
Black Cab Burger

This exercise simulates a real-life case where the requirements (the information provided by the client) is not fully complete. This means you must be interactive, discuss the case with your group and ask the instructors for missing information if you need clarification until you come up with the ideal solution.

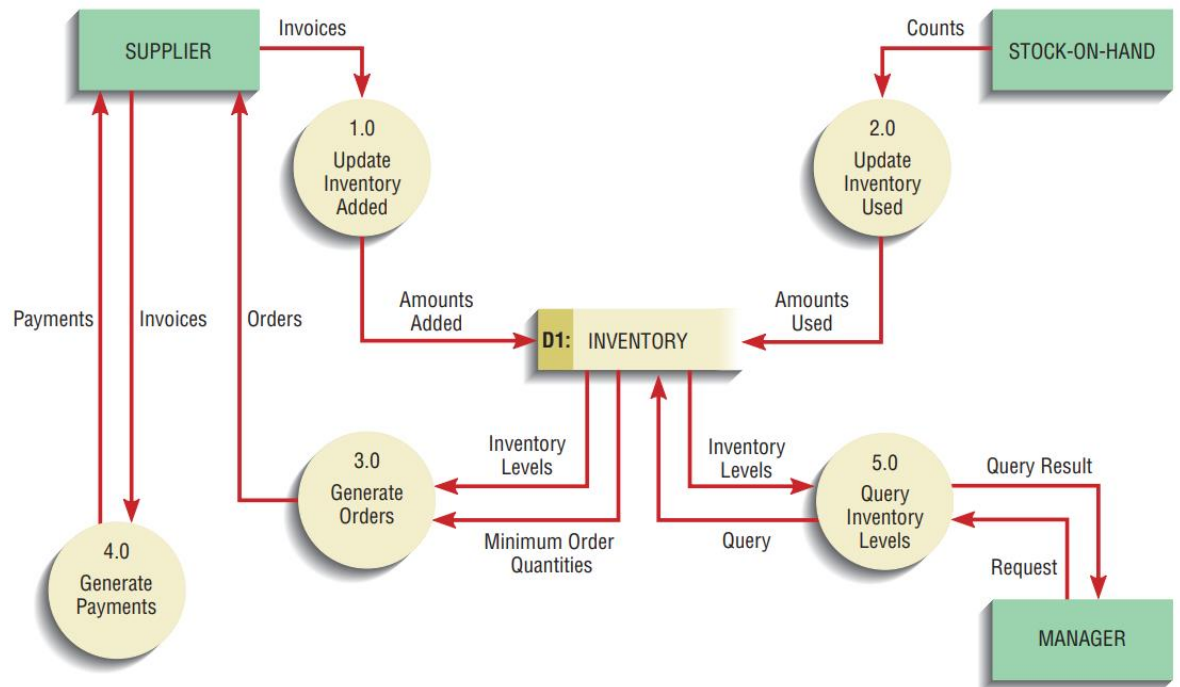
You work as a business analyst. Black Cab owner informed you that they would like to expand their business, to include a drive-through, include more items on the Burger menu, and provide delivery service to their customers.

Your job is to design ER model that caters for the delivery service system for black cab burger and allow business expansion for later.

It is crucial to design a proper system that reflects the below business steps efficiently.

1. Istvan explains to you that the delivery system operation must do the following:
 - When a customer calls and places a delivery order, a Black Cab's employee records the order on a multiform order ticket.
 - The employee captures such details as customer name, business or home address, phone number, order placement time, items ordered, and amount of sale.
 - The multiform document is sent to the kitchen where it is separated when the order is ready for delivery.
 - Two copies accompany the order; a third copy is placed in a reconciliation box.
 - When the order is prepared, the delivery person delivers the order to the customer, removes one order ticket from the food bag, collects payment for the order, and returns to black cab Burger.
 - Upon arriving at black cab Burger, the delivery person gives the order ticket and the payment to Istvan. Each evening Istvan reconciles the order tickets stored in the reconciliation box with the delivery payments and matching order tickets returned by the delivery person.
 - At the close of business each evening, Istvan uses the data from the order tickets to update the goods sold and inventory files and generate the daily reports.
 - One of the main purposes of this system is to monitor and report changes in raw material inventory levels and to issue material orders and payments to suppliers. Thus, the central data entity for this system will be an INVENTORY ITEM.
 - **Hint:** pay attention to the attributes mentioned above that your ER entities must include (but not limited to, examples customer name, address, phone ..etc)

2. Below is the Data Flow Diagram (DFD) level 0 for the business flow, it is part of the requirements.



3. Figure 1 Level 0 DFD for Black Cab Burger

DFD Discussion

1. In process 1.0 and 2.0
 - a. Changes in inventory levels are due to two types of transactions: receipt of new items from suppliers and consumption of items from sales of products.
 - b. Inventory is added upon receipt of new raw materials, for which Black Cab receives a supplier INVOICE. Each INVOICE indicates that the supplier has sent a specific quantity
 - c. Because the real-time customer-order processing system is separate from the inventory control system, a source, STOCK-ON-HAND represents how data flow from customer orders processing to the inventory control system.
2. In process 3.0 Orders (raw material) being generated for the supplier by checking the stock levels from the Inventory (either by reaching min quantities threshold trigger, or by manually checking the inventory levels)
3. In process 4.0 the supplier sends invoices for black cab and they send him payments for the shipped/invoice items.
4. In Process 5.0 the manager generates daily reports on the inventory levels.