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**
      - **In the Predictions Page**
    - **Visualize production details in monthly or yearly**
      - **In the Product details page**
        - **Is in the Table format**
    - **Enter new product item details or update, delete them**
      - **In the product details page**
        - **A form is used to enter new data**
        - **Delete button is there to delete rows**
        - **Update Button is there to update the rows**
      - **'PRODUCT' table should be update appropriately**
    - **Enter factory production details to the database**
      - **In the Production Details Page**
      - 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**
      - **In the Issued Products Page**
      - Specific product group that manufactured in a particular day have same batch number. After issuing items from that product group, 'IsIssued' field is updated.
      - FM can only see the products in issue page if 'IsIssued' field is false

- Distribution Manger
  - **Register new Sales Agents**
  - **Register new Shops**
  - **Double check unloaded products to head quarters**
    - After arriving products to the store distribution manager will enters the data.
    - Based on 'StoredQuantity' value and 'Quantity' value in 'FACTORY_PRODUCT' table, 'ReceivingStatus' will be updated.
  - **Issue products to Sales Agents**
    - Here products are issued from 'ISSUED_PRODUCTS' table. After issuing 'CurrentQuantity' field should be updated appropriately.
    - Products can be issued from 'ISSUED_PRODUCTS' table if 'CurrentQuantity' is no longer zero.
  - **Tracking delivery status of issued products to sales agents**
    - Using 'DelivaryStatus' field in DISTRIBUTION_PROCESS table
  - **Double check delivered product details**
    - When sales agent handling the money to DM, he can update the revenue and set the 'DelivaryStatus' field in 'DISTRIBUTED_PRODUCT'.
- Sales Agent
  - **Enter delivery details to the database**
    - 'DelivaryStatus' field is a string value, and it is updated according to the 'DeliveredQuantity' field.
      - If 'AssignedQuantity' equals 'DeliveredQuantity' delivery status is updated as 'success'.
      - If 'AssignedQuantity' greater than 'DeliveredQuantity' delivery status is updated as 'error'.
      - If 'CourieredQuantity' is null delivery status is updated as 'inProgress'.