**CS 6360**

Database: MySQL Community Version.

Download and MySQL community version, MySQL workbench.

Learn to use workbench. Use online resources for documentation and tutorials.

**Project**:   
Create a 3-tier online order entry system which has the following:

1. Create User/Password
2. Create customer profile (Name, Address, Ship-To Address, Bill-To-Address, Credit Card)
3. Login authentication (validate user)
4. Create Catalog of items to be sold (SKU, Item Name, Item Description, Price, Available quantity)
5. Create an order
6. Add items from catalog to order (if available quantity > 0)
7. Calculate total price + Sales Tax
8. Complete Order
9. Create shipment information for each line item in the order. Process shipment: Possible states - Pick, Pack, Ship
10. Show shipment status on the order
11. Create subscription templates with due dates
12. Create orders from subscription templates a day before the due dates

Database Objects: User Table, Customer table, Address Table, Catalog table

Transactional Objects: Order table, LineItems Table, Shipment Table, Subscription Template, Subscription Orders

UI Tier – HTML or thick-Client  
App Tier – all business logic, UI and database interaction resides here

DB Tier – All data tables needed to support the application

**Key Project Completion Dates:**

Every component below should have a functional UI. Demonstration of completed work will be held during the class lectures.

1. **Customer Maintenance – DUE Feb 10**

* Create, Update and Delete customer profiles
* For Delete operation ensure all related orders/shipments are also deleted

1. **Catalog Maintenance – DUE Feb 24**

* Add, modify, update catalog items
* Change price and available quantity on existing items

1. **Order-Shipments-Returns – DUE Mar 17**

* Create, Modify, and Delete orders
* Report Order status (order will have 4 states: PENDING, SHIPPED, INVOICED, RETURNED)
* Report shipment status for each line item of an order (shipments will have 3 states: PICK, PACK, SHIP)
* Process Returns

1. **Subscription Orders - DUE Mar 31**

* Create Subscription orders to be fulfilled, for example, every 2, 4, 6 months
* Create a timer or trigger to start the creation of the order automatically a day before the subscription fulfill date
* Process the order as all other orders

**NOTE: 4 points will be deducted for each missed due date.**

**FULL Project – DUE April 7**

**Class Evaluation of Project: April 14, 21, 28**

**Class Evaluation:**

1. Powerpoint Presentation: Describe of the design of the database using ER diagrams, overview of the architecture of your project
2. Demo of the full project

**Points for each module:**

Customer Maintenance – 15

Catalog Maintenance – 15

Order-Shipments-Returns – 35

Subscription Orders - 15

Class Evaluation – 10

Discretionary Points – 10

**Bonus (10 points): Implement your ideas on how you would manage load and throughput efficiently during high volumes.**