



**Department of Electrical  
& Computer Engineering**  
Faculty of Engineering & Architectural Science

<b>Course Title:</b>	Object Oriented Analysis Design
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<b>Assignment/Lab Number:</b>	Final Phase
<b>Assignment/Lab Title:</b>	Project Report

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<http://www.ryerson.ca/senate/current/pol60.pdf>

The username and password for the owner are both admin.

### **Use-Case Description:**

A functional model of use case diagrams was implemented for this project.

1. **Application:** BookStoreApp
2. **Participating Actors:** The Owner and Customer
3. **Entry Condition:** Starts when the Owner or Customer logs into the App.
4. **Flow of Events:**
  - a. When the Owner logs in a **[Books]**, **[Customers]**, and **[Logout]** button appears.
    - i. If **[Books]** is selected, OwnerBooksScreen appears with a Table and an area to input a name and price of a book. To add a book to the table, the Owner would input the name and price into a text field then click the **[Add]** button. To delete the book from the table, the owner must select the row of the book and click the **[Delete]** button. To go back to the previous screen, the owner must click the **[Back]** button.
    - ii. If **[Customers]** is selected, OwnerCustomerScreen appears with a table and an area to input a username and password of the customer. To add a customer into the table, the owner would input a username and password into the text field then click the **[Add]** button. To delete a customer from the table, the owner would select the row of the customer's name and click **[Delete]**. If the Owner selects the **[Back]** button, they will go back to the previous screen.
    - iii. If **[Logout]** is selected, they will be taken back to the start screen.
  - b. When the Customer logs in, they see a statement with their points and status and a table of books to buy appears followed by the **[Buy]** and **[Redeem Points and Buy]** buttons.
    - i. Customers can select the books they would like to buy by clicking the checkbox next to the book they would like to purchase, they can select as many as they like.
    - ii. To buy the customer can either select **[Buy]** or **[Redeem Points and Buy]**
      1. **[Buy]** will do the checkout with money
      2. **[Redeem Points and Buy]** will checkout using all possible points the customer has
    - iii. After checkout the Customer will be presented with a screen that tells them their total cost, new point total, and status followed by the **[Logout]** button; which will take them back to the start screen.
5. **Exit Conditions:** Exits when the Owner or Customer logs out of the App

6. **Exceptions:** An exception would occur when the password or username is incorrect. If this occurs, then it would print “incorrect username and password combination please try again...”.
7. **Special Requirements:**

A use case from the ‘BookStore App’: ‘*Redeem Points and Buy Selected Books*’

<i>Use Case Name</i>	Redeem Points and Buy Selected Books
<i>Participating Actors</i>	Customer(s)
<i>Entry Condition</i>	<ul style="list-style-type: none"> <li>- Customer is logged into the ‘BookStoreApp’ with the correct username and password.</li> <li>- Customer has selected the books they need.</li> </ul>
<i>Flow of Events</i>	<ol style="list-style-type: none"> <li>1. Enter the correct <i>Username</i> and <i>Password</i> into the login screen.</li> <li>2. Click the Login button. The BookStore App takes the customer to the Customer Start Screen.</li> <li>3. Customer check marks the check boxes for the books they want to buy. They can also deselect any selected books before they move onto the next step.</li> <li>4. Customer then has to click the ‘<i>Redeem Points and Buy</i>’ button.</li> <li>5. The customer is then directed to a ‘<i>Purchase and Point Summary</i>’ screen which confirms their purchase and remaining points, if any.</li> </ol>
<i>Exit Condition</i>	<ul style="list-style-type: none"> <li>- Click the ‘<i>Redeem Points and Buy</i>’ button. This takes the customer to a confirmation page.</li> </ul>
<i>Exceptions</i>	<ul style="list-style-type: none"> <li>- Exception occurs when the customer has 0 points in which case, the customer is taken to the simple <i>Buy</i> screen where they are issued new points.</li> </ul>
<i>Special Requirements</i>	<ul style="list-style-type: none"> <li>- Points must be checked before the Customer is presented with a price for their total</li> </ul>

### Rationale behind use the State Design Pattern:

A state design pattern was used when a class was dependent on a state of an object while the program runs. It must be noted that this will only affect the object using the state and not change the state itself. The behavior of this class changes depending on the user's actions.

The reason why this state design pattern was chosen for this specific project is because the application GUI alters its behavior depending on the username and password inputted. For

example, if username: admin and password: admin is inputted, the GUI will recognize that these login credentials belong to Owner of the bookstore inorder to give access to exclusive permissions. If the inputted login matches a customer's login, the GUI must alter itself to give permissions that a customer would have.