



Chillout System Analysis

Idea:

Inputs:

- **Sales** (Daily)
- **Transferred Products** (Daily)
- **Existing in Tanks** (Daily)
- **Trips** (Daily)

Outputs:

- **Sales** (Daily & Monthly)
- **Transferred Products** (Daily & Monthly)
- **Transfers** (Daily & Monthly)
- **Trips** (Daily & Monthly)
- **Supply plan** (Daily)

Tables & relations:

Tables:

- **Agents** (AgentID, AgentName, IsHidden)
- **Distances** (DistanceID, WarehouseID, StationID, Distance, IsHidden)
- **Drivers** (DriverID, DriverFirstName, DriverMiddleName, DriverLastName, DriverPhoneNumber, IsHidden)
- **Existing** (ExistingID, StationID, ProductID, ExistingAmount, Day, Month, Year, IsHidden)*
- **Transfers** (TransferID, WarehouseID, StationID, ProductID, TripID, TransferredAmount, Day, Month, Year, IsHidden)*
- **Products** (ProductID, ProductName, IsHidden)
- **Quota** (QuotaID, WarehouseID, ProductID, QuotaAmount, Month, Year, IsHidden)
- **Sales** (SaleID, StationID, ProductID, SalesAmount, Day, Month, Year, IsHidden)*
- **Sectors** (SectorID, SectorName, IsHidden)
- **Stations** (StationID, StationCode, StationName, AgentID, SectorID, Location, IsHidden)
- **Tanks** (TankID, TankVolume, ProductID, IsHidden)
- **Trips** (TripID, DriverID, VehicleID, outboundDistanceID, inboundDistanceID, Day, Month, Year, IsHidden)*
- **Users** (UserID, UserFirstName, UserMiddleName, UserLastName, PhoneNumber, Password, Role, IsHidden)
- **Vehicles** (VehicleID, VehicleCode, VehiclePlate, VehicleCard, VehiclePhone, TrailerPlate, IsHidden)
- **Warehouses** (WarehouseID, WarehouseName, CompanyName, SectorID, IsHidden)

Relations:

Many-to-One:

- **Distances – Stations**
- **Distances – Warehouses**
- **Existing – Products**
- **Existing – Stations**
- **Quota – Products**
- **Quota – Warehouses**
- **Sales – Products**
- **Sales – Stations**

- Stations – Agents
- Stations – Sectors
- Tanks – Products
- Transfers – Products
- Transfers – Stations
- Transfers – Trips
- Transfers – Warehouses
- Trips – Distances
- Trips – Drivers
- Trips – Vehicles
- Warehouses – Sectors

One-to-Many:

- Stations – Tanks

Many-to-Many:

- Warehouses – Products: (Warehouse_ProductID, WarehouseID, ProductID)

Illustrations:

- (*) refer to tables using date picker / calendar to view / modify their data at any chosen date
- Actual date and time are not important; neither the local machine date time nor the global one
- Daily acknowledge (التمام اليومي) uses the date picker, then access the sales, existing or Transfers tables separately

Reports / Statistics:

- **Daily reports:**
 - **Transfers:**
Represents the amount of transfer of each product from each Warehouse
 - **Sales:**
Represents the amount of sales of each product of each station
 - **Transferred products:**
Represents the total amount of transferred 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 transfers from Warehouses:**
Represents the total amount of transfer of each product from each Warehouse
 - **Total stations' sales:**
Represents the total amount of sales of each product at each station
 - **Total Transferred products in stations:**
Represents the total amount of transferred product to each station from each Warehouse
- **Special reports:**
 - **Average Transferred product:**
Represents the average of each transferred 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 transfers from each Warehouse

Schema:



Pages:

١. Login page (Authentication -> Login)
٢. Home page (Unspecified)
٣. Sectors list page (Academy)
٤. Stations list page (Table)
٥. Agents list page (Academy)
٦. Warehouses list page (Academy)
٧. Products list page (Academy)
٨. Vehicles list page (Table)
٩. Drivers list page (Academy)
١٠. Distances list page (Table)
١١. Trips list page (Unspecified)
١٢. Users list page (Unspecified)
١٣. Sectors management page (Form)
١٤. Station management page (Form)
١٥. Agents management page (Academy)
١٦. Warehouse management page (Form)
١٧. Product management page (Form)

- ١٨. Vehicle management page (Form)
- ١٩. Driver management page (Form)
- ٢٠. Distance management page (Form)
- ٢١. Trips management page (Unspecified)
- ٢٢. User management page (Unspecified)
- ٢٣. Transfers report page (Daily / Monthly) (Table)
- ٢٤. Sales report page (Daily / Monthly) (Table)
- ٢٥. Transferred products report page (Daily / Monthly) (Table)
- ٢٦. Supply plan report page (Table)
- ٢٧. Average Transferred product report page (Table)
- ٢٨. EoM (End of Month) Stations' needs report page (Table)
- ٢٩. Warehouses Remaining report page (Table)

Software & Hardware requirements:

Software:

- Languages
 - HTML
 - CSS
 - Typescript
 - Java
 - JPQL
- Tools:
 - VScode editor
 - IntelliJ IDE
 - Mongo database
 - Postman
- Others:
 - Node.js
 - Angular
 - Apache Maven package manager
 - Java EE

Hardware:

- Server
- PC
- Internet