Class: Concepts of Programming

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Section: 002

File: Project Proposal.pdf

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Project Proposal: Library Management System

Project Overview

The Library Book Management System is a program that will manage basic library operations. It will store each book's title, author, and availability status, and allow users to add books, view the full list, and check books in or out. The goal of this program will be to provide a simple and organized way to manage a small library.

Problem Statement

Making the library management and tasks digital using a program will help keep the information accurate, updated, and easy to access. This will reduce paper logs or unstructured files, which often lead to missing records, repeated entries, and uncertainty about which books are available.

Solution

The system will use a class named Book to store book details and track their availability. It will load a book from a text file at the start and save all the updates before the user chooses to end the program. Users can register new books, check them in or out, and view all books in the library. The program also sorts books alphabetically by author for easier organization.

Methodology

We used object-oriented programming (OOP) to design the class and functions. File handling was used to read and write the book data. A selection sort algorithm organizes books by author. The program is divided into modules for registration, status changes, viewing, and user input. Testing was done to make sure each feature works correctly.

Timeline

Day 1-2: Plan and design system structure

Day 3-5: File handling, main features, sorting, and UI functions

Day 6: Testing and correcting errors, if any

Day 7: Final review.