**Development of an Automated Computerized System for a start-up Manufacturing and Distribution Company**

* **Objectives**
  + **Move to a database from traditional file-based system (Automate the recording process)**
  + **Increase efficiency**
  + **Improve security of the company operations**
  + **Reduce excessive, insufficient production**
* **Solution**
  + **Web based solution for tracking production and distribution process**
  + **ML model for future sales prediction**
* **Parties interact with the system**
  + **Factory Manager 🡪 FM**
  + **Distribution Manger 🡪 DM**
  + **Sales Agent 🡪 SA**
* **Privileges to each party**
  + **Factory Manger**
    - **Visualize future sales predictions**
    - **Visualize production details in monthly or yearly**
    - **Register new Distribution Managers and remove them**
    - **Enter new product item details or update, delete them**
      * ‘PRODUCT’ table should be update appropriately
    - **Enter factory production details to the database**
      * Specific product group that manufactured in a particular day have same batch number. When a specific product group is manufactured, it is entered to the ‘FACTORY\_PRODUCT’ table.
    - **Issue products to store**
      * Specific product group that manufactured in a particular day have same batch number. After issuing items from that product group, the ‘CurrentQuantity’ field is updated in ‘FACTORY\_PRODUCT’ table.
      * ‘ISSUED\_PRODUCT’ table is also updated.
        + If ‘ValidRecord’ is false,

IssuedDate = new\_IssuedDate.

IssuedQuantity = IssuedQuantity + new\_IssuedQuanity

* + - * + Otherwise,

IssuedDate = new\_IssuedDate

IssuedQuantity = new\_IssuedQuanity

* + - * After updating ‘ValidRecord’ field always set to false
  + **Distribution Manger** 
    - **Register new Sales Agents**
    - **Register new Shops**
    - **Double check unloaded products to head quarters**
      * Should be able to enter product details such as received quantity to ‘ISSUED\_PRODUCT’ table. ‘ValidRecord’ field must be update appropriately. If issued quantity and received quantity are same ‘ValidRecord’ field is set to true.
    - **Issue products to Sales Agents**
      * Here products are issued from ‘ISSUED\_PRODUCTS’ table. After issuing ‘CurrentQuantity’ field should be updated appropriately.
    - **Tracking delivery status of issued products to sales agents**
      * Using ‘DelivaryStatus’ field in DISTRIBUTION\_PROCESS table
      * DM can only track invalid records (using ‘ValidRecord’ field)
    - **Double check delivered product details**
      * When sales agent handling the money to DM, he can check the balance and set the ‘ValidRecord’ field in ‘DISTRIBUTION\_PROCESS’ as true.
      * DM can only visualize invalid records
  + **Sales Agent**
    - **Enter delivery details to the database**
      * ‘DelivaryStatus’ field is a string value, and it is updated according to the ‘CourieredDate’ field.
        + If ‘AssignedQuantity’ equals ‘CourieredQuantity’ delivery status is updated as ‘success’.
        + If ‘AssignedQuantity’ greater than ‘CourieredQuantity’ delivery status is updated as ‘error’.
        + If ‘CourieredQuantity’ is null delivery status is updated as ‘inProgress’.