Case Study: An Order Processing System of a Textile Factory

You are to develop a computerized system with the appropriate software and hardware, so as to be able to monitor the **order processing** with respect to incoming parts and outgoing accessories

The system will consist of the following functions:

- Add-Delete-Modify-Search-View Report
- Password Security
- Order Details (dealing with order number, category, size etc)
- Stock Control (raw materials)
- Monitoring of Indirect cost (e.g transport)

The new system will take in charge the order processing activities and a daily updating of the data will contribute to a more optimized and successful business. The **new computerized order processing system will contain the following features:**

- A password protection feature allowing only registered personnel to enter into the system. The users are sales persons who handle the orders from customers, inventory officers who update the stock levels of items, and the IS manager that inputs restricted data like the selling price of items or the list of possible transport charges. Items details are item number, the cost price, the stock level, etc. Customer details are customer number, customer name, address, contact details ect.
- A centralized quotation and sales order processing system supporting multiple order types and functions. When a customer places an order, the system should check that availability of items. If there is insufficient quantity of items on hand, a back-order is setup for the missing items. The available items are shipped and a bill is prepared and sent to the customer. The customer is billed for the back-ordered items when they are shipped. The system should update the inventory accordingly. Any quotation or order should include transport charges. Customer specific defaults and preferences to automate and streamline the order entry process

- Dynamic product lookups to search and identify the correct product being ordered. The transport charges should be automatically estimated given the means of transport and the customers' location.

- Automatic conversion of quotes to orders, eliminating re-entry of order information.
- Integrated inventory availability. This feature should have an alert mechanism that informs the inventory personnel of items getting below out-of-stock threshold. The inventory personnel should themselves place orders of out-of-stock items and update the inventory whenever items are received from suppliers.

- Multiple payment methods. The payments methods may be cash, cheque or credit card. In case of returned cheque payments, the system should have a monitoring mechanism by which alternative forms of payments are solicited. Credit card payments will include the credit card number, the expiration date, a bank number and the name of the card holder.
- Any other requirements deemed appropriate

In this assignment, you are expected to achieve the following in a teams of 5 at most:

(a) A report providing the full representation of the system using UML. The report should include a complete set of well-built UML diagrams without inconsistencies and omissions.

(b) Implementation of the system with the following constraints:

- The input and output devices will be the keyboard and monitor
- The system will be stand-alone
- The system will demonstrate the following features:
    - Well-designed GUI's (at least two) making use of appropriate widgets and layouts
    - Navigation between parent and child frames
    - Connection with a database with functions like updates and queries