

Instructions to candidates

This paper consists of three (03) parts; Part A (MCQ), Part B (Essay) and Part C (Practical)

Part C

Duration: One (01) hour

Number of questions: One (01)

Mark allocation: 40

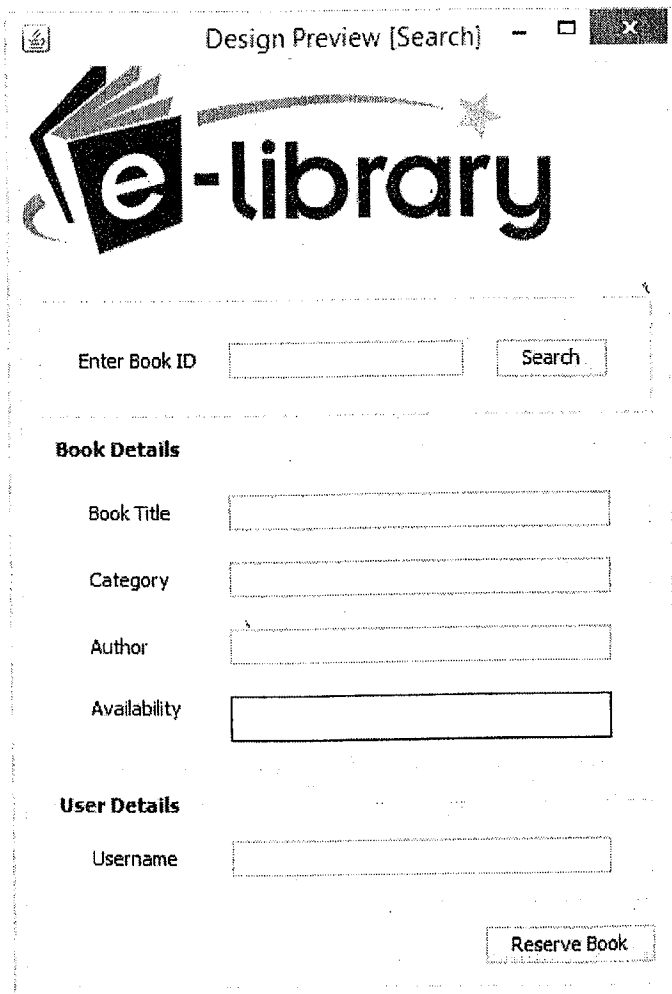
Answer all the questions

You need to upload the project folder as a ZIP file to the VLE.

When you are uploading, rename the ZIP file with your 'Index Number' as shown in the example (i.e. UWU_CST_16_XXXX).

Download 'Resources' ZIP file from the VLE for the database queries and required images.

1. 'e-library' is a standalone library system where the users can reserve the books. Figure 01 shows the reservation interface of the e-library system.



Design Preview [Search]

e-library

Enter Book ID

Book Details

Book Title

Category

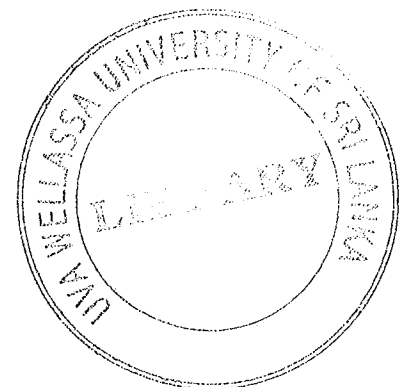
Author

Availability

User Details

Username

Figure 1: Book Reservation Interface



Specification:

- The interface is having three (03) jPanels; to enter the book id to be searched, to display the book details and to enter the user details.
- When the window is opened initially, the User Details panel and the Reserve Book button are not visible to the user.
- The user can enter the book ID (assume that a catalog is displayed to the user) to view the book details and the availability of the book.
- Once the user clicks on Search button, the book details (Title, Category and Author) are displayed on the non-editable textboxes and the availability of the book is displayed on the label in the Book Details panel.
 - Text on the label for available books: The book is available
 - Text on the label for unavailable books: Sorry, the book is not available
- If the book is available, the User Details panel and the Reserve Book button are visible to the user.
- User can reserve the book by entering the username and clicking on the Reserve Book button.
- When the user clicks on Reserve Book button, the username and the book ID are saved in the reservation table.
 - For successful reservations, a message is displayed saying 'Reservation successful'.
 - For unsuccessful reservations, a message is displayed saying 'Reservation is not successful'.

You are required to,

- a. Create a **Standalone Java application** according to the above specifications.
- b. Create a database named '**elibrary**' and use the queries in '**Q1_SQL.txt**' file in '**Resources**' ZIP file to create the necessary tables and to insert data to the tables.
- c. Implement the actions for the 'Search' button and the 'Reserve book' button by connecting with elibrary database.

Note:

- You may not need,
 - to update the availability of the book after successfully making the reservation.
 - to check the availability of the user.

(40 mark)