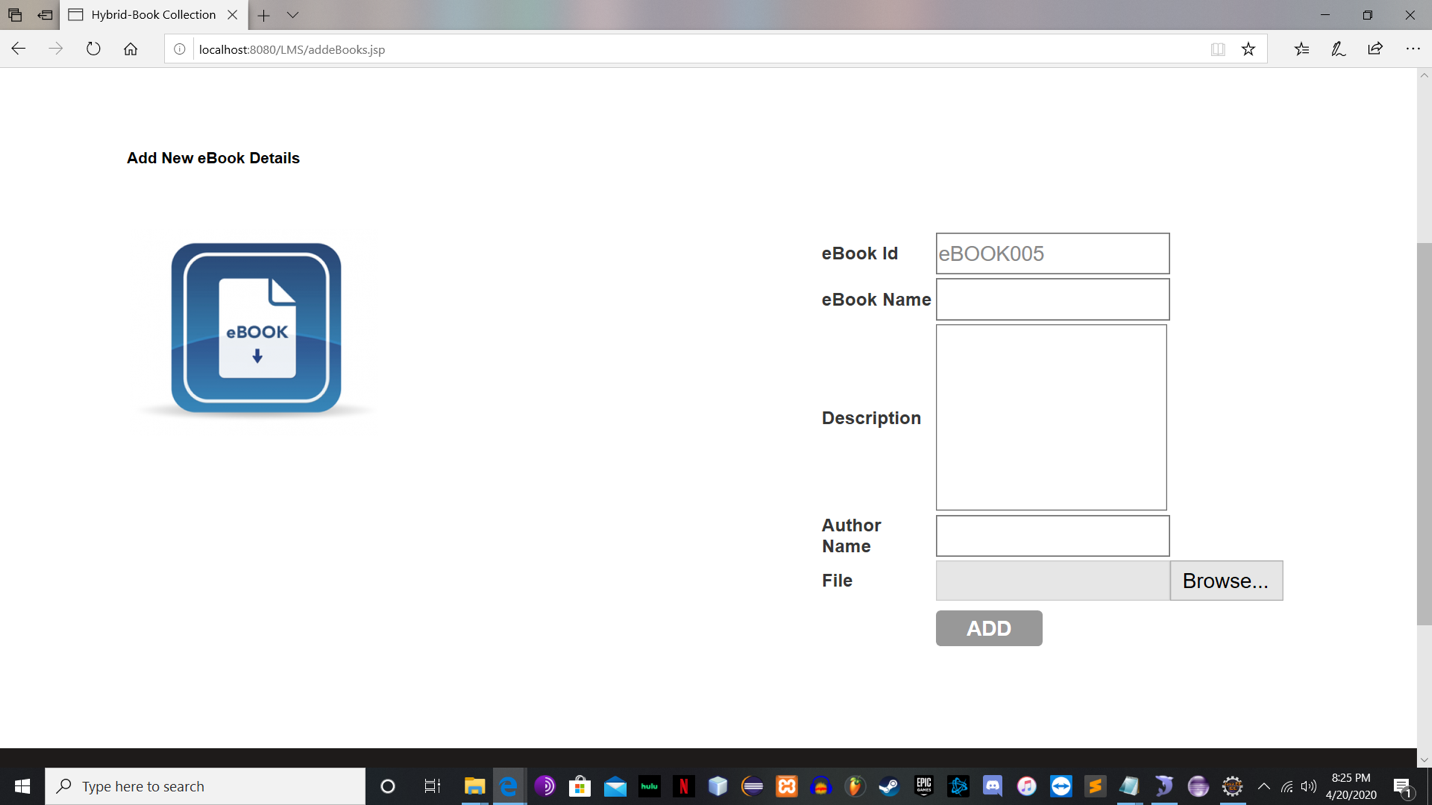
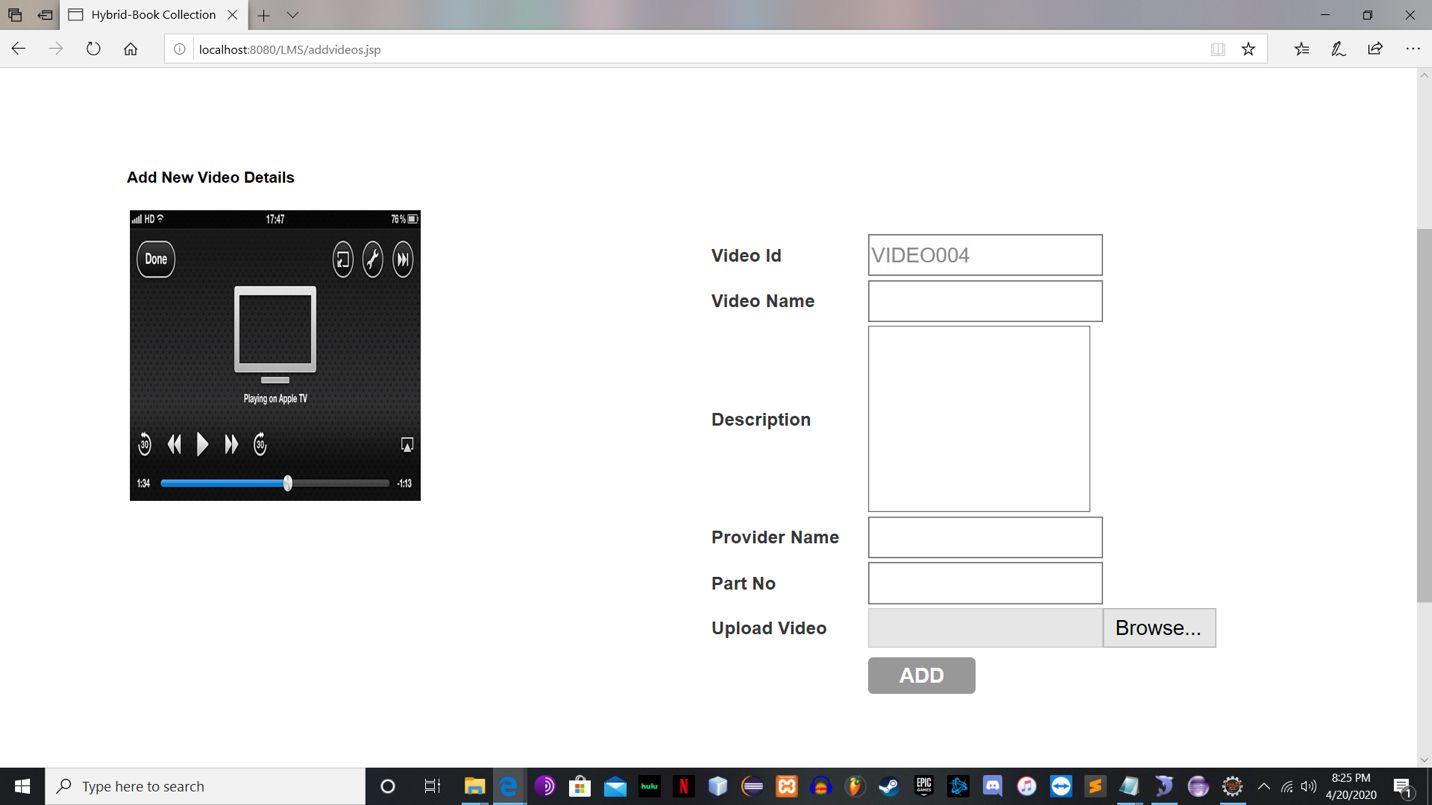
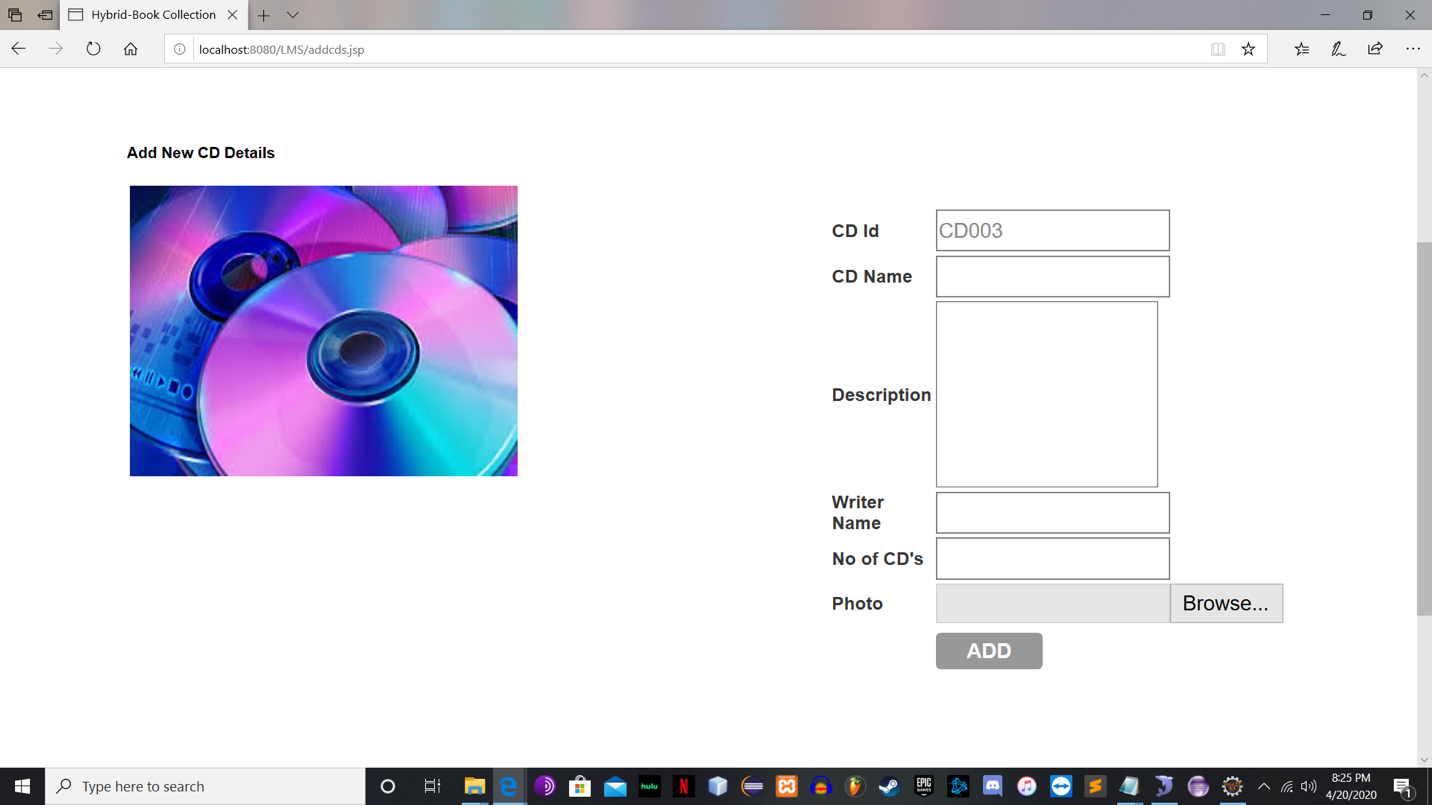
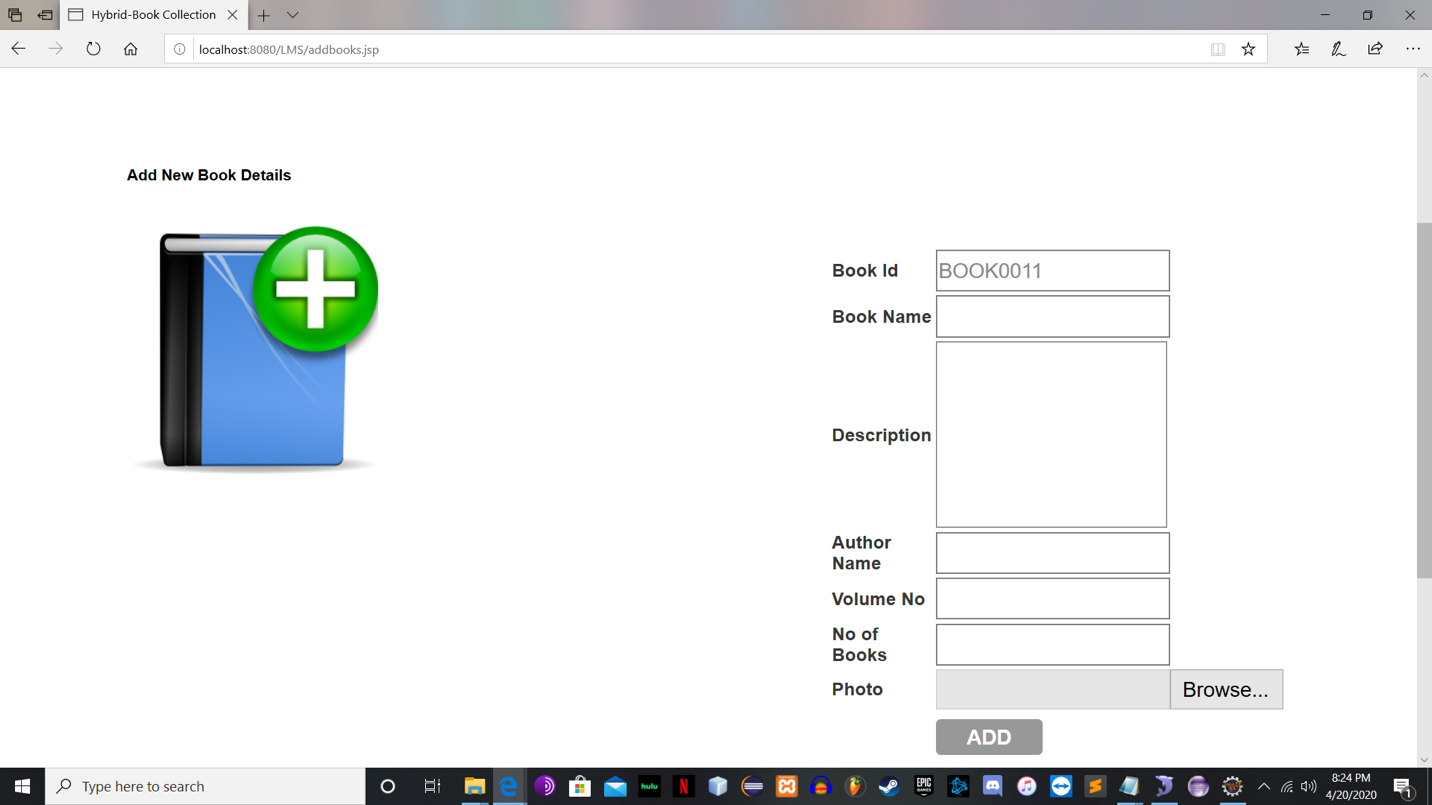
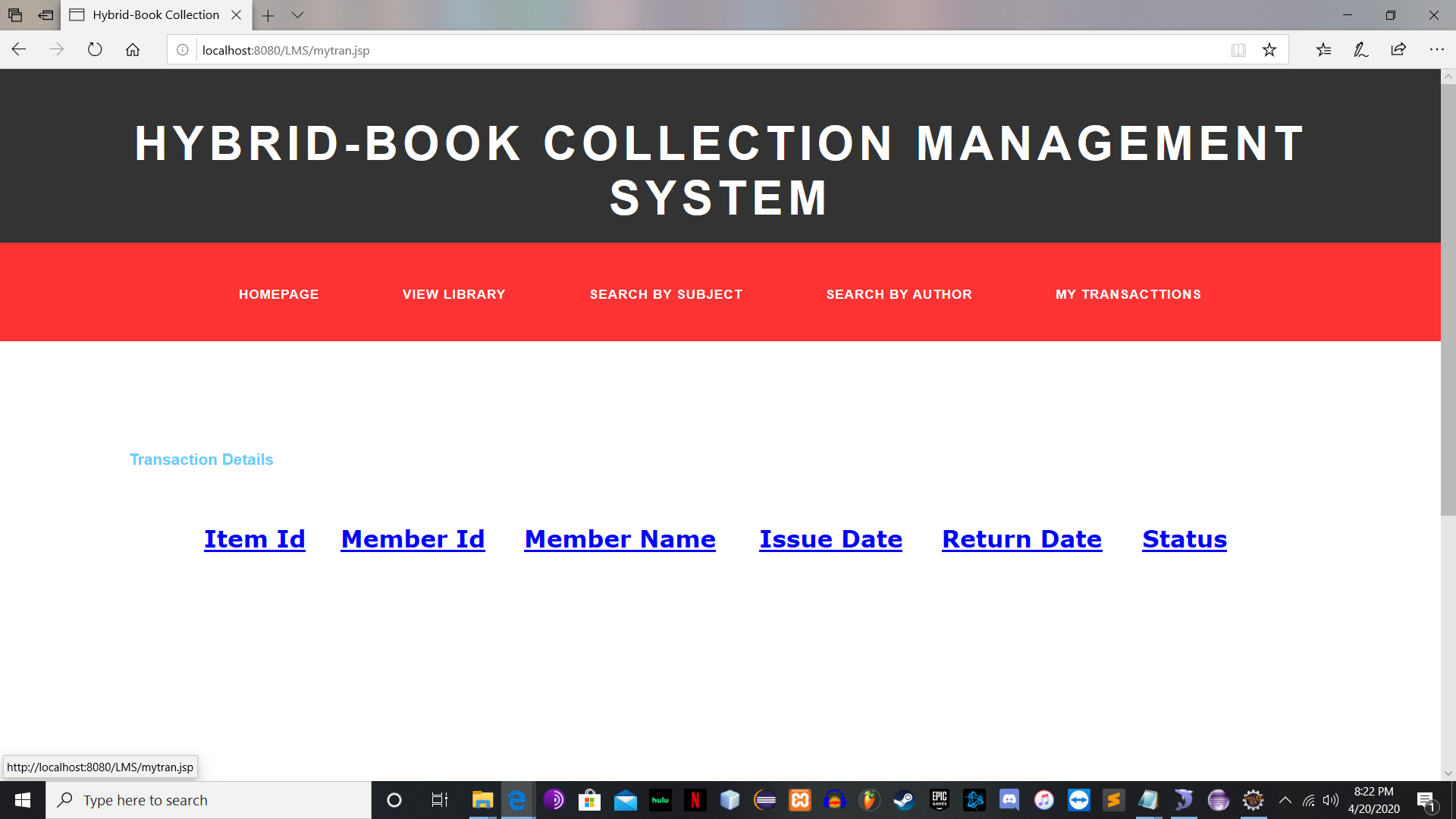
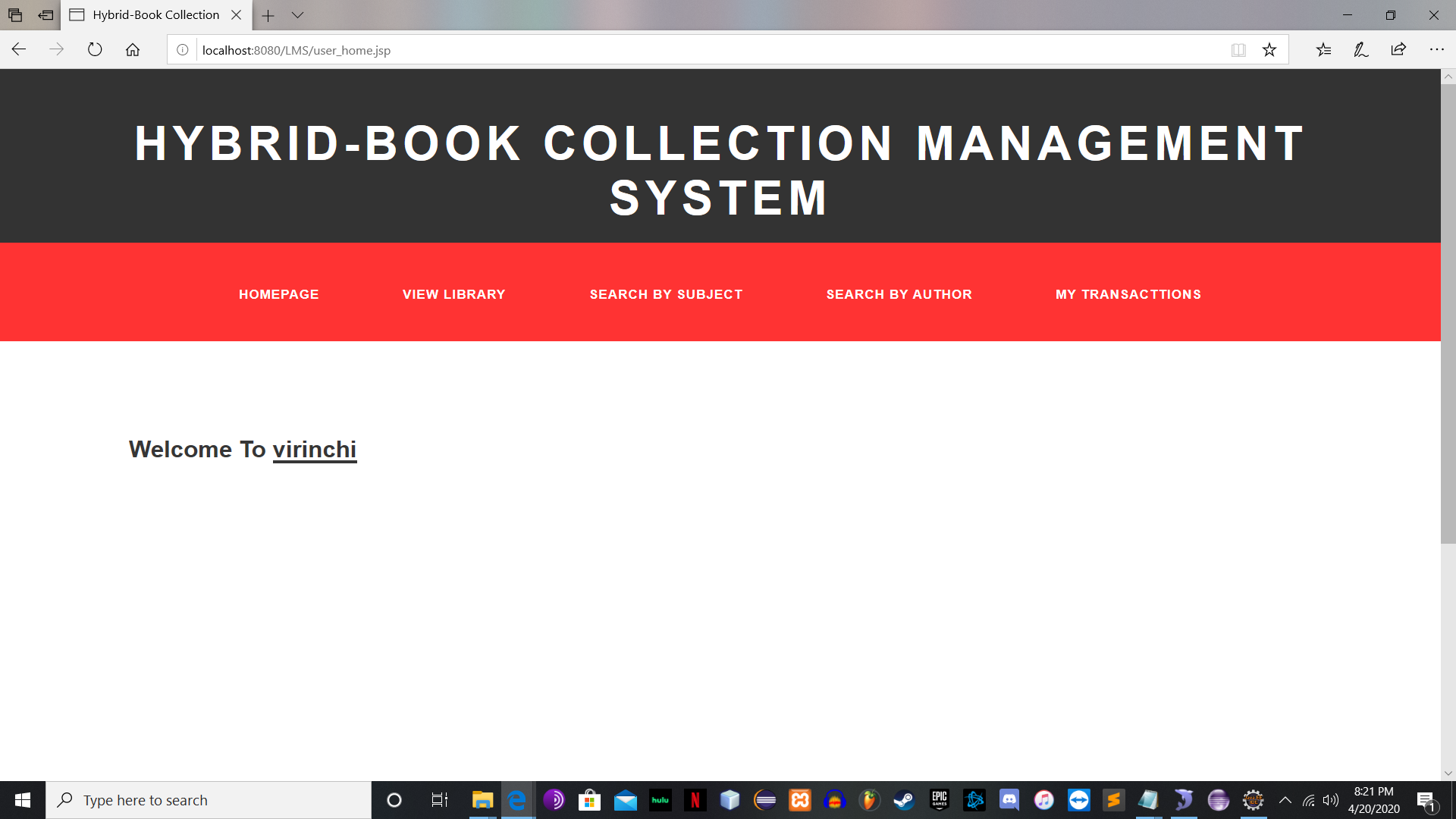
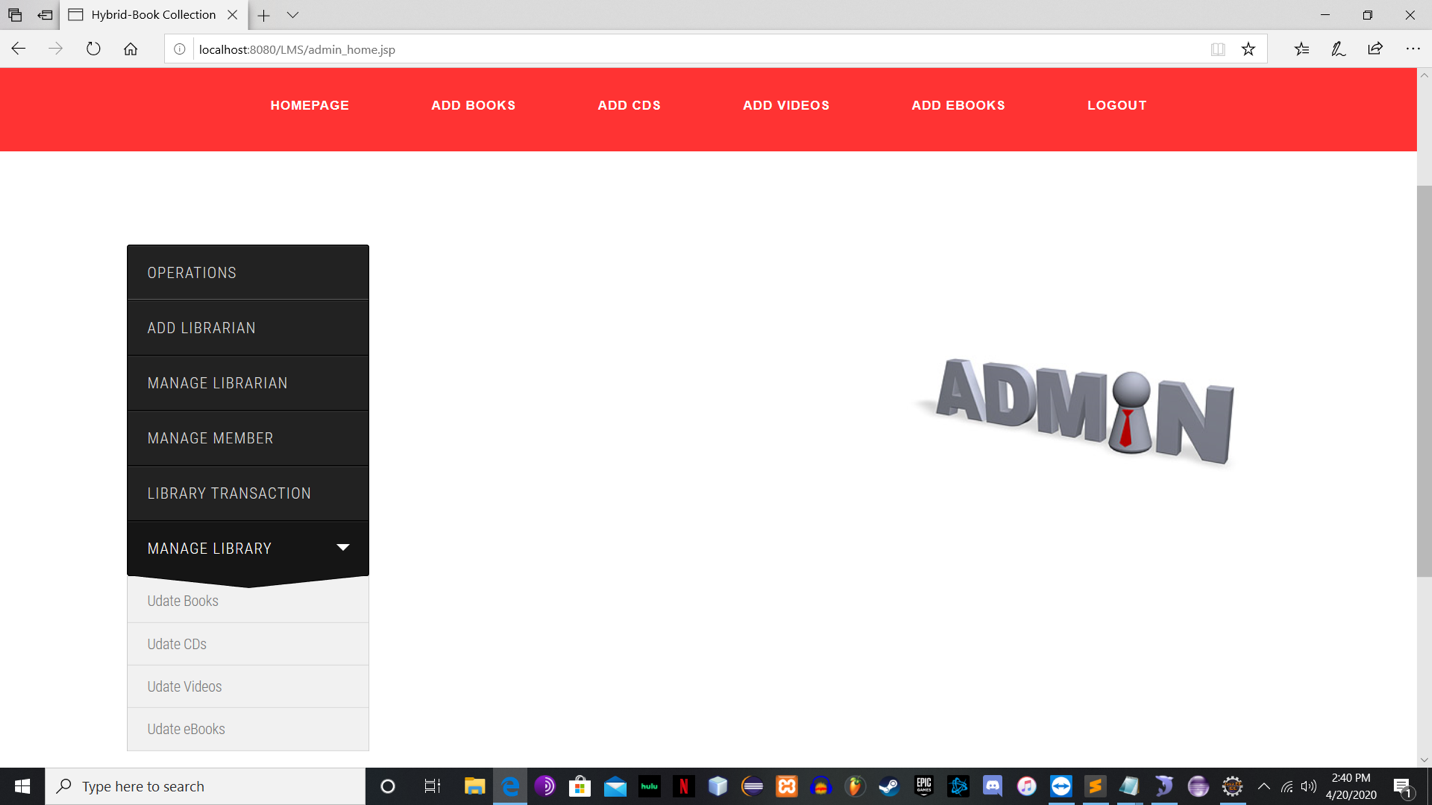
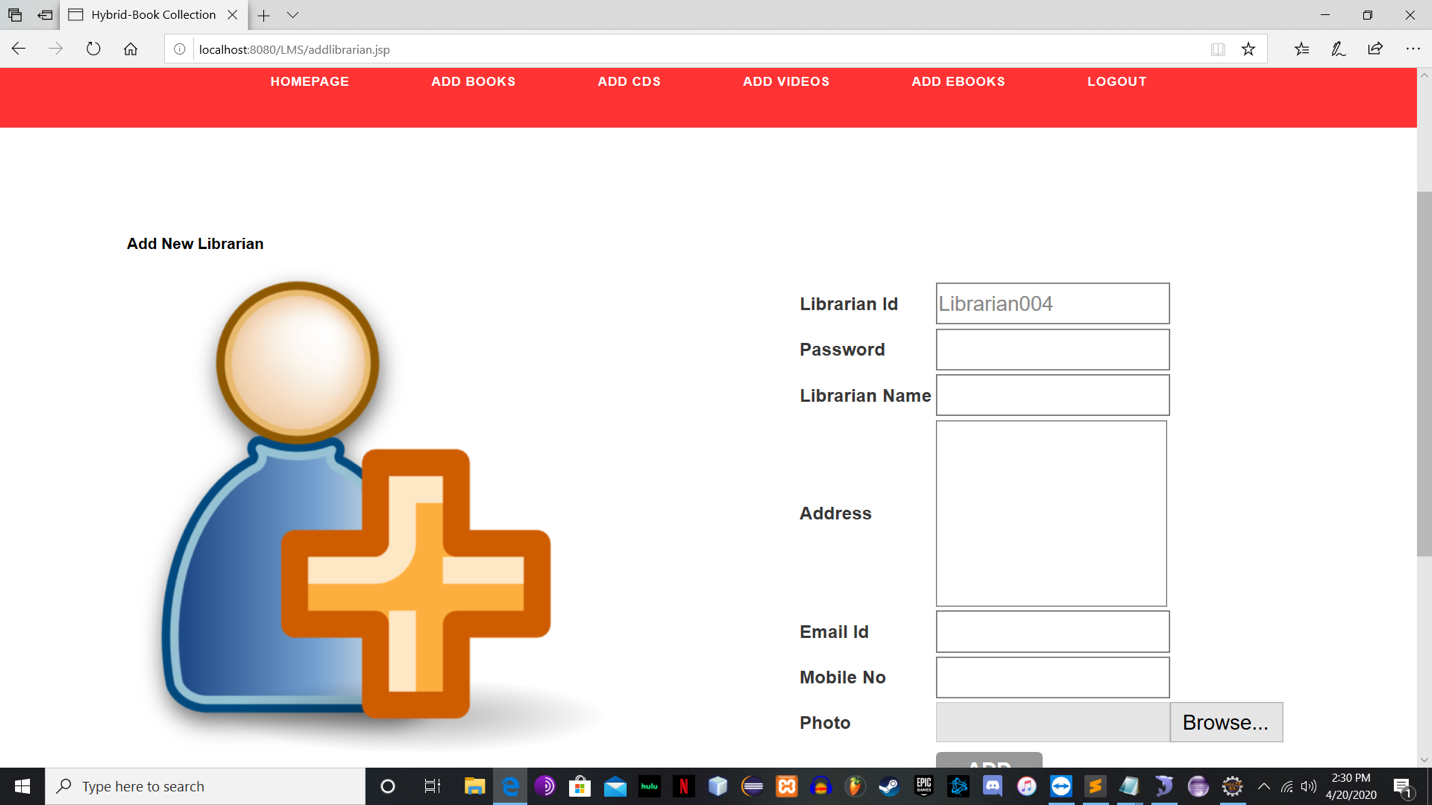
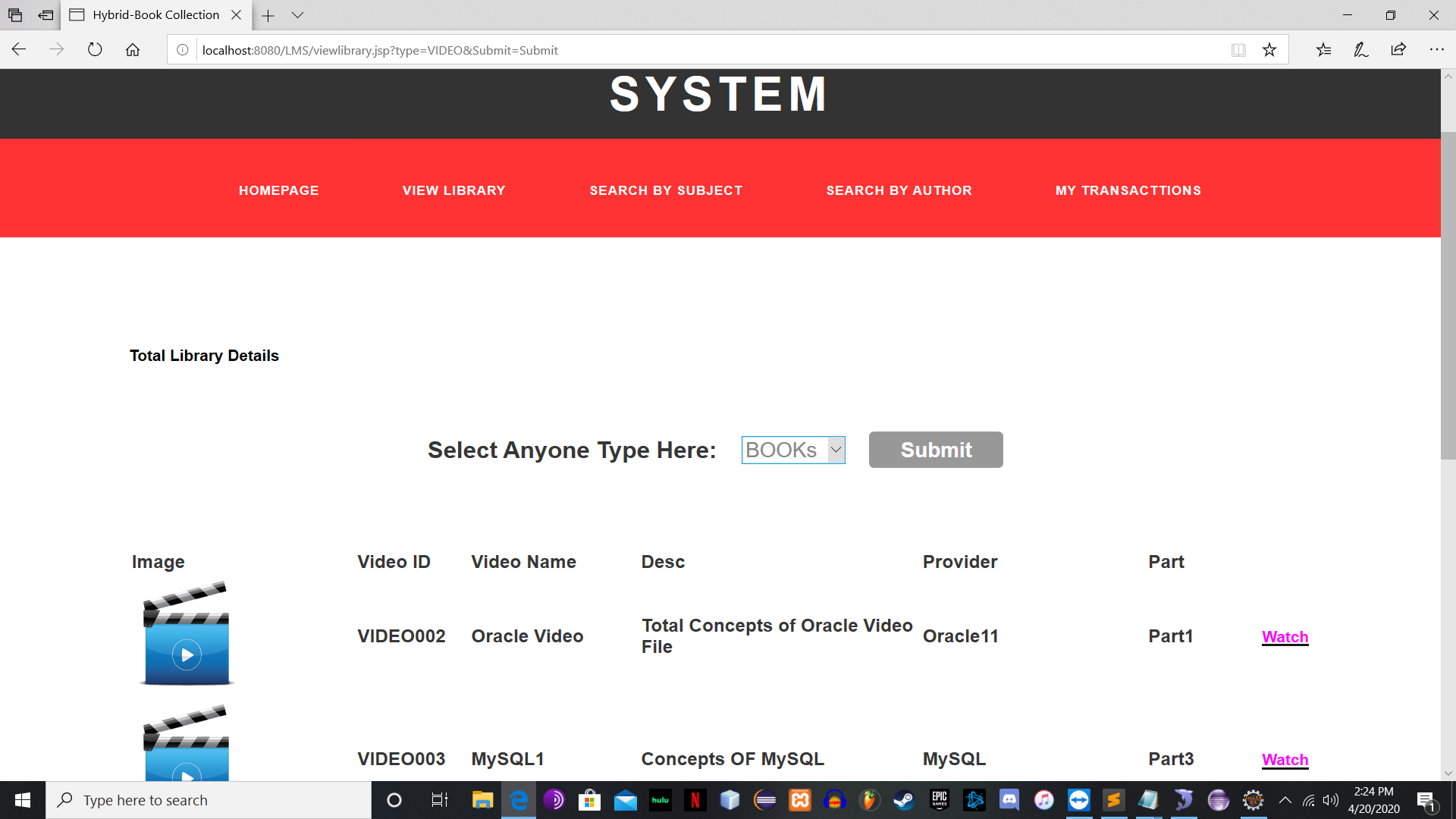
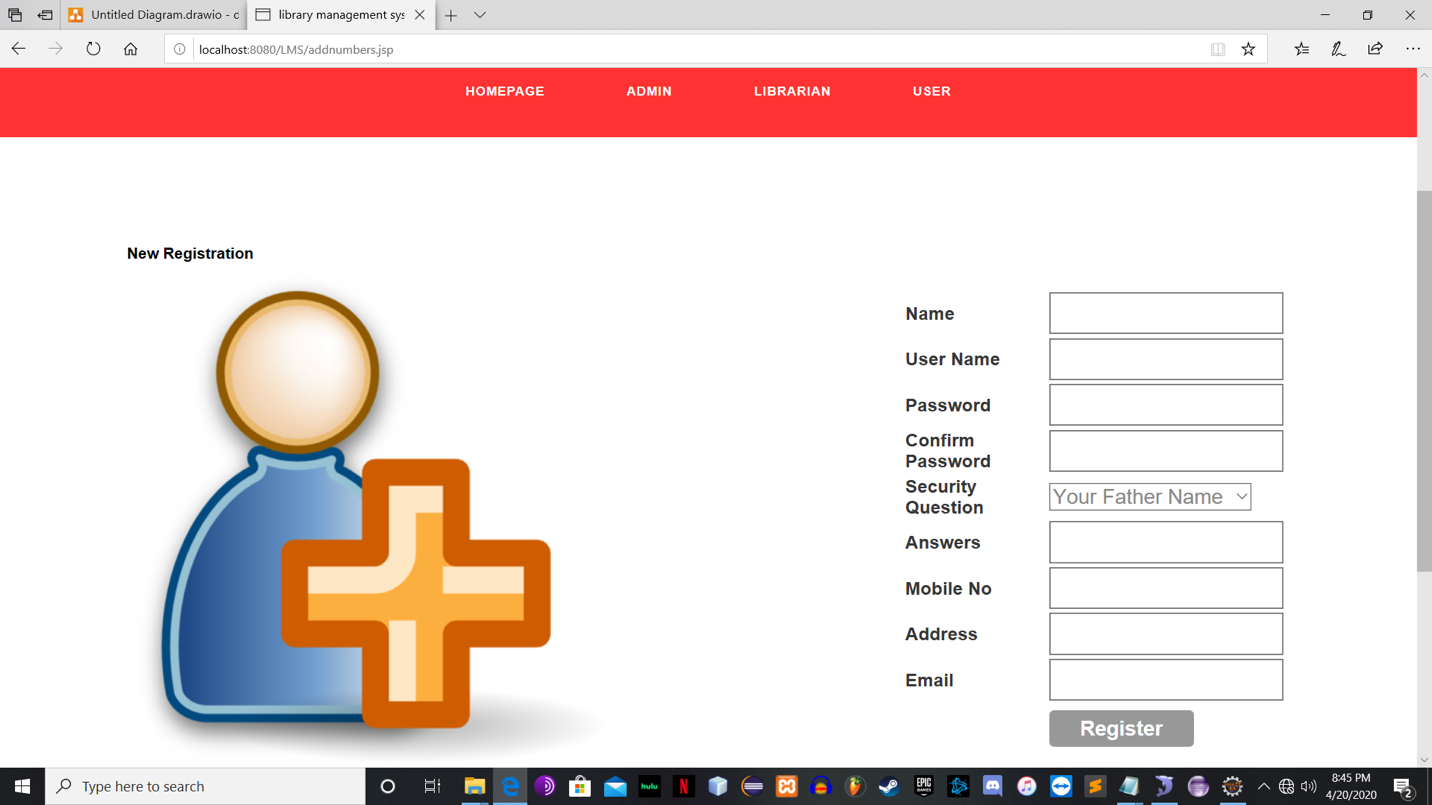
Hardware : Pentium

RAM : 1GB

**Conclusion**

This Project’s Conclusion is similar to online library management system, but it is also able to provide the users with Cd's, e books and videos. Any registered user can take CD, books from the book collection management system similar to library management. Along with this, registered users can get the e-book version, ability to read online portal whenever they login to the system. If they search for some video the book collection system will also provide that video which can be played in the online portal.

Snapshots:

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