

Bookworm Connect: An Online Platform for Buying, Selling, and Trading Books

BOOKWORM CONNECT: AN ONLINE PLATFORM  
FOR BUYING, SELLING, AND TRADING BOOKS

A Capstone Project

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Computer Science Department  
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## INTRODUCTION

Study focused on the creation and deployment of Bookworm Connect, an online platform tailored for the exchange of physical books. The hypothesis posited that this platform can make books more accessible and reduce book waste. The study provides a valuable foundation for future researchers interested in exploring and advancing the field of online book-swapping platforms. The initiative aimed to promote literacy, foster a love of reading, and benefit the environment by extending the life of existing books and reducing the need for new materials. Bookworm Connect: An Online Platform for Buying, Selling, and Trading Books. The platform can make it easier for users to buy, sell, and trade books while also matching them with like-minded readers. It was not possible to predict with certainty the Bookworm Connect platform's final performance and user acceptance rates within the intended market. The study was limited since it attempted to cover several facets of platform development, testing, and book exchange. It may not fully assess the long-term sustainability and scalability of the platform. Swapping offers a win-win situation, allowing participants to obtain desired items while giving away unwanted ones. Online platforms connect strangers and transform the internet into a vital exchange. Develop the System using the following software tools: GitHub, PHP, and Ruby. For more information, visit [Swapping.io](https://swapping.io). For help with setting up Swapping, visit the [Swapping](https://swapping.io) website. For support, call the [Swapped.io](https://swapped.io) support team on 1-800-273-8255 or visit their website.

## METHOD

The development of Bookworm Connect: Online Platform for Buying, Selling, and Trading Books will be using Agile Methodology as shown in Figure 39. Figure 21 illustrates how entities like users, books, shopping carts, orders, and order viewpoints interact to facilitate online book buying. Figure 43 shows the system flowchart for the User Side of the Bookworms Connect system. Figure 4 shows the admin dashboard, Manage and Manage Books, and the Manage Book Cart module. Figure 5 shows the Admin Dashboard, Managed Book Listing, and Managed Orders. This chapter provides an overview of project design, project development, and testing processes. The project aims to improve the efficiency of book circulation. The platform provides a user-friendly environment for buying, selling, and trading books. The booklist module allows users to browse and search for books, view detailed book information, and add books to their cart. The shopping module provides a seamless shopping experience for users. The testing procedure ensures that the system's actions are accurate. The final chapter provides a description of the platform's features and functionality. Users of the platform, including buyers, sellers, and traders, have access to a full range of functions tailored to their unique requirements. Users interact with the system by registering and logging in, managing their profiles, browsing and searching for books, and listing books for sale or trade. The Manage Book Cart feature also includes options to check out and track orders, providing a seamless purchasing experience. Test cases were collected as shown in Tables 4 and 5 which summarize the paralleled functionality, suitability, and reliability of test cases in every use case. Bookworm Connect is the platform that processes and manages all interactions between users and admins. The messaging feature facilitates communication between users, the admin, and the system. Users can search for books using various criteria, enhancing discoverability on the platform. Verification requests are managed correctly and verified by the admin. The system adheres to the ISO 25010 standard, particularly focusing on functionality and reliability. The researchers plan to conduct user interviews with customers to evaluate the usability of the Bookworm Connect platform in future iterations. Bookworm Connect is an online platform for buying, selling, and trading books. The layout

ensures that users can efficiently monitor and manage their book listings. The admin side outlines the primary processes and data flows associated with the platform. The test cases for the buyer, seller, and trader test cases show the minor and major issues that have been identified. The results of the tests can be used to help develop the platform's features and features. The platform is free to use, and users can register and log in to use it. Bookworm Connect: An Online Platform for Buying, Selling, and Trading Books is designed for user convenience and efficiency. The design ensures mobile responsiveness with a collapsible menu and adjustable elements. The platform integrates various APIs, including PayPal for secure payments, Font Awesome for icons, and Google Font API for typography, enhancing the user experience. The tests validated that every function in the system is working properly as expected. The system was intended to use web technologies to facilitate user communications, transaction processing, and book listing. Bookworm Connect: An Online Platform for Buying, Selling, and Trading Books 79. Minor issues or enhancements have a limited impact on system functionality or user experience. The platform provides sophisticated search and browsing functionality to assist users in finding certain books. The admin is responsible for managing user accounts and responding to inquiries and concerns to maintain effective communication and support. The system was developed in six phases: testing, deployment, review, and maintenance. The product was released to the public on November 1, 2013. Bookworm Connect offers users a comprehensive insight into the platform. The Browse and Search functionality helps users find specific books through a streamlined search process. Admins can manage user accounts, creating, updating, or deleting them to ensure security and correctness. Users can manage their profiles by viewing personal information and editing information. Various testing methods were employed to validate the system's functionality and performance and validate the test cases. The results of the executed test cases reveal that all of them passed with no failures. Users can upload documents and provide additional information for account verification. Users can access a complete dashboard and produce reports that give insights into platform performance and user behavior. Users may maintain their profiles by changing personal information and preferences, and by ensuring that they

are current. A system failure can lead to severe data loss, necessitating immediate attention to restore system usability. A search bar allows users to enter keywords and provide further information. A dashboard gives insights into platforms performance and user behavior, assisting with strategic decision-making.

## RESULTS

Bookworm Connect: An Online Platform for Buying, Selling, and Trading Books is designed to be user-friendly. The system's core functionalities operate as intended. The real-time chat feature works reliably across different devices and network conditions. The shopping cart behaves as expected, and the checkout process can handle orders for multiple sellers. This section presents the data gathered during the testing in terms of reliability and functionality. The data is presented in the form of a table. The table is broken up into four sections: Reliability Test Cases, User Listing Page, User Account Page, and User Contact Page. The developed system has the following capabilities: It can be used to buy, sell, and trade books. The system is designed for administrators in the web-based system. Users can navigate the system using the buttons and links in the header and footer. The user can also see what their headers and footers look like. The test cases summary for reliability is presented in Table 12. The ratings found the system to be "Highly acceptable" for functional suitability, obtaining an overall weighted mean of 3.76. The overall mean rating falls within the scale range of 3.26 - 4.0, described as "Highly Acceptable". The system allows sellers to view and manage orders for their products in the "Selling" section. The interface is designed to be user-friendly, guiding users through the account verification process efficiently and effectively. Essential features include book listing, featured books, search and browse functionality, and a communication platform. The system also implemented a payment-first method for orders made by the buyers. The system was tested for functionality in various test case scenarios for each actor of the system. The tests cover critical areas such as user security with email verification, data integrity in product listings, seamless shopping cart behavior, and reliable real-time chat functionality. In Cycle 1, 100% of the test cases passed, while 70% passed in Cycle 2. The remaining 4.26% obtained "failed" remarks which led to

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138. Site acts as central hub for administrators to oversee and manage the product or book collection connected to user accounts. System allows buyers to track their order history in the

"Orders" section. System provides image upload and display functionality for product listings. Site provides a shopping cart for users to manage selected items and any other relevant regulations or guidelines. System's underlying database structure is being evaluated for optimization to ensure it can efficiently handle a large and ever-growing collection of books and a user base.

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## **DISCUSSION**

Bookworm Connect: An Online Platform for Buying, Selling, and Trading Books. The system was created with the goal of streamlining book discovery and connection. The web application is tested and performed well regarding its functionality and reliability. It is designed to provide a user-friendly online platform for book buying and selling. It was developed using Visual Studio Code and PHP as the programming language. It has a built-in customer profile dashboard to manage their personal information, preferences, and activities on the platform. It also has a data analytics dashboard to track performance, user engagement, and sales metrics.