

BoilerBazaar

CS307 Group 30 Project Backlog

Team Members:

Dung “Ryan” Doan, Xavier Huu Pham, Jeffrey Yian Wang, Shicheng Fang, Michio L Sekiguchi

Problem Statement: Textbooks are required in almost all college classes at Purdue. With the high price point of new textbooks, students often spend time searching for better deals, either through different vendors or individual sellers. It also might be hard to find the specific textbook for your class due to the number of different versions there are. There is no general solution to these problems, and existing systems to buy used textbooks are sketchy and hard to find.

Background Information:

Audience: Students at Purdue University are required to purchase textbooks for many of their classes. To obtain these books, students can either buy or rent new or used books from places like the Purdue University Book Store and online retailers. Many students never open their textbooks again after finishing the courses that they bought the books for. This is worrying as textbooks typically cost a lot of money and use a lot of paper. Nowadays, almost all students have access to the internet due to its necessity for almost all courses, so an online platform for purchasing and selling textbooks makes the most sense.

Similar Applications: There are similar online marketplace platforms for users to exchange items like Facebook Marketplace and Craigslist. Students can use online messaging boards like Reddit to exchange textbooks. There are also online textbook price comparers like Slugbooks and a Purdue textbook finder maintained by the Purdue University Book Store.

Limitations: While there are existing platforms, there is not a general solution, nor is there a marketplace where you can communicate and purchase from other Purdue students easily. A platform where Purdue students can compare prices at the same place could help save time in the already busy lives of many Boilermakers. With an online platform for Purdue students to exchange books, textbooks can gain more use and students can obtain textbooks quickly without extra fees like shipping costs. Making the platform focused on Purdue can make it easier for users to find textbooks for their specific Purdue courses. Other platforms can become problematic due to having to give your address to a stranger for shipping or having to meet up with a stranger with possible ill intentions. Restricting the platform to only Purdue students can be safer as students can have a better idea of whom they are meeting up with.

Functional Requirements:

1. As a user, I would like to be able to login through Purdue authentication.
2. As a user, I would like to be able to easily navigate to any page using a navigation bar.
3. As a user, I would like to be able to change between light and dark mode.

4. As a student, I would like to be able to have a list of previously searched textbooks displayed when I open the home page.
5. As a student, I would like to be able to search for a textbook based on ISBN, author, or title.
6. As a student, I would like to be able to search for used textbooks from other students.
7. As a student, I would like to be able to filter through the student sold textbooks by course, edition, etc.
8. As a student, I would like to be able to search with multiple filters in the home page search.
9. As a student, I would like to be able to sort textbooks by price, popularity, ratings, etc.
10. As a student, I would like to be able to see a list of websites that are selling the textbook that I searched for with the cheapest price highlighted.
11. As a student, I would like to be able to easily access the websites selling the textbooks.
12. As a student, I would like to be able to track a textbook (watchlist) to see any changes in price, etc.
13. As a student, I would like to be able to receive desktop notifications for price drops.
14. As a student, I would like to be able to follow a seller to see if they list any other textbooks.
15. As a student, I would like to be able to see how many other users have viewed a textbook.
16. As a buyer, I would like to be able to easily message the seller.
17. As a buyer, I would like to scroll through images that a seller is trying to sell.
18. As a buyer, I would like to share a seller's listing.
19. As a buyer, I would like to see details on the listed textbook (condition, description, etc.).
20. As a buyer, I would like to be able to click on seller to see seller profile when trying to buy a textbook from them.
21. As a buyer, I would like to be able to see other textbooks that are related to the current listed textbook.
22. As a student, I would like to be able to see past messages.
23. As a student, I would like to be able to view my profile.
24. As a student, I would like to be able to add a profile picture.
25. As a student, I would like to be able to edit my profile.
26. As a student, I would like to be able to view the profile of sellers.
27. As a buyer, I would like to be able to give seller ratings based on interaction and ease of purchase.
28. As a seller, I would like to be able to list textbooks for sale.
29. As a seller, I would like to be able to add/remove pictures of what I am selling.
30. As a seller, I would like to be able to list the title and price of the textbook.
31. As a seller, I would like to be able to edit or delete my textbook listings after submitting them.
32. As a seller, I would like to be able to add the condition of the textbook.
33. As a seller, I would like to be able to add a description of the textbook.
34. As a seller, I would like to be able to set a meetup preference (public, in front of house, etc.).
35. As a seller, I would like to be able to edit the status of a transaction for a book I am selling (available, pending, completed).

36. As a seller, I would like to be able to view reviews from my buyers.
37. As a seller, I would like to give reviews about my buyers.
38. As a student, I would like to be able to block another user from messaging me.
39. As a student, I would like to be able to block another user from viewing my listings.
40. As a student, I would like to be able to search for other users.
41. As a student, I would like to be able to rate a textbook and view ratings from other users.
42. As a student, I would like to be able to add textbook information for courses that I am taking.
43. As a student, I would like to be able to view information about the Purdue University Book Store such as locations and hours.
44. As a student, I would like to be able to view an “About” page with information about the developers and the project.
45. As a student, I would like to be able to view a watchlist of listings from my profile
46. As a student, I would like to be able to see how many sales a seller has made.
47. As a student, I would like to be able to see which classes are associated with a textbook.
48. As a student, I would like to be able to see my viewing history.
49. As a student, I would like to be able to submit and view GroupMe links related to courses.
50. As a student, I would like to be able to change my notification preferences (if time allows).
51. As a student, I would like to be able to upload all my syllabi to get a list of textbooks from the syllabi (if time allows).

Non-Functional Requirements:

Architecture

Front end: Front end will be developed using plain JavaScript. Not relying on jQuery improves performance and reduces dependencies. JavaScript is also perfectly compatible with most browsers currently.

Back end: Database should be managed by SQL. It should allow fast queries of textbooks using any attributes. The same should be applied for the database used to store and update users' messages.

The server should be able to communicate with the front end and two databases quickly and efficiently. This includes receiving requests, querying the request, then sending the output to the front end.

Performance

On normal internet connections (> 5mbps), simple requests such as sending and receiving messages should be completed in less than 5 seconds. More difficult requests such as searching and listing textbooks should not take longer than 10 seconds. The website should be able to host 1 percent of Purdue's student population at any time (~4160 students).

Usability

The interface should be clean and easy to navigate for users. The website should be able to allow users to filter textbook searches to search using different attributes. Each textbook page should correctly display the price and site where the book is sold, as well as correctly redirect the user to said site. Sellers should be able to easily upload and update their postings.

Security

User accounts must be secured and available only to the specific user. This is achieved with Purdue's two-factor authentication. Users should also be notified of basic etiquette and security precautions when interacting with other users through the messaging system (no harassment, discrimination; passwords should not be given to anyone). Ensure that the use of users' data is non-malicious and transparent.

Hosting/Deployment

The front end will be a webpage. A domain should be registered (payment might be required) to host the front end. The back end is a server that can be deployed on a personal computer (if performance allows) or in a remote data center.