A Mini Project Synopsis on

TECHNO LIBRARY – INTEGRATED LIBRARY SYSTEM

S.E. – Computer Science and Engineering-Data Science

Submitted By

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Under The Guidance Of

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CERTIFICATE

This to certify that the Mini Project report on **Techno Library – Integrated Library System** has been submitted by **Kashish Yadav (21107026)** who is a Bonafide student of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Computer Science and Engineering(Data Science)**, during the academic year 2022-2023 in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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Guide

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Chapter 1

Introduction

Traditionally, the librarian managed the whole work in a manual mode or recording the work details in a record book. He has to manage all the work related to library such as issuing books to the students, returning books from the students, maintaining all the details of the books, adding new books etc. on a daily basis. But with the increase in the number of user/students and number of books in a library, this management process has become slow and complex. So, a better management of the library work is required.

This system is to automate and digitize this traditional way of managing the library work. The Integrated Library System is much more user-friendly, faster in operation and easy to manage than the manual one. Through the use of it, the librarian can manage the whole data of the library in a single database in different tables with a much more security than the traditional way. In a library, tasks like issue/return/add new books are performed on a daily basis and suppose a student asks for a particular book from a librarian then he has to search the book manually which takes a lot of time and there are chances of human error in that process as well. But with the help of this system, the searching of books has become quite easy and fast and the librarian only needs to enter the book id in the search section of the application. So, all these kinds of operations can be digitized and performed efficiently by using a library management system.

1.1 Proposed System

Our proposed system has an automated functionality to view the details of the book. The Integrated Library System allows the librarian to search any book by using the issued Book ID of that particular book in just a second. He can also add new books to the library database, can issue books, return books by making the necessary changes to the database part from the application user-interface.

1.2 Objectives

1. To handle the entire activity of a library.
2. To provide easy system circulation using computer systems rather than writing system.
3. To develop a user-friendly interface that is easy to navigate and use.
4. Librarian can search record by using few clicks of mouse and few search keywords thus saving his valuable time.
5. To provide detailed description of all the books available in the system by providing Book ID and Author of a particular book.
6. To cope up with current issues and problems of library, system can add user, validate user and is also bug free.
7. Develop a system that can generate all the books present in the database.

1.3 Scope

1. Effective management of admins through login based control.
2. Reduces efforts and time for conveying message manually.
3. Reliable and transparent.
4. Platform friendly software.
5. Privacy of data.
6. Any educational institutes can make use of it.

Chapter 2
Problem Definition

An integrated library management is a project that manages and stores books information electronically according to student's needs. The system helps both students and library manager to keep a constant track of all the books available in the library. It allows both the admin and the student to search for the desired book. It becomes necessary for colleges to keep a continuous check on the books issued and returned and even calculate fine. This task if carried out manually will be tedious and includes chances of mistakes. These errors are avoided by allowing the system to keep track of information such as issue date, last date to return the book and even fine information and thus there is no need to keep manual track of this information which thereby avoids chances of mistakes.

Thus, this system reduces manual work to a great extent allows smooth flow of library activities by removing chances of errors in the details.

Chapter 3
Features and Functionalities

Library management is a project that manages and stores books information electronically according to student's needs. Here are some of the key features of an integrated library system:

- Cataloguing : No library system is complete without a cataloguing module. This is what allows you to add items such as books and their records to the database.
- Circulation Module : Circulation is perhaps the most visible and familiar aspect of a librarian’s work. An integrated library system use circulation modules to check items in and out.
- Helps streamline day-to-day library operation : Utilizing a library management system makes it very simple, quick, and productive to complete all tasks like book acquisition, cataloging, serial control, binding, and stock verification.The tasks are streamlined as a result of the automation of the entire process, so you are spared from doing tedious work.
- Acquisition Management Module : Libraries need to keep refreshing their resources but the full acquisition cycle is manually intensive.
- User Management Module : A detailed database of users with their name, ID, login and password is created. This helps in keeping track of the member’s library usage.
- Highly secure, scalable and reliable library companion: The library management system benefits provide online and offline storage, automated backups, and easy upgrades to simplify and enhance the learning process with its efficient cloud data management.
- Complete Customizability : The biggest advantage of library software is it's easy to configure. Institutions can work with their vendors in designing workflows that best fit their needs.

Chapter 4
Project Outcomes

The project outcomes of a library management system are The system helps library managers manage their library's operations efficiently, enabling them to focus on other critical aspects of library management.The system enhances the overall living experience of the admin by providing them with a platform to view details, track maintenance, and access essential library information. Utilizing a library management system makes it very simple, quick, and productive to complete all tasks like book acquisition, cataloguing, serial control, binding, and stock verification. The tasks are streamlined as a result of the automation of the entire process, so you are spared from doing tedious work.

The system offers robust security features, ensuring the privacy and confidentiality of library data.The system simplifies issuing of books, enabling students to make books available for them quickly and efficiently.The system maintains accurate records of book details, student details, and other essential library information. The system generates reports and analytics on library data, enabling the librarian to monitor the system’s performance in real-time and make datadriven decisions.

Chapter 5

Software Requirements

The Software Requirements Specification is produced at the culmination of the analysis task. The function and performance allocated to software as part of system engineering are refined by establishing a complete information description, a detailed functional and behavioural description, an indication of performance requirements and design constraints, appropriate validation criteria, and other data pertinent to requirements.

The software and technology stacked used in development of an automated resume builder are:-

- IDLE(Python 3.11 64 bit)
- MySQL is a Database Management System MySQL, the most popular Open Source SQL database management system Is developed, distributed, and supported by Oracle Corporation.
- MySQL version-14
- Database Done in MySQL
- Front End: Pycharm 22.3.2
- Back-End: MySQL

Chapter 6
Project Design

- **Admin login:** Admin is the one who administers the system by adding or removing ebooks into and from the system respectively.
- **Add Books** : The admin can add books to the system by entering the details of the books.
- **Search Option :** The admin can even search for books by entering the name of the book.
- **View Books :** The admin can view all the books that are available in the library.
- **Issue Books :** The admin can issue the desired book to a particular student.

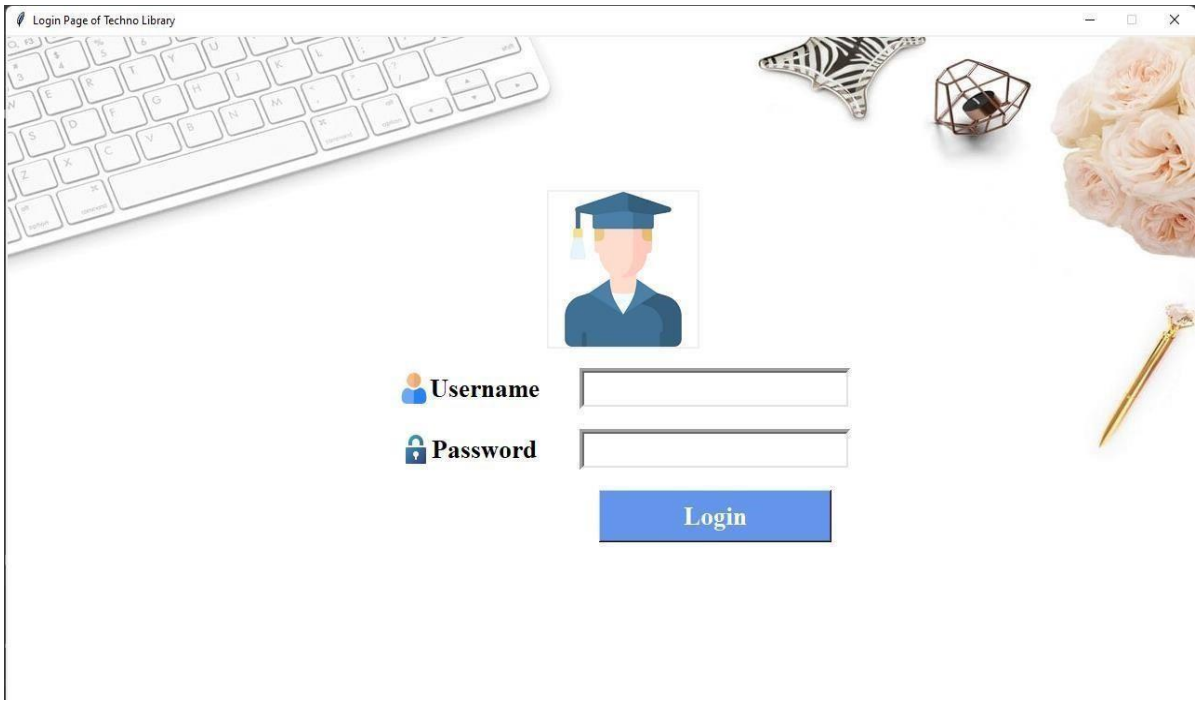


Fig 1. Login Page

Login page consist of field to enter Username , Password for the admin and a Login. If the username and password credentials are correct then it will take you to the result display page but if the admin has entered incorrect credentials then an error will be popped displaying to enter the correct credentials.

Fig 2.Add Book

The admin can add the books by entering the Book ID, Book Name and Book Author.

Fig 3. Search Book

The admin can search the required book by entering either the Book ID or by the Book Name.

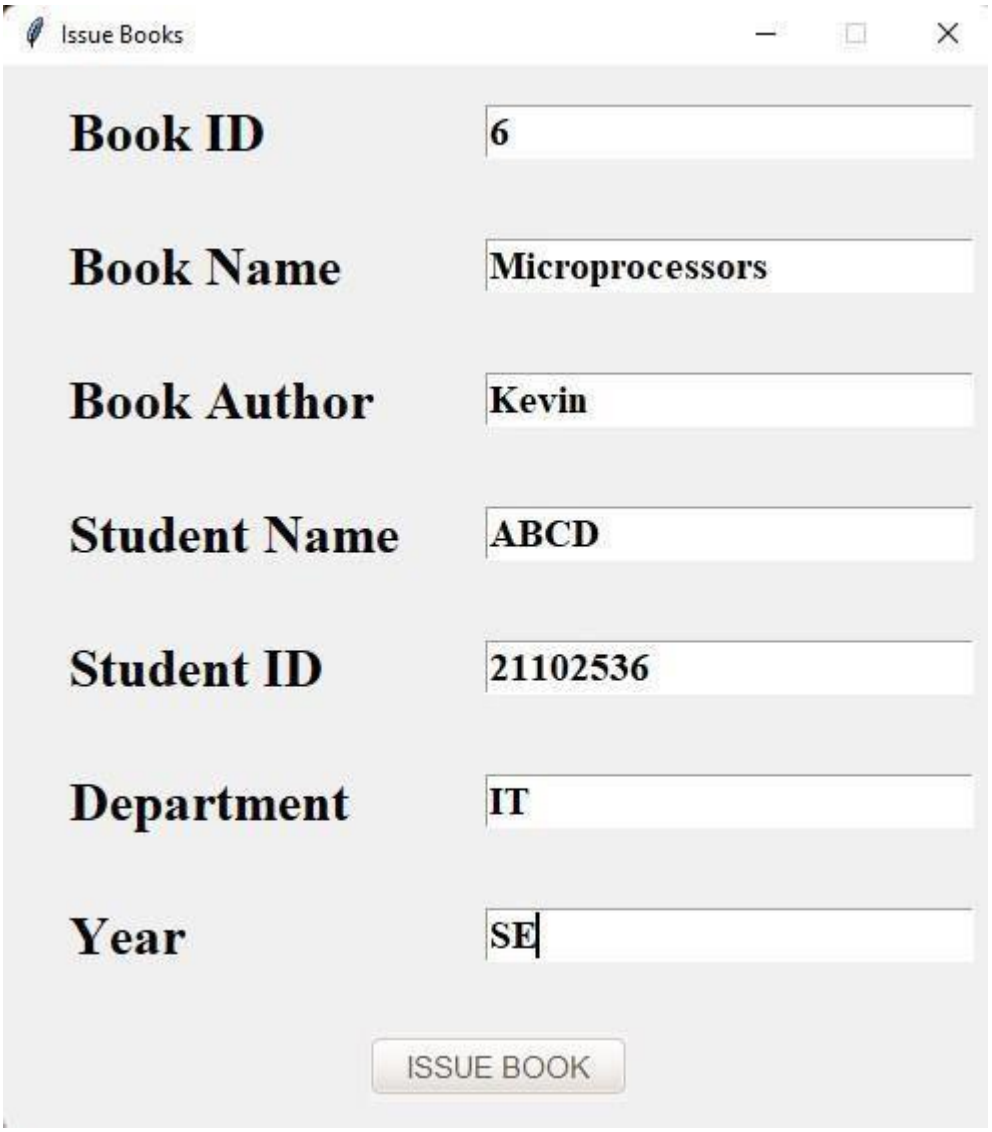


Fig 4. Issue Books

The admin can issue the books to the desired student by entering the required details.

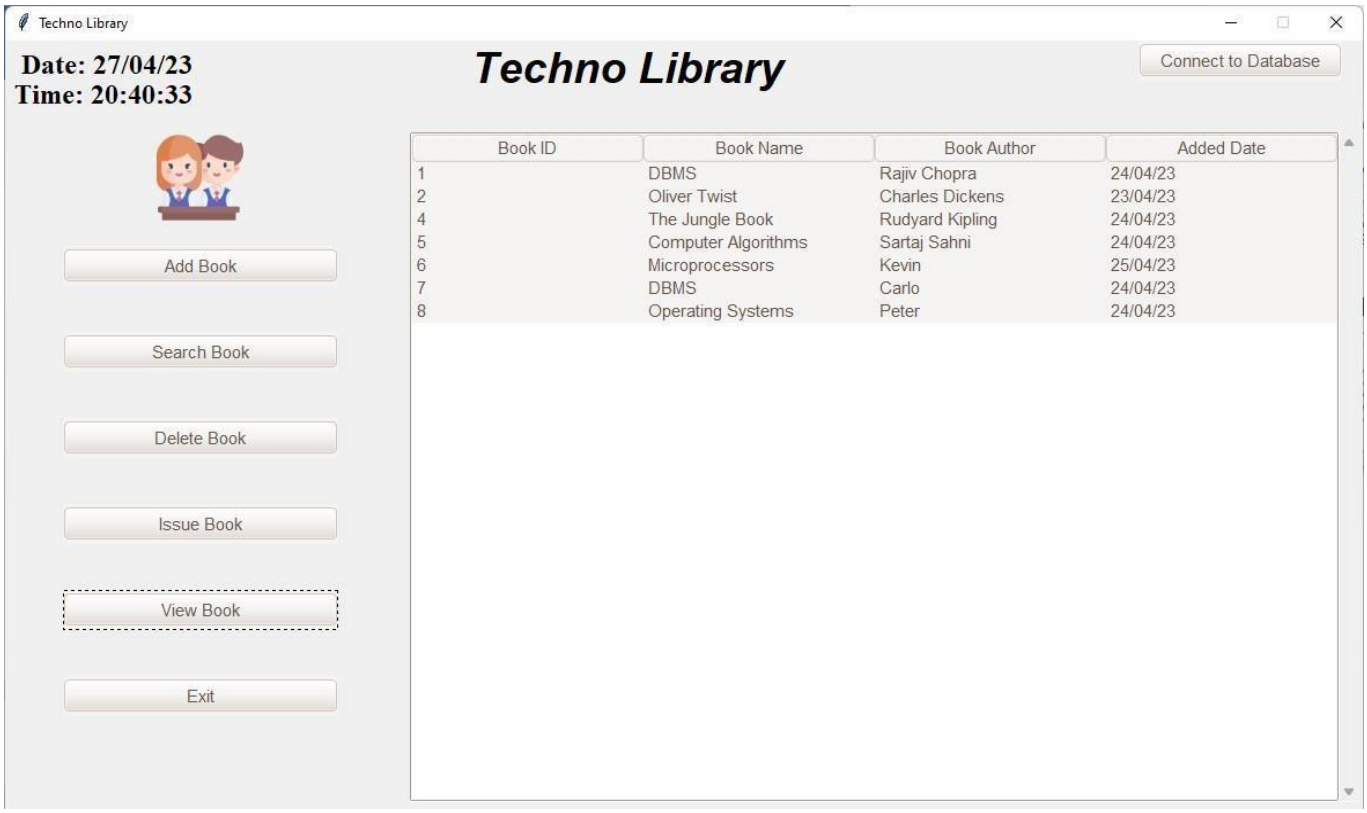


Fig 5. View Books

The admin can view all the books which are available in their library.

Chapter 7
Project Scheduling

A library is where knowledge is preserved. The importance of libraries is undeniable, especially in an academic environment. With the vast growth of technology, managing a library could be made easier. One solution is to create a web-based library management system using modern web technologies.

For a project to be successful, project scheduling plays an irreplaceable role. Project Scheduling includes several components, of which project planning remains one of the key factors. Besides, quality management adds up substantial values to the project, bringing its overall results to a higher standard.

The goal of this project was to investigate the process of creating a library management system using web technologies, which was implemented using project planning and quality management methods. The six steps of creating a project plan are studied, which include breaking down the deliverables, pointing out dependencies, estimating time, adding contingency, considering risks and representing the plan to stakeholders. In addition, certain quality management methods are introduced, incorporating both technical and non-technical strategies to enhance the application's quality. The functions of the library management application are formed with modern web technologies, of which Python is the primarily used language.

The results of this are reflected on the functioning library management application, which was built by utilizing the methods mentioned previously. The way the application works and certain functions are specifically explained. This system concludes the overall impacts of project planning and quality management on the library management system.

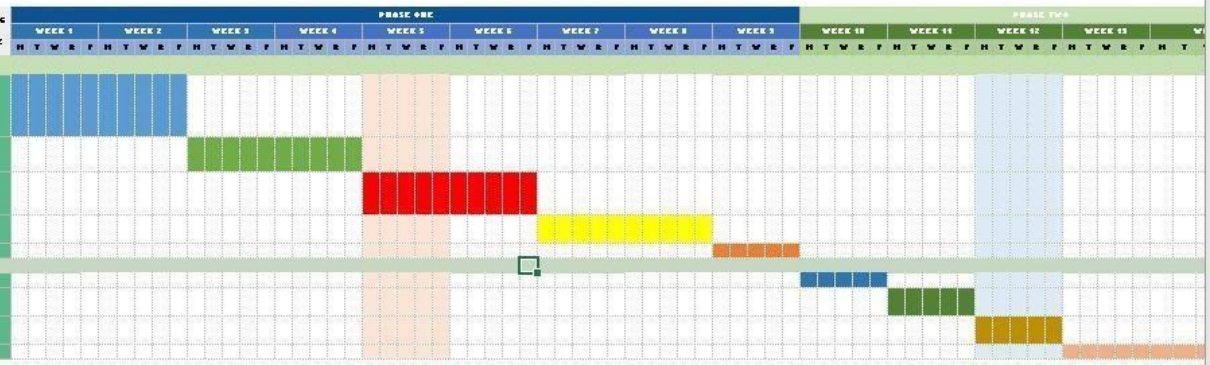
TECHNO LIBRARY

Prof.Punam Pangarkar

INSTUTUTE & DEPART AP SHAH INSTITUTE OF TECHNOLOGY(Information

DATE 4-21-23

WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION (Working Days)	PERCENTAGE OF TASK COMPLETE
1	**Project Conception and Initiation**					
1.1	Group formation and Topic finalization. Identifying the scope and objectives of the Mini Project	Karhirk Yadav	1-10-23	1-24-23	2	100%
1.2	Identifying the functionalities of the Mini Project	Karhirk Yadav	1-10-23	1-17-23	1	100%
1.3	Discussing the project topic with the help of paper prototype.	Karhirk Yadav	1-17-23	1-24-23	1	100%
1.4	Designing the Graphical User Interface(GUI)	Karhirk Yadav	1-24-23	2-7-23	2	100%
1.5	Presentation I	Karhirk Yadav	2-14-23	3-6-23	2	100%
2	**Project Design and Implementation**					
2.1	Database Design	Karhirk Yadav	3-6-23	3-14-23	1	100%
2.2	Database Connectivity of all modules	Karhirk Yadav	3-14-23	3-21-23	1	100%
2.3	Integration of all modules and Report Writing	Karhirk Yadav	3-21-23	3-28-23	1	100%
2.4	Presentation II	Karhirk Yadav	4-4-23	4-20-23	2	100%



Chapter 8

Conclusion

The entire solution will provide a hassle free, user friendly affordable communication platform to develop healthy relations between librarians and a smarter way of interconnectivity. The Admin plays an important role as only he will be able to login and have access to the services. This project may use concepts of data mining and artificial intelligence And economical management for future work . The Integrated Library System will provide a centralized platform for the librarian, staff, and management to manage the operations of a library effectively. The system will streamline various functions such as adding of new books, searching for desired books, issuing the required books and viewing all the books which are present in the database,etc. The system will be developed using web technologies python3, PyCharm,IDLE (Python 11.2).The system will be user-friendly, easy to navigate, and provide the necessary features to meet the requirements of the library management.

Reference:-

- Studentsproject.live
- https://nevonprojects.com/e-library-project/

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