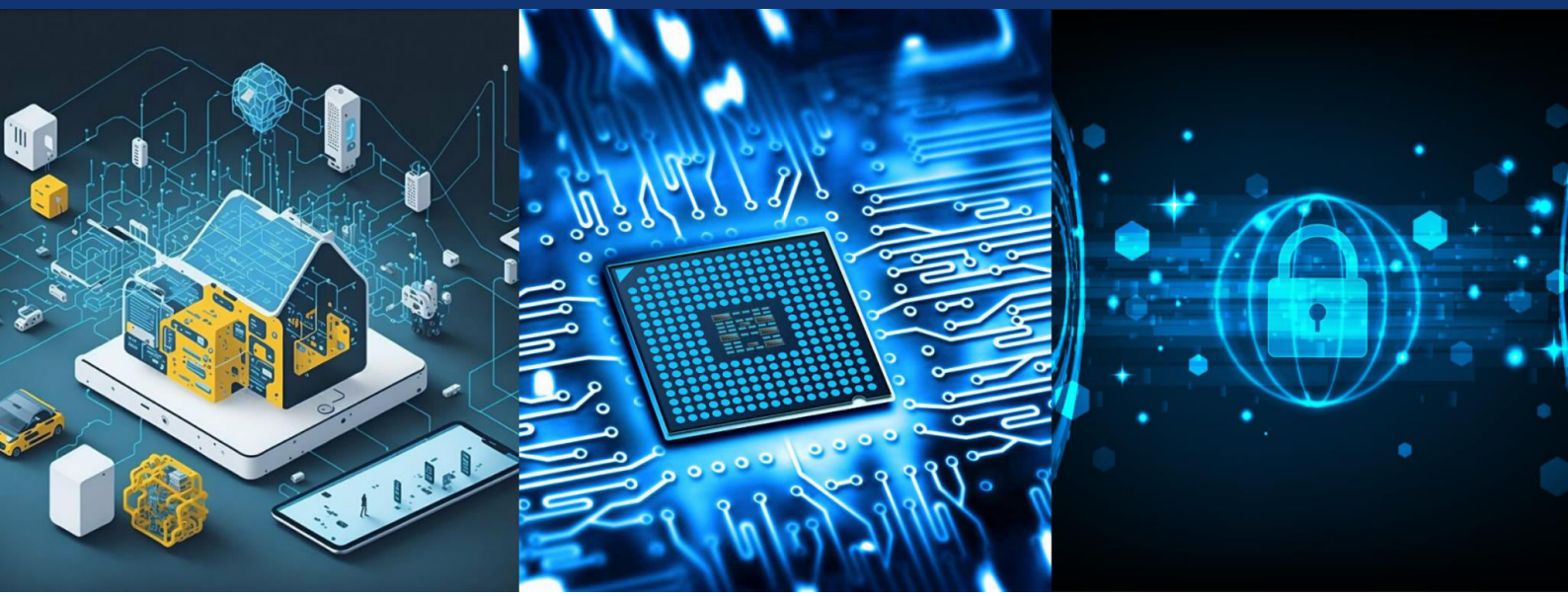
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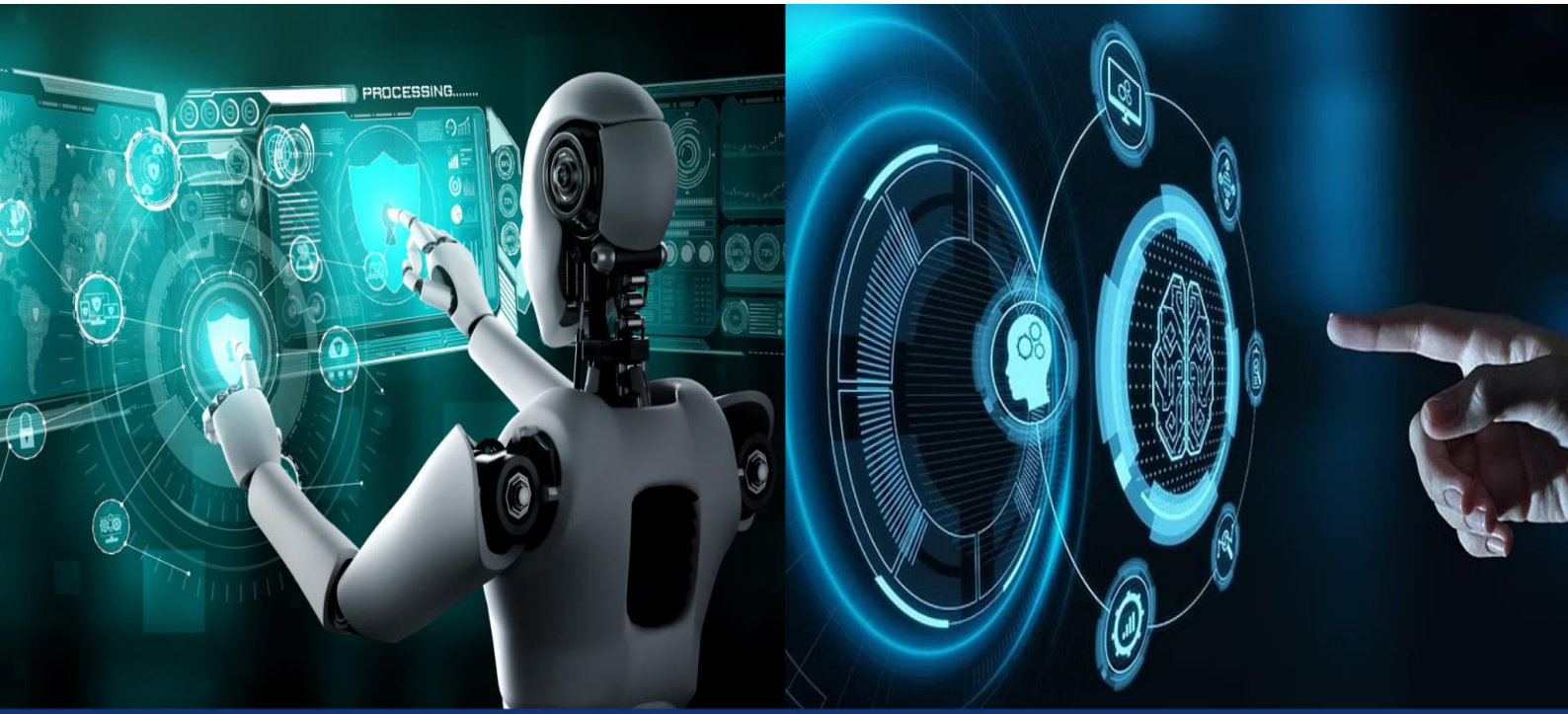
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Literature Survey on Online Student Book Exchange Platforms

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ABSTRACT: This survey reviews three research papers on web platforms for second-hand book and goods exchange among students: BookSwap (Singh et al., 2022), ShareSpace (Ahmed et al.) and an intelligent e-commerce platform for student book exchange and donation (Padwal et al., 2023). For each paper, it summarises the problem addressed, the technologies and features used, and the limitations, and then compares them. BookSwap offers a condition-based exchange value but depends on a company-run store and cash on delivery. ShareSpace adds university email verification, AI-based moderation and reputation points, but covers general goods and has no exchange mode. The third paper proposes recommendations, messaging and donation, but reports no implementation results. None of them combines direct buy, sell and exchange between students with request tracking and messaging in one simple platform. This gap motivates the Book Bridge project.

KEYWORDS: second-hand books; book exchange; student e-commerce; literature survey; Book Bridge

I. INTRODUCTION

Textbooks are a recurring expense for students, and most of them are used for only one semester or one year. Selling or buying them through local shops, notice boards and word of mouth is slow, unpredictable and often involves middlemen who raise the price. Online platforms can connect students who want to part with books with students who need them at a lower cost, and they also support reuse of educational resources.

This survey reviews three research papers on web-based platforms for second-hand book and goods exchange among students: BookSwap [1], ShareSpace [2] and an intelligent e-commerce platform for student book exchange and donation [3]. For each paper, the survey records the problem addressed, the technologies and features used, and the limitations. It then compares the papers, identifies gaps in existing work, and explains how these gaps motivate the Book Bridge project.

II. REVIEW OF SELECTED PAPERS

BookSwap: Online Book Exchange System [1]

Singh et al. (2022) present BookSwap, a website where users can buy new books at a discount by handing in their pre-owned books. The aim is to help families who find new books expensive. The platform sets rules for exchange: a pre-owned book must not be older than two years, and the credit given depends on its condition. A book in good condition earns half of its original price, an average one 40%, and a poor one one-third. A delivery person checks the condition of the old book at the time of purchase, and accepted books are kept at the BookSwap store for later sale.

The system is organised into modules for new users, existing users, buying new books, buying used books, and a combined sell-and-buy module. The front end uses HTML, CSS, JavaScript and Bootstrap. The back end uses the Django framework with SQLite or MySQL, and CRUD operations manage the data. The authors also compare their system with earlier online bookstores and exchange sites and show screenshots of the working website.

Limitations: payment is limited to cash on delivery; the platform has no recommendation feature; exchange is tied to purchasing a new book through a company-run store, so it is not a direct student-to-student exchange; and the fixed condition-based price rates leave sellers no room to set their own price.

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ShareSpace: A Localized E-Commerce Solution for Students [2]

Ahmed, Jha and Faizan (Vellore Institute of Technology, Chennai) describe ShareSpace, a campus-focused web application for buying and selling mainly second-hand goods. The motivation is that general platforms such as OLX, eBay and Facebook Marketplace do not suit campus needs: seniors leave surplus items behind while juniors lack affordable options, and moderation on general platforms is weak.

The system uses React.js and Tailwind CSS on the front end, Node.js and Flask on the back end, and MongoDB as the database. Users register with a university email address and verify it with a one-time password. Authentication uses JSON Web Tokens, and passwords are stored hashed with bcrypt. The paper introduces three distinctive ideas:

AI-based content moderation: each new listing first passes a blacklisted-word check and is then evaluated by Google's Gemini model through the Generative AI SDK, which returns a compliance decision and a reason.

Reputation points: users earn points for completed transactions and for listing items for free or at economical prices, and lose points for non-compliant listings. Points are credited only after a sale, which prevents users from farming points with fake listings. Higher points raise a listing in search results.

Price check: the system estimates an economical price as 75% of the average price of the top ten refurbished results on Amazon.in.

Transactions are completed in person. When a buyer requests a product, it moves from the global pool to the buyer's requested pool, both parties see each other's contact details, and the seller later marks the item as sold, pending or declined. The authors report that all features worked as intended, although the AI moderation tended to reject borderline listings.

Limitations: the platform covers all kinds of goods rather than books specifically; it supports buying and selling but has no exchange option; pricing depends on scraping an external shopping site; there is no in-app chat (listed as future work); and it is deployed for a single university.

Intelligent E-commerce Platform for Affordable Student Book Exchange and Donation [3]

Padwal et al. (2023) propose a platform for the exchange, sale, lending and donation of second-hand books among students, aiming to reduce costs and extend the life of educational resources. They argue that existing systems suffer from middlemen, weak search and recommendation, security concerns and fragmented user communities.

The platform is built on the MERN stack (MongoDB, Express.js, React and Node.js). The proposed architecture includes a search service with stored search history, a recommendation service driven by a simplified machine learning approach, a shopping cart and order flow with a payment gateway, an internal messaging system between buyers and sellers, and location services that use the Google Maps API to show where a seller is. Two roles are defined. Buyers can search and filter by author, subject or course, keep a wishlist, send requests, negotiate and rate sellers. Sellers create listings with title, author, condition and an optional price, accept or reject requests, and mark books as sold or donated. The paper supports the design with use-case and class diagrams.

Its literature survey covers online bookstores built with PHP and MySQL, JSP, ASP.NET, Android and cloud services, a strategic study of second-hand versus new bookstores, and a deep-learning book recommender.

Limitations: the paper presents the design and architecture but no implementation results, testing or user evaluation; recommendation and location features are described only at a high level; and its future work lists wishlists, a mobile app, password recovery and more payment options as still to be added.

Related Work Reported in These Papers

The three papers also summarise earlier work, which gives wider context. Giri et al. built a campus second-hand buy and sell application, stressing the economic and environmental benefits of reuse [2], [4]. Miah studied a social website for trading textbooks on campus, noting the financial pressure of rising textbook prices [2], [5]. Wei et al. examined college second-hand platforms and the problem of idle items on campus [2], [6]. Solanki et al. proposed a secure online book resale store using machine learning [3], [7]. Wadikar et al. built a book recommendation platform using deep

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learning [3], [8], and Wang et al. analysed the strategies of online second-hand bookstores competing with new bookstores [3], [9].

BookSwap [1] additionally reviews point-based exchange sites such as BookMooch and PaperBackSwap, the charity-oriented MyPustak, and Amazon, noting that points systems may add undisclosed fees and that Amazon does not let users trade in old books during a purchase. These works show that student second-hand platforms are well studied, but that most either sell books through a central store or handle general goods.

Comparative Analysis

Table I compares the three papers on focus, transaction modes, technologies, trust mechanisms, communication, payment, implementation evidence and main limitation.

Aspect	BookSwap [1]	ShareSpace [2]	Student Book Exchange and Donation [3]
Focus	Books, general readers	General second-hand goods on campus	Student books
Transaction modes	Buy new, buy used, exchange for discount	Buy and sell, in person	Exchange, sale, lending, donation
Technologies	HTML, CSS, JavaScript, Bootstrap, Django, SQLite or MySQL	React, Tailwind, Node.js, Flask, MongoDB, JWT	MERN stack, Google Maps API
Trust and verification	Condition check by delivery person	University email OTP, reputation points	Ratings and feedback
Recommendation or moderation	None	AI moderation with Gemini, price check	Simplified ML recommendation (proposed)
Communication	Not described	Contact details shared; chat is future work	Internal messaging (proposed)
Payment	Cash on delivery	Hand-to-hand	Payment gateway (proposed)
Implementation evidence	Screenshots of working site	Working system with test results	Design and diagrams only
Main limitation	Cash on delivery only, store-based exchange, no recommendations	Not book-specific, no exchange mode	No results or evaluation reported

III. RESEARCH GAPS AND MOTIVATION FOR BOOK BRIDGE

The review points to several gaps:

1. **Student-to-student exchange for books:** BookSwap ties exchange to buying a new book from a company-run store, and ShareSpace supports only buying and selling. Few of the reviewed systems let students directly buy, sell and exchange books with each other in one place.
2. **Request and status tracking:** ShareSpace shows that tracking a request through states such as sold, pending and declined keeps listings accurate, but this has not been combined with a book-specific exchange feature.
3. **Built-in communication:** chat is missing in [1], deferred as future work in [2], and only proposed in [3]. Students need a way to agree on meeting and terms without sharing personal contact details widely.
4. **Demonstrated implementation:** the design in [3] is not backed by implementation results.
5. **Simplicity and affordability:** heavy features such as paid APIs, AI moderation and price scraping in [2], or delivery staff and a physical store in [1], add cost and complexity that a small college platform may not need.

Book Bridge addresses these gaps as a platform made for students, where users can list books and raise Buy, Sell or Exchange requests. Each request carries a status, and users can message each other. Its data model of Users, Books, Requests and Messages directly reflects these needs, keeping the platform simple, affordable and focused on books.

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IV. CONCLUSION

The three papers show a clear need for low-cost, student-focused platforms for second-hand books. BookSwap contributes a condition-based exchange value model, ShareSpace contributes campus verification, moderation and reputation ideas, and the intelligent e-commerce platform contributes a broader design with recommendations, messaging and donation. None of them fully combines direct buy, sell and exchange between students with request tracking and messaging in a simple implementation. This gap is the starting point for the Book Bridge project.

REFERENCES

1. R. Singh, V. Jain, R. Yadav, U. Jain and P. Gupta, "BOOKSWAP: Online book exchange system," Int. J. Adv. Res. Comput. Commun. Eng. (IJARCCE), vol. 11, no. 3, pp. 110-114, Mar. 2022, doi: 10.17148/IJARCCE.2022.11321.
2. F. Ahmed, N. K. Jha and M. Faizan, "Design and Development of a Localized E-Commerce Solution for Students focussing on Economical Sharing," School of Electronics Engineering, Vellore Institute of Technology, Chennai, India, arXiv:2411.11527, 2024.
3. A. Padwal, M. Punde, A. Ghadge and B. Sahu, "An Intelligent E-commerce Platform for Affordable Student Book Exchange and Donation," Int. Res. J. Adv. Eng. Hub (IRJAEH), vol. 1, no. 1, pp. 38-45, Dec. 2023.

Works cited within the above papers:

4. A. Giri, A. S. G. Reddy, Abhishek, M. Sai and S. Mamidisetti, "Campus Second-Hand Buy and Sell Application," Int. J. Res. Appl. Sci. Eng. Technol. (IJRASET), vol. 10, no. IV, Apr. 2022.
5. M. Miah, "Social Website for Buying, Selling, and Trading Textbooks in Campus," Int. J. Inf. Syst. Comput. Sci., vol. 3, no. 2, Mar.-Apr. 2014.
6. S. J. Wei et al., "Research on the Practice of College Students' Second Hand Trading Platform," Open Access Library J., vol. 10, e10405, 2023.
7. Y. Solanki, O. Pattewar, S. Satpute, P. Suryawanshi and M. Lokhande, "Secure Online Book Resale Store System using Machine Learning," in Proc. 3rd Int. Conf. Emerging Technology (INCET), May 2022, pp. 1-6.
8. D. Wadikar, N. Kumari, R. Bhat and V. Shirodkar, "Book recommendation platform using deep learning," Int. Res. J. Eng. Technol., vol. 7, no. 6, pp. 6764-6770, 2020.
9. Y. Wang, A. Majeed, Z. Hussain, J. Popp and J. Olah, "Online Second-Hand Bookstores' Strategic Decisions: A Theoretical Perspective," Sustainability, vol. 14, no. 20, p. 13224, 2022.



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