Zachary Czarnecki – CSC406 Test 2

**Requirements Document**

**Interface Section**

1. The interface shall allow users to select books from lists to bring them to the foreground display via clicking.
2. The interface shall have a search bar to allow the user to look up books via title, Author, ISBN number, book category.
3. The interface shall, in Fore Ground Display mode, allow the user to user to preview the index and first ten pages of a desired book by selecting them via gallery buttons in the top 2/3 of the page.
4. The interface shall, in Fore Ground Display mode, allow the user to click the count of available suppliers for the book in question to see a list of suppliers and there prices.
5. The interface shall allow the user to switch to another book’s Fore Ground Display mode if it is selected from the “Companion Book Area” from another book.
6. The interface shall allow a user to select a vendor of a book from the “new” or “used” list once their respective links have been clicked in the Fore Ground Display mode.
7. The interface shall allow a user to place a copy of a book from a vendor in their cart on the “Available Vendors” with the “buy it now” button if the user is logged in.
8. The interface shall have a button to go to the log-in page if the user is not logged in.
9. The interface shall allow a user to enter log-in information.
10. The interface shall allow the user to select a shipping method, a shipping address, or simply choose to continue shopping with a button press that says as such, via a window that shall appear upon selection of the “buy it now” button.
11. The interface shall allow the user to input credit card information after input of shipping information. This includes card type, card number, and the card’s three-digit security code.
12. The interface shall prompt the user for “user review and final purchase” on “true” return from system on credit information inquiry.
13. The interface shall prompt a customer with a “Go” button to finalize the purchase on the user review page.
14. The interface shall reset to the “Available Vendors” page if the vendor returns an “Inventory is Unavailable” message.

**System Functionality**

1. The system shall run a search query for the user on “Search” button click based on criteria in “Search Bar” field.
2. The system shall pull up the exact match if the user searches with ISBN or Title.
3. The system shall search for results most similar to search criteria based on database tags in fields such as “Category,” “Author,” “Title” etc.
4. The system shall, in Fore Ground Display mode, maintain a preview of the index and first 10 pages of the book under examination.
5. The system shall keep a record of all sellers of a book, new and used, how much of each type they have, and the appropriate prices in a table that connects to the Fore Ground Display page of each book.
6. The system shall, as part of the data fields that describe a given book, keep records of the three books most often bought with it that are in the same category. These fields are referred to as “also bought” books, and are the top three results pulled from another table that keeps track of how often books are bought in sets. Each category has their own of such tables.
7. The system shall update the “also bought” fields of books when they are bought at the same time. This means the count for the cross-section of those books in the “also bought” table for the given category is incremented by 1.
8. The system shall verify a user’s log in information.
9. The system shall keep track of their preferred authors and favorite book categories for each user in their “customer buyer’s profile.” This data is used to aggregate a list of three new releases a given user might also like when they are looking at something else.
10. The system shall keep a record of the user’s current cart based on books selected from certain vendors.
11. The system shall ask for shipping information from the “buy it now” page.
12. The system shall ask for credit card information upon retrieval of shipping information. This includes card type, card number, and the card’s three-digit security code.
13. The system shall query an outside credit database to check the inputted credit card information against the billing address on file for the customer. It shall return a “true” or false condition.
14. The system shall send the customer order information to the desired vendor on selection of the “Go” button after Credit information input.
15. The system shall, if the vendor returns an “Inventory is available” message:
    1. Debit the inventory count of the book in the Amazon system
    2. Debit User’s credit card
    3. Send all shipping information (address and method) to vendor
    4. Credit 80% of total bill (purchase and shipping) to vendor’s account.
    5. Credit 20% of total bill (purchase and shipping) to Amazon.
    6. Send unique shipping ID to the user, shipper, and entered into database logs of the customer.
    7. Increment supplier’s books sold entry in appropriate database entry.
    8. The book title and subject tags are noted for later “you might also like” aggregation.
    9. If multiple books are in the same category, the appropriate “also bought” entry is incremented by 1.
    10. The user is sent back to the home page with an empty cart
16. The system shall, if the vendor returns an “Inventory is Unavailable” message, the system is reset to the beginning of the Book Purchase process. This is the “Available Vendors” page.
17. The system shall keep a running count of the books purchased from a category by a user.
18. The system shall equate all purchase records and relevant IDs to UPS delivery numbers for later verification of delivery from supplier to customer.

**Screen Functionality**

1. The screen shall display 8-10 advertised books upon user start up, along with a button to allow the user to log in.
2. The screen shall show a log-in page on selection of the appropriate button.
3. The screen shall show the full product page for a book on selection from advertised list OR search result list.
4. The screen shall have a search bar and search button present at all times for user look up.
5. The screen shall pull up the exact match if the user searched with ISBN or Title
6. The screen shall display a list of 6 search results if the user searches by author or book category. There is a "next page" option for 6 new results.
7. The screen shall display an error page if the user puts in an invalid author name, title, category, or ISBN.
8. The screen shall, in Fore Ground Display mode, display the book under examination in the top 2/3 of the page.
9. The screen shall, in Fore Ground Display mode, display a count of available new and used copies for sale of the book in question from various sellers, formatted as “xxx new from $xx.xx (lowest price)” and “xxx used from $xx.xx (lowest price),” respectively. Each line is a link to page called “Available Vendors.”
10. The screen shall display a list of suppliers and their prices in ascending order of cost on selection of one of the count links in Fore Ground Display mode, along with an inventory count for that vendor.
11. The screen shall, in Fore Ground Display mode, display a list of “also bought” books, books commonly bought with the one in question, and “you might also like” books, books the system thinks the user might like in the bottom 1/3. This is the “Companion Book Area.”
12. The screen shall display the inventory count of a book at each vendor once the user enters the “Available Vendors” page.
13. The screen shall, upon selection of “buy it now,” prompt the user to input a shipping address, select a type of shipping (standard or preferential), or allow them to continue shopping.
14. The screen shall display the entire cost of the purchase and ask for credit card information upon input of shipping information. This includes card type, card number, and the card’s three-digit security code.
15. The screen shall display “user review and final purchase,” button on “true” return from system on credit information inquiry.
16. The screen shall prompt the customer to re-enter credit information on “false” return from system on credit information inquiry.
17. The screen shall show a final review of the user’s cart, shipping information, and final bill with total of item costs, shipping fees, and state taxes, along with a “Go” button to finalize the purchase.
18. The screen shall display the Shipping ID of the purchase if the vendor returns an “Inventory is available” message to the system.
19. The screen shall display a “Sorry, we are out” message if the vendor returns an “Inventory is Unavailable” message to the system, and the screen returns to the “Available Vendors” page.

**Functions**

1. Customer Class – Name, preferred shipping addresses, and purchase history: how much of each category you purchased. This is where the “You might also like” section comes from
2. Advertised books – array of books pushed by management
3. Customer cart – fillable array of books
4. Search bar – allows user to search based on author, title, ISBN, or category. Generates 6 results a page
5. Book Class – take in record of book from product database, including title, ISBN, Author, Category, and description
   1. Each book has preview pages attached to it.
   2. Also connects to vendor inventory database for prices
6. “Companion Book Area” - this field is filled in with reference data taken from “Also bought” table, and “You might also like” from the Customer class.
7. “Also Bought” table – a giant cross section table of all the books in a given category that increments with each simultaneous sale of two books in question.
8. Shipping information – class that allows user to input shipping
9. Billing information- allows user to enter there card number security code, expiration date, and billing address. Connects to outside card providers database to double check billing address
10. Vendor inventory – database of vendors and their available inventory and inventory type and prices.
11. Shipping type – a function that adds flat price on top of price of individual books. Also calculates tax for final bill total
12. Bill Pay – distributes funds from purchase: 80% to vendor and 20% to Amazon for each book purchased.
13. User Review – Final container that allows user to verify purchase one last time
14. “Availability” – a Boolean that goes off if chosen vendor sells off last of inventory of item in a customer’s cart before they make the final purchase.