

Describe a use-case following the format discussed in class:

Name:

- bookStoreApplication

Participating Actors:

- owner, customer

Entry Conditions:

- the user must log in using the correct username and password combination
- the user opens the application

Flow of Events:

- the user opens the Book Store application, who is then presented with a log-in screen

For Owner:

- a) The owner logs in with his username/password and is presented with a screen of three (3) buttons: books, customers, and logout
- b) The owner clicks the books button and checks the books available which is presented in a table that has two (2) columns, the heading of the first column is the Book Name and the second one being the Book Price
- c) The owner adds a book and deletes one book, using the add and delete buttons respectively, the owner then presses the back button to return to the screen in Step (b)
- d) The owner clicks customers which presents a screen with a table with three (3) columns, the headings being Username, Password, and Points respectively
- e) The owner registers a customer by entering the customers username and password into two text-fields with their respective entries and then clicking the add button
- f) The owner then deletes another customer, clicking on the customer's row and pressing the delete button
- g) The owner then presses the back button to return to the first window and then presses logout to return to the login page

For Customer:

- a) The customer logs in using his username/password and is presented with a message stating their name, points and membership status, a table that has three headings: Book Name, Book Price, Select, and three (3) buttons: buy, redeem points and buy, and logout
- b) The customer selects one of the books in the table under the select heading and presses
 - a. Buy: A new screen opens that presents the total cost at the top, the points and status of the customer, and then the logout button at the bottom
 - b. Redeem points and buy: A new screen opens that presents the total cost which has its cost deducted based on the number of points (100 pts. = 1 CAD), the points and status of the customer, and then the logout button at the bottom
- c) The customer then presses the logout button and returns to the login page
- d) The user closes the window

Exit Conditions:

- the user closes the window of the application

Exceptions:

- if there is a problem accessing the files that store information on the customers or books, it will print out an error and not execute

Special Requirements:



Describe the rationale behind using the State Design Pattern:

It is smart to use the State Design because the logic of the state design pattern is to allow an object to adjust its behavior according to changes of states. Since our program is built around changing between states (aka. silver and gold), it makes sense to use the state design pattern to associate states to the level of membership. This allows for future adjustability and allows for easy modification and troubleshooting if more states need to be added.