

# Web-Based Student Treasures Exchange Platform

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MySQL[5].

**Abstract-** Students confront financial challenges when it comes to acquiring textbooks and other educational materials, which stops them from accessing essential resources. Additionally, by encouraging the reuse of educational materials, minimizing waste, and offering students reasonably priced options, the environmental impact of producing and discarding textbooks, drafters, calculators, and aprons used project equipment, such as Arduino UNO Boards, Electrical Relay modules, and bread boards, contributes to sustainability concerns. Although existing procedures of obtaining and selling textbooks are frequently opaque and inefficient, students are forced to pay unreasonable costs or struggle to seek alternatives that match their budgets. The usage of internet technologies and their increasing popularity in recent years have enabled online booking and buying feasible anywhere, at any time. These advances have packed up time, boosted people's quality of life, and hastened the tempo of living. We have built a specific website called Student Treasures Exchange to help achieve this goal. The user needs verification of their Institute ID and a domain email address in order to register.

**Keywords-** Educational Materials, Flask, E-commerce Platform, User Verification, CRUD Operations, Peer-to-peer exchange, Academic affordability, Sustainability initiatives

## I. INTRODUCTION

The flexible programming language Python 3.6 had a vital role in helping students who encountered problems accessing economically priced educational materials through the Student Treasures Exchange project. The project intends to promote sustainability by encouraging the reuse of educational materials and eliminate financial obstacles connected to textbook expenses by exploiting Python's server-side scripting capabilities and implementing crucial business logic. PyCharm, an integrated development environment (IDE) for Python, offers a broad range of tools for rapidly developing, debugging, and testing code to speed development[1]. With PyCharm and Python 3.6, the project team was able to construct a strong online website that makes it easy and efficient for users to share educational content[2].

Python Flask was a crucial aspect of our project's development since it offered a dynamic and lightweight web development framework[3]. Flask made it possible to develop dynamic web pages by making tasks like routing, request processing, and template rendering simpler[4]. This improved user experience overall by facilitating smooth communication between users and the server. We utilized MySQL, a solid relational database management system, for data management. Essential information concerning product listings, discussions, orders, and user registrations was kept and retrieved owed in great part to

The project's usability and scalability were further improved by SQLyog, a graphical user interface tool that complemented MySQL by providing an easy-to-use interface for effective database management and administration[6].

The online website's user interface (UI) was created and developed with the help of HTML, CSS, and JavaScript (JS) on the front end[7]. Web pages content was organized by HTML, elements were stylized and formatted for visual appeal by CSS, and interactivity and behavior were introduced by JS to improve user experience[8]. When combined, these front-end technologies produced an eye-catching and engaging product browsing, shopping, and communication platform.

## II. EXISTINGSYSTEM

The existing system shown in Fig1. to obtain student basics, such as textbooks and tools, frequently involves purchasing or renting these products from retail locations or online platforms. However, these materials typically go unused or become obsolete after a semester or subject has concluded[9]. While there are second-hand retail stores available for books and other materials, they are not specific to one particular college or institute, and students from various institutions may have access to them and sometimes it may cause inconvenience to many students to exchange or buy the products from the sellers if the seller is far away from the college, there are also few websites that helps in exchanging the products but there are many cases that the sellers are from far away distances from the student[10].

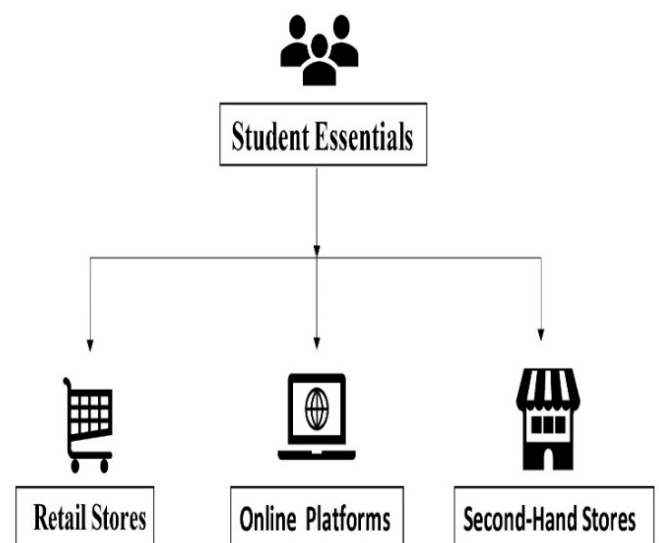


Fig1. Existing System Architecture

III. PROPOSED SYSTEM

In order to improve the current system, we suggest creating a website just for students enrolled in the same college or institution. Within the collegiate community, this website would provide a venue for students to trade, rent, or borrow their tools, textbooks, and other necessities[11]. This platform shown in Fig2. will encourage a culture of sharing and collaboration among students by permitting free resource exchanges, in contrast to retail establishments where product rentals are paid for. Furthermore, user profiles connected to college email addresses could be one of the features added to the website, enabling user authentication and verification inside the campus community. Users may list the things they have to lend or trade, together with information on the condition, availability, and duration of the transaction[12]. To guarantee user accountability and dependability, the platform might additionally include a rating and review system. Additionally, by enabling the donation of unwanted things to other students in need, the website might encourage the reuse and recycling of educational resources in an effort to decrease waste and promote sustainability. Students would gain financially from this, but it would also strengthen their sense of belonging and support system within the campus community. Our goal in adding these improvements to the current system is to make it more effective, affordable, and long-lasting for the college community to obtain necessities for students.

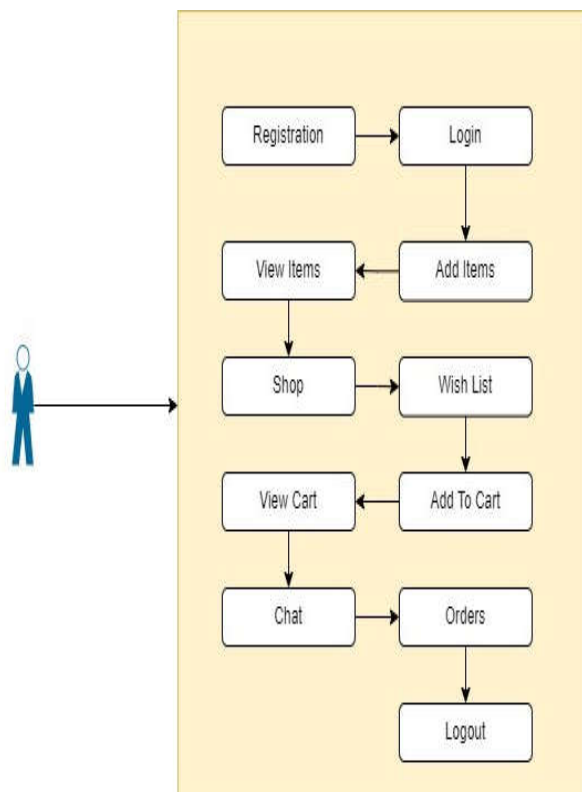


Fig2. Proposed System Architecture

IV. Softwarespecifications

Name Of Specification	Components
Language	HTML, CSS, JAVASCRIPT, PYTHON 3.6
IDE	PyCharm 2017.3
Project Type	Website
Database	MySQL, SQLyog

V. Test Cases

S. No.	TEST CASE	INPUT	RESULT	PASS / FAIL
1	Adding product to sell			PASS
2	Adding items to cart			PASS
3	Purchasing a Product			PASS
4	Chat with seller			PASS

Fig3. Test Cases and the Results

VI. RESULTS

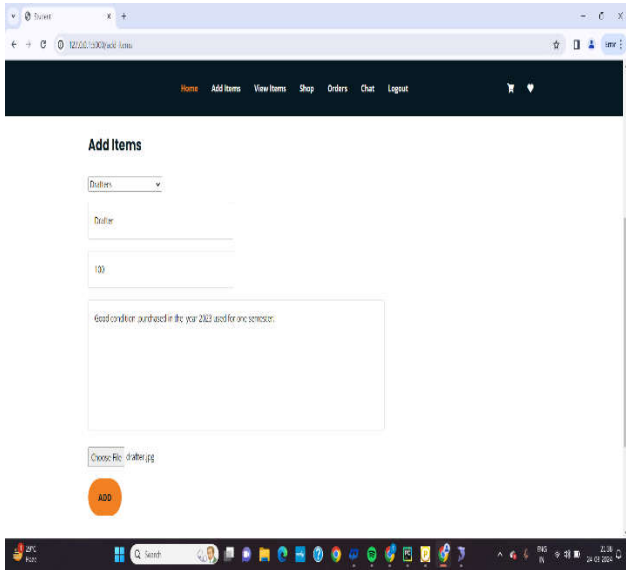


Fig4. Adding Items to trade

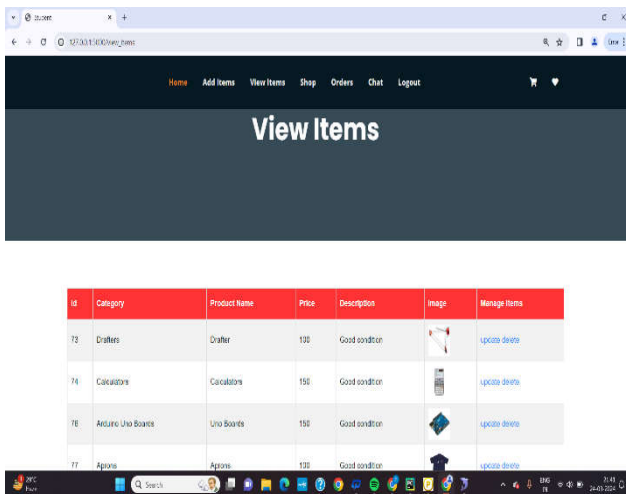


Fig5. Viewing added items and updating the entries

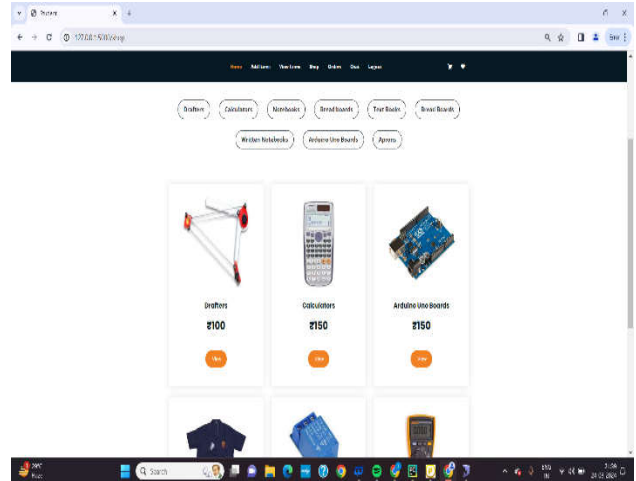


Fig6. Shop Page

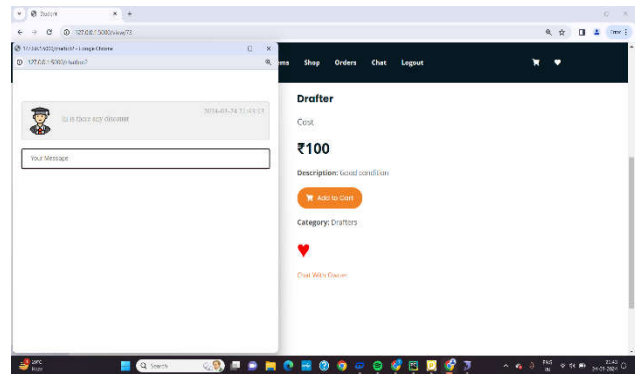


Fig7. Chat with owner window

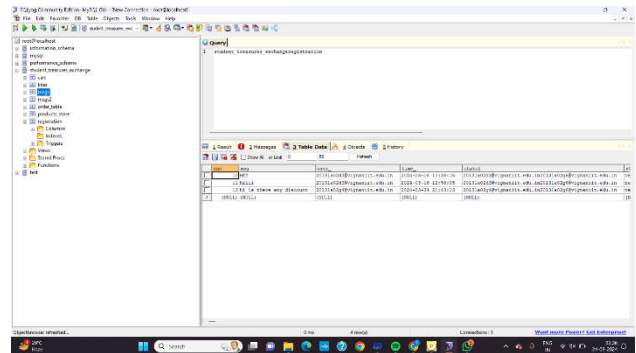


Fig8. Storage of chat tables

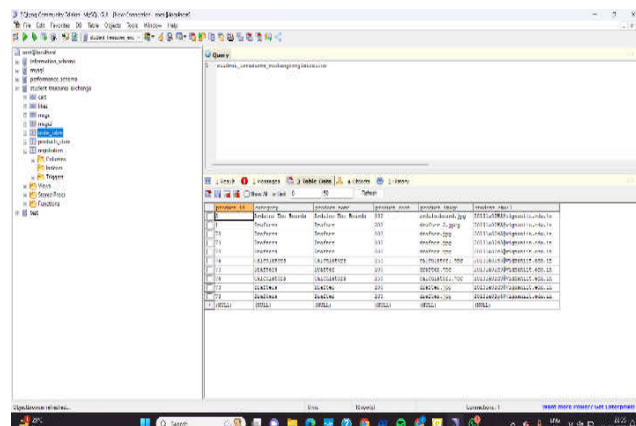


Fig9.Orders Data

id	product_id	quantity	price	total_price	order_date	user_id
1	1	1	100	100	2023-01-01	1
2	2	2	50	100	2023-01-02	2
3	3	1	200	200	2023-01-03	3
4	4	3	33	99	2023-01-04	4
5	5	1	100	100	2023-01-05	5
6	6	2	50	100	2023-01-06	6
7	7	1	200	200	2023-01-07	7
8	8	3	33	99	2023-01-08	8
9	9	1	100	100	2023-01-09	9
10	10	2	50	100	2023-01-10	10

Fig10.Products Data  
VII.CONCLUSION

The Student Treasures Exchange initiative, combining Python Flask and MySQL technologies, provides a critical step towards eliminating financial obstacles and encouraging sustainability in accessing educational resources. Through our web application, we have highlighted the revolutionary potential of technology in empowering students by giving a platform to buy, sell, and exchange textbooks and project equipment at competitive prices.

The combination of Python 3.6, PyCharm, and SQLyog has improved the development process, delivering an intuitive and efficient user experience. However, while the present iteration of the platform covers fundamental functions like user registration, product listings, and order administration, there are chances for additional expansion. The idea to create a 24/7 chatbot function intends to boost customer support and engagement, delivering rapid advice and direction to users at any time. Additionally, the platform's development to cater to engineering colleges overseas underlines its potential to answer the requirements of a broader audience, building a feeling of community and collaboration among students worldwide. Furthermore, the integration of a call option immediately within the website and the provision of a payment gateway would boost convenience and accessibility for consumers, permitting smooth communication and transactions. By embracing these novel features and consistently refining the platform based on user feedback and evolving demands, the Student Treasures Exchange project is positioned to have a big influence on the educational landscape. Through cooperative efforts and constant research, we may aspire towards establishing a more inclusive and sustainable learning environment for students, empowering them to access vital resources inexpensively and efficiently.

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