

Appendix A: Online bookstore specification and requirements

New customers need to register first to get one account ID. The provided information includes: customer name, phone #, email address, and password. After registration, the customer will be assigned one account ID and he/she can login using account ID and password. One customer can only register one account and each account must belong to exact one customer.

The bookstore keeps a large amount of books. Each book is identified by ISBN. For each book, the bookstore also needs to record its authors' names, title, edition, year, category, publisher, quantity-in-stock, and price.

One customer can place any number of orders. For each order, the bookstore needs to record who places this order, when, the order status, total price, shipping address, payment method, bill address, and ordered books. Note there is only one shipping address and one billing address for each order though the shipping address may not be the same as the billing address. Currently for payment method, it only accepts credit card, hence the bookstore needs to record credit card information.

Customers can also manage their shopping carts. One customer can have any number of shopping carts. However, each shopping cart has exactly one customer. The shopping cart contains the following info: cart-ID, name, date-created, date-last-updated, books contained in this shopping cart, etc.

The bookstore also has a number of employees which are identified by employee ID. The bookstore also needs to record employee's name, address, salary. Some employees are ranked as manager.

To better serve customers, each order will be assigned to one employee who will monitor and handle the order. For the order with total amount is more than \$1,000 dollars, one manager should be assigned to.

Functions for customers:

- New user account registration
- User login
- User can update password etc.
- Book search (by author name, title, category, year or combinations)
- Create one empty order or shopping cart
- Add/delete books from shopping cart
- Merge shopping carts
- Change shopping carts as orders (please note that once a shopping cart is changed to order, all of this shopping cart's info should be removed from database).

- Place the order
- Order trace

Functions for employees:

- List book information (e.g., title, author, price) and quantity-in-stock of some chosen books
- List information about those orders assigned to him/her
- Update order status
- Insert new books