A

Project Report

On

Library Management System

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Abstract

We are living in the age of automation and digitalization. We know the importance of it in our daily lives. We are trying to develop an automation system which will provide lots of features. We can use automation in any field. We are here using part of this automation in **Library Management System**, which aims in developing a computerized system to maintain all the daily work of library. This project has many features which are generally not available in normal library management systems like various option such as adding a book with specification (Id, author, publication, edition), delete book, editing registered book specifications, show book details and view all books available in the system.

The aim of this project is to library administrator and users to access the library in a computerized way. The library administrator can add, delete, or edit books in the system. Users can search for books using the book Id or search all books in the system. It saves our time, and our total library management system becomes very easy.

Problem Statement

With existing system there are many problems such as:

- When a user requests for the book, one must physically check for the presence of a book in the library.
- Answering management query is a time-consuming process.
- Daily keeping a manual record of changes taking place in the library such as checking if the book is available and in the library. Can become cumbersome if the library size is bigger.

With our proposed system following will be the advantages:

This software application which avoids more manual hours in taking the book, that need to spend in record keeping and generating reports. It will be also helpful in terms of following points,

- Easy way to view all books in the library.
- Avoid the manual work.
- User need not go to the library to check if the book they desire is available.

    The ultimate goal of the system is to bring down the workload with the increased efficiency and to speed up the activities.

Gathering Requirement

In this step we used internet based easily available information and some basic research on existing system. For this we studied and tried to understand some basic questions, which are mentioned as below:

- What type of manual system for the current library?
- What are the limitations of the library due to such systems?
- What is the process used for book searching?
- How many books are available in the library?
- How can we search a book from in the library?
- Will institute prefer online based system?

Software requirements:

- Operating system- Windows 7 is used as the operating system as it is stable and supports more features and is more user friendly.
- Development tools and Programming language – C++ is used to write the whole code.

Hardware requirements:

Intel core i5 3rd generation is used as processor because it is faster than other processors and provide reliable and stable system. We can run our pc for longtime by using this processor we can keep on developing our project without any worries.

8 GB of RAM is used as it will provide fast reading and writing capabilities and will in turn support in processing, along with 512GB of ROM.

Design and Modeling

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization.

Once the software requirements have been analyzed and specified the software design involves three technical activities - design, coding, implementation, and testing that are required to build and verify the software.

In routine a library management system there a multiple type of functions:
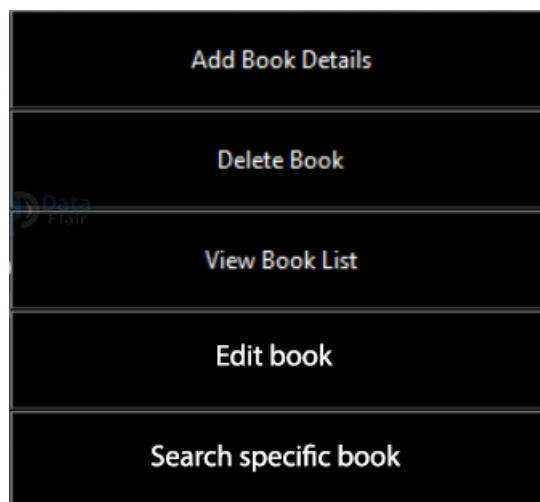
Librarian administrator-

The librarian administrator should be able to add, delete, or edit a book in the system with its specifications such as title, author, edition, publication, and Id.
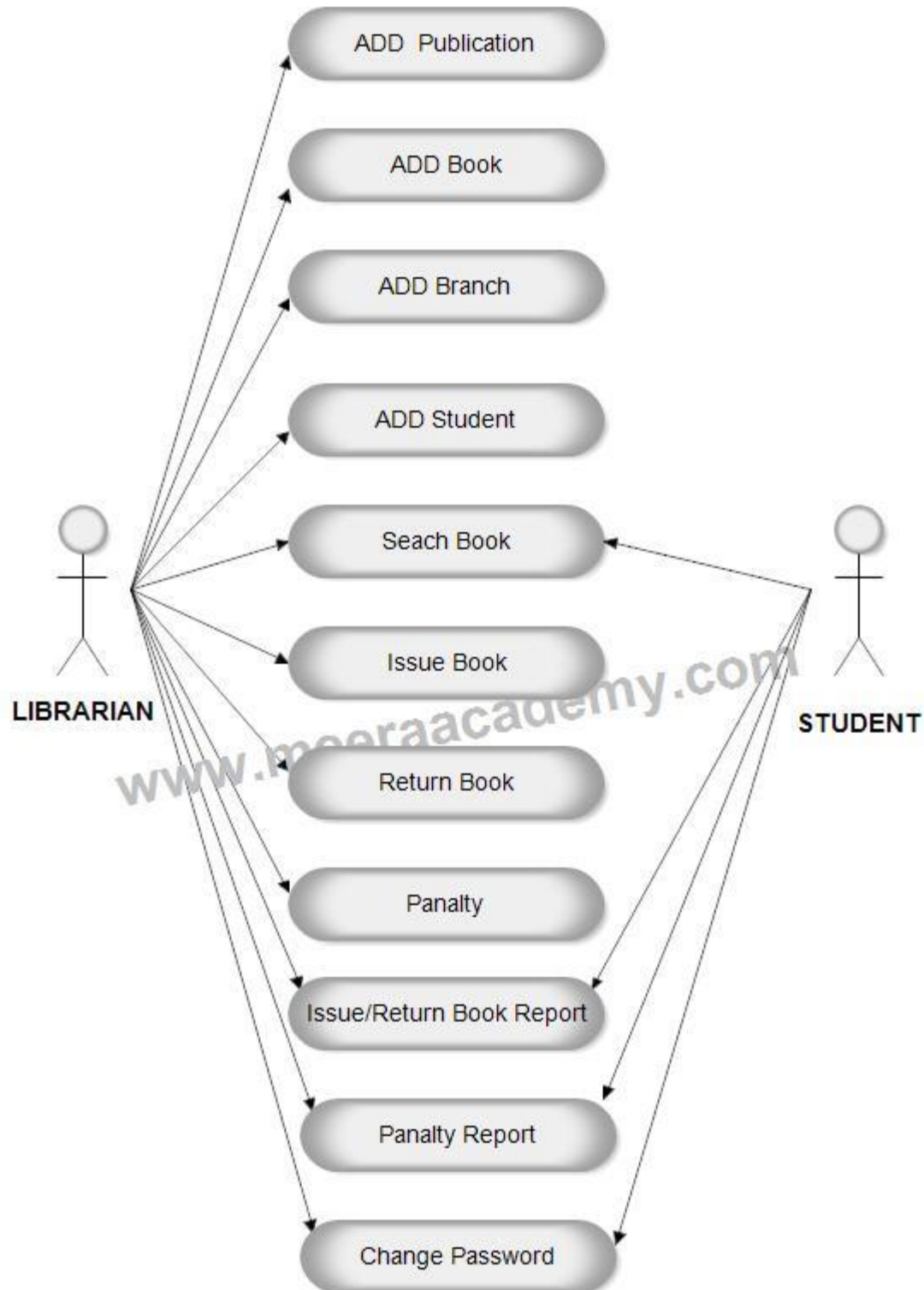
User-

Should be able to search for a specific book using its Id if the book is in the system, it will find it.

Or if the user wants to view all books in the system and browse through them.

With these two functions designs in mind for our library management system, we should be able to create an efficient way to be able to make library management easier.

Use Case - Library Management System

ADD Publication

ADD Book

ADD Branch

ADD Student

Seach Book

Issue Book

Return Book

Panalty

Issue/Return Book Report

Panalty Report

Change Password

LIBRARIAN

STUDENT

www.meeraacademy.com

Implementation /Execution

Implementation is the stage where the theoretical design is turned into a working system. The most crucial stage in achieving a new successful system and in giving confidence on the new system for the users that it will work efficiently and effectively.

The system can be implemented only after thorough testing is done and if it is found to work according to the specification.

It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the changeover and an evaluation of change over methods apart from planning. Two major tasks of preparing the implementation are education and training of the users and testing of the system.

The more complex the system being implemented, the more involved will be the systems analysis and design effort required just for implementation.

The implementation phase comprises of several activities. The required hardware and software acquisition is carried out. The system may require some software to be developed. For this, programs are written and tested. The user then changes over to his new fully tested system and the old system is discontinued.

Outcome

The package was designed in such a way that future modifications can be done easily. The following conclusions can be deduced from the development of the project.

- Library Management System of the entire system improves the efficiency.
- It provides a friendly graphical user interface which proves to be better when compared to the existing system.
- It effectively overcomes the delay in communications.
- Updating of information becomes so easier.
- System security, data security and reliability are the striking features.
- The system has adequate scope for modification in future if it is necessary.

References

- https://www.youtube.com/watch?v=nk4dNQtk8VU

- https://github.com/markbirds/C-Library-Management-System