

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 'DeliveryStatus' 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 'DeliveryStatus' field in 'DISTRIBUTED_PRODUCT'.
- **Sales Agent**
 - **Enter delivery details to the database**
 - 'DeliveryStatus' 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'.