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Software Requirements Specifications (SRS)
for Big State University Online Bookstore

1. Introduction

1.1. Purpose

The purpose of this Software Requirements Specifications (SRS) is to fully document the specifications and requirements for the <u>BSU Online Bookstore</u>. The audience of this SRS will be the clients who want the software to be built and the technical professionals developing the software.

1.2. Scope

The objective of this project is to create and implement a website for the BSU bookstore. The website will be used primarily by BSU students. The website will allow users to create and maintain individual secured accounts, search the BSU Bookstore database for textbooks, and make secured online credit card purchases. Users will also be able to contact site administrators. The website makes purchasing textbooks quicker, easier, and more convenient.

1.3. Definitions, Acronyms, and Abbreviations

This document uses the following definitions, acronyms, and abbreviations:

BSU	Big State University
BSU Online Bookstore	The name of the website
VeriSign	A Company used by BSU Online Bookstore to provide secure credit card transactions

1.4. References

The following material was used in creating this document:

- IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications.

1.5. Overview

The rest of the SRS is organized as follows:

- Section 2 is an overall description of the project.
- Section 3 cites the specific requirements

2. Overall Description

2.1. Product Perspective

This product is an entirely new product. It is not a component of a larger system.

The BSU online bookstore system will interact with a credit card processing system in order to process purchases from the website. The system will also interact with the Bookstore's Inventory database, which records the quantity of books available for sale in the inventory.
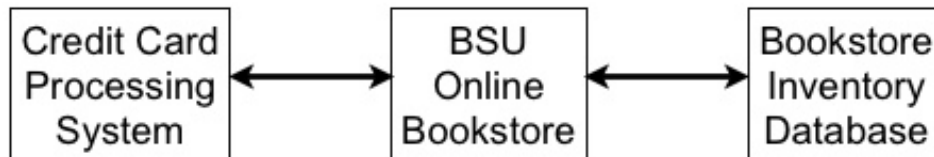
2.2. Product Functions

The following list of function descriptions explains the major features of the BSU Online Bookstore.

2.2.1. Account Registration

The registration function shall allow users to create secure accounts. The account will track the user's name, address, credit card information, username and password.

Rationale: This provides security to the account member by setting up an account that is password protected. This also offers convenience so the user only has to enter the information listed above once and then it is stored in the account.

2.2.2. Account Login

The account login function shall allow account members to enter their username and password. Once verified, users will be able to access account history, purchase books online, and update their account information.

Rationale: This provides a method by which the user can access the restricted operations.

2.2.3. Search

The search function shall offer users the ability to search for books by title, author, subject, course number, professor, or ISBN number.

Rationale: This offers a way to find a book if the user does not have complete information about it. It also provides price and availability information.

2.2.4. Add to Shopping Cart

The add to shopping cart function shall allow users to temporarily save books in a list that are being considered for purchase.

Rationale: This offers convenience to the user by storing the books of interest online and allowing continuation of shopping.

2.2.5. Delete from Shopping Cart

The delete from shopping cart function shall remove any unwanted books from the cart.

Rationale: This allows users to change their orders easily and not be forced to purchase books that are no longer of interest.

2.2.6. Reserve

The reserve function shall hold books for up to 7 days that will be purchased and picked up at the bookstore.

Rationale: This offers convenience to the user by allowing them to make sure a book will be in stock for immediate pickup. This also offers convenience for those who are unable or unwilling to give credit card information over the Internet.

2.2.7. Checkout

The checkout function shall allow account members to purchase books online securely.

Rationale: This offers easy purchasing and added assurance with a confirmation number.

2.2.8. Contact Us

The contact us function shall give users the store address, telephone number, email address, and its location on a map.

Rationale: This helps the user gain trust in the bookstore by showing how easy it is to have person-to-person contact with a BSU Bookstore employee.

2.2.9. Update Account Information

The update account information function shall give account members access to edit their stored information.

Rationale: This offers convenience to the account members by allowing them to make changes to account information immediately.

2.2.10. View Shipping Status

The view shipping status function shall allow account members to enter their confirmation number for a purchase and then view the status of shipment.

Rationale: This offers convenience to account members so they can find out when they should expect shipment.

2.2.11. View Account Purchase History

The view account purchase history function shall allow account members to see previous purchases made under their username.

Rationale: This offers convenience to account members by allowing them to easily view purchase history.

2.2.12. Account Logout

The account logout function shall allow account members to exit their account for security purposes.

Rationale: This allows account members to exit their accounts, and prevent others from accessing it.

2.2.13. Help

The help function shall give the user an overview of how to use the different functions listed above.

Rationale: This allows the user to get answers to immediate questions on using the website.

2.3. User Characteristics

Users of the website must possess a minimal educational level which conforms to BSU entrance standards. Users of the website must know how to navigate in a website.

2.4. Constraints

The constraints on the services and functions of the system are as follows.

- The software product must conform to BSU disclaimer policy.

2.5. Assumptions and Dependencies

Since the BSU Online Bookstore is only accessible through the Internet, it is assumed that the end user has a connection to the Internet. It is also assumed that the user has a web browser able to display the website. (I.E. Microsoft Internet Explorer 4+ or compatible browser)

2.6. Apportioning of Requirements

There are no requirements that may be delayed until future versions of the system.

3. Specific Requirements

3.1. External Interface Requirements

3.1.1. System Interfaces:

The system will interface with the following two systems:

1. A credit card processing system: The system will access the credit card processing system via its web services API.

2. The Bookstore Inventory database: The system will interact with the inventory database via an ODBC connection.

3.1.2. User Interfaces:

The system will provide the ability for students and faculty to access the BSU Online Bookstore via the Internet. There will be three different user interfaces that will accompany this website: one for the students, the faculty, and the administrators. [Remove: Tabs will be at the top of the login screen in order to change between the user modes.]

- <u>Students</u> will be allowed to search database without having to login, however, they must login in order to perform any other transaction. These other transaction will include reserving and purchasing textbooks, or viewing and changing their online account.

- <u>The Faculty</u> must be required to login at all times in order to perform any transaction. Once logged in the faculty member will be able to update required textbook information per the course(s) they instruct, and make any changes to their personal online account. [TBD: this functionality is not described in this SRS]

- <u>Administrators</u> will be required to login at all times. However, they will have limit access via the web-interface only being able to pull predefined reports. The administrators will have to logon to a host machine inside the BSU Online Bookstore network in order to build reports and ensure backups are running. [TBD: this functionality is not described in this SRS]

3.1.3. Hardware Interfaces:

There are no special hardware interface requirements.

3.1.4. Software Interfaces:

There are no special software interface requirements.

3.1.5. Communication Interfaces:

There are no special communication interfaces requirements.

3.2. Functional Requirements

3.2.1. Stimulus: Click "Register" Button: Account Registration

1. The system shall allow a non-registered user to create a secure account.

2. The system shall require the following information from the user: Name, Address, Credit Card information.

3. The system shall ask the user for a username and password.

4. The system shall confirm the username and password are acceptable.

5. The system shall store the information in the database.

3.2.2. Stimulus: Click "Login" Button: Account Login

1. The system shall allow a registered user to log-in to their account.

2. The system shall require a username and password from the user.

3. The system will verify the username and password, and the user will be considered "logged-in".

3.2.3. Stimulus: Click "Search" Button: Search

1. The system shall allow a user to search for books by title, author, subject, course number, professor, or ISBN number.

2. The search results will include a picture of the front cover, along with the title, author, price, availability, and condition of the book.

3.2.4. Stimulus: Click "Add to Shopping Cart" Button: Add to Shopping Cart

1. The system shall allow a registered and logged-in user to temporarily save books that are being considered for purchase into a list associated with their account

2. When viewing the shopping cart list, the system shall display the total price of the books in the cart.

3.2.5. Stimulus: Click "Delete from Shopping Cart" Button: Delete

1. The system shall allow a registered and logged-in user to remove any unwanted books from their shopping cart.

2. The system shall provide the user a way to select one of the books in his/her cart for deletion.

3. After the user has indicated the particular book to be deleted from their shopping cart, the stored list representing the shopping cart should be updated by removing the list, and the display should be updated to show only the books remaining in the cart.

3.2.6. Stimulus: Click "Reserve" Button: Reserve

1. The system shall allow a registered and logged-in user to reserve a book to be picked up at the bookstore within 7 days.

2. The user must enter a name, mailing address, phone number, and email address.

3. The items in the users shopping cart will be placed on reserve, and removed from the user's shopping cart.

4. The user is given a confirmation number.

3.2.7. Stimulus: Click "Checkout" Button: Checkout

1. The system shall allow a registered and logged-in user to purchase books that are in their shopping cart.

2. The credit card on file is charged for the total of the books in the shopping cart.

3. The system shall allow the user to modify their credit card information on file if they so desire (before the card is charged).

4. The user will receive a confirmation number.

5. The books (titles and prices and quantities) will be displayed to the screen.

3.2.8. Stimulus: Click "Contact Us" Button:Contact Us

1. The system shall allow a user to view various methods of contacting the store.

2. The system shall display the store address, telephone number, email address, and directions on how to get to the store.

3. The system should also display a map showing the location of the store.

3.2.9.   Stimulus: Click "Update Account Information" Button: Update

Account Information

1. The system shall allow a user to update the information in their account.

2. The user shall be allowed to view and change their name, mailing address, billing address, credit card type, credit card number, expiration date, and security code.

3. The user shall be able to change their password by entering the old one once, and a new one twice.

3.2.10.Stimulus: Click "View Shipping Status" Button: View Shipping

Status

1. The system shall allow a registered and logged-in user to view the shipping status of orders they have placed within the last 30 days.

2. The user must enter a confirmation number to view the shipping status of their order.

3. The system shall then display the shipping date, mailing address, projected delivery date, and status (in transit, delivered, etc.)

3.2.11.Stimulus: Click "View Account Purchase History" Button:View

Account Purchase History

1. The system shall allow a registered and logged-in user to view purchases made with their account within the last two years.

2. The system shall display the date of purchase, creidit card type, credit card number, expiration date for each order.

3. The system shall display the title of the book, price, and quantity for each book purchased in a given order.

3.2.12. Stimulus: Click "Logout" Button: Account Logout

1. The system shall allow the registered and logged-in user to exit his/her account, so that access to operations requiring a user to be logged in are now disabled.

3.2.13. Stimulus: Click "Help" Button: Help

1. The system shall allow the user to view an overview of how to used the various operations defined above.

2. The system must allow the user to select one of the operations by name.

3. The system shall then display information on how to use that operation.

3.3. Performance Requirements

The performance requirements are as follows:
- System login/logout shall take less than 5 seconds.
- Searches shall return results within 10 seconds.
- Orders shall be processed within 10 seconds.
- System shall support 10,000 simultaneous users.

3.4. Logical Structure of the Data

The two sections below show the different types of information used by various functions and the overall data model, respectively.

3.4.1. Types of Information Used

The types of information used by various functions of the website:

Function	Types of Information Used
Account Registration	User information (name, mailing address, credit card type, number, expiration date, and user name, and password)
Account login	User information (user name, and password)
Search	Book information (title, author, course number, professor, ISBN, price, and quantity)
Checkout	Credit card information (credit card type, credit card number), account purchase history (see below, *View account purchase history*), book information (number on hand)
Update Account info.	User information (name, mailing and billing address, credit card type, number, and expiration date, user name and password.
View account purchase history	Purchase history information (quantity, confirmation number, date of purchase, credit card type, credit card expiration date, title of book(s), price of book(s), total of purchases

3.4.2. Data Model

The following diagram describes the attributes and the types of data that

User	
Username	unique, at least 5 letters+digits
Password	at least 8 letters+digits, 1 cap
Name	First: string
	Middle: char
	Last: string

Address	
Street Addr	String
City	String
State	2 letters
Zip	5 or 9 digits

Books	
ISBM	13 digits
Title	String
Author	String
Quantity	Non-neg int
Course	String
Professor	String

Purchases	
ISBN(s)	13 digits
Title(s)	String
Quantity(s)	Non-neg int
Total cost	$xx.xx
Date	date
Conf Number	String

Credit Card	
Name	String
Number	String
Expiration	mm/yyyy
Security	3 digits
Type	V/MC/D/Amex

shall be used in the operations.

3.5. Design Constraints

The BSU Online Bookstore shall conform to the following design constraints:
- Able to support PC, Mac platforms.
- System logs out user after a ten minute inactivity period.
- System supports all web browsers (i.e. graphical, non-graphical).

3.5.1. Standards Compliance

The BSU Online Bookstore will follow existing standards and regulations, which are stated in the BSU disclaimer policy.

3.6. Software System Attributes

3.6.1. Reliability

The average time to failure shall be 30 days. In the event that a server does crash, a backup server will be up and running within the hour.

3.6.2. Availability

The BSU Online Bookstore shall be available to users 24 hours a day, 7 days a week, with the exception of being down for maintenance no more than one hour a week. If the system crashes, it should be back up within one hour.

3.6.3. Security

Users will be able to access only their own personal information and not that of other users. Purchases will be handled through a secure server to ensure the protection of user's credit card and personal information.

3.6.4. Maintainability

Any updates or defect fixes shall be able to be made on server-side computers only without any patches required by the user.

3.6.5. Portability

Nothing required