

## **2<sup>nd</sup> Semester 2021-22; CSF 213(OOP) Mini-Project (Home Assignment)**

**Project Title:** Mutual Book Exchange Portal

Max Marks: 30

Dt: 14-Feb-2022

### **Brief Description of the Application:**

This *Mutual Book Exchange Portal* is a Web-based Application that enables the registered users to exchange books they have with them, free of cost, for the purpose of temporary use, and return.

### **Expected Functionality:**

#### **A. User Management:**

- Users should be permitted to register as a new user with information such as user name, a user id (unique across the system), phone number, and email id, and address.
- An existing user should log into the system with user id and password.
- A user can be either Admin user or normal user (appropriately decide the permissions/responsibilities).
- Admin can delete any existing user. Or a user can withdraw himself from the Application.
- Admin user can be seen as a super user, with more privileges/permissions.
- Password change facility is required.

#### **B. User Publishing book details:**

- Users should be allowed to publish/share the details of the books they have with them for sharing/lending. Details needed are Book title, Authors, Publisher, Edition, Year etc.
- If necessary a user should be allowed to delete the published item whenever he/she wants.

#### **C. User requesting for books:**

- Users should be allowed to view/search the books published by others and make requests if necessary for a specific book with duration he wants to hold the book on lending.
- If necessary a user should be allowed to delete a request made whenever he/she wants.
- User request should be messaged to the book owners so that they can give their consent to collect the book with details like date, time, `place etc., about collecting the book and the rest is done manually.
- User can search for a book based on title.
- It is assumed that the returning of book happens at the same location.
- If necessary user should be permitted to extend the period of loan for max up to 15 days with consent of the owner.

#### **D. Exchange transactional details:**

- The system should maintain the details of published books, transactions with details like date issued, expected return date, given\_by, taken\_by, etc.
- wallet is not sufficient, then the customer will have to first add money to the wallet and then proceed with the booking.

#### **E. Other functionality:**

- Admin user should be able to generate reports like – what are books published by a user, transactions conducted by a user.
- Check the Status of any book.
- Penalty should be imposed for late returning of books.

**Note:** Any missing specifications can be assumed.

#### **Implementation Guidelines:**

- The project has to be developed using any Java based Web Application Technologies such as Servlets, JSPs. The students are free to use any existing related APIs for implementation.
- You may use any IDEs/tools or other java frameworks (Spring, Struts, etc.) to develop the application. But you must be in a position to explain details if asked during the project evaluation.
- HTML, CSS and JavaScript, etc., may also be used for developing user interfaces in an more elegant way along with Java based technologies.
- It is to be noted that the graphical user interface should be made user-friendly and should be usable by a user belonging to any age group. Also, a user should be able to navigate across all the web pages from one page to another in an efficient manner.
- For storing the application data in persistent storage, you can use any type of database (MySQL, Oracle, etc.,). For example, JDBC API can be used to implement database connectivity to the application. Or can use file systems as well.
- You may use Apache Tomcat Server or Microsoft Internet Information Server for hosting the web application locally or even it can be hosted online using any free Web Host Server

**Other Guidelines:**

1. This is a **group** activity. Each group will have 4 students.
2. The nominated class-reps will manage this group formation process.
3. Groups to be formed by 20-Feb-2022.
4. Apply OO concepts to specify classes, roles, functionality etc.
5. Maintain a separate hard copy (one or two A4 sheets) for the design details of the system.
6. Mid-sem evaluation consists of reviewing the design and with viva (Max marks:10)
7. Final evaluation consists of reviewing the final design, implementation, demo and viva.
8. Evaluation dates will be announced 7-10 days ahead in the Lecture and through CMS notice.
9. All team members must be present, and we will ask each one of the team to present a portion of the work as per our wish. So, all must be prepared.
10. Evaluation scheme: Mid-semester evaluation: Design-6 marks and Viva -4 marks.  
Final evaluation: Overall Design-4 Marks; Implementation-8 Marks;  
Viva-6 Marks; -2marks for additional features/functionality and elegance. Note that only few (8-10) teams will get this bonus two marks, and not all.
11. Special Note: Plagiarism check will be done. Hence please make sure that your work is original.
12. You may use IDEs, DBMS as necessary.

**Prof R Gururaj, IC**