

VIETNAM NATIONAL UNIVERSITY
UNIVERSITY OF INFORMATION TECHNOLOGY
DEPARTMENT OF INFORMATION SYSTEMS

Final Exam

Subject: System Analysis and Design

Time: 120 minutes.

(REFERENCE IS NOT ALLOWED)

Given the description of Trading-House Automation System (TAS) as follows:

The trading house wants us to develop a computerized system that would automate various book-keeping activities associated with its business. The following are the features of the system to be developed:

- The trading house has a set of regular customers. The customers place orders with it for various kinds of commodities. The trading house maintains the names and addresses of its regular customers. Each of these regular customers should be assigned a unique customer identification number (CIN) by the computer. The customers quote their CIN on every order they place.
- Once order is placed, as per current practice, the accounts department of the trading house first checks the credit-worthiness of the customer. After that, this task has to be done by the computer.
- If the customer is not credit-worthy, his orders are not processed any further and an appropriate order rejection message is generated for the customer.
- If a customer is credit-worthy, the items that have been ordered are checked against a list of items that the trading house deals with. The items in the order which the trading house does not deal with, are not processed any further and an appropriate apology message for the customer for these items is generated.
- The items in the customer's order that the trading house deals with are checked for availability in the inventory. If the items are available in the inventory in the desired quantity, then
 - A bill with the forwarding address of the customer is printed.
 - A material issue slip is printed. The customer can produce this material issue slip at the store house and take delivery of the items.
 - Inventory data is adjusted to reflect the sale to the customer
- If any of the ordered items are not available in the inventory in sufficient quantity to satisfy the order, then these out-of-stock items along with the quantity ordered by the customer and the CIN are stored in a "pending-order" file for the further processing to be carried out when the purchase department issues the "generate indent" command.
- The purchase department should be allowed to periodically issue commands to generate indents. When a command to generate indents is issued, the system should examine the

“pending-order” file to determine the orders that are pending and determine the total quantity required for each of the items. It should find out the addresses of the vendors who supply these items by examining a file containing vendor details and then should print out indents to these vendors.

- The system should also answer managerial queries regarding the statistics of different items sold over any given period of time and the corresponding quantity sold and the price realized.

Complete these questions:

1. List of functional requirements of the Trading-House Automation System. (2pts)
2. Draw the context diagram and the data flow diagram for the Trading-House Automation System. (6pts)
3. Draw an entity relationship diagram for the Trading-House Automation System. (2pts)
4. Suppose you have 5 people in your team. As the project manager, how would you assign jobs to your team members according to Chief Programmer Team organization? (1pt, bonus point)

GOOD LUCK!