System Requirements Specification

TextForSale

Client

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Team

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Introduction

1.1 Purpose of This Document

This document's primary purpose is to provide a description of the features, functions, and required conditions of the TextForSale software. The intended audience is UMBC faculty, staff, and students looking for a quick and simple way to purchase textbooks online.

1.2 Purpose of the Product

TextForSale allows any student with a valid UMBC ID to buy or sell textbooks. The main goal of this product is to make getting textbooks easier and cheaper for the campus community. Textbooks are often overpriced and hard to find or not available at the bookstore; here one can check the availability and selling price for any textbook with a keyword search. Users can also use any campus cash they currently have to purchase a book.

1.3 Product Scope

The TextForSale application helps its users find affordable textbooks without having to go to an outside source. It consists of the following use cases: logging in/registering, searching for textbooks by various criteria, viewing user profiles, rating sellers/buyers, getting redirected to another website if the book is not available on ours, and having both parties verify that the transaction was completed before the seller gets access to the payment. The figures below outline these use cases.

Figure 1. High level use case context diagram overview

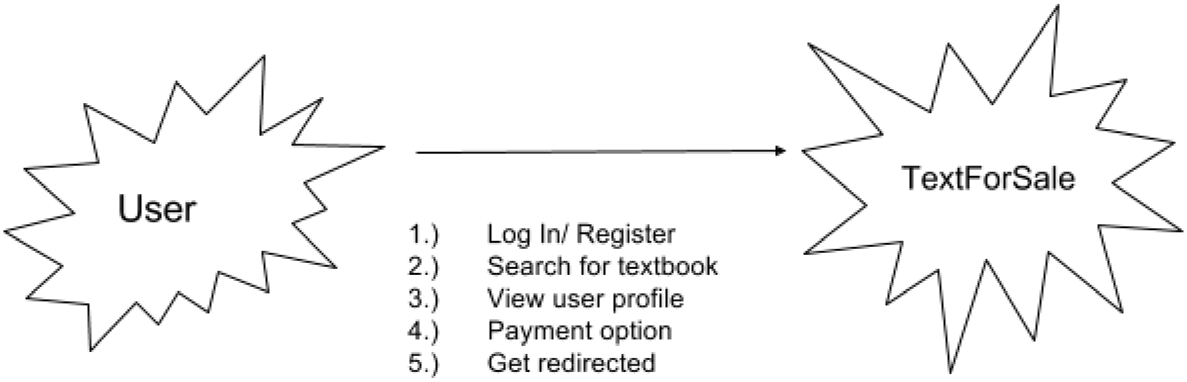


Figure 2. Use Case: Log in/register

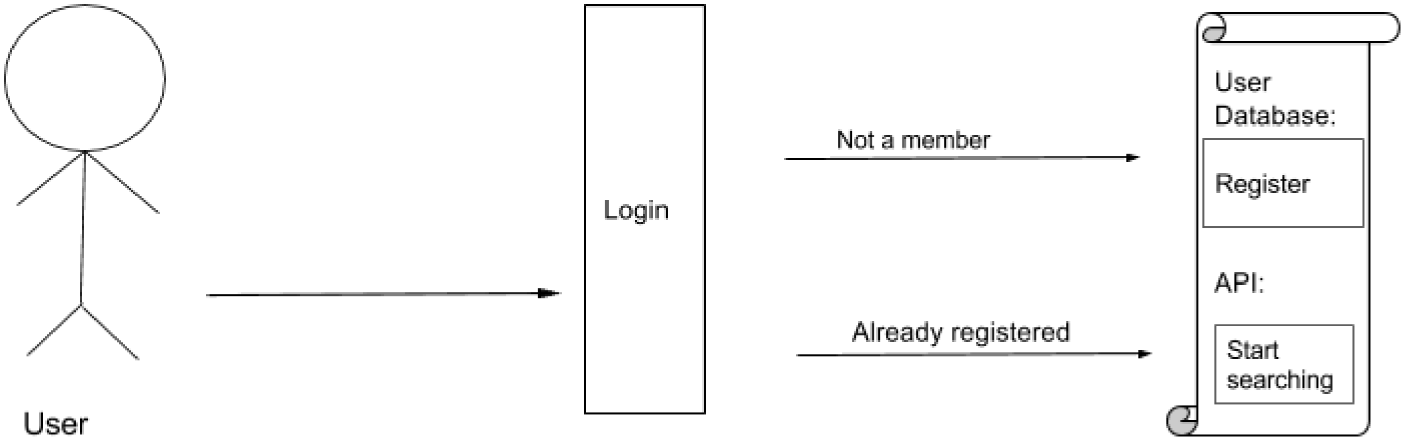


Figure 3. Use Case: Search for Textbook

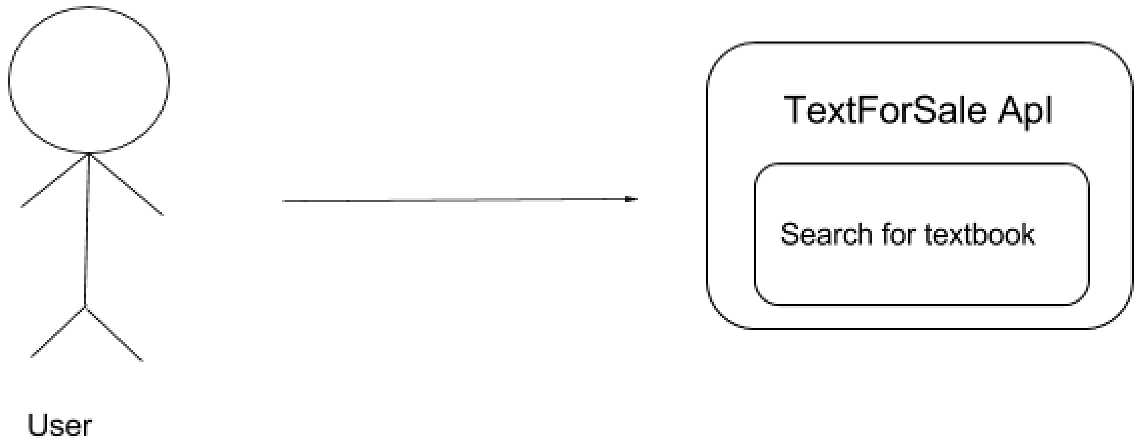


Figure 4. Use Case: View user Profile

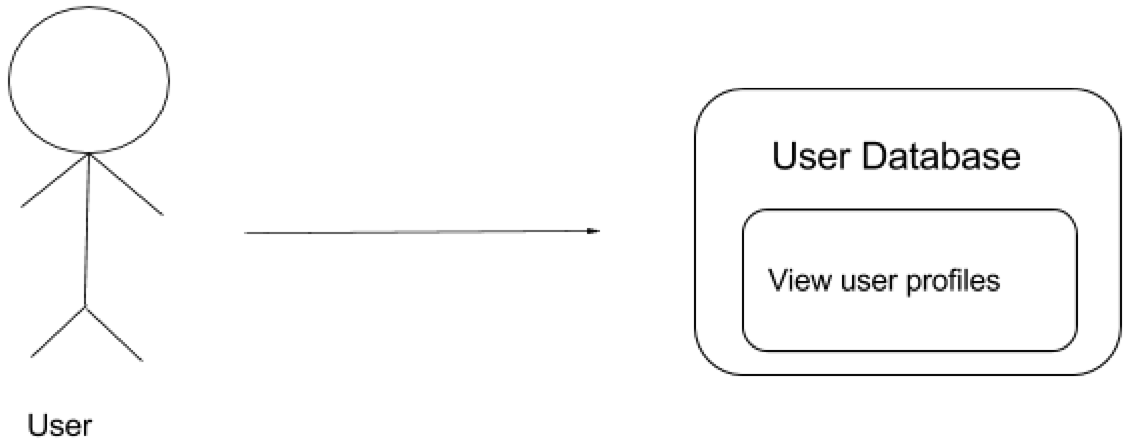


Figure 5. Use Case: Payment Option

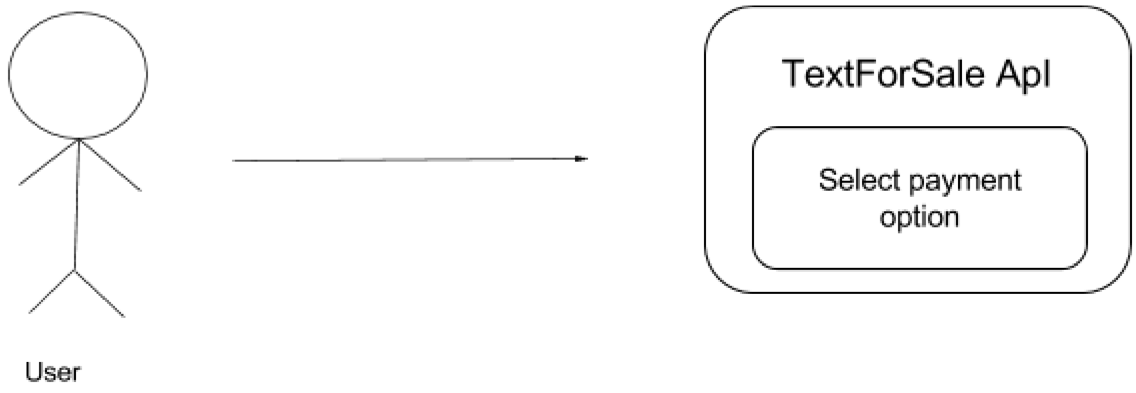


Figure 6. Use Case: Get redirected if book not available

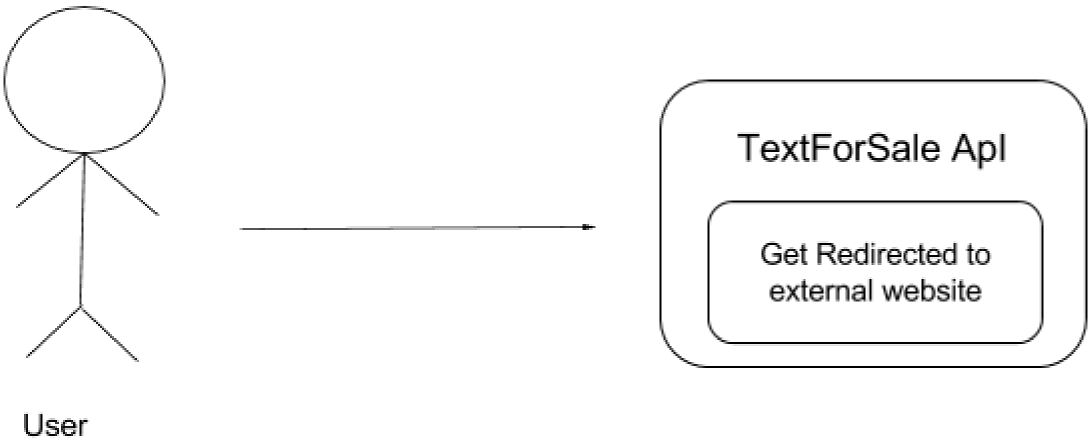
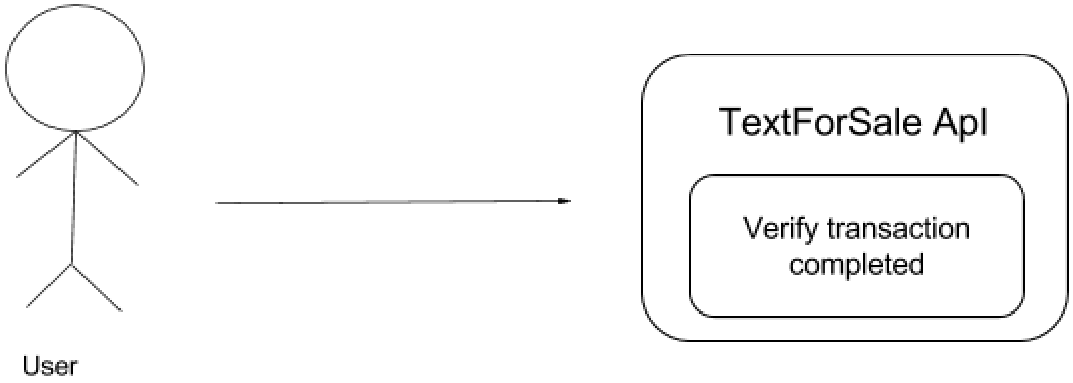


Figure 7. Use Case: Both parties verify transaction was completed



2. Functional Requirements

2.1 Use Case 1

Number	1	
Name	Log in/register	
Summary	User enters their umbc username and password. First time loging in, TextForSale validates the username and password.	
Priority	5 -> to know who is buying or selling.	
Preconditions	Must be a current undergrad, grad, or staff member	
Postconditions	User is logged in and can make a transaction	
Primary Actor	User	
Secondary Actors	TextForSale API	
Trigger	User hits “Enter” on the keyboard or clicks “Log in” on TextForSale	
Main Scenario	**Step**	**Action**
	1	Type in username and password
	2	Click “Log in” or return
	3	If 1st time, TextForSale validates user, then logs them in. Else, user has already been verified, so just logs them in.
Extensions	**Step**	**Branching Action**
	3a	Not a valid user **:** Display message to enter a valid username and password
Open Issues	None	

2.2 Use Case 2

Number	2	
Name	Search for Textbook	
Summary	User enters the textbook ISBN in the search box	
Priority	4 -> To find a certain textbook	
Preconditions	Textbook ISBN must exist	
Postconditions	The textbook is listed with the user(s) that are willing to sell and the selling price for each book	
Primary Actor	User	
Secondary Actors	TextForSale API	
Trigger	User hits “Enter” on the keyboard or clicks “Search” on TextForSale	
Main Scenario	**Step**	**Action**
	1	Type in textbook ISBN
	2	Click “Search” or return
	3	List of specified textbook comes up with user who has the book. Price of book is also listed
Extensions	**Step**	**Branching Action**
	3a	Not a valid textbook **:** Inform user that the specified book is either unavailable or not valid
Open Issues	None	

2.3 Use Case 3

Number	3	
Name	View user Profile	
Summary	Look at history of transactions for any user.	
Priority	4 -> To see quality of user, how quickly they deliver a book or if their prices are reasonable.	
Preconditions	Specified user must have registered already (logged in once).	
Postconditions	Specified user’s history is displayed.	
Primary Actor	User	
Secondary Actors	TextForSale API	
Trigger	User hits “Enter” on the keyboard or clicks “Search” on TextForSale	
Main Scenario	**Step**	**Action**
	1	Type in a user ID into the search box
	2	Click “Search” or return
	3	User profile is displayed. This includes: all previous transactions, any current textbooks and prices user is trying to sell.
Extensions	**Step**	**Branching Action**
	3a	Not a valid user **:** Display message to enter a valid user
Open Issues	None	

2.4 Use Case 4

Number	4	
Name	Payment Option	
Summary	Buyer selects what payment option they will do to purchase a textbook. The payment option must be one that is OK with the seller.	
Priority	5 -> For a successful transaction, need a valid payment	
Preconditions	Have the necessary amount of money with an available payment option.	
Postconditions	Payment option was selected and verified.	
Primary Actor	User	
Secondary Actors	TextForSale API	
Trigger	User selects payment option and enters payment option info (if not cash)	
Main Scenario	**Step**	**Action**
	1	Click a payment option
	2	Enter info of card
	3	Click “Submit” to verify the card
	4	Send the money to the seller
Extensions	**Step**	**Branching Action**
	3a	Payment not valid **:** Inform user to enter a valid payment before the transaction can be verified.
Open Issues	None	

2.5 Use Case 5

Number	5	
Name	Get redirected if book not available	
Summary	If textbook is valid but not available, redirect user to a different site to purchase the book.	
Priority	2 -> User could just google the textbook's title or Amazon to do this on their own	
Preconditions	Textbook ISBN must not be available	
Postconditions	Website that user is being redirected to must be up and running.	
Primary Actor	User	
Secondary Actors	TextForSale API, Third-party websites (Amazon)	
Trigger	No available textbooks found after a search	
Main Scenario	**Step**	**Action**
	1	Type in textbook ISBN
	2	Click "Search" or return
	3	No textbooks are found, redirect user to different site.
Extensions	**Step**	**Branching Action**
	3a	Third-party site is down **:** Inform user, try another site
Open Issues	None	

2.6 Use Case 2

Number	6	
Name	Both parties verify that transaction was complete	
Summary	After buyer receives the textbook, buyer and seller must confirm the transaction was complete through TextForSale. Once it's confirmed, TextForSale puts money in seller's account, removes book.	
Priority	5 -> To make sure exchange happened successfully	
Preconditions	A valid user bought a book from another valid user.	
Postconditions	Money is put into seller's account, book is removed from seller's profile.	
Primary Actor	Buyer and Seller	
Secondary Actors	TextForSale API (confirmation button)	
Trigger	Both users confirm the exchange was successful on TextForSale	
Main Scenario	**Step**	**Action**
	1	A user bought a textbook through TextForSale
	2	Exchange happens between users at designated location, the Commons CIC, or custom location decided between buyer and seller.
	3	Buyer, seller, and commons CIC worker confirm the exchange on TextForSale
Extensions	**Step**	**Branching Action**
	3a	Neither buyer or seller confirms exchange after 3 days **:** Send a reminder email to both users
	3b	Only one user confirms exchange after 3 days: Send a reminder email to one who didn't confirm

	3c	One user says exchange was not successful: Send reminder email to other. If seller, inform the seller they will not receive the money until exchange is confirmed from worker at Commons CIC. If buyer, inform buyer they will not get their money back until worker at Commons CIC also confirms the buyer never picked up the book. After 2 weeks, put “Failed to deliver book *bookID*” in seller’s history.
Open Issues	If one user lies and says they never got a book or sold it (at a custom location) even though such occasion did happen. We make each user sign an agreement saying TextForSale isn’t responsible for this if the exchange is not agreed to happen at the designated area (Commons CIC).	

3. Use Case Tests

3.1 Use Case 1 Test - Log in/ Register

Attempt to login before creating an account and see system response. It should redirect to a registration page for new members.

3.2 Use Case 2 Test - Searching for a Textbook

Search for a textbook using different criteria such as author, title, ISBN, user ratings.

3.3 Use Case 3 Test - Viewing user profiles

Search for other umbc students and view their profiles if they have an account.

3.4 Use Case 4 Test - Selecting Payment Type

Select each payment type individually and see if it can detect an invalid payment. For example, a transaction should not go through if a user selects visa as their payment option, but puts in their paypal information.

3.5 Use Case 5 Test - Getting redirected if textbook is out of stock

Search for textbook that we know is not in stock and see if we get redirected to correct external site.

3.6 Use Case 6 Test - Having both parties verify the transaction

Simulate a transaction and make sure payment does not go through until both parties have verified that the good has reached the client.

4. Non-Functional Requirements

NFR #	Description	Priority
1	All credit card vendors must be accepted	5
2	User profiles should be minimal and only include name, items for sale, and user ratings	3
3	There will only be two user levels : admin and buyer/seller	5
4	Database shall be implemented using Postgres	1
5	Web Interface shall be programmed using JavaScript	1
6	Backend should be implemented using Java	1
7	Web pages must fully load	5

	within maximum of ten seconds	
8	Buyers/sellers can only cancel 3 transactions per month	2
9	Goods sold must be monitored so they don’t deviate from textbooks	5
10	Each seller is allowed to sell a maximum of ten books at a time	2

4.1 NFR Test 1 - All credit card vendors accepted

Do test runs to see if every type of credit card is accepted as a payment option.

4.2 NFR Test 2 - User profiles should be minimal

Register a new account and make sure that the profile creation section only has the options listed in the NFR 4 row in the table above.

4.3 NFR Test 3 - There will only be two user levels : admin and buyer/seller

Register new account and ensure that only those two options are available. If admin option is selected,user must be verified by another admin before obtaining privileges.

4.4 NFR Test 4 - Database shall be implemented using Postgres

Run script to add to database using mySQl. It should return an error.

4.5 NFR Test 5 - Web Interface shall be programmed using JavaScript

Try to update the script using another language. Should produce an error as well.

4.6 NFR Test 6 - Backend should be implemented using Java

Same as NFR Tests 4 and 5.

4.7 NFR Test 7 - Web pages must fully load within maximum of ten seconds

Attempt to reload all of the web pages at varying intervals to ensure that this statement holds.

4.8 NFR Test 8 - Buyers/sellers can only cancel 3 transactions per month

Register with an account and attempt to cancel more than 3 transactions. Site shouldn't allow me too. Possibly just remove the cancel button for users after their 3rd cancellation that month.

4.9 NFR Test 9 - Goods sold must be monitored so they don't deviate from textbooks

Write script to periodically run through each user's 'for sale' items and make sure they're all textbooks. Maybe even have moderators manually look through website once a day to see if the script missed anything.

4.10 NFR Test 10 - Each seller is allowed to sell a maximum of ten books at a time

Only give each user the option to have 10 books in their stack. Remove option to add more books after the 10th.

5. User Interface

See "User Interface Design Document for *TextForSale*"

6. Deliverables

Hard copies of each of the following:

- Systems Requirement Specification
- System Design Document
- User Interface Design Document
- User Manual
- Administrator Manual
- Copies of all Biweekly Status Reports

A CD (or electronic copy in a ZIP file) containing the following:

- Systems Requirement Specification
- System Design Document
- User Interface Design Document
- User Manual
- Administrator Manual

- All source code
- The executable program
- Any other software required for installation and execution of the delivered program.

7. Open Issues

Issues that have been raised and do not yet have a conclusion. These issues will be addressed later in the development process.

- ★ Verify the transaction runs smoothly for both the buyer and seller; Ensure that the seller doesn't rip off the buyer and the buyer doesn't take the book without paying
- ★ Users giving other users false ratings for their own personal vendettas
- ★ Deciding which database management system would be most efficient to use

8. Appendix A – Agreement Between Customer and Contractor

The customer agrees to an online textbook market system, TextForSale with site registration, login, searching, browsing and payment option capabilities. Use cases are included in the functional requirements section above of the behavior between the system and user. Additional features will be provided in further development spirals.

When and if future changes to this document occur a drafted new document will be created. Both a hard and electronic copy of both versions will be presented to the client for review. Upon approval, the draft will be finalized and signed off by both parties.

Client

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Print Name

____ Date ____________________
Signature

Comments ____
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Team

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____ Date ____________________
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9. Appendix B – Team Review Sign-off

This document has been collaboratively written by all members the team. Additionally, all team members have reviewed this document and agree on both the content and the format. Any disagreements or concerns are addressed in team comments below.

Team

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Print Name

____ Date ____________________

Signature

Comments ____

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10. Appendix C – Document Contributions

The Purpose of the Document, section 1.1, was written by Mehreen Awan. Mehreen also drafted the Product Scope, created the high level/use case diagrams, and prepared test ideas for the use cases and non functional requirements. The Functional Requirements of section 2, and Use Cases (1-6) were prepared by John Gordon. John also defined the Purpose of the Product found in section 1.3. The Appendices (A-C) were written by Daniel Schomisch. Daniel Kelly prioritized the non functional requirements and Mina Beshai drafter the open issues.