LIBRARY MANAGEMENT SYSTEM

UNDER THE GUIDANCE OF

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REPORT BY

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This project (Library Management System) is a general purpose project , which satisfies all the needs of a typical library system. The project involves the creation of a database host application that interfaces with a SQL database that implements a Library Management System.

The whole project has been divided into the following modules :-
1) GUI
2) Book Search and Availability
3) Book Loans
      a) Checking out books
      b) Checking in books
4)Add Borrower
5)Pay Fines & Show Fines

User Instructions for librarians
1) Initially we open the command prompt and run mysql (mysqld --console).
2) The data set has been given which consists of .csv files.
2) A databaseLoad.sql file has been provided which contains the sql commands needed for the creation of the Library Database. This file creates the database according to the schema provided.
3) The path to the databaseLoadData.sql file has been provided to load the data into tables and should give the appropriate .csv file address to import the data.
4) A web interface using javascript and html has been provided for a user friendly experience.
5) We open the netbeans, import the project and run the project after loading sql files.
6) Now the web interface is pretty much self explanatory and the user can perform the various desired actions.
7) The Web Interface consists of book search, book loans(checkout and check-in), borrower signup, show fines and pay fines buttons. The user can click the buttons and perform the desired operation.

Design decisions and justifications
1) In the web interface netbeans I have used a JSP. The design consists of main page contains 7 text hyperlinks.
2) The seven hyperlinks contain the book search, loan-details, book loans(checkout and check-in) ,the add new borrower functionality, show fines and pay fines.
2) If an error occurs because of the user's false input it is displayed on the page.
3) In the Database, the table book has a book_id which has been made the primary key .
4) In the book_authors table , the book_id and author_name form the primary key together.
7) The table fines has loan_id as its primary key.
8) The table borrower has card_no as its primary key. No borrower can have two cards. Also the card_no is auto incremented so that when we add a new borrower we give him a unique card_no everytime.
9) The book_loans has loan_id as its primary key. This is also auto incremented so that each time a book is checked out from the library a new loan_id is generated.
10) We can search for a result by giving substring as an input.

11) In the Web Page show fines and pay fines have been created. The show fines shows all the fines , paid and unpaid together as well as individually.
12) The pay fines table has a facility to type the card number and pay the fine.

Technical Dependencies
1) Front end – JSP(HTML and JAVASCRIPT)
2) Back end - MYSQL
3) Mysql Connector/J 5.1.30