**User Roles:**

* Super Admin
* Supervisor
* StoreUser

**System Models:**

* User
* Product
* Warehouse
* Inventory Transfer
* Accounts
* Sales

**System Functions:**

* Create Users with their roles with edit
* Creating new warehouses with edit
* Creating new products with edit
* Incoming goods
* Inventory Transfer
* Transfer approval
* Transfer approval Inquiry
* Create Sales(with status)
* Print bills
* Products inquiry
* Sales listing
* Create customer’s accounts
* Update customers’ accounts

**System Functions In Details**

**User Model:**

Only admin is allowed to do the following:

* Creating a new user
* Assign role to a user
* Edit user
* Delete user
* View all users (including search)

**Warehouse Model:**Only admin is allowed to do the following:

* Create a new warehouse
* Assign warehouse type to the new warehouse (Storage Room, Showroom)
* Edit warehouse
* Delete warehouse
* Inventory inquiry: a list of all goods in certain warehouse

**Product Model:**

* Create a new product
* Edit product (with pricing)
* Delete product
* Add price (Whole sale, Single sale)
* Add a product to a Warehouse
* Product Inquiry: User can view a list of a product details. Such as No. Name, Quantity in each warehouse, wholesales price and retail price

**Inventory Transfer Model:**

* Incoming goods: Goods transferred to either storage room or showroom when(first purchased).
* Goods transfer:   
  - Goods can be transferred from one warehouse to another.

- Only admin can do the transfer.  
 - In some cases, like when the boss is not around the supervisor can do the transfer(based on setting).

- The admin can enable such feature to allow the supervisor to do the transfer (when he is not around).

- If user want to transfer goods from ex, store room to showroom, he can only send “Transfer Request” and the admin will approve it or not. If approved, the transfer will take place.

* Transfer Inquiry: Admin can see a list of all transfers that took place based on selected Product or date, Transfer Type (Incoming Goods, Inventory Transfer, or both)

**Accounts**

* Each customer will have an account
* Each account will include the debt of that customer
* The account will include the total amount the customer has paid
* Update account: Account should be updated automatically based on bills payment. Here is an example:

Customer A purchased goods for 1500USD and paid only 1200USD:

- Paid amount: 1200USD

- Debt amount: 300 USD

After one month customer A purchased goods for 500USD and he paid 400USD. His account will be updated as follows:

- Paid amount: 1600USD

- Debt amount: 400USD

* Incoming payment: The same customer (customer A) make payment of 400USD. His account will be updated as follows:   
   - Paid amount: 2000USD  
   - Debt amount:0
* The account is either updated Automatically or Manually.
* The account is updated automatically when a bill with payment is created
* The account is updated manually when (incoming payment) takes place.
* Account Inquiry: user can search for a customer account and view paid and debt amounts.

**Sales Model:**

* New sales created
* Bill generated with print
* When a bill created, the following will be updated:

- Product quantity updated (in a particular warehouse)

- Customer’s account updated (Debit and Credit)

* Sales inquiry: user can view all sales for a particular customer
* Sales CAN NOT be deleted once created

**Users Authorizations**

Admin:

Basically can do everything:

* Incoming goods
* View good details (goods inquiry)
* Inventory transfer
* Inventory transfer approval
* Inventory Inquiry
* Sales inquiry
* Create new warehouses
* Create new users
* Assign roles to users
* Sales and billing
* View accounts of customers
* Edit Goods and their quantities

Supervisor:

* Sales and billing
* In some cases, inventory transfer approval
* View Good details
* Inventory inquiry
* Inventory transfer
* Sales and billing inquiry
* View accounts of customers

User:

* Sales and billing
* Transfer request
* Inventory inquiry

**Tables & Relationships**

**Notes:**

**(\*) = required**

1. **= Relationship**

**(Qty) = Quantity**

**(WH) = Warehouse**

**(UOM) = Unit Of Measurement**

**ApplicationUser (Inherited from Users)**

* FirstName \*
* LastName \*
* PhoneNo

**Product**

* ID \*
* ProdCode \*
* ProdName \*
* ProdDescription
* ProdImg
* ProdCategory
* RetailPrice \*
* WholePrice \*
* CreatedBy \* (R ApplicationUser)
* CreatedDateTime \*

**Warehouse**

* ID \*
* WHCode \*
* WHName \*
* Location
* TypeId \* (R WHType)
* CreatedBy \* (R ApplicationUser)
* CreatedDateTime \*

**WHType**

* ID \*
* Type \*

**INVStockQty**

* ID \*
* WHId \* (R Warehouse)
* ProdId \* (R Product)
* Qty \*
* UOM

**IncomingGoods**

* ID \*
* WHId \* (R Warehouse)
* ProdId \* (R Product)
* Qty \*
* UOM
* Note
* CreatedById \* (R ApplicationUser)
* CreatedDateTime

**INVTransfer**

* ID \*
* ProdId \* (R Product)
* FromWHId \* (R Warehouse)
* ToWHId \* (R Warehouse)
* Qty \*
* UOM
* TransferStatus (SD) \*
* CreatedById \* (R ApplicationUser)
* ApprovedById
* CreatedDateTime \*
* Note

**INVTransaction**

* ID \*
* ProdId \* (R Product)
* WHId \* (R Warehouse)
* Qty \*
* TransType \* (SD)
* CreatedById \* (R ApplicationUser)
* CreatedDateTime \*

**Static Details (SD)**

**UserRoles**

* Admin
* Supervisor
* StoreUser

**TransferStatus**

* Pending (Waiting for approval)
* Approved

**TransactionType**

* Incoming
* TransferOut
* TransferIn
* Sales

**Inventory Transactions & It’s effect on Tables**

**Creating New Product**

Each product must be created only once with a unique ProdCode. Creating a new product will effect:

* Product: Create a new record
* INVStockQty: Create a new record with ZERO Qty for every Warehouse

**Incoming Goods**

This transaction will take place when new products (Goods) shipped into the storeroom by containers arrived from china . This transaction will effect the following tables :

* IncomingGoods: Create a new record
* InvStockQty: Update the Qty of the product.
* INVTransaction: Create a new record with positive Qty. TransStatus = Incoming

**Inventory Transfer**

Inventory transfer takes place when a user transfers Goods from Storeroom to Showroom. It will effect the following:

* Check if there is enough Qty to transfer from that Warehouse
* INVTransfer: Create a new record

The following will only take place if Transfer status = Approved

* INVStockQty: Update TWO records. One will decrease the Qty from (FromWH) and then increase the Qty of (ToWH)
* INVTransactions: Create TWO entries. First one with Negative QTY and TransStatus = TransferOut. Second entry with Positive Qty and TransStatus = TransferIn

**Sales (will be listed in details later on)**

When a sale is made, it will effect the following tables:

* INVStockQty: Update (Decrease) the Qty of the selling product.
* INVTransaction: Create a new record with Negative Qty. TransStatus = Sales