Due Dates:
Step 3: TBD. Implementation of at least 2 items.
Step 4: TBD. Implementation of 3 more items.
Demonstration and final report: TBD

In this project you will design and implement a database application. You will work in groups of two students. The project is carried out several main steps:

1. Conceptual design using the E-R model. Specification of some of queries and transactions for your system.

2. Translation of the E-R model into the relational model. Refinement of the design (into at least 3NF schemes, preferably BCNF or 4NF schemas).

3. Complete specification of queries and transactions for your system.

4. Implementation: Creation of database tables, data entry, design and implementation of queries and transactions, and Web-based interface design.

Your final report should contain (1) The final ER design, (2) The final relational design, including listing of all tables (schemas), keys, and data dependencies, (3) Data (current at demo time), (4) Queries and application programs. (5) You should also indicate, for each member of the group, which parts/tasks were implemented by that member.

Each team will demonstrate their project online. All members of the team should be present at the time of demonstration.

Your system should be easy to use. I should be able to check your project by going to the home page of your system.

THE PROBLEM:
You are to design and implement a simple database system for an online clothing store, “cloths671.com”. Cloths671 maintains a catalog of its merchandise. Customers should be able to search the catalog in a variety of ways, and purchase online. The operation should also perform accounting, billing and inventory. Additional capabilities are desirable, such as recommending other items based on users profiles and catalog information.

These are some of the queries and transactions your system should provide:
1. Customer Queries:

(a) Search for merchandise in a variety of ways. The system will display a list of answers to customer’s search.
(b) Customer selects an item from displayed list. System should display summary or detailed information on the item. It also permits customer to select desired size.
(c) System will then display availability information on the selected size.
(d) Additional capabilities (optional) such as: Search for related items; Recommendations; Displaying account information for a given customer; Displaying when an item (that is not currently available) is expected to become available etc...

2. Customer Transactions:

(a) Purchase an item.
(b) Make a payment (may be part of purchasing transaction).
(c) Optional: System will display expected date of delivery (e.g. based on date of order and address (state and city) of customer).

3. Administration Queries:

(a) Given an item and size, display inventory information (number available, expected date to receive more, etc...)
(b) Statistics: Provide a report of store activities for a given period of time.

4. Administration Transactions:

(a) Enter information about a new item.
(b) Additional transactions (optional) such as: Determining “hot” items (for example to carry more), determining items that are not being sold (to provide discount, or remove from store), etc...