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Abstract

Graphical Library management system is a project which aims in developing a computerized system to maintain all the daily work of library. This is a simple project for maintaining records Graphically. It gives power to librarian to manage library using GUI application. It also has a facility of admin login through which the admin can monitor the whole system. This system mitigate the use book records. It is a manual Graphically operated system. It stores all books and student information. The librarian after logging into his account i.e. admin account can do various things like adding book and student entry. Overall this project of ours is being developed to help the students as well as staff of library to maintain the library in the best way possible and also reduce the human efforts. This project is based on wxPython module for making a simple GUI application to handle day to day library task.

Introduction

With the increase in the number of readers, better management of libraries system is required. The Graphical Library System focuses on improving the management of libraries in a school and university. It is a Graphical manually managed Library System. This project focuses on Graphicalizing the records of the library for its better management. With help of GUI application librarian can easily handle all its work and record with utmost efficiency and speed. The Graphical Library Management System provides Librarian ease of issuing, returning, adding and manipulating books and student records. The Graphical Library Management System is a GUI application based on Python and it's wxPython module.

Purpose

The main objective of this document is to illustrate the requirements of the project Library Management system. The document gives the detailed description of the both functional and non-functional requirements proposed by the client. The purpose of this project is to provide a friendly environment to maintain the details of books and library members. The main purpose of this project is to maintain easy circulation system using computers and to provide different reports. This project describes the hardware and software interface requirements using ER diagrams and UML diagrams.

Project Scope

Graphical Library Management System is basically updating the manual library system into an internet-based application so that the users can know the details of their accounts, availability of books and maximum limit for borrowing. The project is specifically designed for the use of librarians. The product will work as a complete user interface for library management process and library usage from ordinary users. Library Management System can be used by any existing or new library to manage its books and book borrowing, insertion and monitoring. It is especially useful for any educational institute where modifications in the content can be done easily according to requirements. The project can be easily implemented under various situations. We can add new features as and when we require, making reusability possible as there is flexibility in all the modules. The language used for developing the project is Python as it is quite advantageous than other languages in terms of performance, tools available, cross platform compatibility, libraries, cost (freely available), and development process.

Definitions and Acronyms

- SQL - Structured Query Language
- ER - Entity Relationship
- UML - Unified Modelling Language
- IDE - Integrated Development Requirement

Requirement Analysis

This state all the requirement that is to be needed for proper functioning of the DLMS. Based on the requirement analysis we can study its feasibility.

Software Requirement

- Python IDE
- Python, wxPython(Module), mysql.connector(Module)
- SQL
- Apache

Hardware Requirement

- Processor: Intel Core i3 or above
- Ram: 4GB or more
- Monitor: High Resolution Monitor

Functional Requirement

Login

- Librarian will be the admin of the database and they will Database username and password to login.

Issue Book

- Search for the availability of the book.
- If the book is available issue it to student then issue it.

Add New Book

- Librarian add all the books by filling entries.

Update Book Details

- Librarian will update books details present in Library.

View All Books

- It will list all the books.
- List all book status.

Remove Book

- To delete a book entry from records.

Clear Book Record

- To delete all the books present in records.

Return Book

- To return book.

Add New Student

- New Student will be added by Librarian by creating Manual entry.

Update Student Details

- To update Student details

View All Student

- To list all the student using library

Remove Student

- Deleting a student from library

Clear Student Record

- It will clear all the record of the student present on the system

Non-functional Requirement

Usability Requirement

The system shall allow the Librarian to access the system from the Computer using application. The system is user friendly which makes the system easy.

Availability Requirement

The system is available 100% for the user and is used 24 hrs a day and 365 days a year. The system shall be operational 24 hours a day and 7 days a week.

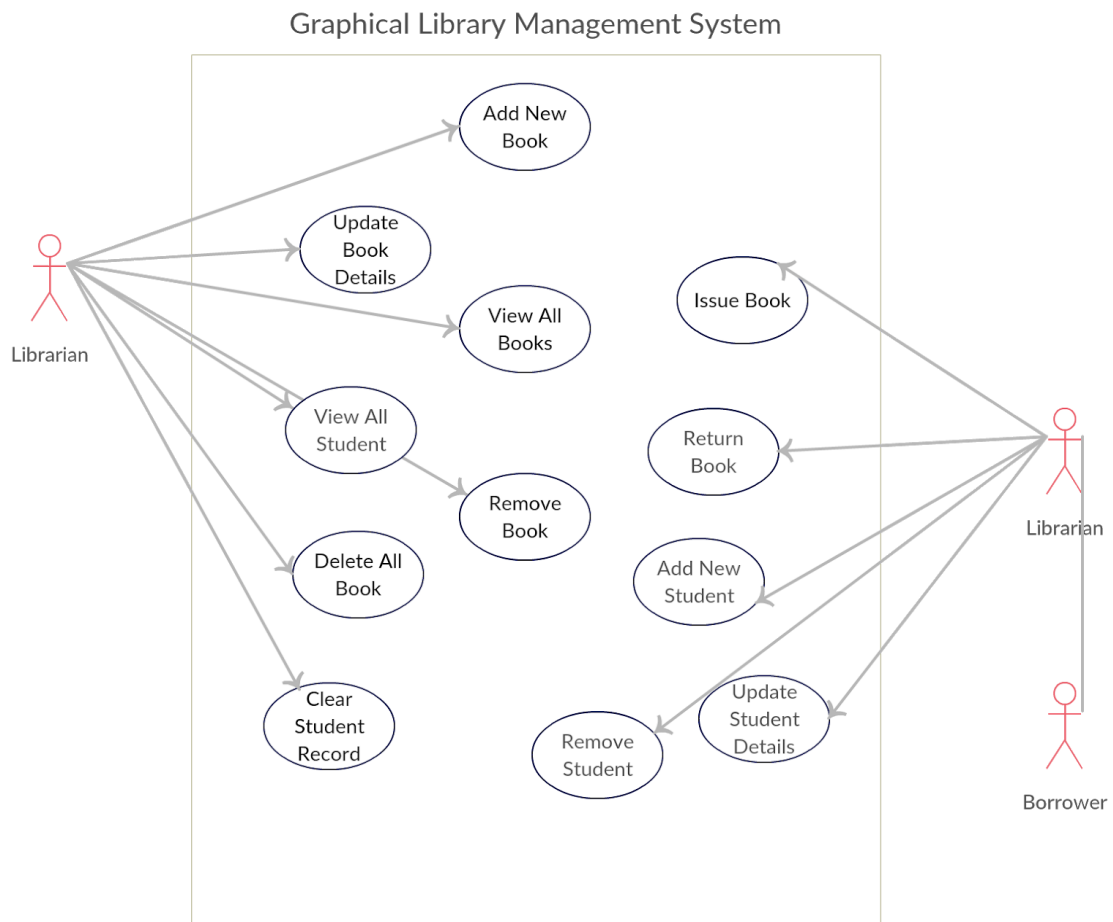
Performance Requirement

The information is refreshed depending upon whether some updates have occurred or not in the application. The system shall respond to the member in not less than two seconds from the time of the request submittal. The system shall be allowed to take more time when doing large processing jobs. Responses to view information shall take no longer than 5 seconds to appear on the screen.

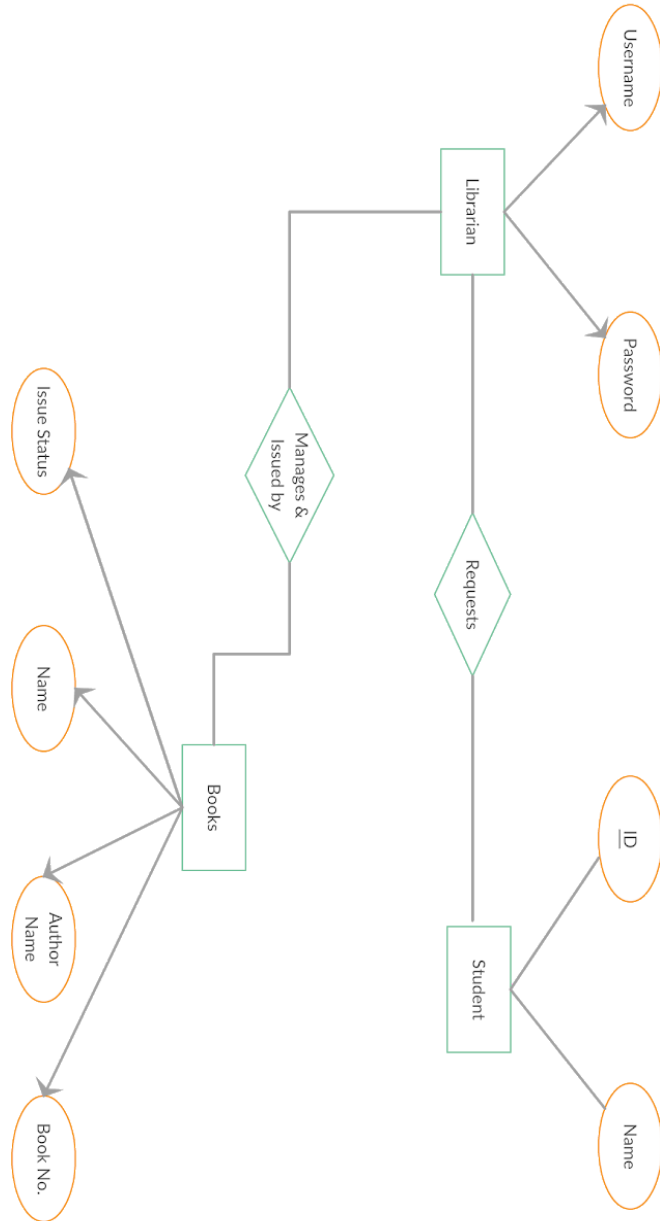
Accuracy and Reliability Requirement

The system has to be 100% reliable due to the importance of data and the damages that can be caused by incorrect or incomplete data. The system will run 7 days a week, 24 hours a day.

Use Case Diagram

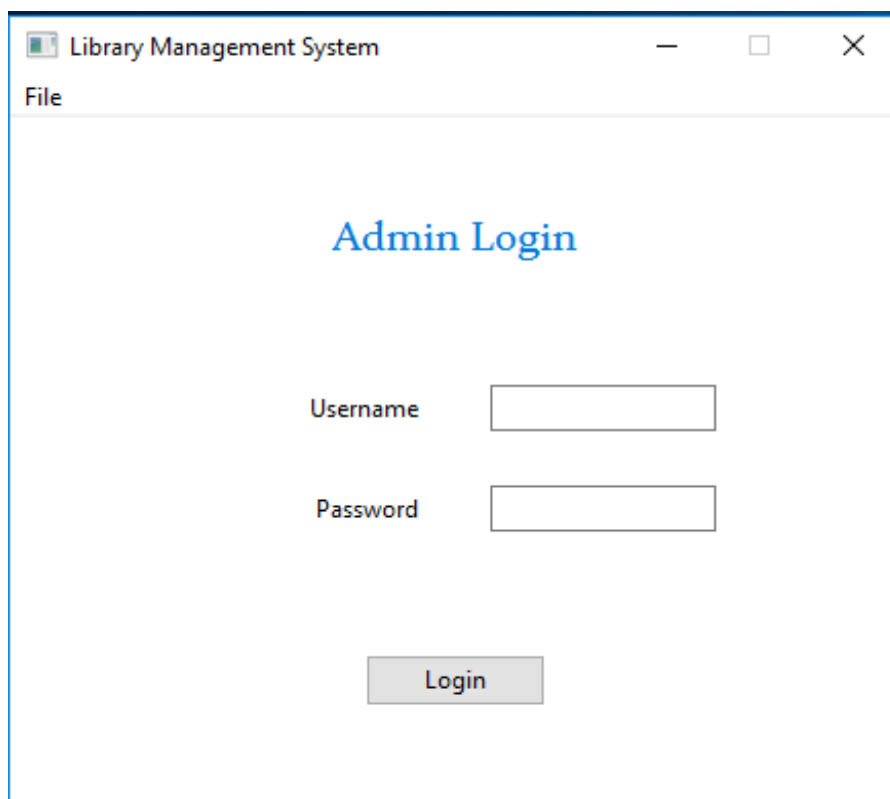
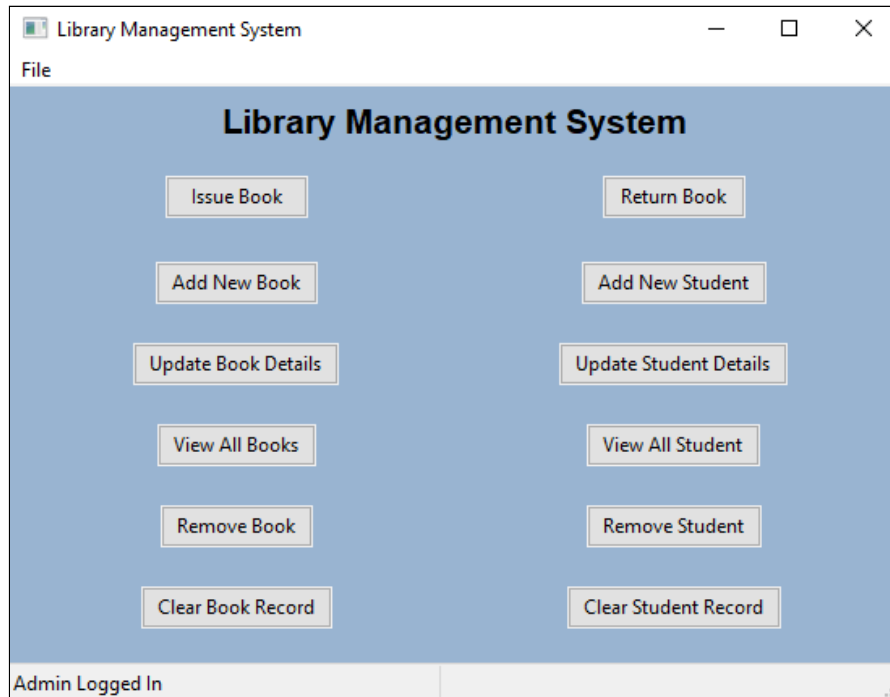


ER Diagram



User Interface

Some snapshots of required interface.



References and Resources

- [GeeksforGeeks.com](https://www.geeksforgeeks.com/)
- [Stackoverflow.com](https://stackoverflow.com/)
- [Creately.com](https://www.creately.com/)