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***Chillout System Analysis***

# Idea:

## Inputs:

* **Sales** (Daily)
* **Imported Products** (Daily)
* **Existing in Tanks** (Daily)
* **Trips** (Daily)

## Outputs:

* **Sales** (Daily & Monthly)
* **Imported Products** (Daily & Monthly)
* **Withdrawals** (Daily & Monthly)
* **Trips** (Daily & Monthly)
* **Supply plan** (Daily)

# Tables & relations:

## Tables:

* **Agents** (AgentID, Agent)
* **Existing** (ExistingID, Station\_ProductID, ExistingAmount, DateID)
* **Companies** (CompanyID, Company)
* **Dates** (DateID, Day, Month, Year)
* **Distances** (DistanceID, Stations\_WarehouseID, Distance)
* **Drivers** (DriverID, DriverFirstName, DriverLastName, DriverPhone)
* **Importations** (ImportationID, Station\_WarehouseID, ImportedAmount, DateID)
* **Products** (ProductID, Product)
* **Quota** (QuotaID, Warehouse\_ProductID, Quota , Month)
* **Sales** (SaleID, Station\_ProductID, SalesAmount, DateID)
* **Sectors** (SectorID, Sector)
* **Stations** (StationID, Station, AgentID)
* **Tanks** (TankID, TankVolume)
* **Trips** (TripID, DriverID, VehicleID, DistanceID, DateID)
* **Users** (UserID, UserFirstName, UserLastName, Password, Phone)
* **Vehicles** (VehicleID, VehicleCode, VehiclePlate, VehicleCard, VehiclePhone, TrailerPlate)
* **Warehouses** (WarehouseID, Warehouse, CompanyID)
* **Withdrawals** (WithdrawalID, QuotaID, StationID, WithdrawalAmount, DateID)

## Relations:

* **Stations – Sectors**: (Station\_SectorID, StationID, SectorID)
* **Warehouses – Sectors**: (Warehouse\_SectorID, WarehouseID, SectorID)
* **Stations – Products**: (Station\_ProductID, StationID, ProductID)
* **Warehouses – Products**: (Warehouse\_ProductID, WarehouseID, ProductID)
* **Stations – Warehouses**: (Stations\_WarehouseID, StationID, WarehouseID)
* **Tanks – (Stations – Products)**: (TankID, Station\_ProductID)

# Reports / Statistics:

## Daily reports:

* **Withdrawals**:

Represents the amount of withdrawal of each product from each Warehouse

* **Sales**:

Represents the amount of sales of each product of each station

* **Imported products:**

Represents the total amount of imported product to each station from each Warehouse

* **Supply plan**:

Represents the needs of each product according to the average consumption of a specific station and the tank volume of the same product

## Monthly reports:

* **Total withdrawals from Warehouses**:

Represents the total amount of withdrawal of each product from each Warehouse

* **Total stations' sales**:

Represents the total amount of sales of each product at each station

* **Total Imported products in stations**:

Represents the total amount of imported product to each station from each Warehouse

## Special reports:

* **Average Imported product**:

Represents the average of each imported product to each station

* **EoM (End of Month) Stations' needs**:

Represents each station's needs for each product by multiplying the average of a station's needs and the remaining days in the current month

* **Warehouses Remaining**:

Represents the difference between the quota specified and the current withdrawals from each Warehouse

# Schema:

# Pages:

1. **Login page (Authentication -> Login)**
2. **Home page (Unspecified)**
3. **Sectors list page (Academy)**
4. **Stations list page (Table)**
5. **Agents list page (Academy)**
6. **Tanks list page (Academy)**
7. **Companies list page (Academy)**
8. **Warehouses list page (Academy)**
9. **Products list page (Academy)**
10. **Vehicles list page (Table)**
11. **Drivers list page (Academy)**
12. **Distances list page (Table)**
13. **Trips list page (Unspecified)**
14. **Users list page (Unspecified)**
15. **Sectors management page (Form)**
16. **Station management page (Form)**
17. **Agents management page (Academy)**
18. **Tanks management page (Form)**
19. **Company management page (Form)**
20. **Warehouse management page (Form)**
21. **Product management page (Form)**
22. **Vehicle management page (Form)**
23. **Driver management page (Form)**
24. **Distance management page (Form)**
25. **Trips management page (Unspecified)**
26. **User management page (Unspecified)**
27. **Withdrawals report page (Daily / Monthly) (Table)**
28. **Sales report page (Daily / Monthly) (Table)**
29. **Imported products report page (Daily / Monthly) (Table)**
30. **Supply plan report page (Table)**
31. **Average Imported product report page (Table)**
32. **EoM (End of Month) Stations' needs report page (Table)**
33. **Warehouses Remaining report page (Table)**

# Software & Hardware requirements:

## Software:

## Languages

* **HTML**
* **CSS**
* **Typescript**
* **Java**
* **JPQL**

## Tools:

* **VScode editor**
* **IntelliJ IDE**
* **SQL server / Mongo database**
* **Postman**

## Others:

* **Node.js**
* **Angular**
* **Apache Maven package manager**
* **Java EE**

## Hardware:

* **Server**
* **PC**
* **Internet**