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## Assignment 1



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# 1. Requirements

1.1 Table 1

ID	Module	Functional/Non-Functional	Description	Priority	Risk	Status
1	HR	F	The system <b>MUST</b> be able to save the employees' details (names, id, bank account and terms of employment including start date).	MH	Low	Complete
2	HR	F	The system <b>CAN</b> update the terms of employment (salary).	NTH	Low	Complete
3	HR	F	The system <b>MUST</b> help the manager assign employees to shifts.	MH	High	Complete
4	HR	F	The system <b>MUST</b> support shift assignment updates/changes executed by a manager.	MH	High	Complete
5	HR	F	The system <b>CAN</b> add more information about it's employees.	NTH	Low	Complete
6	HR	F	The system <b>MUST</b> save all the employees' constraints (days and shifts).	MH	High	Complete
7	HR	F	The system <b>MUST</b> support multiple roles (cashier, storage, manager, etc...).	MH	Low	Complete
8	HR	F	The system <b>MUST</b> know which employee can do which role.	MH	Low	Complete
9	HR	F	The system <b>MUST</b> save shifts history of the last month (30 days).	MH	Low	Complete
10	HR	F	The system <b>MUST</b> divide it's daily schedule into morning shift, evening shift.	MH	Low	Complete
11	HR	F	The system <b>MUST</b> have a manager in every shift.	MH	Low	Complete
12	HR	F	The system <b>MUST</b> support admin privileges for shift managers (transaction cancel and manage staff).	MH	Low	Complete
13	HR	F	The system <b>MUST</b> know which roles can be executed by the same person (qualifications of each employee)	MH	Low	Complete
14	HR	F	The system <b>MUST</b> allow HR manager to decide which roles are needed in each shift.	MH	Low	Complete
15	HR	F	The system <b>CAN</b> allow HR employee access to employees' bank account details (salary).	NTH	Low	Complete
-	HR	F	The system <b>CAN</b> hold driver employees' licenses	NTH	Low	Not relevant
-	HR	F	The system <b>CAN</b> select one employee from the Monday/Thursday shifts for stock management.	NTH	High	Not relevant
-	HR	F	The system <b>CAN</b> support manager request for stock reports.	NTH	High	Not relevant
-	HR	F	The system <b>CAN</b> save employee's qualification	POSSIBLE	Low	Not relevant
16	HR	F	The system <b>MUST</b> support in multiple store branches	MH	Low	Complete
17	HR	F	The system <b>MUST</b> support the limitation that each employee can only work either morning or evening shift (cannot allow both).	MH	High	Complete
18	HR	F	The system <b>MUST</b> support the limitation that each employee can only work up to 6 days a week.	MH	High	Complete

19	HR	F	The system <b>MUST</b> support adding new employees to the company	MH	Low	Complete
20	HR	F	The system <b>MUST</b> support removing employees from the company	MH	Low	Complete
21	HR	F	The system <b>CAN</b> calculate the salary of each employee	NTH	High	Complete
22	HR	F	The system <b>MUST</b> allow changes to the salary (e.g bonuses)	MH	Low	Complete
23	HR	F	The system <b>MUST</b> allow the HR manager to update the employees constraints in the system	MH	Low	Complete
24	HR	F	The system <b>MUST</b> provide a valid shift schedule 24 hours before the shift (shift is assigned daily, and scheduled for the following day)	MH	High	Complete
25	HR	F	The system <b>MUST</b> allow HR manager to decide how many positions are needs in each role.	MH	Low	Complete
26	HR	F	The system <b>MUST</b> alert when there is no possible scheduling or not enough employees for shifts arrangement.	MH	Low	Complete
27	HR	F	The system <b>MUST</b> give a shift arrangement even if it is invalid (the manager will sort it out manually).	MH	Low	Complete
28	HR	F	The system <b>MUST</b> allow the entry of an end-of-day report	MH	Low	Complete
29	HR	F	The system <b>MUST</b> allow the employees to be enlisted in several store branches	MH	Low	Complete
30	HR	F	The system <b>CAN</b> HR to ask from all branches help with invalid shift schedule.	NTH	Low	Complete
31	HR	F	The system <b>MUST</b> add/remove manager privileges	MH	Low	Complete
32	HR	F	The system <b>CAN</b> save all transactions cancellations	NTH	Low	Complete
33	HR	F	The system <b>MUST</b> save the branches open hours	MH	Low	Complete

### 1.1.1 Requirements Type

See table 1.

### 1.1.2 Priority

Priority-rate	ID	Description
1	17	The system <b>MUST</b> support the limitation that each employee can only work either morning or evening shift (cannot allow both).
	18	The system <b>MUST</b> support the limitation that each employee can only work up to 6 days a week.
	3	The system <b>MUST</b> help the manager assign employees to shifts.
	4	The system <b>MUST</b> support shift assignment updates/changes executed by a manager.
	6	The system <b>MUST</b> save all the employees' constraints (days and shifts).
	24	The system <b>MUST</b> provide a valid shift schedule 24 hours before the shift (shift is assigned daily, and scheduled for the following day)
7	23	The system <b>MUST</b> allow the HR manager to update the employees constraints in the system
	25	The system <b>MUST</b> allow HR manager to decide how many positions are needs in each role.
	26	The system <b>MUST</b> alert when there is no possible scheduling or not enough employees for shifts arrangement.
	27	The system <b>MUST</b> give a shift arrangement even if it is invalid (the manager will sort it out manually).

11	10	The system <b>MUST</b> divide it's daily schedule into morning shift, evening shift.
12	11	The system <b>MUST</b> have a manager in every shift.
13	12	The system <b>MUST</b> support admin privileges for shift managers (transaction cancel and manage staff).
14	13	The system <b>MUST</b> know which roles can be executed by the same person (qualifications of each employee)
15	14	The system <b>MUST</b> allow HR manager to decide which roles are needed in each shift.
16	1	The system <b>MUST</b> be able to save the employees' details (names, id, bank account and terms of employment including start date).
17	19	The system <b>MUST</b> support adding new employees to the company
18	20	The system <b>MUST</b> support removing employees from the company
19	22	The system <b>MUST</b> allow changes to the salary (e.g bonuses)
20	9	The system <b>MUST</b> save shifts history of the last month (30 days).
21	16	The system <b>MUST</b> support in multiple store branches
22	28	The system <b>MUST</b> allow the entry of an end-of-day report
23	29	The system <b>MUST</b> allow the employees to be enlisted in several store branches
24	31	The system <b>MUST</b> add/remove manager privileges
25	7	The system <b>MUST</b> support multiple roles (cashier, storage, manager, etc...).
26	8	The system <b>MUST</b> know which employee can do which role.
27	33	The system <b>MUST</b> save the branches open hours
28	32	The system <b>CAN</b> save all transactions cancellations
29	15	The system <b>CAN</b> allow HR employee access to employees' bank account details (salary).
30	5	The system <b>CAN</b> add more information about it's employees.
31	2	The system <b>CAN</b> update the terms of employment (salary).
32	30	The system <b>CAN</b> allow HR to ask from all branches help with invalid shift schedule.
33	21	The system <b>CAN</b> calculate the salary of each employee

### 1.1.3 Risk management

ID	Description	Risk	Status
1	The system <b>MUST</b> be able to save the employees' details (names, id, bank account and terms of employment including start date).	Low	Complete
2	The system <b>CAN</b> update the terms of employment (salary).	Low	Complete
3	The system <b>MUST</b> help the manager assign employees to shifts.	High	Complete
4	The system <b>MUST</b> support shift assignment updates/changes executed by a manager.	High	Complete
5	The system <b>CAN</b> add more information about it's employees.	Low	Complete
6	The system <b>MUST</b> save all the employees' constraints (days and shifts).	High	Complete
7	The system <b>MUST</b> support multiple roles (cashier, storage, manager, ect...).	Low	Complete
8	The system <b>MUST</b> know which employee can do which role.	Low	Complete
9	The system <b>MUST</b> save shifts history of the last month (30 days).	Low	Complete
10	The system <b>MUST</b> divide it's daily schedule into morning shift, evening shift.	Low	Complete
11	The system <b>MUST</b> have a manager in every shift.	Low	Complete
12	The system <b>MUST</b> support admin privileges for shift managers (transaction cancel and manage staff).	Low	Complete
13	The system <b>MUST</b> know which roles can be executed by the same person (qulifications of each employee)	Low	Complete
14	The system <b>MUST</b> allow HR manager to decide which roles are needed in each shift.	Low	Complete
15	The system <b>CAN</b> allow HR employee access to employees' bank account details (salary).	Low	Complete
-	The system <b>CAN</b> hold driver employees' licenses	Low	Not relevant
-	The system <b>CAN</b> select one employee from the Monday/Thursday shifts for stock management.	High	Not relevant
-	The system <b>CAN</b> support manager request for stock reports.	High	Not relevant
-	The system <b>CAN</b> save employee's qualification	Low	Not relevant
16	The system <b>MUST</b> support in multiple store branches	Low	Complete
17	The system <b>MUST</b> support the limitation that each employee can only work either morning or evening shift (cannot allow both).	High	Complete
18	The system <b>MUST</b> support the limitation that each employee can only work up to 6 days a week.	High	Complete
19	The system <b>MUST</b> support adding new employees to the company	Low	Complete
20	The system <b>MUST</b> support removing employees from the company	Low	Complete
21	The system <b>CAN</b> calculate the salary of each employee	High	Complete
22	The system <b>MUST</b> allow changes to the salary (e.g bonuses)	Low	Complete
23	The system <b>MUST</b> allow the HR manager to update the employees constraints in the system	Low	Complete

24	The system <b>MUST</b> provide a valid shift schedule 24 hours before the shift (shift is assigned daily, and scheduled for the following day)	High	Complete
25	The system <b>MUST</b> allow HR manager to decide how many positions are needed in each role.	Low	Complete
26	The system <b>MUST</b> alert when there is no possible scheduling or not enough employees for shifts arrangement.	Low	Complete
27	The system <b>MUST</b> give a shift arrangement even if it is invalid (the manager will sort it out manually).	Low	Complete
28	The system <b>MUST</b> allow the entry of an end-of-day report	Low	Complete
29	The system <b>MUST</b> allow the employees to be enlisted in several store branches	Low	Complete
30	The system <b>CAN</b> HR to ask from all branches help with invalid shift schedule.	Low	Complete
31	The system <b>MUST</b> add/remove shift manager privileges	Low	Complete
32	The system <b>CAN</b> save all transactions cancellations	Low	Complete
33	The system <b>MUST</b> save the branches open hours	Low	Complete

## 1.2 Open Questions

1.2.1 Table 2:

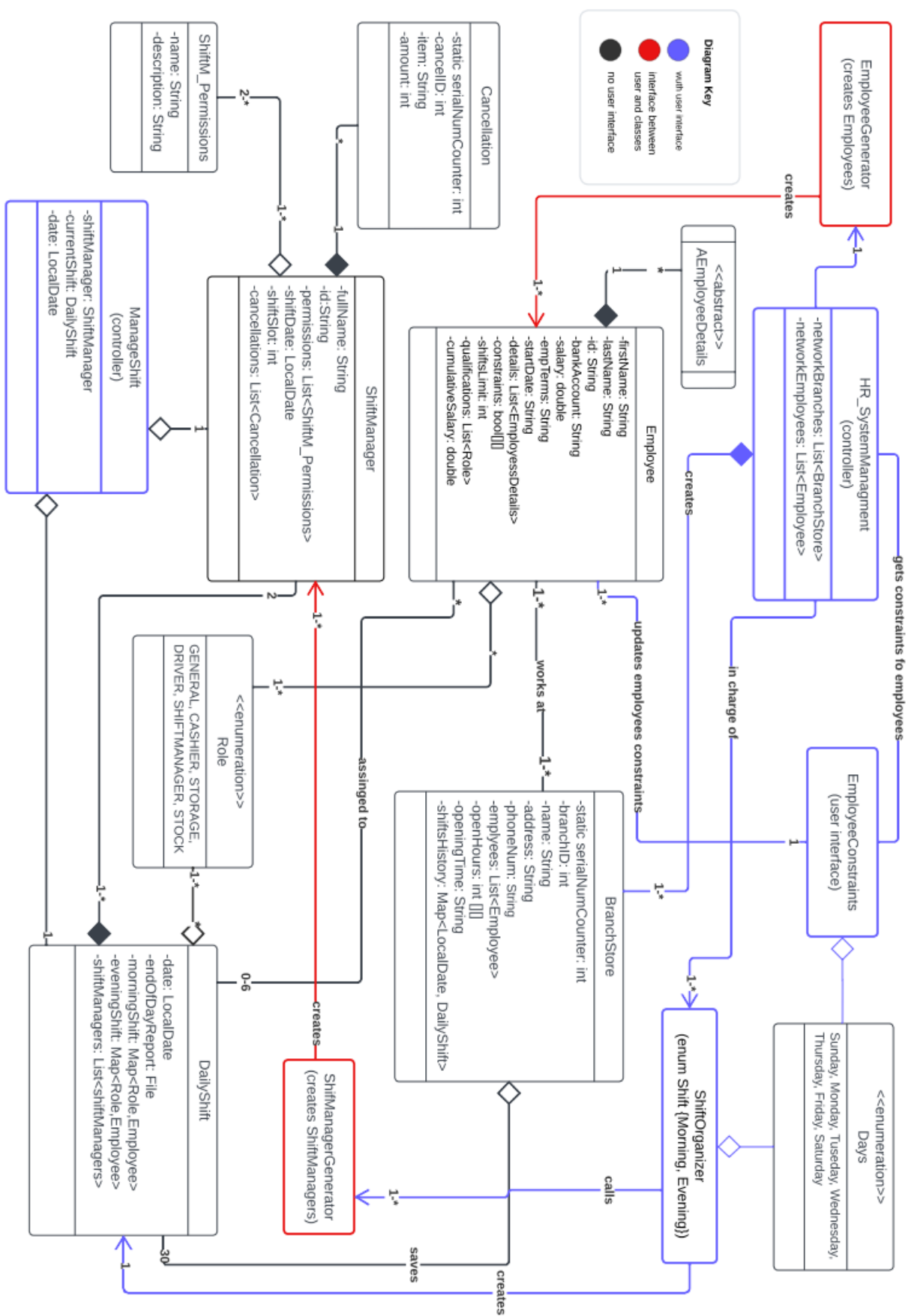
#	Topic	Issue
1	איך מקצים את עובדי מלאי בימי שני וחמישי?	מלאי
2	כמה סוגי רשיונות יש לנהגי משאית?	הובלות
3	האם יש צורך להחזיק במערכת בתוך כל סניף את המחסן שלו?	מלאי
4	בביטול מוצר האם צריך לעדכן את המלאי?	מלאי
5	האם יש צורך ברשימת ספקים שמאושרים לרשת לעבוד איתם?	ספקים

1.2.2 Table 3:

#	Topic	Issue	Answer
1	משמרות	מהו טווח השיבוץ (יומי/שבועי/חודשי...)?	יומי
2	אילוצים	באיזו תדירות שולחים העובדים אילוצים? האם הם קבועים?	אחת לשבוע
3	משמרות	אם יש שיבוץ משמרות לא חוקית, איך ניתן לפתור את הבעיה?	מנהל כוח אדם יודע לתעדף בין הסניפים ולכן יפתור את הבעיה ידנית
4	שכר	לפי מה קובעים שכר חודשי של עובד?	השכר נקבע לפי כמות המשמרות החודשית שעשה אותו עובד. לכל לקוח שמור שכר פר משמרת.
5	עובדים	האם סוג העובד משפיע על אילוצי המשמרות שלו?	לא (מהפורום)
6	משמרות	האם עובד יכול לבצע שני תפקידים באותו משמרת?	לא (מהפורום)



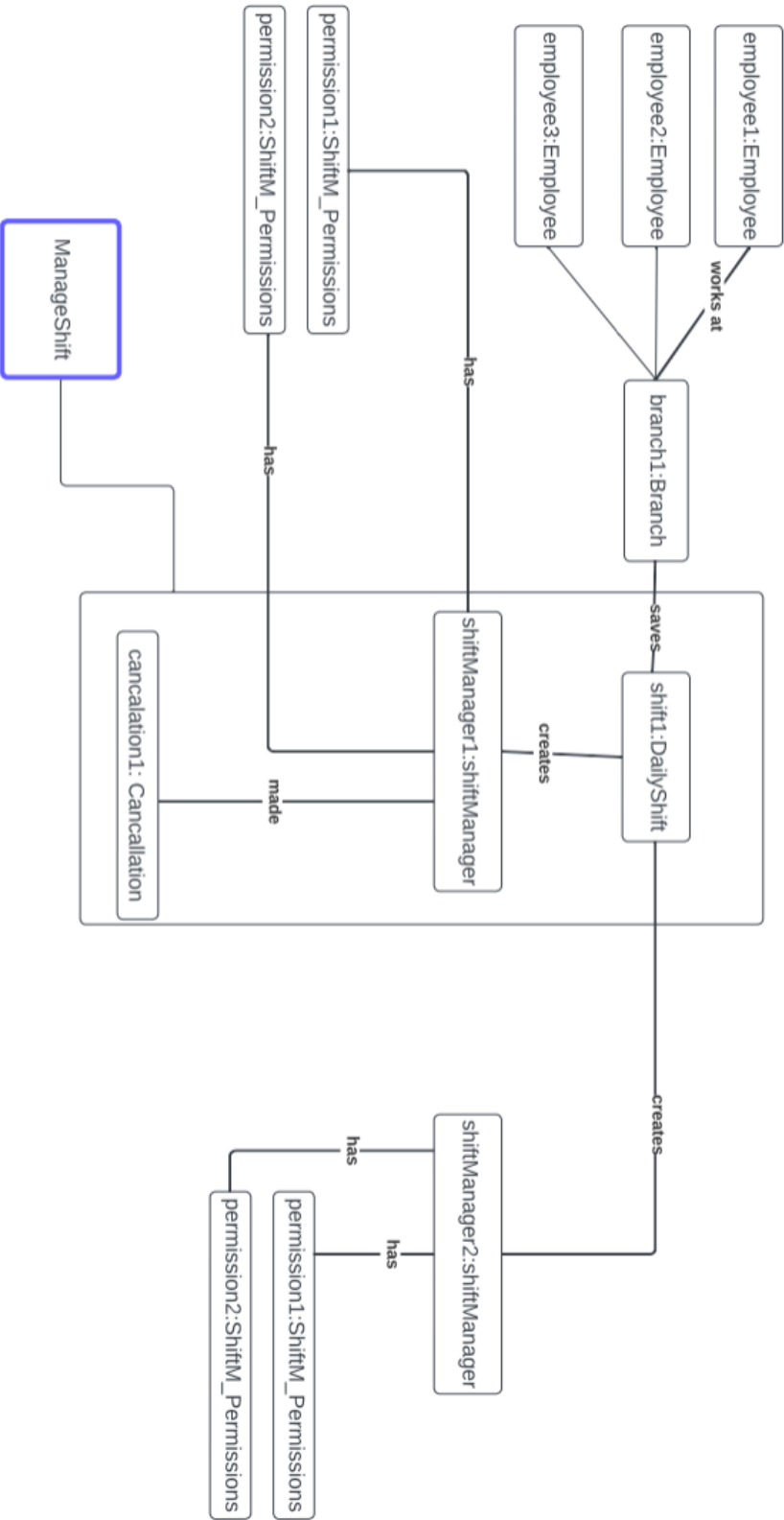
## 2. Class Diagram



3. Object Diagram

תרחיש א:

סיטואציה של ביטול מוצר ע"י אחראי משמרת. מצב המערכת בהלך התהליך:



## תרחיש ב:

קביעת משמרות לכלל הסניפים: מנהל HR צריך לבנות משמרת יומית עבור עובדי כל הסניפים ולכן נעזר במערכת.

