PC-7: Tracing Use-Cases with UI (15 points)

Due: Friday, September 25, 2009 at 11:59 am

Instructions: Complete the assignment and submit through DEN online via the "View/Complete" assignment link.

File Naming Convention: LastName_Firstname_PC7.doc

Questions? Post them on DEN Discussion Board.

For this assignment, you are required to trace and identify the mismatches between the specified use-cases and the user interface for the “Internet Bookstore For You” system and create ONE GUI Prototype for a single use-case.

We will **assume** that the use-case group has already discussed its results with the clients and that they have been very impressed as they feel that:

- the use-cases cover all the required capabilities (NOT all use-cases are listed here)
- the use-case text are extremely clear, comprehensive, and easy to read/understand
- and they represent exactly, or very nearly so, what will satisfy their needs if they are faithfully implemented.

On the surface, the GUIs look fine, but if you perform a detailed comparison with the use-case texts, you will find that there are many inconsistencies and unclear specifications (or you’ll discover them when you create one)

**Assignment (2 Questions)**

**Q1 (10 points):** For each use-case text and GUI, **listed at the end of the assignment**, do the required detailed comparison and make a list of the following (maximum 5 discrepancies):

1. Everyway in which the GUI designs do not accurately correspond to the use-case texts.
   a. Use-case text X says/doesn’t say …
   b. But the GUI does/doesn’t or shows/doesn’t show …
2. Changes that should be made to the GUI design in order to reconcile each of the inconsistencies

**Q2 (5 points):** For this question you have to **develop** a GUI prototype for a given use-case. You can use any of the following techniques for ’developing’ the prototype:

1. Actually draw it on paper.
2. Use some tool (Feel free to Google the possible ones, or if you think you know any existing tool that can help you with this)
3. Draw it on a white board and take a ‘legible’ photograph of it.
4. Use post-it notes as ‘UI Widgets’
5. Actually ‘code’ and make screens
6. …whatever you can think of!

The use-case is for the same Internet bookstore as in the rest of the assignment. It is the **Log-in use-case** for the bookstore. Once you ‘draw’ the GUI prototype you must answer the following questions (in 1-2 sentences max!!)

i. What technique did you use? Why?
ii. Is your technique scalable even for a moderate number of screens – i.e. 10-20 screens? How laborious is your technique in this regard?
iii. What would help ’speed’ up the above activity? Can you name 4-5 tools that can help you do GUI prototyping?
iv. Do discrepancies exist between the Use-case text and your GUI prototype? If so, list 2-3. How many screens in all are needed for just this one use-case?
Use-Cases

1. Log In

(Develop GUI ONLY for this Use-case Description. You need not draw screens for the various alternate courses. Only ONE GUI screen for the Log-in page is sufficient, unless you feel a compelling need to do otherwise)

Basic Course of Action
- The Customer clicks the Log In button on the Home Page. The system displays the Login Page. The Customer enters his or her user ID and password and then clicks the Log In button. The system validates the login information against the persistent Account data and then returns the Customer to the Home Page.

Alternate Courses of Action
- If the Customer clicks the New Account button on the Login Page, the system invokes the Open Account Use-case
- If the Customer clicks the Reminder Word button on the Login Page, the system displays the reminder word stored for that Customer, in a separate dialog box. When the Customer clicks the OK button, the system returns the Customer to the Login Page.
- If the Customer enters a user ID that the system does not recognize, the system displays a message to that effect and prompts the Customer to either enter a different ID or click the New Account button.
- If the Customer enters an incorrect password, the system displays a message to that effect and prompts the Customer to reenter his or her password.
- If the Customer enters an incorrect password three times, the system displays a page telling the Customer that he or she should contact customer service, and also freezes the Login Page.

(Use the following use-cases and GUIs for answering Q1)

2. Search by Author

Basic Courses of Action
- The Customer types the name of an Author on the Search Page and then presses the Search button. The system ensures that the Customer typed a valid search phrase, and then searches the Catalog and retrieves all of the Books with which that Author is associated. Then the system retrieves the important details about each Book, and creates a Search Results object with that information.
- Then the system displays the list of Books on the Search Results Page, with the Books listed in reverse chronological order by publication date. Each entry has a
thumbnail of the Book's cover, the Book's title and authors, the average Rating, and an Add to Shopping Cart button. The Customer presses the Add to Shopping Cart button for a particular Book. The system passes control to the Add Item to Shopping Cart use-case.

Alternate Courses of Action
- If the Customer did not type a search phrase before pressing the Search button, the system displays an error message to that effect and prompts the Customer to type a search phrase.
- If the system was unable to find any Books associated with the Author that the Customer specified, the system displays a message to that effect and prompts the Customer to perform a different search.
- If the Customer leaves the page in a way other than by pressing an Add to Shopping Cart button, the system returns control to the use-case from which this Use-case received control.

3. Browse List of Books

Basic Course of Action
- The Customer clicks on a Category on the Browse Books Page. The system displays the subcategories within that Category. This process continues until there are no more subcategories, at which point the system displays the Books in the lowest subcategory. The Customer clicks on the thumbnail for a Book. The system invokes the Display Book Details Use-case.

Alternate Course of Action
- If the system does not find any Books contained within a given Category, it displays a message to that effect and prompts the Customer to select a different Category.

4. Edit Contents of Shopping Cart

Basic Courses of Action
- On the Shopping Cart Page, the Customer modifies the quantity of an Item in the Shopping Cart and then presses the Update button. The system stores the new quantity and then computes and displays the new cost for that Item. The Customer presses the Continue Shopping button. The system returns control to the use-case from which it received control.

Alternate Courses of Action
- If the Customer changes the quantity of the Item to 0, the system deletes that Item from the Shopping Cart.
- If the Customer presses the Delete button instead of the Update button, the system deletes that Item from the Shopping Cart.
- If the Customer presses the Check Out button instead of the Continue Shopping button, the system passes control to the Check Out use-case.

5. Check Out

Basic Courses of Action
- The system creates a Candidate Order object that contains the contents of the Customer's Shopping Cart. Then the system retrieves the Shipping Addresses associated with the Customer's Account, and displays these addresses on the Shipping Address Page. The Customer selects an address, and then presses the Use This Address button. The system associates the given Shipping Address with
the Candidate Order. Then the system displays the available Shipping Methods on the Shipping Method Page.

- The Customer selects a shipping method, and then presses the Use This Shipping Method button. The system associates the given Shipping Method with the Candidate Order. Then the system displays the contents of the Billing Info objects associated with the Customer's Account, on the Billing Information Page. The Customer selects a billing method and presses the Use This Billing Information button. The system associates the given Billing Info object with the Candidate Order. Then the system displays the Confirm Order Page.
- The Customer presses the Confirm Order button. The system converts the Candidate Order to an Order and destroys the Shopping Cart. Then the system returns control to the Use-case from which this use-case received control.

Alternate Courses of Action
- If the Customer has not already logged in, the system invokes the Log In use-case.
- If the system does not find any Shipping Addresses, it invokes the Create Shipping Address use-case.
- If the system does not find any Billing Info objects, it invokes the Define Billing Information use-case.
- If the Customer presses the Cancel Order button at any time, the system destroys the Candidate Order and returns control to the use-case from which this use-case received control.

6. Track Recent Orders

Basic Courses of Action
- The system retrieves the Orders that the Customer has placed within the last 30 days and displays these Orders on the Order Tracking Page. Each entry has the Order ID (in the form of a link), the Order date, the Order status, the Order recipient, and the Shipping Method by which the Order was shipped.
- The Customer clicks on a link. The system retrieves the relevant contents of the Order, and then displays this information, in view-only mode, on the Order Details Page. The Customer presses OK to return to the Order Tracking Page.
- Once the Customer has finished viewing Orders, he or she clicks the Account Maintenance link on the Order Tracking Page. The system returns control to the invoking use-case.

Alternate Course of Action
- If the Customer has not placed any Orders within the last 30 days, the system displays a message to that effect on the Order Tracking Page.
GUIs

Browse Books Page

Search Result Page
**Shopping Cart Page**

![Image of Shopping Cart Page]

**Order Tracking Page**

![Image of Order Tracking Page]
Check Out Page

Shipping To:
Mr. John Smith
541 W. 37th Place
Los Angeles, CA 90012-0871

Mr. John Smith
7550 Jones Branch Drive
McLean, VA 22108-2205

Use this address

Shipping Method:
- Standard Shipping (3-5 business days)
- Two-Day Shipping (2 business days)
- One-Day Shipping (1 business day)

Use this shipping method

Billing Information:
Visa, 1234567
Expires 07/2007

Use this billing information

Order Information:
Software Cost Estimation with Corel Draw (with CD-ROM)
by Barry R. Boden, Hui Horowitz, Roy Marcus, Donald Reifer, Bradford K. Clark, Bert Street, A. Winer Brown, Santa Chelou, Chris Alta
Quantity: 1
$92.00

Balancing Agility and Discipline: A Guide for the Perplexed
by Barry Boehm, Richard Turner
Quantity: 1
$34.99

Confirm Order  Cancel Order