הפקולטה למדעי ההנדסה המחלקה להנדסת מערכות מידע Faculty of Engineering Sciences Dept. of Information Systems Engineering



"Super - li"

Supplier-module Requirements specification

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1. Table 1: Functional Requirements

| ID | Module | Description | Priority | Risk | Status |
|-----|-----------|--|----------|------|--------|
| 1. | Suppliers | The system MUST manage all of its suppliers' details, including: supplier ID, Bank account, Payment agreement and contact information. | МН | L | |
| 2. | Suppliers | The system MUST be able to save the fixed supplying days of a supplier (or none if it doesn't have any). | МН | MH L | |
| 3. | Suppliers | The system MUST manage the items supplied by each of its suppliers, including price and item ID (as specified by the supplier). | МН | L | |
| 4. | Suppliers | The system MUST be able to save a "Quantity Agreement" for each supplier, which describes special discounts according to total price of an order and per quantity of an item. | МН | Н | |
| 5. | Suppliers | The system MUST save whether a supplier sends a shipment or the company has to collect the order from the supplier. | MH L | | |
| 6. | Suppliers | The system MUST allow to update supplier's shipping conditions (fixed days, self shipment). | МН | MH L | |
| 7. | Suppliers | The system MUST support managing orders: each order will include items, quantity of each item, total price, date of order and delivery status. | МН | Н | |
| 8. | Suppliers | The system SHOULD save what categories of products the company orders from each supplier. | NTH | L | |
| 9. | Suppliers | The system SHOULD save the manufacturers names that a supplier works with. | NTH | L | |
| 10. | Suppliers | The system SHOULD support fixed orders (recurring orders). | NTH | Н | |

Table 2: Open questions that don't affect the implementation

Table 1: Terms

| # | Topic | Issue |
|----|----------------------|---|
| 1. | Supplier's contracts | Do different branches have different contracts with a given supplier? (Regarding quantity agreements) |

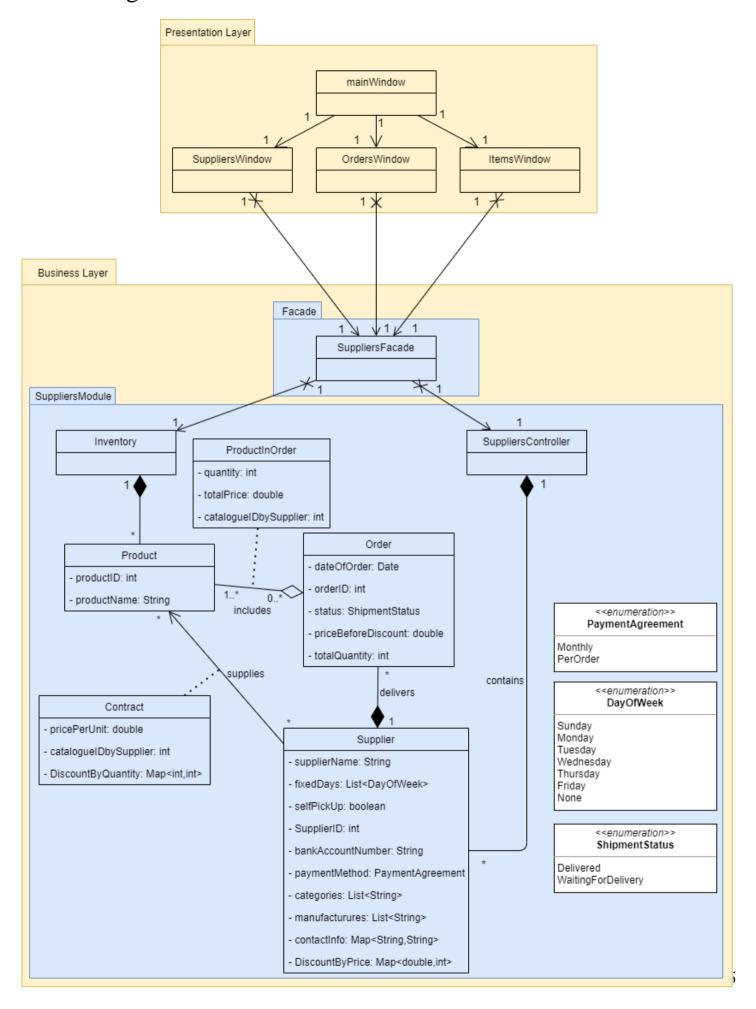
Table 3: Open questions that affect the implementation

Table 2: Terms

| # | Торіс | Issue | Client's answer (assumptions/as answered in forum) | | | |
|---|-----------------------------|---|--|--|--|--|
| 1 | Supplier's contacts details | Who is considered a contact? | A supplier's manger (assumption). | | | |
| 2 | Supplier's contacts details | What details should be saved for each contact? | First and last name, phone number (assumption). | | | |
| 3 | Quantity agreement | How to determine if a purchase is large? | There are some fixed scales that the company receives discounts (elaborated in forum) | | | |
| 4 | Quantity agreement | What is the relationship between the discount and the number of products in an order? | e Each supplier can give a discount as it wishes (elaborated in forum). | | | |
| 5 | Payment agreement | What kinds of payment agreement there are? | Payment for each order or Payment once a month (assumption). | | | |
| 6 | Quantity agreement | How is a discount calculated? | First, the discount of item quantity is calculated, and only then, the final discount (if it exceeds a total of a certain price) for all of the order. (assumption). | | | |
| 7 | Quantity agreement | Can the agreement be changed? (discounts). | Yes, in any time (assumption). | | | |
| 8 | Supplying days | Are items supplied on Saturday? | No (assumption). | | | |
| 9 | Quantity agreement | What types of discounts can a supplier provide? | Discount per quantity of an item Discount per total price of an order (assumption). | | | |

Note regarding the following class diagram: We've included an "Inventory" class, which holds all the products in the store (product's id in the store, description) although this might not be relevant to the module, this is the point of integration between the suppliers module and the inventory module so we decided to include it for convenience in the next steps of the project.

Class Diagram:



Object Diagram:

Scenario Description

#1 There's one supplier in the system, called "Yossi's Diary" (its details are elaborated in the object diagram below). The company is wishing to make an order from Yossi.

The products that Yossi can suppy (according to the contract) are:

- 1. "Tara Cottege": The item id as the store identifies it is 1 and as the supplier identifies it is 5 the price that Yossi sells this product to the company is 5.99 nis, and it supplies a discount of 5% when ordering over 1000 items.
- 2. "Tara Milk": The item id as the store identifies it is 2 and as the supplier identifies it is 7 the price that Yossi sells this product to the company is 10.90 nis, and it doesn't have any discounts for this product.

Yossi provides 1 type of "Quantity agreement":

A. For orders above total price of 10,000 nis the company receives a discount of 5%.

The order details are as follows:

Order date: 22/3/2021, Order ID:1, Status: Waiting for delivery, Products: "Tara Milk" × 200, Price before discount: 2180 nis, Total quantity: 200

This scenario demonstrates a special feature that may strongly help the business process of the company: <u>Placing orders.</u>

Below, is an object diagram to the class diagram provided above, which is "strongly satisfiable" and satisfies all the constraints of the class diagram provided above.

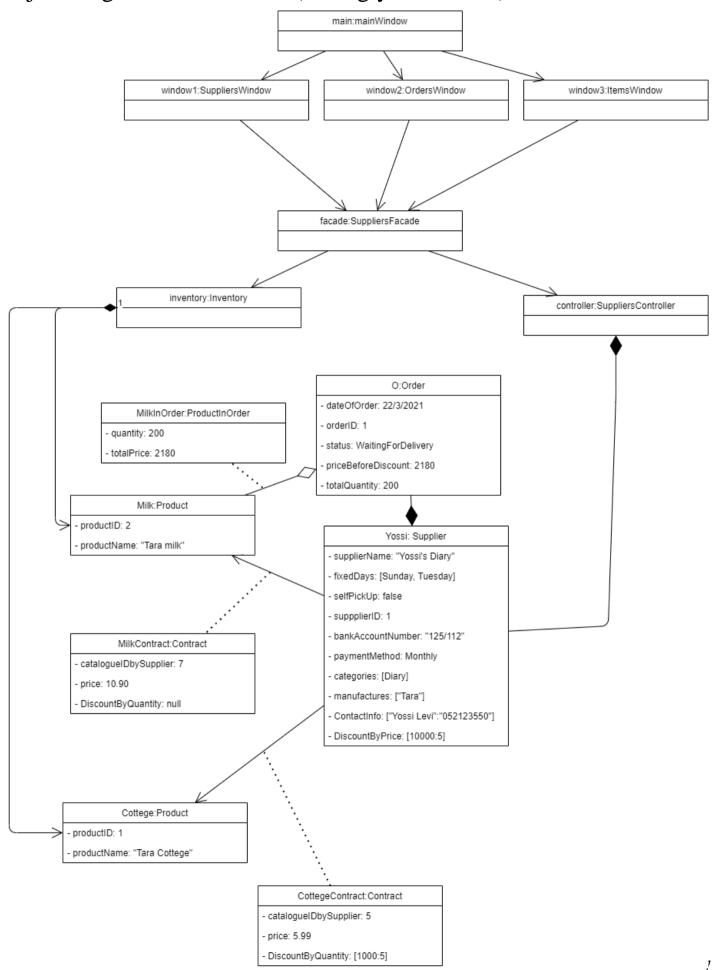
#2 There are 2 different suppliers in the system. 1. "Danny's meat" 2. "The butcher" (more details are elaborated in the following object diagram below).

Both of them are supplying to the company the same item: "Zoglobeck Salami" (identified by id 3 in the company). However, with a minor **important** difference: the price. The first supplier sells it for **10.50** nis per item and the second supplier sells it for **15.50** nis per item.

The following object diagram represents this scenario.

This scenario demonstrates a special feature of the system, the company can better decide which supplier to buy from a certain item (according to a given price) and in that way, that supports the business-process (gain more profit).

Object diagram Scenario #1: (Strongly satisfiable)



Object diagram scenario #2:

