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Final Project

Library Management System

A. Introduction

Library Management System or LMS is an automated library system. This system helps librarians and readers to provide information on any book present in the library. It also keeps a track of books published, given in return, and added to the library.

LMS is very helpful for librarian to organize the book and check whether there is issue where student forgot to return book on time. This software also helpful on modify book/shelves and student data. This program can also provide some information to student about list of books which available and when the due date for return the book.

1. How it works

The program works by using algorithm that we created in .cpp file in executable format. We divide the program into 3 main part which is login portal, student portal, and librarian portal.

The login portal is used as gate to connect the user and the program. This program allow user to register using “Register” feature. The user only needs to fill some form, which is name, username, password, and retype password. To make sure that there’s no difference input between password and retype password, we put some algorithm which only allow user to register when retype password is same as password. The data which registered will stored to “registredUsers.txt”. For login, it will take input from “registredUsers.txt” and compare with user input. If user’s input is existed in file, then it will bring user to specific portal. Due to limitation feature, I added switch feature which determine whether the user is librarian or student. This program uses some basic programming, vector, and pointer. The code program is attached outside of document. This program is created by using Embarcadero Delhi 10.4 and C++ Builder 10.4 Update 2.

Graphical user interface, application, PowerPoint

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Graphical user interface, website

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Graphical user interface, website

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The student portal is used as feature for student to access list book and search book. The booklist is taken from “Bookdata.txt” file which created by using librarian portal. This portal allow student to see how list book and some description such as name book, author, publisher, ID’s book, price, and stock of book. Student can also use feature for search the book. The program using basic skill, binary and implement class. The code program is attached outside of document.

A computer screen capture

Description automatically generated with medium confidence

Graphical user interface, text

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The feature of librarian portal almost same with student portal; However, there are additional feature which is add/modify book and issued the book. The For add/modify book, this program allow user to add, modify/edit, and also remove a book. For add, user choose the branch of book, then user need to fill the form based on information of the book. For modify, the user only needs to re-enter the data as desired, but they can't just replace certain data. If only 1 data is to be changed, then the user simply re-enters all the data and revises the part he wants to change. For remove, it will directly delete the book from plaintext. For issued the book, the user can check whether there’s the student who haven’t return the book yet. If there’s a student late, then the program will give calculation about how much fine for the book based on days late. This program created by implemented basic programming, class, pointer, and binary search. The code program is attached outside of document.

Text

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1. Work distribution

We are a group consist of 3 people: Erwin, Raisa, and Juan. Erwin will create login GUI that allow user to register and login in program. Erwin also created the complete program flow at beginning of project, create databases bookshelves and writing proposal and final report. For Raisa, she will create the program for librarian. She also ensures all programs are running properly and provide feedback about some bugs in the program. For Juan, he creates program for student users. On creating this program, we often held discussion through Google Meet and WhatsApp group to discuss about implementing requirement (such as stack, tree, graph) on our program, discuss bug, and other things so that we can help each other’s to finish the project.

1. Link

GitHub: [Here](https://github.com/Moherwinseptianto/Library_Management_System-Final_Exam)

Video: [Here](https://drive.google.com/drive/u/0/folders/10MKDstlXzc7uegiqlmT4B8gds1sNY5Nd)