**ST PAU’S UNIVERSTY**

**LIMURU CAMPUS**

**FACULTY OF BUSINESS, COMPUTER SCIENCE AND COMMUNICATION STUDIES**

**BCS 3106: SOFTWARE ENGINEERING II**

**GROU6: PROJECT REPORT OF BOOK TRACKING AND LENDING SYSTEM**

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**INTRODUCTION**

**Project summary**

The purpose of this project is to develop a system that allows users to borrow and track books. The system will be able to store information about books, users, and the availability of books. Users will be able to search for books, check them out, and track their borrowing status. The system will also provide administrators with the ability to add, delete, and modify book and user information.

**Background**

Traditional book lending systems face several challenges, including difficulty in tracking book availability and loan history, as well as manual record keeping and communication. These challenges lead to inefficiencies and delays in the book loan process, which negatively impacts the user experience. Book lending is a common activity in libraries, educational institutions, and other organizations. Keeping track of books and their availability can be a difficult task. This project aims to create a system that makes the process of tracking books easier and more efficient.

**Goals and Objectives**

The goals and objectives of this project are as follows:

• Develop a system that allows users to search for books, check them out, and track their borrowing status.

• Provide administrators with the ability to add, delete, and modify book and user information.

• Create a secure system that protects user information.

• Design a user-friendly interface that is easy to use.

**Methodology**

The project will be completed using an agile development methodology. This approach allows for rapid development, frequent testing, and frequent feedback from stakeholders. The development team will meet regularly to discuss progress and make any necessary changes  
The software has been tested using a combination of manual and automated testing methods. This includes functional testing, usability testing, and performance testing. The testing process is iterative so that any issues or bugs can be quickly identified and resolved.

**Tools and Technologies**

The following tools and technologies will be used to develop the system:

• Programming Language: python

• Database: MySQL

**Project Timeline**

The project will be completed in 3 weeks. The timeline is as follows:

• Week 1: Planning & Requirements Gathering

• Weeks 1: Design & Development

• Weeks 2: Testing & Debugging

• Weeks 3: Final Testing & Deployment

**Testing**

The Book and Lending Track System was tested through a series of manual tests, as well as automated tests, to ensure its functionality and accuracy. The manual tests included user scenarios such as adding new books, lending out books, and tracking overdue books. These tests were conducted to ensure that the system was performing as expected and that any issues that arose were addressed quickly.

The automated tests included unit tests, integration tests, and system tests. Unit tests were run on individual components of the system to ensure that the code was functioning correctly. Integration tests were run to ensure that the integration between the various components of the system was successful. System tests were run to ensure that the overall system was functioning correctly.

Overall, the testing of the Book and Lending Track System was successful. The system was able to successfully meet the requirements of the project and no major bugs or issues were identified. This demonstrates that the system is ready for use and can provide reliable and accurate results.

**Results**

The book lending and tracking software system offers a range of features and functions that enhance the book borrowing process. These functions include:

1.Book availability Tracking: This system allows library staff to easily track book availability, making it easy to know which books are available for loan.

2. Track borrowing records: The system tracks borrowing history, which is useful for checking which books have been checked out by which borrowers.

3. Communication Tools: The system includes communication tools, such as email notifications and in-app messages, that allow library staff to communicate with borrowers regarding book availability and loan history.

4. Humanized interface: The system has a humanized interface, which is convenient for borrowers to find and borrow books.

5. Reporting Tools: The system includes reporting tools that allow library staff to generate reports on the history and availability of loaned books.

**Conclusion**

This project will create a system that allows users to borrow and track books. The system will provide users with a convenient way to search for books, check them out, and track their borrowing status. Administrators will also have the ability to easily add, delete, and modify book and user information. The agile development methodology will be used to ensure that the project is completed quickly and efficiently.