Anonymous shopping cart with login to checkout

The way shopping carts work on large commercial sites allows users to add items to their baskets without any identity checks, and in a persistent manner. In other words, if items are added to a cart on a certain computer in, say Chrome, any user coming back later to this site within a set time period will have the same items in the shopping cart. This is accomplished as follows:

1. For any new user to the site, a cookie containing a unique identifier is created. Identifiers are recorded to the database with an expiration time.
2. Items added to the cart are recorded in the database and linked to this unique identifier.
3. Every night, a maintenance script removes carts for those identifiers that have expired.
4. When a user wishes to complete his purchase, he creates an account and/or logs in the website and follows the payment and shipping steps.
5. Upon login, a shopping cart's identifier is changed to that of the registered user and his unique identifier with no expiration date is set to the cookie.

In this assignment, you will write a JSP-based shopping site with the above-described shopping cart mechanism. Users of the shopping site will be able to buy items from the store - we will make it so that when a user buys an item, the bought quantity is subtracted from the inventory quantity. Client orders are recorded to the database as shipments and all details are visible to users.

Clients will have to register once, and log in to check out their orders. Keep registration details to a minimum for the purposes of this assignment.

The site will have a separate interface for administrators. Using this interface, administrators will be able to manipulate the inventory, adding, deleting and updating inventory items. Administrators will also be able to view all orders and accounts.

The database management system used for this assignment will be Oracle. Your program will interface with Oracle using JDBC. This assignment is simple enough if you can make a good database design and create simple SQL queries.

Hints:

- In the database, items, shopping cart lines, orders, order details and unique identifiers are held in different tables, with appropriate primary and foreign key associations – show me an entity relationship diagram in class to make sure you have a good idea.
- There are many different solutions to this assignment statement. I want to have an inventory that changes, a simple shopping cart system, a simplified login/checkout, and a page displaying all orders for a user.
- You must use java beans to make this work well.