

**CS 174A: Fundamentals of Database Systems**  
**Winter 2008**  
**Course Project**

***Gaicho Online Store***

**Project Outline:**

Model an online store (such as amazon.com, buy.com etc) having features such as online product listing (snippets as well as detailed listing of the products), shopping cart for each customer, processing of order, detailed status checking and so on. The application must have the following mandatory features:

- A Customer Interface where the customers of the store can browse through the products, select products by placing them in a shopping cart, add multiple items to the shopping cart, modify the quantities as well as the items in the cart, and check out the cart. The checkout process should be modeled as a transaction and on successful checkout the system should provide the customer with a unique *OrderId* which can be used later on to refer to a particular order. You need not verify the credit card credentials and place actual transactions on credit cards, but certain simple checks like whether the billing address is complete or not, whether the credit card number has 16 digits and so on, must be present.
- A detailed tracking interface where a customer can track the status of completed orders using the *OrderId* provided at the end of a successful checkout. If the order has not been shipped, the customer can request changes to that order. The system should not allow the cancellation of an order that has already been shipped, while an order that has been cancelled should not be shipped.
- An order management interface where someone from the company can modify certain aspects of the order once the order has been placed. Modifications that can be made will depend on the how the order is being processed.
- A warehouse interface where the warehouse managers can lookup processed orders for shipping and ship orders that are open. This interface is also used to update the quantities of the different items in the warehouse, and this stock should be reflected in the customer interface. The system should maintain the quantities of items in stock and it should automatically re-order an item as its stock falls below a certain threshold. If an item is not in stock, then the customer interface should reflect that.

In addition to these mandatory features, the students are encouraged to add innovation to their respective applications. Bonus points will be awarded to the groups who can add additional innovative features that fit to this context. For ideas refer to online stores such as amazon.com, buy.com etc. All the mandatory features must be demonstrated properly.

## **Implementation Details:**

The application will have to be implemented using PHP and MySQL. The location of the MySQL database server will be notified later. The web pages will be hosted in the student home directories. The CS web-servers have built-in support for PHP and so no configuration is needed on your part. Refer to CS Support Technical FAQs at ([http://www.cs.ucsb.edu/department/tech\\_support/faq/3\\_35\\_en.html](http://www.cs.ucsb.edu/department/tech_support/faq/3_35_en.html)) to find details about setting up a webpage in your home directories.

## **Milestones:**

### **Individual Assignments**

- ER Diagram for the application (Due 01/22/08 at 5 p.m. PST)
- Translate the ER Diagram to Relations and define the schemas for the relations. Write SQL Create Table commands to create tables corresponding to Relations.

### **Group Assignments**

- Application Development plan suggesting scheme for implementing the different aspects of the application (by Week 7)
- Implementation of the application, demonstrate the different features of the application. Demo in CSIL. Turn in the Code, detailed Design Report, schema definitions and SQL queries used in the program (by Week 10, Dead Week)