

1. Functional Requirements

ID	Module	Description	Priority	Risk	Status	Feasible
1.	HR	The system MUST support management of employees. Creation: Employee can be 1 of any employee type Updatable information: Name, Salary, Bank Details, Certifications.	MH	Low	Done	Yes
2.	HR	The system CANNOT allow creation of 2 employees with the same ID.	MH	Low	Done	Yes
3.	HR	The system MUST support management of licenses for carriers.	MH	Low	Done	Yes
4.	HR	The system MUST store employee information on a DB	MH	Low	Done	Yes
5.	HR	The system MUST support management of shifts. Updatable information: shift manager, counts, assigned employee IDs	MH	High	Done	Yes
6.	HR	The system CANNOT allow creation of shifts with no shift manager	MH	Low	Done	Yes
7.	HR	The system SHOULD be allow setting of how many workers of each type each shift needs	NTH	Low	Done	Yes
8.	HR	The system CANNOT allow creation of shifts with no carriers, cashiers, storekeepers or sorters	MH	High	In Progress	Yes
9.	HR	The system MUST show which employees are available for each shift when scheduling	MH	High	Done	Yes
10.	HR	The system SHOULD show how many shifts each available employee has done the past month for each shift type	NTH	High	Done	Yes
11.	HR	The system MUST store shift history in DB	MH	Low	Done	Yes
12.	HR	The system SHOULD notify about upcoming incomplete shifts	NTH	Low	In Progress	Yes
13.	Suppliers	The system MUST support 3 kinds of suppliers (routine, by order, not transporting)	MH	Low	Done	Yes
14.	Suppliers	The system MUST save the supplier's information (id, bank account, paying agreement, contacts and contact's information)	MH	Low	Done	Yes
15.	Suppliers	The system MUST save if the supplier has fixed supplying days and when they are.	MH	Low	Done	Yes
16.	Suppliers	The system MUST save details about the supplied items (cost per item, cost when buying in bulk)	MH	Low	Done	Yes
17.	Suppliers	The system MUST show what items are purchased from each supplier	MH	Low	Done	Yes
18.	Suppliers	The system MUST give the corporate management the ability to edit the agreement's details (supplying days, prices, changing items)	NTH	Low	Done	Yes

19.	Inventory	The system MUST store the following product info: product ID, item name, category, price, weight, and manufacturer	MH	Low	Done	Yes
20.	Inventory	The system MUST store the following information about stock per each product: product ID, amount in each storefront, amount in each store warehouse, and each store's min amount	MH	Low	Done	Yes
21.	Inventory	The system MUST store the following information about sales per each product and category: active sales, passed sales, future sales, percent off in sale	MH	Low	Done	Yes
22.	Inventory	The system MUST send an alert when product is getting under the minimum amount in a certain branch. specifying product ID and store ID	MH	Low	Done	Yes
23.	Inventory	The system MUST allow employees to change the minimum and maximum value of each product in a branch.	MH	Low	Done	Yes
24.	Inventory	The system MUST be able to produce a report of all products in all branches that are below their minimum amount. The report should include the following: store ID, product ID, product name, product current amount in store, product current amount in warehouse, product current amount in the branch (store+warehouse), product minimum amount in the branch, product maximum amount in the branch	MH	Low	Done	Yes
25.	Inventory	The system MUST track amounts of product left in each location (each store and each warehouse), including: 1) buying product 2) removing damaged/expired products 3) moving products from the warehouse to the store 4) product has been returned to the store from a customer 5) product has been arrived from supplier.	MH	Low	Done	Yes
26.	Inventory	The system MUST be able to produce a report of all products in a chosen branch based on categories. The report should include the following: store ID, product ID, product name, category, product current amount in store, product current amount in warehouse, product current amount in the branch (store+warehouse), product minimum amount in the branch, product maximum amount in the branch.	MH	Low	Done	Yes
27.	Inventory	The system SHOULD be able to produce the history of the completed purchases from the suppliers, for a certain product. The history should include the following: StoreID, Supplier, Date, Amount, before discount price, after discount price, description.	NTH	Low	Done	Yes
28.	Inventory	The system MUST be able to produce the history of the completed purchases from the suppliers, for a certain product that was bought with a discount. The history should include the following: StoreID, Supplier, Date, Amount, before discount price, after discount price, description.	MH	Low	Done	Yes
29.	Inventory	The system MUST be able to create/cancel sales that apply to certain products and/or categories to specified dates. Sales include: sale ID, percentage, start date, end date, Products IDs, categories IDs.	MH	Low	Done	Yes
30.	Inventory	The system MUST be able to produce the history of the sales to customers by product or by category. The history should include the following: sale ID, percentage, start date,	MH	Low	Done	Yes

		end date, Products IDs, categories IDs.				
31.	Inventory	The system MUST be able to manage category (create, read, update, delete): update: change parent category, change name, change products in category	MH	Low	Done	Yes
32.	Inventory	The system MUST be able to manage product (create, read, update, delete): update: change category, change name, change price, add to a certain store, remove from a certain store, add new supplier to product, remove supplier from product	MH	Low	Done	Yes
33.	Inventory	The system MUST allow employees to report about damaged/expired products. The user will insert the following information: store ID, product ID, amount, user ID, description.	MH	Low	Done	Yes
34.	Inventory	The system MUST be able to supply a report of damaged/expired products needs to be able to be sorted by: store, product, category.	MH	Low	Done	Yes
35.	Inventory	The system MUST be able to produce a report of damaged products/expired products/both products which were reported on certain range of dates. The report must include the following information: product ID, store ID, amount, user ID, description, date, expired/damaged.	MH	Low	Done	Yes
36.	Inventory	The system MUST be able to add and to remove branches to and from the chain.	MH	Low	Done	Yes
37.	Suppliers & Inventory	The system MUST support automatic orders, initiated whenever stock running low.	MH	Low	Done	Yes
38.	Suppliers & Inventory	The system MUST support automatic orders in fixed times (routine).	MH	Low	Done	Yes
39.	Suppliers & Inventory	The system MUST support that orders cannot be edited in the last 24 hours before the order's planned deliveries.	MH	Low	Done	Yes
40.	Suppliers & Inventory	The system MUST support choosing the best supplier for a specific order, choosing the cheapest one.	MH	Low	Done	Yes
41.	Suppliers & Inventory	The system MUST store the following order information: store id, Supplier id, Products ids, Products amounts, arrival time, original price, discount and final price.	MH	Low	Done	Yes
42.	HR & Transport	The system MUSN'T allow carrying out transport when no storekeepers are present at the transport arrival time.	MH	High	In Progress	Yes
43.	Transport	The system MUST support management of a transports documents in the transport management database.	MH	Low	Done	Yes
44.	Transport	The system MUST provide to the carrier a destination document for each destination.	MH	Low	In Progress	Yes
45.	Transport	The system MUST warn if the actual weight exceeds the maximum weight.	MH	Low	Done	Yes
46.	HR & Transport	The system MUSN'T allow placement of a carrier without a proper license for the truck selected for transportation.	MH	Low	Done	Yes

47.	Transport	The system MUST store the following transport info: transport ID, date, time of departure, truck number, driver name, weight of the truck, source and destinations.	MH	Low	Done	Yes
48.	Transport	The system MUST store the following destination document info: document ID, transport ID, list of products provided in this destination.	MH	Low	Done	Yes
49.	Transport	The system MUST store the following site info: site ID, address, phone number and name of the contact person.	MH	Low	Done	Yes
50.	Transport	The system MUST store the following truck info: license number, model, net weight, maximum capacity weight.	MH	Low	Done	Yes
51.	Transport	The system MUST support redesign the route in case of weight deviation.	MH	High	In Progress	Yes
52.	Transport	The system MUST update the transport document about the redesign of the route.	MH	Low	Done	Yes
53.	Transport	The system SHOULD support management of a trucks system.	NTH	Low	Done	Yes
54.	Transport	The system MUST store the following transport document info: date, time of departure, truck number, driver name, weight of the truck, source, destinations and about redesign if done.	MH	Low	Done	Yes
55.	Transport	The system MUST support the redesign of downloading or replacing one of the destinations, or replacing a truck, or removing some of the products from the truck.	MH	High	In Progress	Yes
56.	Transport	The system MUST provide delivery of a product when there is a shortage.	MH	High	Backlog	No

2. Non-Functional Requirements

ID	Module	Description	Priority	Risk	Status	Feasible
1.	Suppliers	The system SHOULD have the ability to add/remove/edit/watch a supplier	MH	Low	Done	Yes
2.	Inventory	The system MUST support each product belonging to exactly one category, and each category having exactly one parent category or none, but can have any number of sub-categories. (sub-category and parent category are in a two-way connection)	MH	Low	Done	Yes
3.	Transport	The system MUST support weigh of the truck before the truck leaving the source.	MH	Low	Done	Yes

Appendix A Terms

Table 1: Terms

#	Term	Description
1.	Management	Set of action which include creation, reading, editing (information) and removal of defined class.
2.	Employee	Person with work contract for working for ‘Superly’
3.	Employee information	ID, Name, Bank details, Salary, Employment conditions, Starting date, Certifications
4.	Employee types	Cashier, Storekeeper, Carrier, Sorter, HR Manager, Logistics Manager, Transport Manager
5.	Shift	Concept used to describe a fixed work period.
6.	Shift Information	Date, Shift Type, Shift Manager’s ID, Count of Employees Needed for each Employee Type, Assigned Employee ID’s for each Employee Type
7.	Shift types	Morning shift, Evening shift
8.	Constraint	Concept used to describe when an Employee is available for work
9.	Constraint Information	Date, Shift Type, Available Employees for the Shift
10.	Target amount	The number of items needed for certain product in a specific store after it gets under its minimum amount.
11.	License types	B, C, C1, C + E
12.	Truck model	Van, Semi-Trailer, Double-Trailer, Full-Trailer.
13.	Shipping areas	South, North, East, West, Southwest, Southeast, Northwest, Northeast.
14.	Transport	Delivering products from supplier to destination.
15.	Redesign	When the transport exceeds the possible weight for it the transport returns to redesign.
16.	Transport Document	A document describing the transport after it is completed.
17.	Destination Document	A document describing the products delivered in a particular shipment to the destination.
18.	Shortage	When inventory runs out and exceeds the minimum quantity set for the product.

Appendix B Open Questions

Table 3: Questions

#	Topic	Issue
1.	Document	Will there be an additional need for the documents?
2.		
3.		

Appendix C Assumptions

Table 2: Assumptions

#	Topic	Assumption
1.	Suppliers	The contact's info is only phone number and name.
2.	Suppliers	We can't change orders from by order suppliers in the last 24 hours before the shipment.
3.	Suppliers	A supplier has only one type of agreement, from : by order, routine, not transporting.
4.	Suppliers	When stocks running low, we choose the cheapest supplier to order from, not considering his arrival time.
5.	Suppliers	We can add new supplier for the system without agreement. (Maybe we want just to save his information for future deals).
6.	Suppliers	We assume that when adding an item to agreement, the supplier manager knows both the id this item has at the supplier catalog and the id this item has at inventory.
7.	Inventory	There is predefined target amount per product per store which is above the min amount, such that when creating an order because of low stock the order amount should be target-min
8.	Suppliers+Inventory	The System is shut down at the end of each workday, and turned on at the beginning of the day. At the beginning of each day we send the suppliers the updated amounts for the next day's orders if needed.
9.	Suppliers+Inventory	When a delivery arrives at the warehouse, the orderID and supplierID is known (attached to the driver's receipt)
10.	Suppliers+Inventory	Each supplier can have different ID for the same product (For example: Bamba can have ID 1 in Superly, ID 5 in supplier 1 and ID 1 in supplier 2)
11.	Suppliers	The "best" supplier is the cheapest one regardless to arriving time.
12.	Suppliers+Inventory	Printing an order on screen equals to sending the order to the corresponding supplier.
13.	Suppliers+Inventory	Sending an order that has already been sent to a supplier equals to informing the supplier about updating the order.

Version History

Table 2: Version History

Date	Author	Remarks
25/04/2022	Roi Tiefenbrunn	First draft
09/05/2022	Yonatan Diga	Added suppliers & Inventory requirements and suppliers assumptions.
11/05/2022	Yonatan Diga	Improved requirements
14/05/2022	Tomer Ravkaie	Improved Requirements and Assumptions
15/05/2022	Roi Tiefenhbrunn	Deleting of non-functional reqs for HR-module Adding term 'Employee', 'Employee Information', 'Employee types', 'Shift', 'Shift Information', 'Shift Types' Adding requirements 12, 42
15/05/2022	Roi Tiefenbrunn	Completing Requirements 1, 4, 5, 11 Adding Requirement 2 Adding the terms 'Constraint', 'Constraint Information' Removed Requirement 7
15/05/2022	Chai-Shalev Hadad	Add transport requirements. Fix the incorrect requirements. Add terms and open question.