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Project Report
on
"Library Management System"

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Abstract:

The project titled “Library Management System” is library management software for monitoring and controlling the transaction in a library. This software mainly focuses on basic operations in a library like students user id, information related to books present in the library, issuing and returning of library books etc. Both science and commerce students have the opportunity to access this management system. They can issue and return books in a disciplined way with suitable document. The software is easy to use for both beginners and advanced users. Today in many schools, colleges, and universities librarians using library management software for managing issuing & returning the books. Collecting Fine and payments due from students, we can generate Reports for Record-Keeping.

Acknowledgment:

All praise goes to Allah for helping us to successfully complete this project paper .The satisfaction that accompanies that the successful completion of any task would be incomplete without the mention of people whose ceaseless cooperation made it possible, whose constant guidance and encouragement crown all efforts with success.

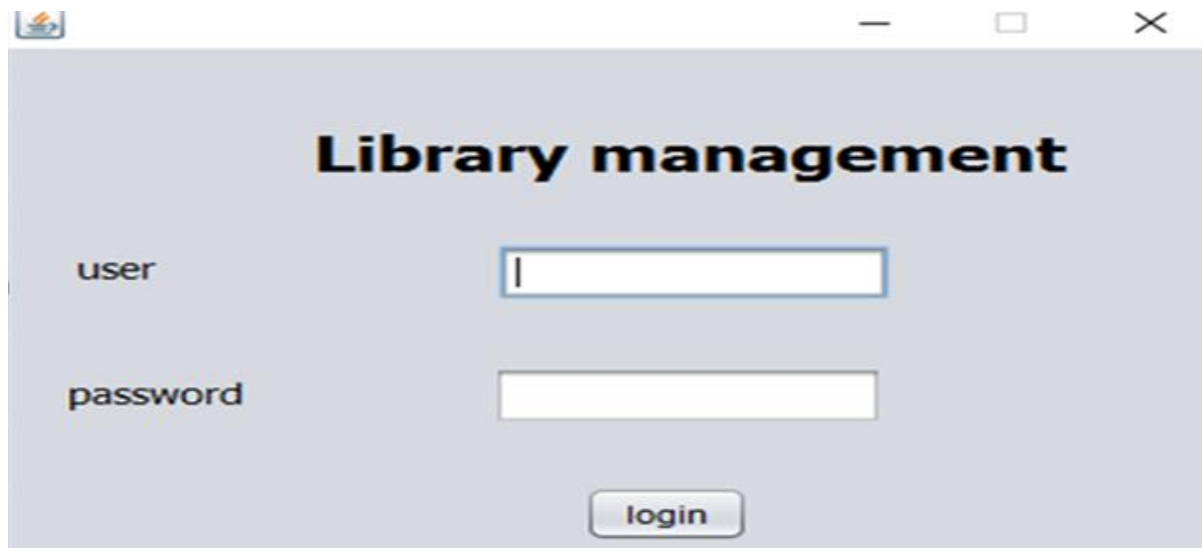
We are grateful to our project guide Dr. Mohammad Abu Yousuf for the guidance, inspiration and constructive suggestion that helpful us in the preparation of this project. We also thank him for his motivation during the project and during our studies in general.

We also thank our friends who have helped in successful completion of this project.

List of Figure

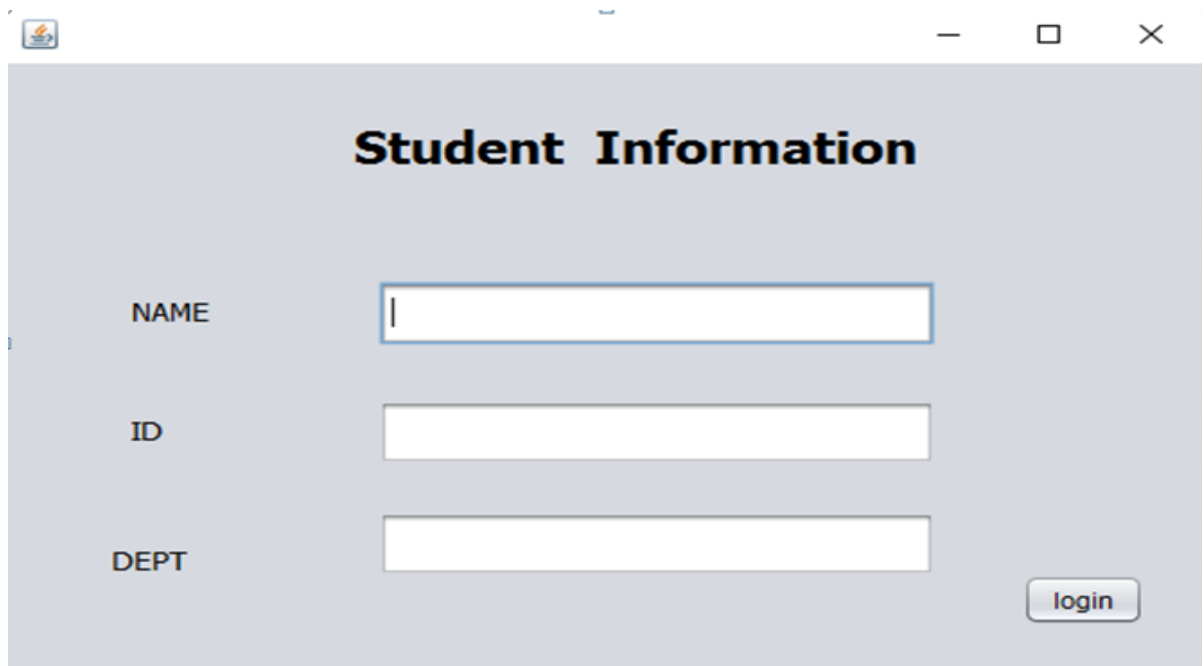
Here is the windows figure:

Library management



A screenshot of a Windows application window titled "Library management". The window has a light blue background and a standard Windows title bar with minimize, maximize, and close buttons. The main content area contains the title "Library management" in a large, bold, black font. Below the title, there are two input fields: one labeled "user" and one labeled "password". The "user" field is a white rectangle with a blue border and a cursor. The "password" field is a white rectangle with a blue border. Below these fields is a "login" button with a blue border and the text "login" in a bold, black font.

Student Information



A screenshot of a web application window titled "Student Information". The window has a light gray background and a standard Windows-style title bar with a minimize, maximize, and close button. The form contains three input fields: "NAME", "ID", and "DEPT". The "NAME" field is the first and is currently active, showing a cursor. The "ID" and "DEPT" fields are below it. A "login" button is located at the bottom right of the form.

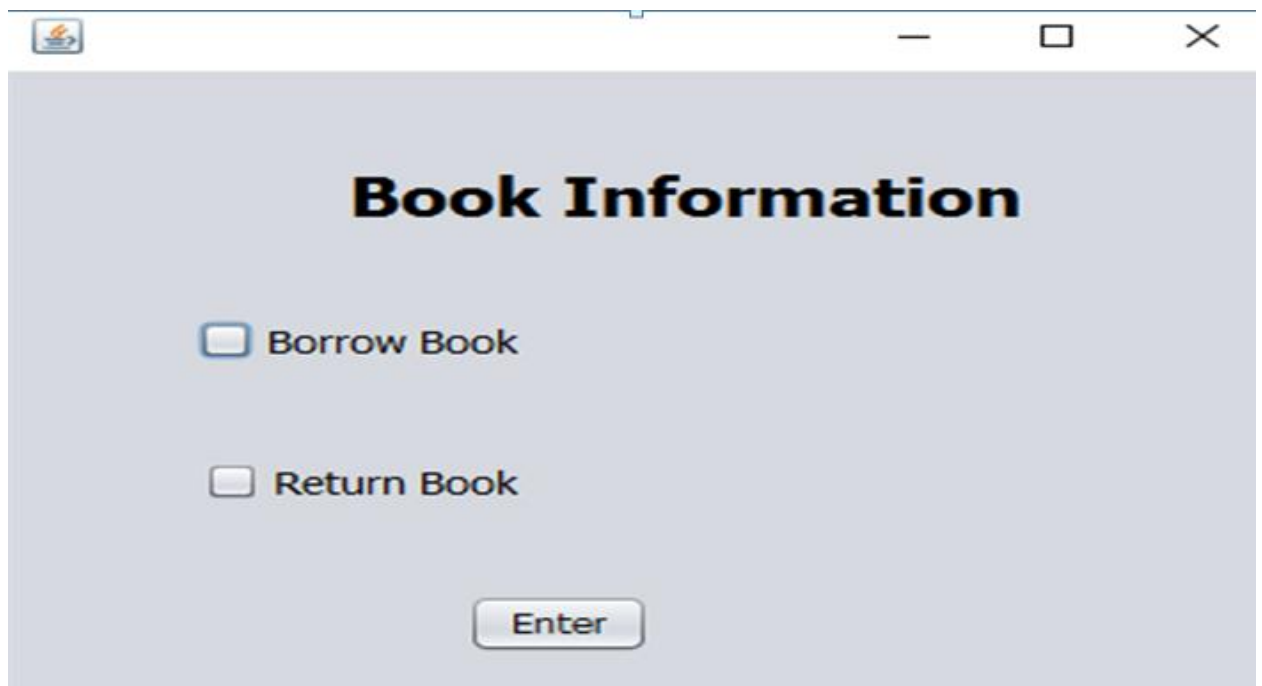
Student Information

NAME

ID

DEPT

#Book Information



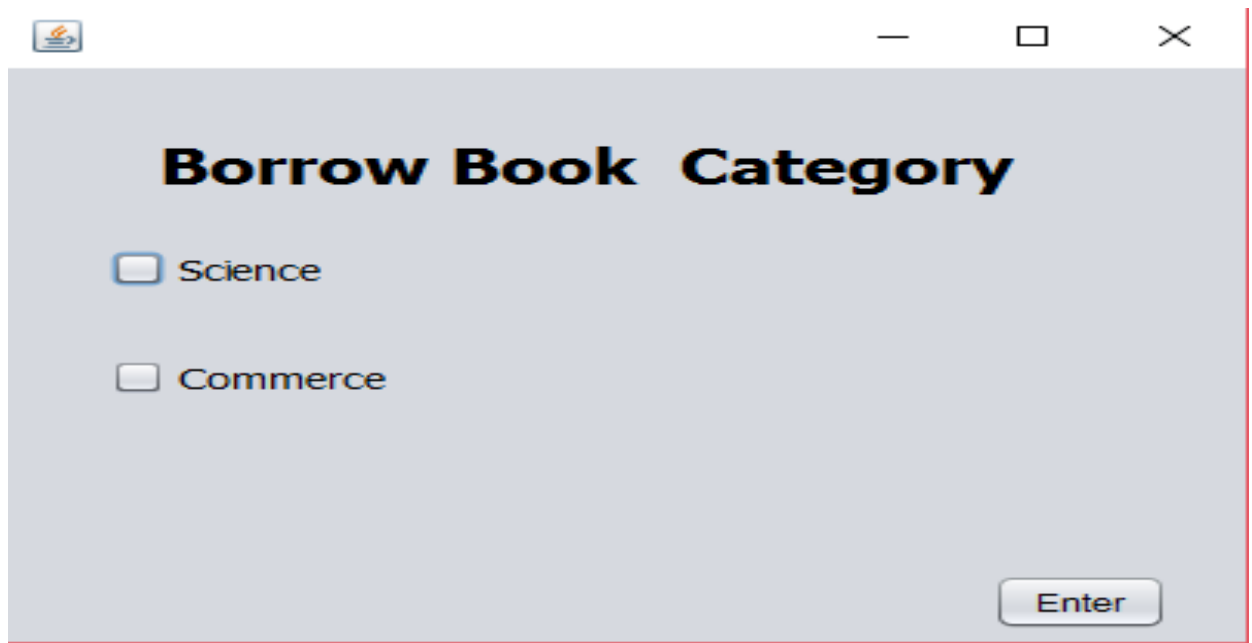
A screenshot of a web application window titled "Book Information". The window has a light gray background and a standard Windows-style title bar. The form contains two checkboxes: "Borrow Book" and "Return Book". An "Enter" button is located at the bottom center of the form.

Book Information

☐ Borrow Book

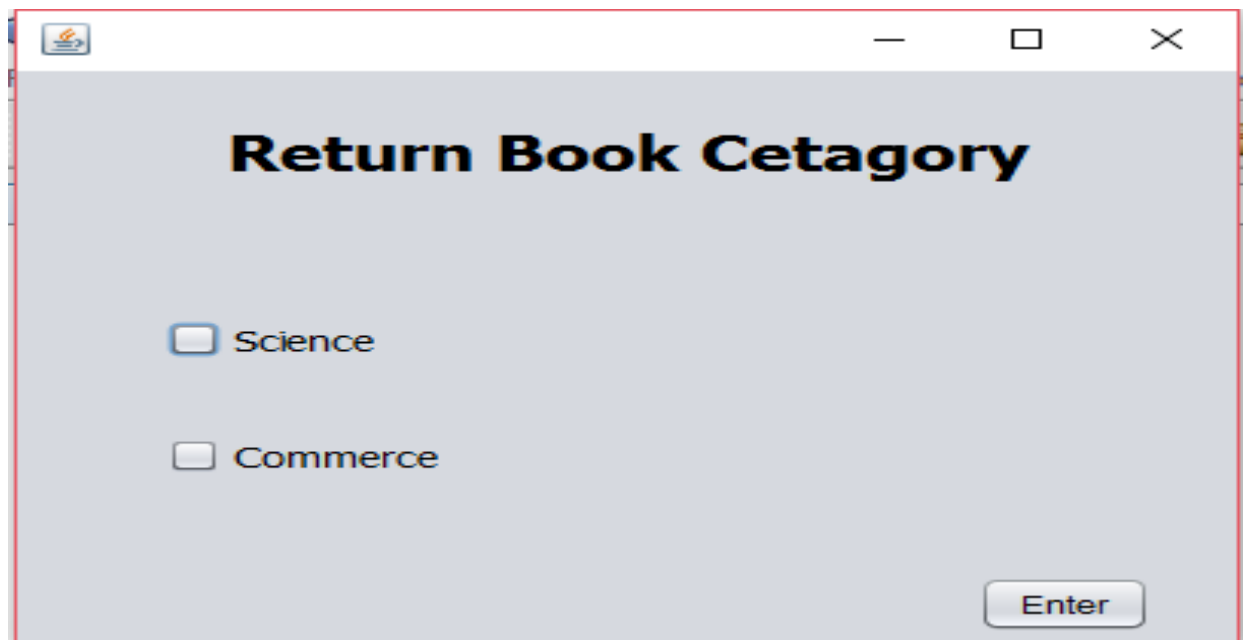
☐ Return Book

Borrow Book category




A screenshot of a Java Swing window titled "Borrow Book Category". The window has a standard title bar with a small icon on the left and minimize, maximize, and close buttons on the right. The main content area has a light gray background. At the top, the title "Borrow Book Category" is displayed in a large, bold, black font. Below the title, there are two checkboxes. The first checkbox is selected (checked) and is followed by the text "Science". The second checkbox is not selected (unchecked) and is followed by the text "Commerce". In the bottom right corner, there is a button labeled "Enter".

Return Book category



A screenshot of a Java Swing window titled "Return Book Cetagory". The window has a standard title bar with a small icon on the left and minimize, maximize, and close buttons on the right. The main content area has a light gray background. At the top, the title "Return Book Cetagory" is displayed in a large, bold, black font. Below the title, there are two checkboxes. The first checkbox is selected (checked) and is followed by the text "Science". The second checkbox is not selected (unchecked) and is followed by the text "Commerce". In the bottom right corner, there is a button labeled "Enter".

Book list of science

— □ ×

Book List Of Science

☐ English


☐ Math

☐ Biology

☐ Physics

Enter

Book List of commerce

— □ ×

Book List Of Commerce

☐ Finance

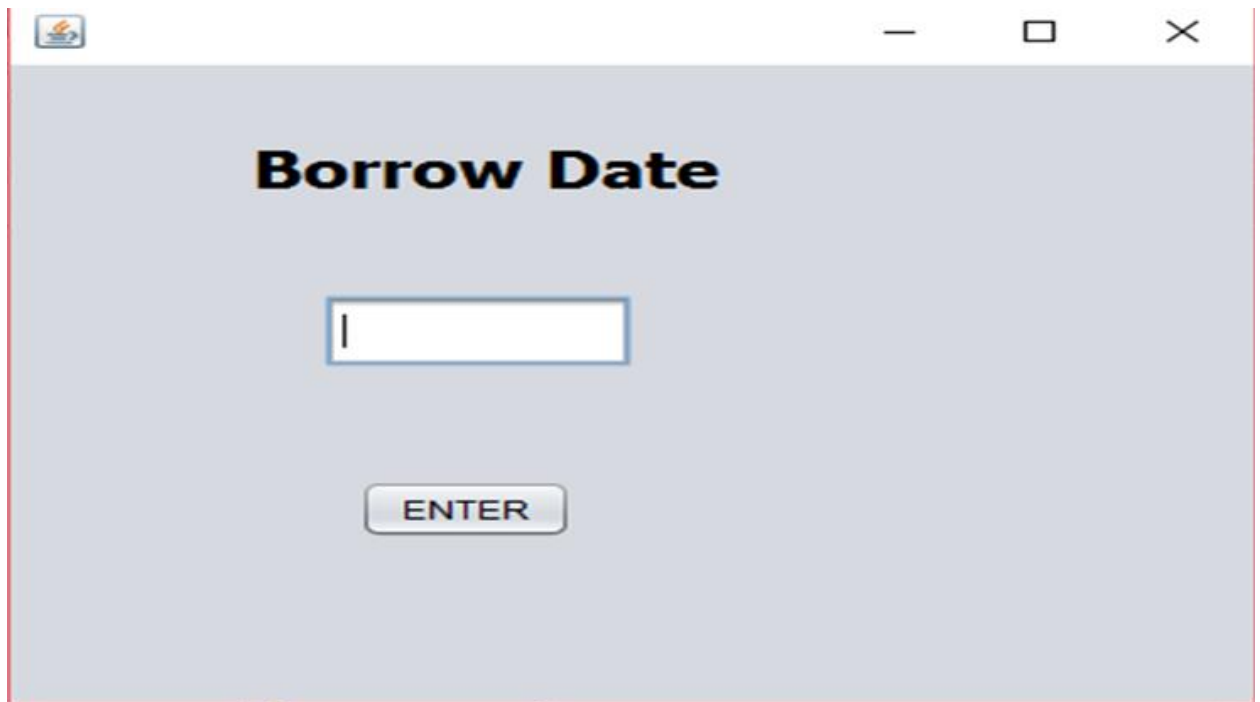
☐ Marketing

☐ Business Math

☐ Computer

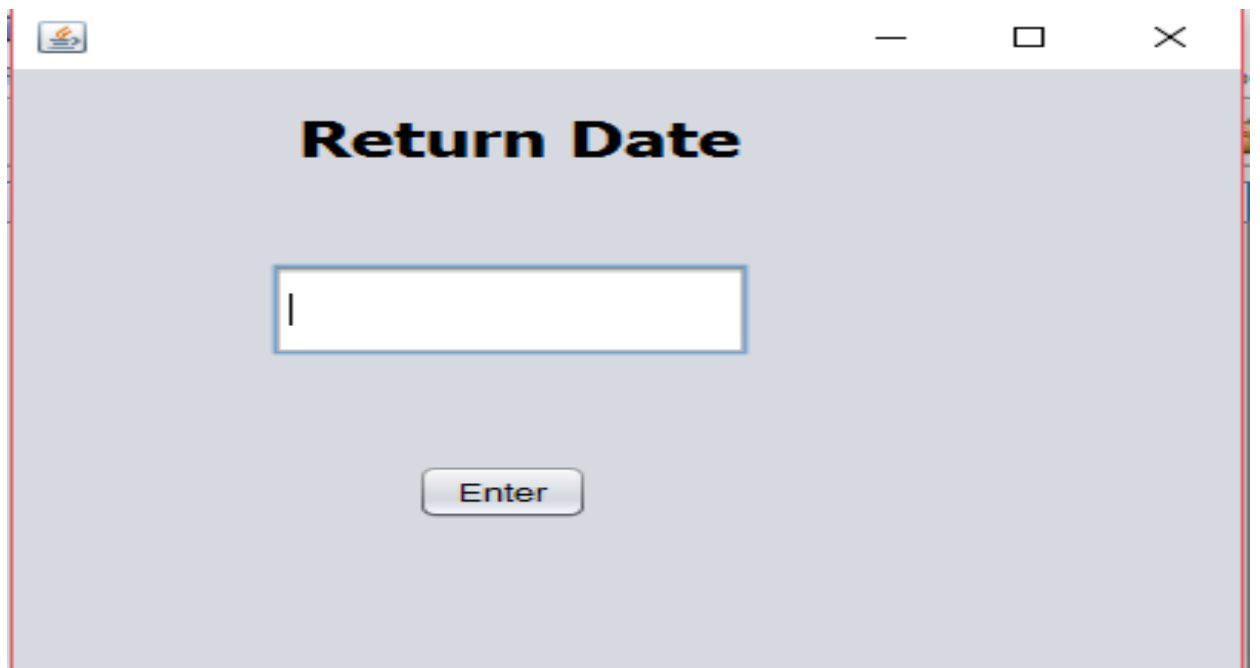
Enter

Borrow Date



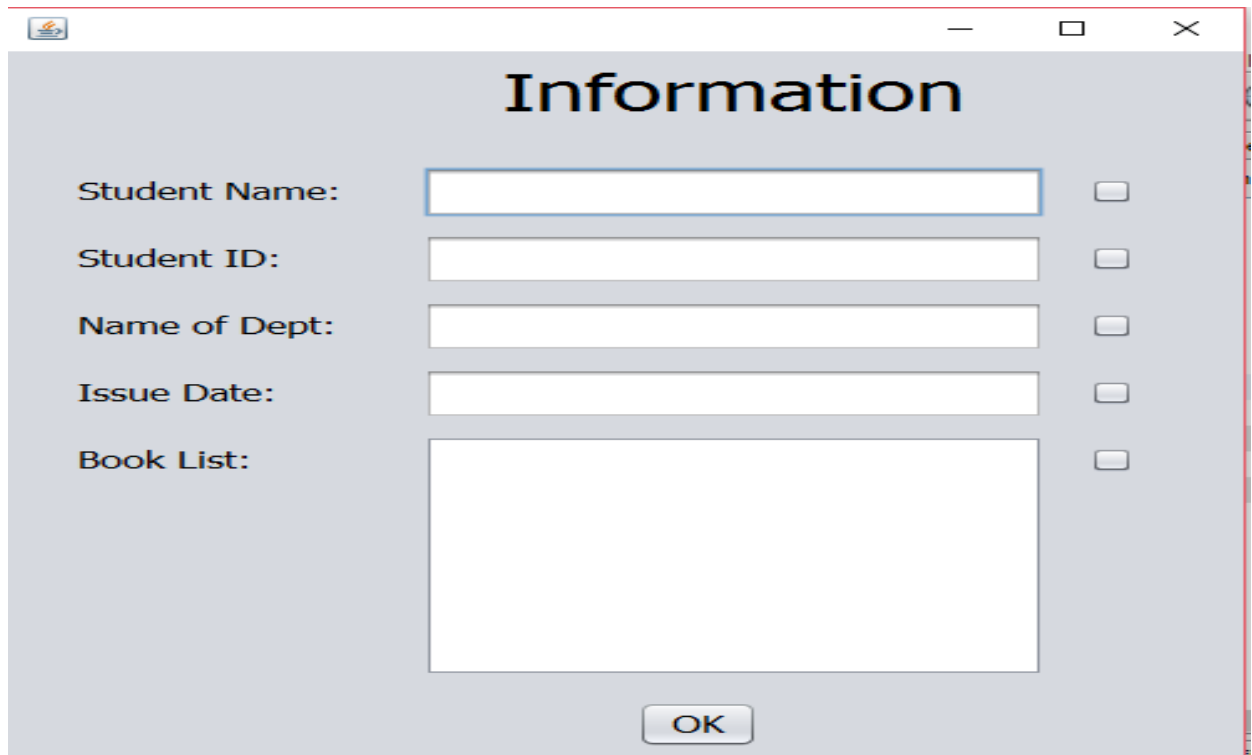
A screenshot of a software window titled "Borrow Date". The window has a light gray background and a standard Windows-style title bar with a small icon on the left and minimize, maximize, and close buttons on the right. The title "Borrow Date" is centered at the top in a large, bold, black font. Below the title is a white rectangular text input field with a blue border and a vertical cursor on the left. Underneath the input field is a rounded rectangular button with a light gray gradient and the word "ENTER" in black capital letters.

Return Date



A screenshot of a software window titled "Return Date". The window has a light gray background and a standard Windows-style title bar with a small icon on the left and minimize, maximize, and close buttons on the right. The title "Return Date" is centered at the top in a large, bold, black font. Below the title is a white rectangular text input field with a blue border and a vertical cursor on the left. Underneath the input field is a rounded rectangular button with a light gray gradient and the word "Enter" in black capital letters.

Information

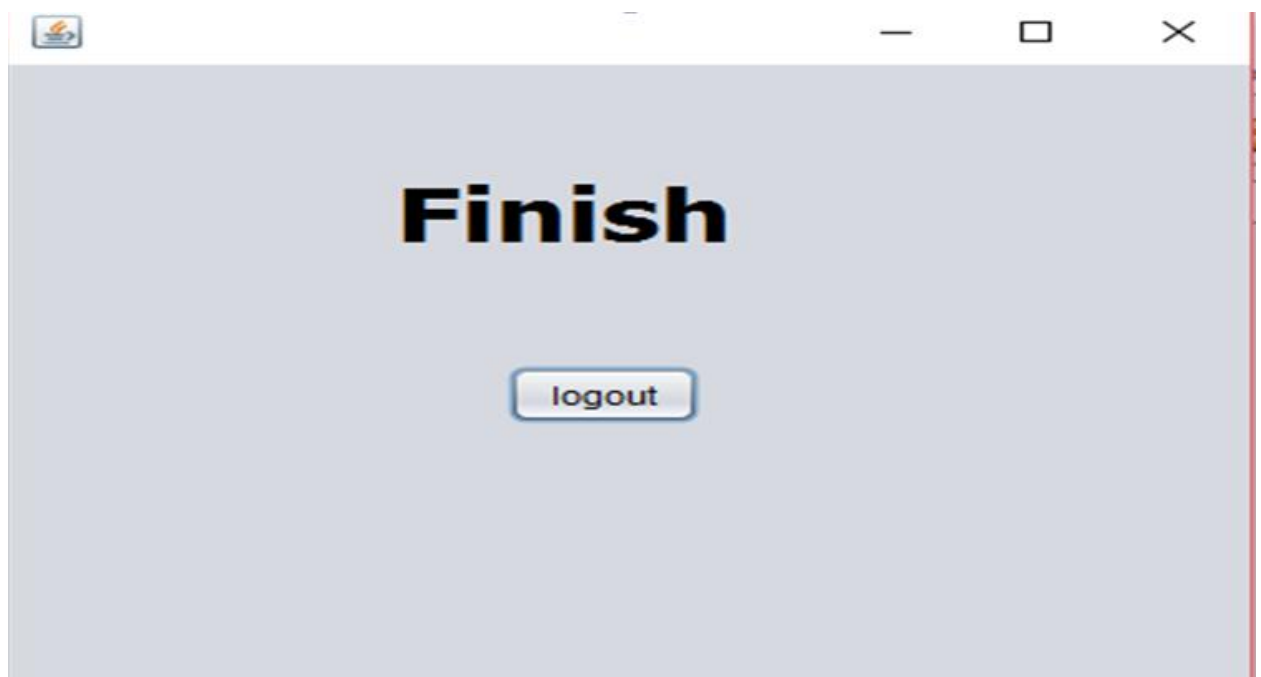


A screenshot of a software window titled "Information". The window has a light gray background and a standard Windows-style title bar with a minimize icon, a maximize icon, and a close button. The main content area contains five labels on the left, each followed by a text input field on the right. The labels are "Student Name:", "Student ID:", "Name of Dept:", "Issue Date:", and "Book List:". The "Book List:" label is followed by a larger, empty rectangular box. To the right of each input field is a small, empty square checkbox. At the bottom center of the window is a button labeled "OK".

Field Label	Input Type	Checkbox
Student Name:	Text	<input type="checkbox"/>
Student ID:	Text	<input type="checkbox"/>
Name of Dept:	Text	<input type="checkbox"/>
Issue Date:	Text	<input type="checkbox"/>
Book List:	Text Area	<input type="checkbox"/>

OK

Finish



A screenshot of a software window titled "Finish". The window has a light gray background and a standard Windows-style title bar with a minimize icon, a maximize icon, and a close button. The main content area is mostly empty, with the word "Finish" centered in a large, bold, black font. Below the title, centered, is a button labeled "logout".

logout

Chapter 1

1.1 Introduction

Library management is a sub-discipline of institutional management that focuses on specific issues faced by libraries and library management professionals. Library management encompasses normal managerial tasks, as well as intellectual freedom and fundraising responsibilities. Issues faced in library management frequently overlap with those faced in managing non-profit organizations.

The basic functions of library management include, but are not limited to: planning and negotiating the acquisition of materials, Interlibrary Loan (ILL) requests, stacks maintenance, overseeing fee collection, event planning, fundraising, and human resources.

What is Library management system?

A library management system (LMS), also known as an integral library system (ILS), can be considered as an enterprise resource planning (ERP) system for a library. It is formed from a suite of integrated function to manage a diverse range of process within a library. At the heart of most LMSs is a relational database (RDBMS) with a business application layer to manage library functions. This modulus typically includes:

- ✓ Cataloguing (classifying & indexing materials)
- ✓ Acquisitions (ordering, receiving, and invoicing materials)
- ✓ Circulation (lending materials to users and receiving them back)
- ✓ Serials (tracking journal, magazine and newspaper holdings)
- ✓ OPAC('Online Public Access Catalogue' – the public interface for users)

1.1.1 Objective of the project

The objective of **Library Management Software** is to handle the entire activity of a library. The software keeps track of all the information about the books in a library, their cost, their complete details and total number of books available in the library. The user will find it easy in this automated system rather than using the manual writing system. The system contains a database where all the information will be stored safely. The system is user-friendly and error free.

The main operations in a Library involves Organizing the books, Issuing books to library members, recording the issue and submitting of books and Managing the member details. These operations in a Library can be simplified by using Library management software. So there is no need to keep any record books.

1.1.2 Motivation

An efficient computerized **library management system** will enhance the effectiveness of the library. A good library management system should enable librarian to manage library resources in a more effective way to save time and effort.

Library Management System encourages learning and teacher-student joint effort by enhancing your institution's library's productivity and access to educational resources. Our product helps advancement in both the library and classroom.

The library management software centralizes the whole distribution process of ordering books, issuing of books & replacement of books. It generates real time report and user friendly to students & staff members.

Now days the systems developed on open source so we can access these systems easily from in easy way & it avoids all types of human mistakes. Students can easily login & access books, according to their requirement.

Chapter 2

2.1 Literature Review

This chapter will mainly discuss on the study that are done by previous research of other authors in the similar area of the present study. Throughout this chapter, there will be comprehensive discussion on theoretical and practical views of previous studies done in library management system. The primary purpose of the literature review is to establish what relevant research has already been conducted in the field of library management system. It is through this review of the broader research topic that a specific proposal can be accurately formulated. Broadly speaking, Knowledge Management (KM) is a process of creating, storing, sharing and re-using organizational knowledge (know-how) to enable an organization to achieve its goals and objectives of creating knowledgeable professionals and workforce. The advent of the “e-revolution”, through the growth of global networks has accelerated the use of knowledge management (KM) especially in academic libraries. In the 21st Century KM is increasingly becoming a crucial tool in providing a dynamic and effective service to library users in the whole world. Management gurus, such as Peter Dracker (1999) asserted, that for industries and institutions “the most valuable assets of a 21st century institution, whether business or non-business, will be its knowledge workers and their productivity”. This affirmation was duly taken up by many academic libraries. Knowledge Management has already been successfully implemented in academic libraries and the policy makers, administrators, scientists and researchers have been actively involved in ensuring knowledge management through academic libraries .Bangladesh has a slow and steady growth of library education which started before independence. The country has nearly fifty-six years of history in library education. The last quarter of the 19th century was a flourishing period of innovation general library practice in the west. After World War I, there was a steady and gradual development of libraries in westerns countries. The library schools in western countries reshaped their curriculum and soon a new breed of new progressive, positive and service oriented librarians was produced. These remarkable developments had no impact on Bangladesh. Library and information science (LIS) includes academic studies on how library resources are used and how people interact with library system. The organization of knowledge for efficient retrieval of relevant is also a major research goal of library education.

Chapter 3

3.1 Methodology :

Function Component 1:

Library Management: Here admin can enter his/her information for processing the whole management.

Input: admin name and password.

Process definition : processing the name and password and matching with the stored name and password. If those match the system permit the admin for log in.

Output: information stored in the system.

Function Component 2:

Student Information : Here one student can enter his/her information.

Input: Student name, id and department.

Process definition: System takes the data and stored for giving information as a output.

Output: Entered information shown as a result.

Function component 3:

Book Information: define the borrow and return book.

Input: It takes the type like borrow or return.

Process definition: processing system check out the type .if anyone wants to borrow book than the system enter into the category of borrow book else anyone wants to enter return book than system enter into the category of return book.

Output: Entered information shown as a result.

Function component 4:

Borrow book category: Define the subject of book.

Input: It takes which subject one can choose for borrow.

Process definition: check the subject which is chosen by the student and allow a student to define the specific book name which he/she wants to borrow. for this one must choose the category of subject.

Output: define subject stored for information list.

Function component 5:

Return book category: Define the subject of book.

Input: It takes which subject one can choose for return.

Process definition: check the subject which is chosen by the student and allow a student to define the specific book name which he/she wants to return. for this one must choose the category of subject.

Output: define subject stored for information list.

Function component 6:

Book list of science: show the list of books for choosing.

Input: It takes the name and number of science related books.

Process definition: System process the background and allow a student to ensure the number and name of book which he/she wants to borrow or return. He/she must choose number and name for next procedure.

Output: gather the list of books for information as a output.

Function component 7:

Book list of commerce:show the list of books for choosing.

Input: It takes the name and number of commerce related books.

Process definition: System process the background and allow a student to ensure the number and name of book which he/she wants to borrow or return. He/she must choose number and name for next procedure.

Output: gather the list of books for information as a output.

Function component 8:

Borrow date:enter the date .

Input: date of borrow.

Process definition:its processing the date information.

Output: date will show in the information as a output.

Function definition 9:

Return date:enter the date .

Input:date of return.

Process definition:its processing the date information.

Output:date will show in the information as a output.

Function definition 10:

Information: Shows the output.

No input here.

Process Definition: Firstly, we according to those, we got individuals windows. At the end of the result, we get a output window called Information, where it will show the student's name, id, department, books which are issued, books to return and etc. Then there will be a button called enter to press which means that the login has been activated successfully. The whole previous windows are being represented here what is the first and foremost pattern of our management to wrote code for getting the previous windows.

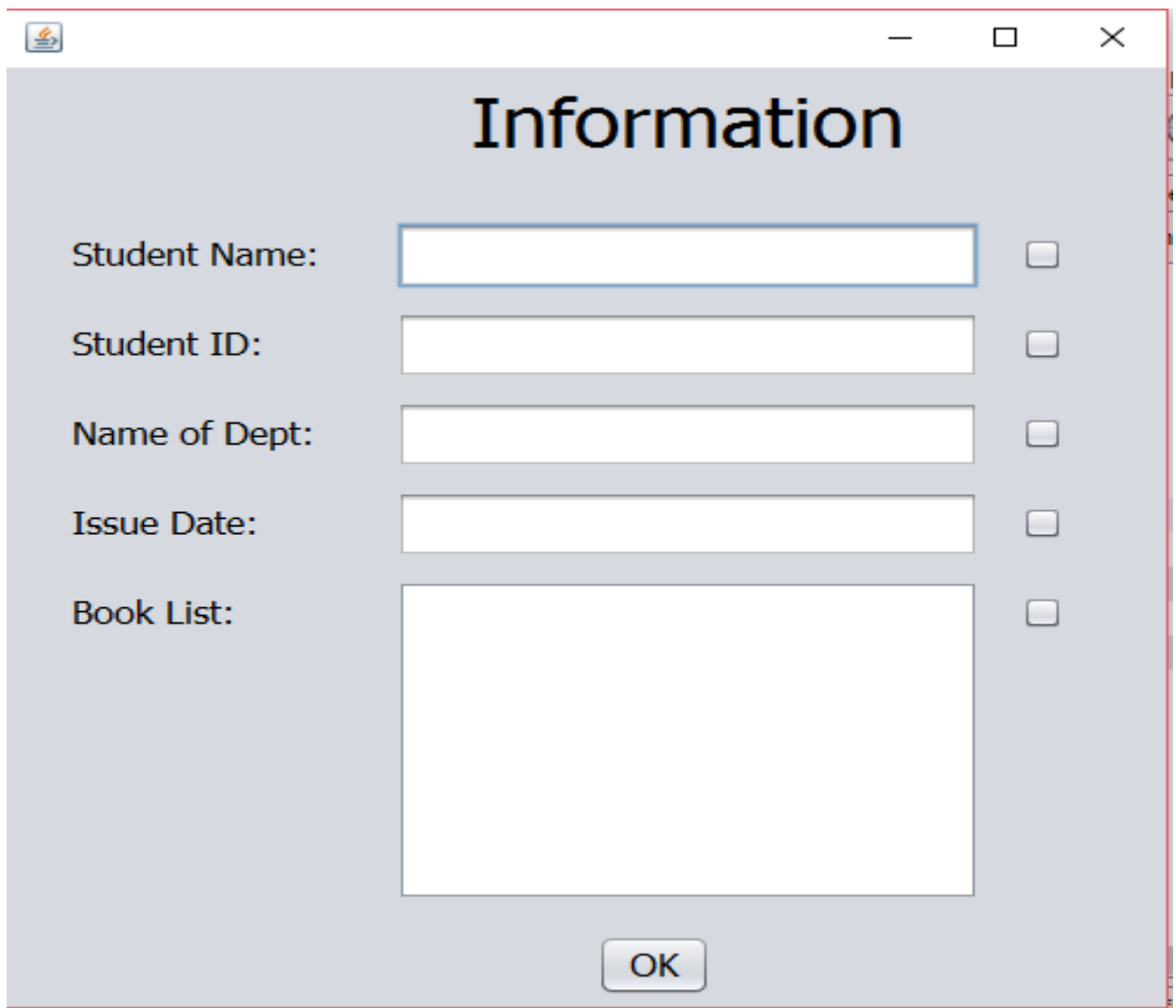
Function Component 11:

Logout: Successfully finishes Logout process.

Process Definition: This is just a logout button which comes from the what we have written in our source code and what has been created to JFrame. By the framework we created a button and by writing code on the source we have initialized it. By pressing this button it will again go to the first page to receive data from another student to access on the library.

Chapter 4

4.1 OUTPUT OF THE PROJECT



Information

Student Name: ☐

Student ID: ☐

Name of Dept: ☐

Issue Date: ☐

Book List: ☐

OK

This is the output of our project. This output contains four(4) information:

1. Information of Science Borrow Book
2. Information of Science Return Book

3. Information of Commerce Borrow Book
4. Information of Commerce Return Book

Chapter 5

5.1 Conclusions & Discussions

From the very beginning of doing this project, we can assume about the purpose and importance of Library Management System. Library management is a sub-discipline of institutional management that focuses on specific issues faced by libraries and library management professionals. Library management encompasses normal managerial tasks, as well as intellectual freedom and fundraising responsibilities. Issues faced in library management frequently overlap with those faced in managing non-profit organizations.

In our second semester we have studied about JAVA, a tremendously used high level and one of the most important computer language all over the world. Our project was about Library Management, that means an e-documents for library. Generally most of the libraries in Bangladesh don't use any computerized program. But for highest security and for the precise preservation of books, we need it. We added the documentaries and information what an admin and student need to enter a library and issue books. And for this we need to write code for individual windows. We used compiler, Net Beans because from the very first time we are used to with this. We created a framework called JFrame, what creates the source code automatically that our internal code got easier.

The basic functions of library management include, but are not limited to: planning and negotiating the acquisition of materials, Interlibrary Loan (ILL) requests, stacks maintenance, overseeing fee collection, event planning, fundraising, and human resources.

An efficient computerized **library management system** will enhance the effectiveness of the library. A good library management system should enable librarian to manage library resources in a more effective way to save time and effort. **Library Management System** Encourage learning and teacher-student joint effort by enhancing your school library's productivity and access to educational resources. our product helps advancement in both the library and classroom.

The library management software centralizes the whole distribution process of ordering books, issuing of books & replacement of books. It generates real time report and user friendly to students & staff members. Now days the systems developed on open source so we can access these system's easily from anywhere & anytime and easy to navigate. These Systems helps to librarian to manage a library in easy way & it avoids all types of human mistakes. Students can easily login & access books, according to their requirement.

It's necessary for every library having a strong management system which is stored by any digital device with evidence. Because nowadays people are getting complicated and contaminated thoughts are around them. There are irresponsible people also who doesn't return any books after borrowing from the library as well. Again, a fraud can be easily get into your library and may cause any harm if u don't provide the security through accessing your identification. So basically, just to write down the names and id of individuals are not a solution of a library management. It should be digital and computerized. For sorting out this problem, the project of the management

system has been created. We can be benefited by this project because whenever anyone wants to access on the library it would take the identification what is registered for that individual only. And for making this function we needed to write code according to the program of the digital device as computer doesn't know human languages. So, the project of library management system if initialized, admin as well as students can save their time.

At a glance we found some difficulties to write and understand the code for this program, but gradually we cope up and established a management system as we have been required. So, we can clearly assume that, for this purposes we need computer program for the legal access for students and to maintain the privacy and security of the library.

Chapter 6

6.1 References:

1. The Complete Reference,(Author: Herbert Schildt, Ninth Edition);

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