**CS405G Spring 2012 Final Project**

**Assigned: March 27th**

**Due: April 26th**

**Option # 1:**

**Objectives**

The aim of this project is to implement an e-commerce database application. You are responsible for client-side web applications and setting up the server-side database. Let’s assume that you have been hired to set up an online gift store. The company sells two types of products: books and games.

**Requirements**

Your goal is to create an online store for the gift store. There will be three types of users:

• customers

• staff

• manager

**Customers** They are allowed to query items in the stores at all times. But in order to purchase from the store, customers must first register. The items are first placed in a shopping basket, and then ordered. Customers can see the status of orders (i.e., pending or shipped) as part of the shopping history.

**Staff** can check inventory, re-stock the online store with more items, view all customer orders, and ship orders to customers. A staff member has an on-line ID and a password that he/she can use to login into the company’s website to perform the previous listed tasks

**Manager** can do all tasks a staff member can do. In addition, manager can (1) view statistics about sale information (in the previous week, month, or year), and (2) decide sales promotions. Manager needs to login into the company’s website to perform the tasks.

Your project must include the following functionality:

**Customer Forms**

**Register** Allows a new customer to register with the store.

**Shopping** Allows a registered customer to view items and add items into a shopping basket.

**Purchase** Allows a registered customer to view their shopping basket and click "Purchase". This creates an order for the items that can then be viewed (and filled) by the store staff.

**Orders** Allows a registered customer to view the orders they have placed and see the status (either Pending or Shipped).

**Staff Forms**

**Login Screen** Staff must login in order to perform these functions. A single login for all staff is fine.

**View Inventory** See a list of all items and their quantity.

**Update Inventory** Same as above, but with editable text boxes to change the quantity of any component.

**Ship Pending Orders** View the list of pending orders (components, price, customer info).

The staff member can click a "Ship It" button and, if all the components are available, the status of the order changes from "Pending" to "Shipped" and the quantities in the inventory are decreased. If the components are not available, some error page listing the missing components is generated and the order remains "Pending".

**Manager Forms**

**Login Screen** may use the staff login form

**View Inventory, Update Inventory, Ship Pending Orders**: the same as those of staff

**Sales Statistics** View the list of all items and sales history in the previous (week, month, or year)

**Sales Promotion** View the list of all items and decide the promotion rate.

**Bonus:**

(15 points) Add VIP customers. A VIP customer is the customer that has the privilege to open a mini-store of his/her own. He/she can list items for sale in the mini-store and can cancel them at any time before the items are sold. The sale can be in the format of regular sale and bidding. If the item is for regular sale, registered customers can purchase it. If the item is for bidding, customers can bid on the item and bidding history should be kept for each item in the database. When the bidding finishes, customer offering the highest price wins the item. The item will be shipped to the winning customer by the original seller.

Write down your assumptions or constraints and draw a complete ER diagram including the VIP customers.

(5 points) Implement the function of regular sale for the VIP customers with SQL programs.

(10 points) Implement the function of bidding for the VIP customers with SQL programs.

**Option # 2:**

**Objectives**

The aim of this project is to implement a patient database to support the implementation of precision medicine. The database will support three types of clients: Patient, physician, and researchers interested in the data. Let’s assume that you have been hired by the university of Kentucky molecular tumor board for this job. You are responsible for client-side web applications and setting up the server-side database.

What is precision medicine? Let’s start with a foundation one report:

http://foundationone.com/docs/FoundationOne\_how-to-read-the-report.pdf

**Requirements**

**Option # 3:**

**Objectives**

The aim of this project is to implement an online textbook recommendation system to assist the purchase of the best and cheapest textbooks. You are responsible for client-side web applications and setting up the server-side database.

Let’s assume that you have been hired by the university to set up the system.

**Requirements**

Your goal is to create an online textbook recommendation system. There will be two types of users:

• customers

• staff

**Staff** are responsible for adding the required textbooks for each course and delete flagrant reviews and spams. A staff member has an on-line ID and a password that he/she can use to login into database to perform the previous listed tasks.

**Students** are allowed to query books in the system at all times. But in order to add information for any book, customers must first register. Once registered, the customers can do the following:

1. Leave reviews (comments and rating) for a textbook. The rating might include an overall rating as well as separate ratings in different aspects. The students may also give a comprehensive review in txt, but it is optional.
2. Provide purchase information. If the student purchased the book somewhere, the student might leave information including when, where and how much was the book purchased.
3. View and change their existing reviews.
4. View other students’ information if the information is public.

**Textbooks** when queried, the webpage should display the following information.

1. A history of the courses that use the textbook.
2. A history of the recently reported purchases, i.e, when, where (include a link if purchased on line) and how much the book was purchased.
3. An average rating score based on all reviews.
4. A history of individual reviews. For each review, please include some information about the reviewer for credibility. Suggested information include: # reviewers given by each user and the length of the user becomes a member.
5. You have the flexibility to present the above information either on one webpage or on different webpages.

 **Bonus:**

1. (5 points) Allow users to search for a textbook by either textbook name or a course name.
2. (10points) Allow users to flag each review as like or dislike. Implement an automatic ranking system to identify the most disliked reviews. The staff can view the ranking and choose to either delete the reviews or block the users.