



VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

INTERNET AND WEB PROGRAMMING

**COURSE CODE: CSE3002
VL2021220105207**

J – COMPONENT REPORT

TEAM MEMBERS:
Neel Rakesh Choksi(19BCE0990)
L23 + L24 (G2)
Date : 07/12/2021

Distributor Level Operations Lifecycle Manager

Title

Distributor Level Operations Lifecycle Manager.

Abstract

There are many small level distributors who perform their daily operations like invoicing and inventory on paper. There are some distributors that do it in excel sheets and some middle level distributors do it using paid software which is costly and requires a lot of training before use. One of the widely used paid software used in “Tally”. This project will be developed using the MongoDB as a database, NodeJS with express framework as a server and ReactJS for the client side. It is expected from the project that the operations performed at a distributor level involving products, clients, sales orders, invoices should be digitized using this web application.

1.Introduction

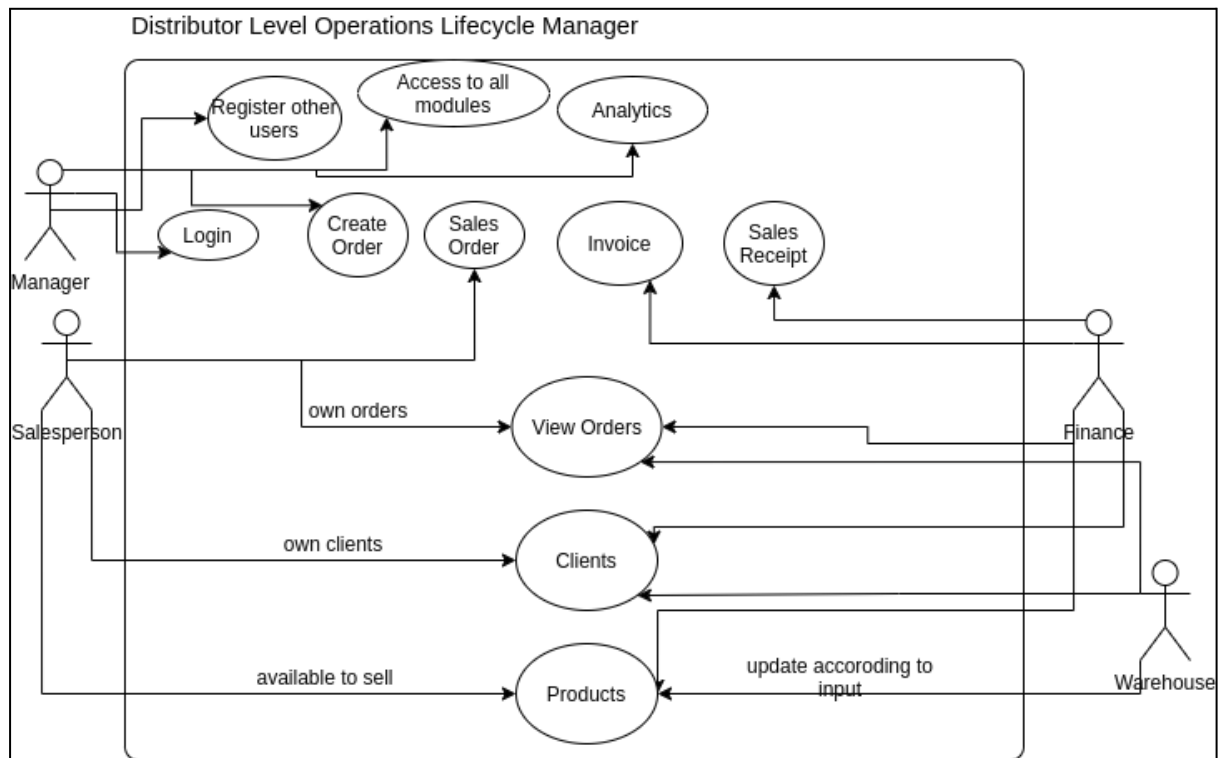
A web application aimed at speeding up the standard procedures of a distributor. Orders can be created and managed. Sales orders, order , and status of the order, payments will be associated with each order. Product and Client data will be stored so the sales order and invoice generation will be smoother for the employees. A catalogue for the available products will be developed, and can be used by the salespeople to take orders. Inventory can be updated which helps in ordering new material . This web application will be cost efficient and easy to use so only a minimum amount of training will be required.

2.Problem statement

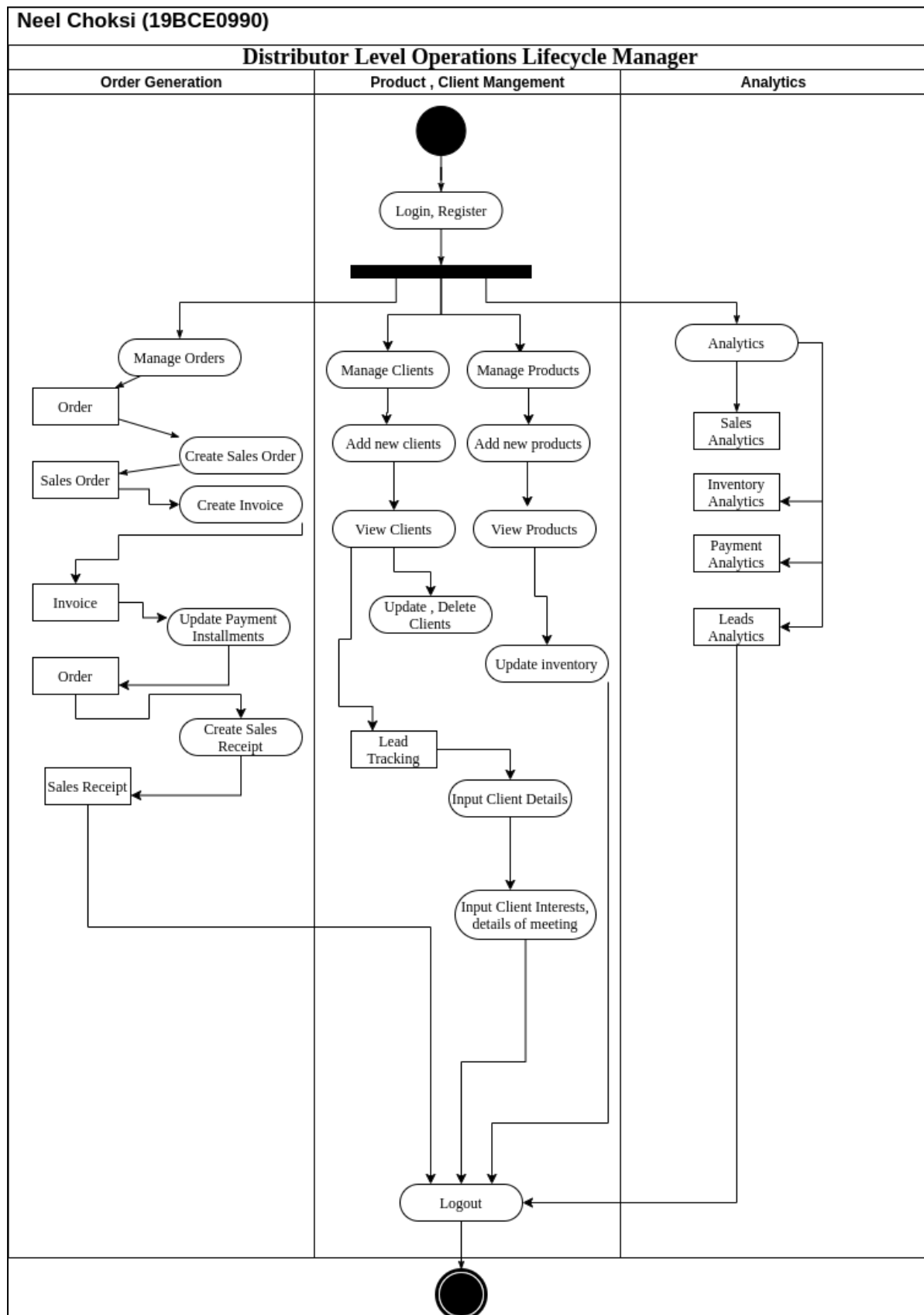
To develop an order generation web application solution at the distributor level of operations including sales order generation, invoicing , sales receipt , payment tracking and analytics at different levels of management.

3.Process Flow Diagram

3.1.Use Case Diagram



3.2.Activity Diagram



4.Modules

4.1.Responsive Navbar:

Responsive navbar showing all the possible operations that could be done by the user related to Login, Register new user, Products, Clients, Orders. The username and role of the user are also included in the navbar.

4.2.Functionality Dashboard:

Responsive grid layout showing all the possible operations that could be done by the user of the system involving Clients, Products, Sales Orders, Invoices.

4.3.Order Management:

Order can be created by the user and

Order Creation and Viewing

Sales order - pdf

Updation of Status of Order

Updation of Status of Delivery

Cancellation of Order

4.4.Status of order

The order status can be marked cancelled. The delivery status can be marked to desired status or can be selected from the standard

If delivered:

Payment: amount due and payment tracking

Shown if replaced, cancelled, delivered

4.5.Inventory(Product Data):

Products stored in the database, used for order generation. Product Inventory can be updated using product SKU number.

4.6.Client Data:

Client data stored in a database, used for lead tracking , order generation

4.7.Login/Register:

The manager will be given a username and password initially. The manager can register other users using the register tab in the web application.

4.8.Styling

The web application is mobile responsive . It adjusts the sizing of the components according to the devices used including desktop, laptop, tablet, mobiles.

4.9.Login Functionality

A manager login is given to the organization. The manager can login to the system using username , password , selecting the role of user and clicking on Login. User can logout of the system using the Logout button in the navbar

4.10.Register Functionality

The manager account provided can create other users using the register section in the functionality dashboard or in the navbar. The manager can register a user into the system by entering the username, email , first name , last name password and role of the user . The

possible roles that can be selected include Manager, Salesperson, Financier, Warehouse. User can click on the register button to add user to the database.

4.11.Client Functionality

A client can be created by selecting the Client option from the navbar or from the functionality. The client details that can be input into the system include Client company name, contact person name, address, GST number, phone number, discount rate, mode/terms of payment, email, website, Instagram id, Facebook id, Linked in id, twitter id, salesperson in charge for the client.

All the clients can be viewed with their details stored. This grid view of clients can be used to communicate with the clients and generate leads.

4.12.Product Functionality

A product can be created by accessing the product from the product section in the navbar or from the functionality dashboard. To create a product the product details need to be input into the system. The product details include Product Name, SKU, Description, MRP, Image file, Category, Stock, HSN, GST percent.

All the products can be viewed with their details and their product image in a responsive grid format. It can be used to get an idea of the inventory and take orders from clients.

The product stock can be updated by entering the product SKU number and the latest stock available for the product. This gives the salesperson an idea of the inventory.

4.13.Order Functionality

An order can be created by selecting the Order section from the navbar or from the functionality dashboard. The client list is populated from the client's collections stored by the user. A client can be selected. Client ID of internal organization needs to be entered, salesperson name should be entered. The order ID will be auto generated by the system but the user can also enter the internal system's or previous order ID format while creating the order.

All the orders can be viewed in a responsive grid format. Order ID with other order details entered are displayed. Options are given to the user to make a sales order, Update Payment status, Update delivery status or cancel the order. The payment, delivery, cancellation status of the order is shown in the same order card.

To update the delivery status, payment status, order cancellation status, the respective button can be clicked. After the button is clicked a form appears in the top of the grid with a cancel button to close the form. The form also shows the Order ID.

To update the delivery status click Update Delivery Button, the user can either enter a custom status into the input box or select a status from the dropdown. The status available in the dropdown include Packaging, Dispatching, On the way, Delivered.

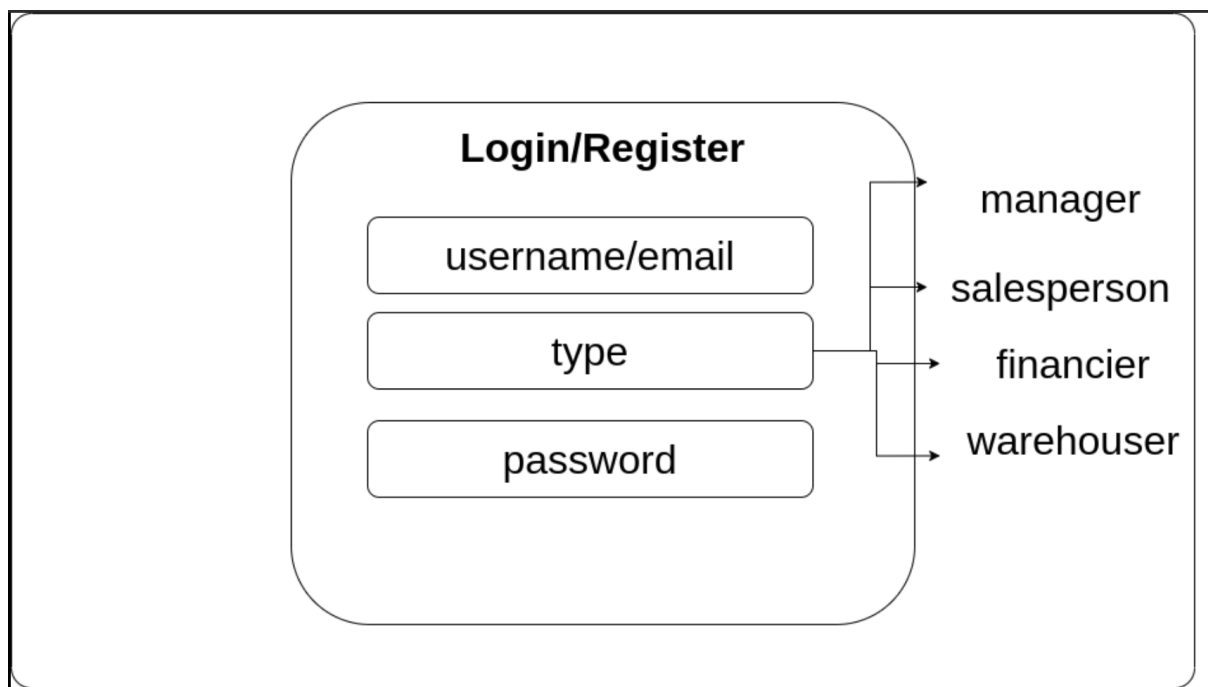
To update the payment status click Update Payment Status Button, the user can either enter a custom status into the input box or select a status from the dropdown. The status available in the dropdown include Quarter Paid, Half Paid, 3 Quarter Paid, Paid.

The order can be cancelled by clicking the Cancel Order and clicking Cancel Order.

If the delivery status is Delivered it is displayed in green also if the order status is cancelled, it is displayed in red.

A sales order pdf can be generated by entering Distributor's Company Name, Address, GST number, state name, state code, contact number, email , website, sales order number according to the internal systems or previous formats of the Distributor, Date of Sales order, mode/terms of payment, other references, despatch through , destination , terms of delivery , salesperson , name of person that is generating the sales order. The dispatch to details including client company name, client address, client GST number, client state name, state code. The invoice contains details including the client company name, address, GST number, state number, state code, supplier's reference , Purchase order date, Product name , product price. On clicking the Create SO and download PDF a pdf file gets generated including the input details.

5.Prototype Design – One Page



type of
user

Logout

Functionality dashboard (manager)

Create Client

View all clients

Update/Delete
Clients

Create Product

View all
products(prod
catelogue and
internal)

Update product
stock / details/
delete products

Register
Salesperson

View all
salespersons

Update / delete
salesperson

Create Order

SalesOrder
↕
Invoice

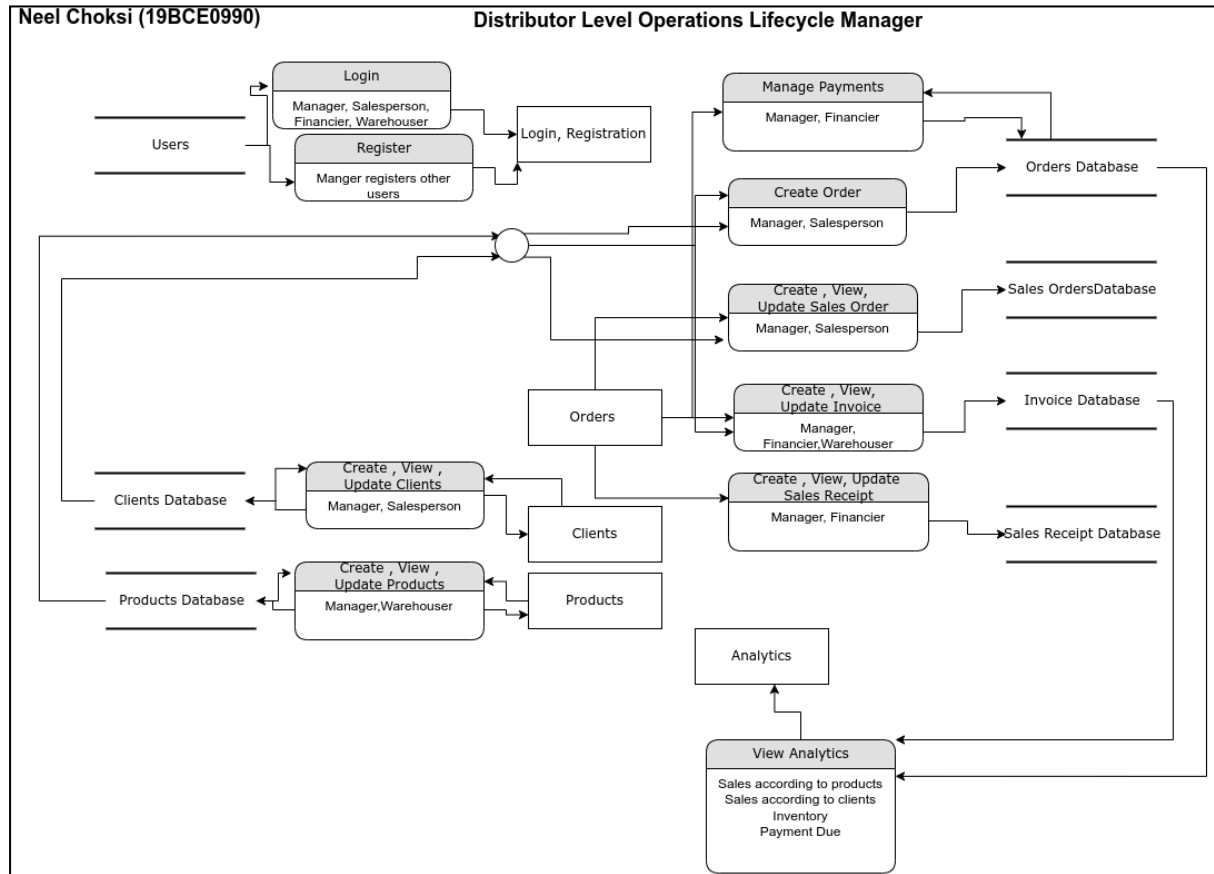
View
Orders(delivery ,
payment status)

Update Order
(delivery , payment
status,invoice)
provision to deliver ,
pay in parts

Cancel order

Analytics :
1. sales per sp
2. sales per product
3. sales overall
4. sales per client
5. payment
6. delivery

6.Database Design



7.Conclusion

Developed a Web application with functionality to enable the manager at the distributor level where the manager can create new clients and view all of his/her clients at one place for performing contacting them and generating leads. The manager can create products and manage inventory by updating the products according to the latest stock. The manager can create an order for the created client and update the delivery status, payment status and mark the order cancelled. The manager can also generate a sales order for that order.

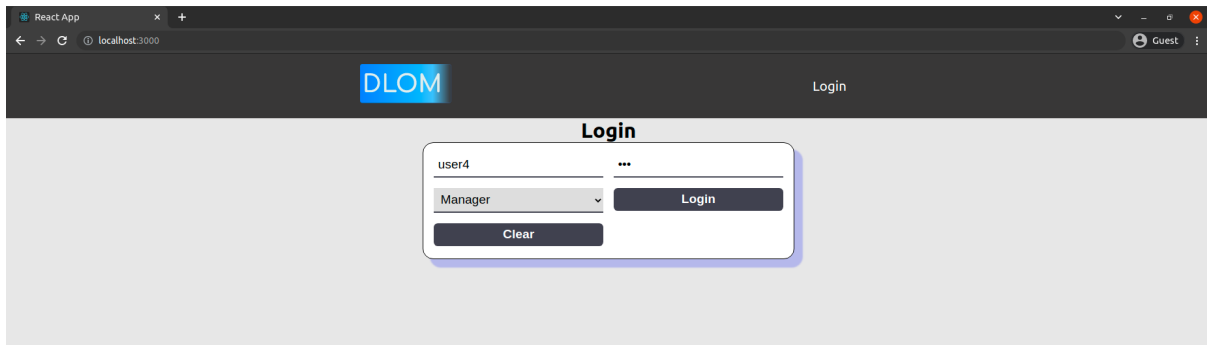
8.References

- [1] React.js. <https://reactjs.org/>
- [2] MongoDB. <https://www.mongodb.com/>
- [3] Nodejs. <https://nodejs.org/en/>
- [4] Express. <https://expressjs.com/>
- [5] Mongoose. <https://mongoosejs.com/>
- [6] Redux. <https://redux.js.org/>
- [7] React Router. <https://reactrouter.com/>

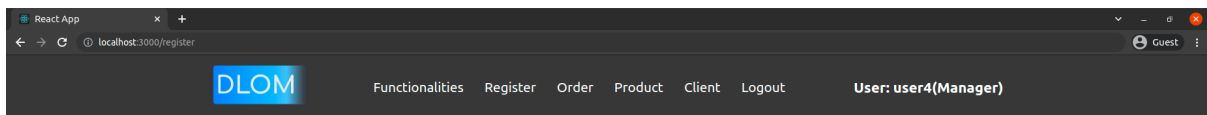
9.Snapshots

9.1.Desktop view

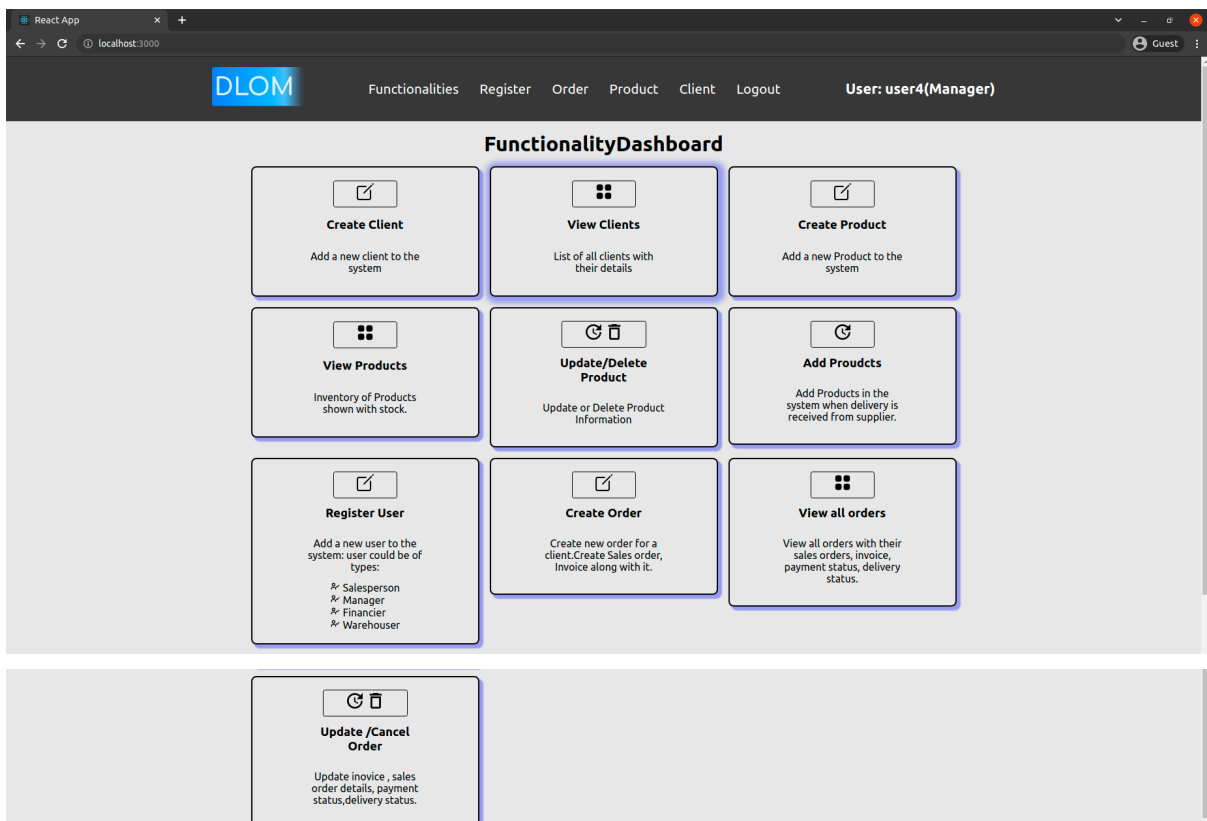
9.1.1.Login



9.1.2.Navbar



9.1.3.Functionality Dashboard



9.1.4.Register

React App localhost:3000/register Guest User: user4(Manager)

Register User

user5	user5@gmail.com
John	Doe
****	Manager

Register Clear

9.1.5.Client

Create Client

React App localhost:3000/client Guest User: user4(Manager)

Create Client

Create Client

Client details

Client Company Name	Client Contact Person Name
Client Address	Client GSTIN/UIN
Client Phone Number	Client Discount Rate
Mode/Terms of Payment	Client Email
Client Website	Client Instagram
Client Facebook	Client LinkedIn
Client Twitter	Select Salesperson

Create Client Clear

React App VIRAT KOLHI FAN CLUB localhost:3000/client Guest User: user4(Manager)

Create Client

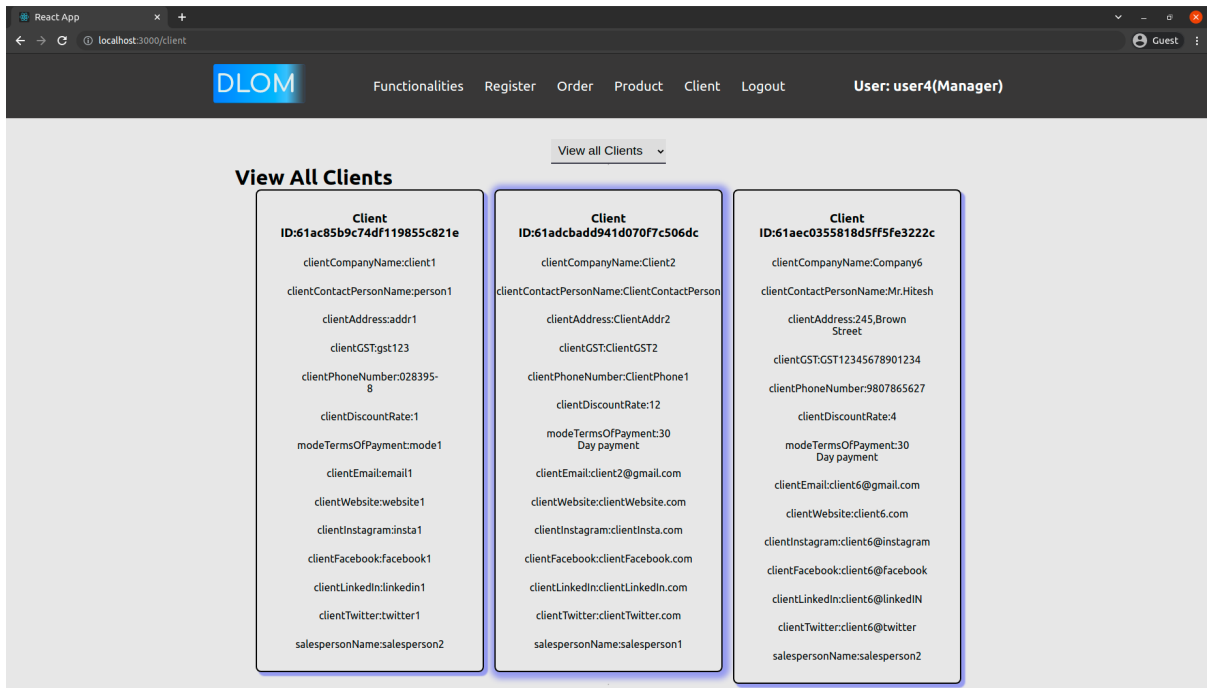
Create Client

Client details

Company6	Mr.Hitesh
245,Brown Street	GST12345678901234
9807865627	4
30 Day payment	client6@gmail.com
client6.com	client6@instagram
client6@facebook	client6@linkedIN
client6@twitter	Salesperson2

Create Client Clear

View Clients



9.1.6.Product

Create new product

The screenshot shows the 'Create Product' form in the DLOM application. The page has a dark header with the DLOM logo and navigation links: Functionalities, Register, Order, Product, Client, Logout. The user is logged in as 'User: user4(Manager)'. A 'Create Product' dropdown is visible. Below the header, there is a form titled 'Create Product' with the following fields:

- Product Name
- Product SKU
- Product Description
- Product MRP
- Choose product image (Choose file | No file chosen)
- Product Category
- Product Stock
- Product HSN
- Product GSTPercent
- Create Product (button)
- Clear (button)

React App
tablet - Google Search
localhost:3000/product
Guest

DLOM
Functionalities Register Order Product Client Logout
User: user4(Manager)

Create Product

Create Product

Product details

Product6	prodSKU6
Tablet 4 + 64GB 5G	18000
Choose product image Choose file tablet1.jpg	electronics
50	HSN1145
18	

Create Product

Clear

View inventory

React App
tablet - Google Search
localhost:3000/product
Guest

DLOM
Functionalities Register Order Product Client Logout
User: user4(Manager)

View all Products

View All Products

Product ID:61ac9570c74df119855c8233

productName:prod2
productSKU:sku2
productDescription:proddesc2
productMRP:1234
productCategory:category1
productStock:12
productHSN:hsn1234
productGSTPercent:18

Product ID:61aec2475818d5ff5fe3222f

productName:Product6
productSKU:prodSKU6
productDescription:Tablet 4 + 64GB 5G
productMRP:18000
productCategory:electronics
productStock:50
productHSN:HSN1145
productGSTPercent:18

Product ID:61aec27e5818d5ff5fe32232

productName:prod7
productSKU:prodSKU7
productDescription:laptop 512GB SSD 8GB Ram
productMRP:49999
productCategory:electronics
productStock:40
productHSN:hsn1123
productGSTPercent:18

Update inventory

React App
tablet - Google Search
localhost:3000/product
Guest

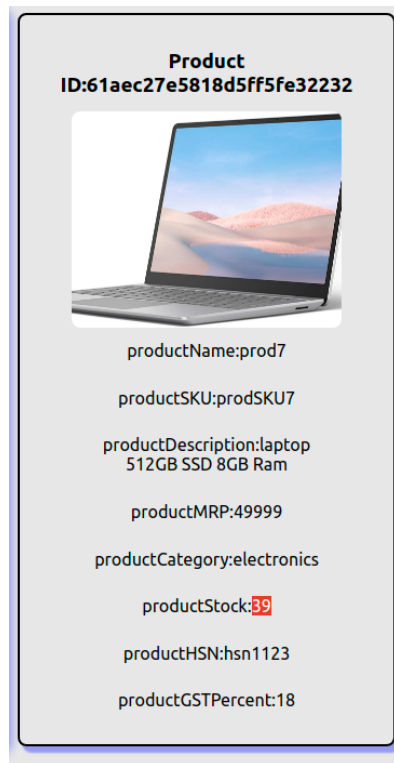
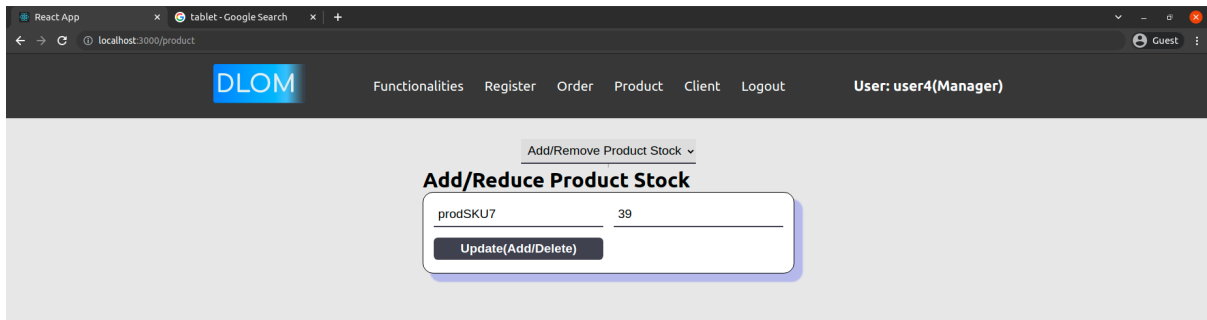
DLOM
Functionalities Register Order Product Client Logout
User: user4(Manager)

Add/Remove Product Stock

Add/Reduce Product Stock

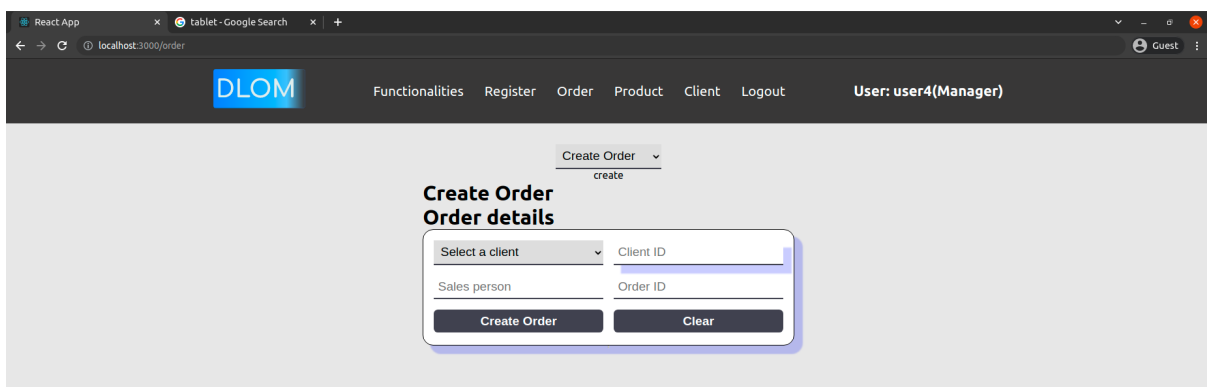
Product SKU	Latest Stock
-------------	--------------

Update(Add/Delete)



9.1.7.Order

Create an Order



React App | tablet - Google Search | localhost:3000/order | Guest

DLOM | Functionalities | Register | Order | Product | Client | Logout | User: user4(Manager)

Create Order create

Create Order

Order details

Company6 clientID6

salesperson4 6

Create Order Clear

View All Orders

React App | localhost:3000/order | Guest

DLOM | Functionalities | Register | Order | Product | Client | Logout | User: user4(Manager)

View all Orders view

View All Orders

OrderID:61aca96a8088b39372ac1d9b

Date:05/12/2021(2 days ago)

ClientID:12

OrderNumber:Order1

Client Name:Client1

SalesPerson:sp1

Make SalesOrder

Make Invoice

Update Payment

Update Delivery

Payment:Not Paid

Delivery:On The way

Order Status:Cancelled

Cancel Order

OrderID:61acc6078ce787de25acc7

Date:05/12/2021(2 days ago)

ClientID:ClientID2

OrderNumber:Order2

Client Name:Client2

SalesPerson:SalesPerson2

Make SalesOrder

Make Invoice

Update Payment

Update Delivery

Payment:

Delivery:Delivered

Cancel Order

OrderID:61ace886078ce787de25aced

Date:05/12/2021(2 days ago)

ClientID:client111

OrderNumber:Order12

Client Name:client1

SalesPerson:sp1

Make SalesOrder

Make Invoice

Update Payment

Update Delivery

Payment:Quarter Paid

Delivery:Packaging

Cancel Order

OrderID:61aec6425818d5ff5fe32238

Date:07/12/2021(a minute ago)

ClientID:clientID2

OrderNumber:Order5

Client Name:Client2

SalesPerson:Salesperson1

Make SalesOrder

Make Invoice

Update Payment

Update Delivery

Payment:

Delivery:

Cancel Order

OrderID:61aec6945818d5ff5fe3223c

Date:07/12/2021(a few seconds ago)

ClientID: clientID6

OrderNumber:Order6

Client Name:Company6

SalesPerson:salesperson4

Make SalesOrder

Make Invoice

Update Payment

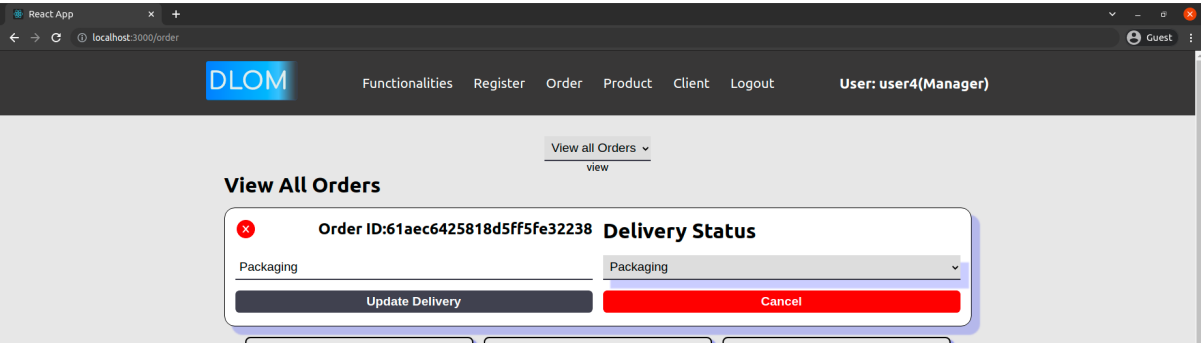
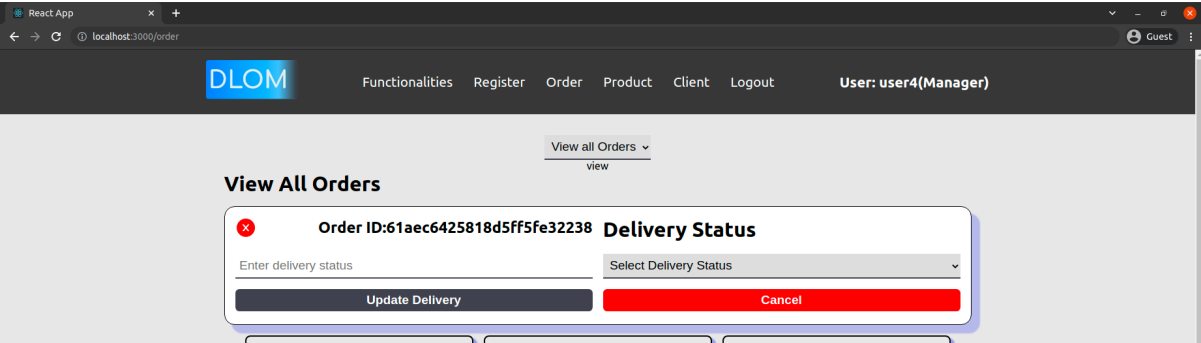
Update Delivery

Payment:

Delivery:

Cancel Order

Update delivery status



OrderID:61aec6425818d5ff5fe32238

Date:07/12/2021(11 minutes ago)

ClientID:clientID2

OrderNumber:Order5

Client Name:Client2

SalesPerson:Salesperson1

Make SalesOrder

Make Invoice

Update Payment

Update Delivery

Payment:

Delivery:Packaging

Cancel Order

Update payment status

React App

localhost:3000/order

Guest

DLOM

Functionalities Register Order Product Client Logout

User: user4(Manager)

View all Orders

view

View All Orders

Order ID:61aec6425818d5ff5fe32238

Update Payment Status

select

Select Payment Status

Update Payment Status

Cancel

View All Orders

view

View All Orders

Order ID:61aec6425818d5ff5fe32238

Update Payment Status

3 Quarter Paid

3 Quarter Paid

Update Payment Status

Cancel

OrderID:61aec6425818d5ff5fe32238

Date:07/12/2021(16 minutes ago)

ClientID:clientID2

OrderNumber:Order5

Client Name:Client2

SalesPerson:Salesperson1

Make SalesOrder

Make Invoice

Update Payment

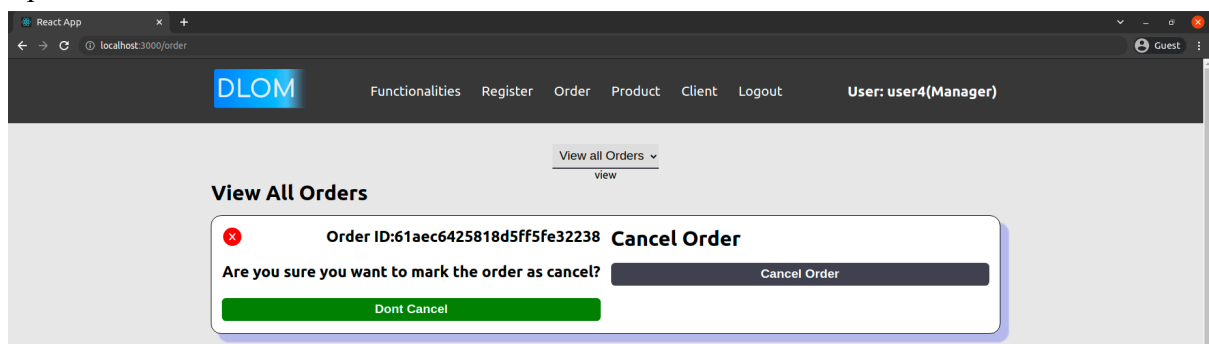
Update Delivery

Payment:3 Quarter Paid

Delivery:Packaging

Cancel Order

Update order status to cancel



OrderID:61aec6425818d5ff5fe32238

Date:07/12/2021(17
minutes ago)

ClientID:clientID2

OrderNumber:Order5

Client Name:Client2

SalesPerson:Salesperson1

Make SalesOrder

Make Invoice

Update Payment

Update Delivery

Payment:3 Quarter Paid

Delivery:Packaging

Order Status:Cancelled

Cancel Order

Make Sales Order as pdf

React App
localhost:3000/order
View All Orders

Order ID:61accace078ce787de25acc7
Create SalesOrder

Distributor Company Name	Distributor Address
Distributor Company GSTIN/UIN	Distributor Company State Name
Distributor Company State Code	Distributor Company Contact
Distributor Company Email	Distributor Company Website
Sales Order Number(VoucherNo)	Sales Order Date dd/mm/yyyy
Mode/Terms of Payment	Other Reference(s)
Despatch through	Destination
Terms of Delivery	Sales person
Sales order made by	Despatch to Client Company Name
Client Address	Client GSTIN/UIN
Client State Name	Client State Code
Invoice to Client Company Name	Client Address
Client GSTIN/UIN	Client State Name
Client State Code	Supplier Ref
Purchase Order Date dd/mm/yyyy	Product Name1
Product Name 2	Price 1
Price 2	

Cancel
Create SO and Download PDF

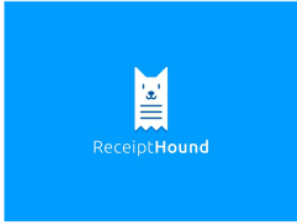
React App
localhost:3000/order
View All Orders

Order ID:61aca96a8088b39372ac1d9b
Create SalesOrder

Distributor Company1	222, Pollen Street
GST1818181818181	Delhi
30	8818818812
company1@gmail.com	company1.com
so1001	Sales Order Date 07/12/2021
Cheque	none
road	Mumbai
30 Days	Mr.Hitesh
Mr.John	Despatch to Client6
43, DN road	GST90129012012
Maharashtra	28
Invoice to Client6	43, DN road
GST90129012012	Maharashtra
28	po7708
Purchase Order Date 02/12/2021	prod1
prod2	1000
2000	

Cancel
Create SO and Download PDF

1 of 2 pdf (9).pdf 77.4%



Date: 7. 12. 2021.

Company Name: Distributor Company1	Company Address: 222, Pollen Street
Company GST: GST1818181818181	Company State Name: Delhi
Company State Code: 30	Company Contact: 8818818812
Company Email: company1@gmail.com	Company Website: company1.com
Mode/Terms Of Payment: 30 Day payment	Other: none

pdf (9).pdf77.4%

Despatch Through: road	Destination: Mumbai
Terms: 1 week	Salesperson: Mr.Hitesh

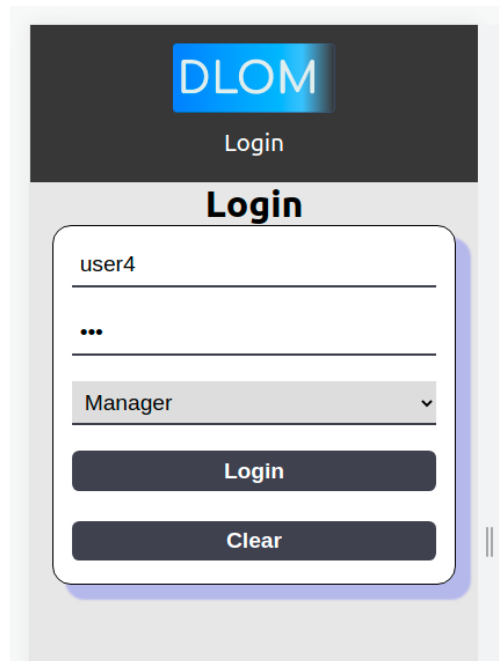
SO made by: Mr.John	Company Name: Client1
Address: 43, DN road	GST: GST90129012012
State: Maharashtra	State Code: 28
Supplier Ref: po1005	PO Date: 2021-12-03
SO Number: so1001	

Bought items:	Price
prod1	₹3000
prod2	₹1000

Total price:₹ 4000

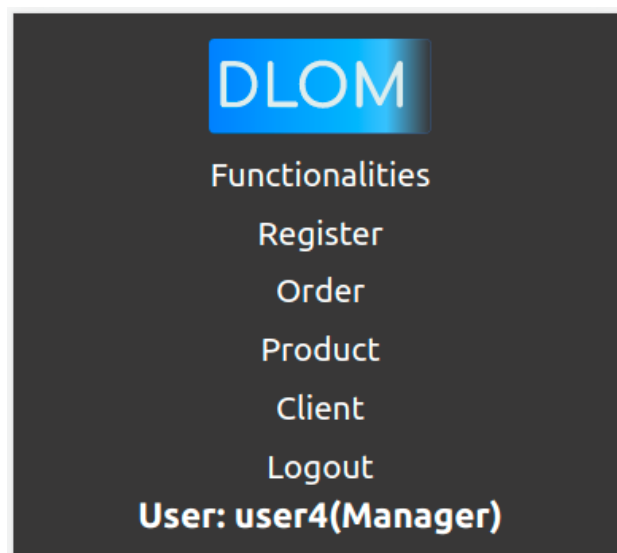
9.2.Mobile view

9.2.1.Login



The image shows a mobile application interface for a system named "DLOM". At the top, there is a dark blue header with the "DLOM" logo in white. Below the logo, the word "Login" is displayed in a smaller font. The main content area has a light gray background and features a white rounded rectangle containing the login form. The form includes a text input field with "user4" entered, a password field with three dots, a dropdown menu currently showing "Manager", and two buttons labeled "Login" and "Clear". A vertical ellipsis icon is visible on the right side of the form container.

9.2.2.Navbar



9.2.3.Functionality Dashboard

DLOM

Functionalities

Register

Order

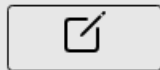
Product

Client

Logout

User: user4(Manager)

FunctionalityDashboard



Create Client

Add a new client to the system



View Clients

List of all clients with their details



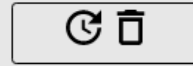
Create Product

Add a new Product to the system



View Products

Inventory of Products shown with stock.



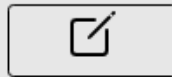
Update/Delete Product

Update or Delete Product Information



Add Prouducts

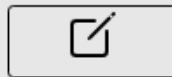
Add Products in the system when delivery is received from supplier.



Register User

Add a new user to the system: user could be of types:

- ✎ Salesperson
- ✎ Manager
- ✎ Financier
- ✎ Warehouse



Create Order

Create new order for a client. Create Sales order, Invoice along with it.



View all orders

View all orders with their sales orders, invoice, payment status, delivery status.



Update /Cancel Order

Update invoice , sales order details, payment status, delivery status.

9.2.4.Register

DLOM

Functionalities

- Register
- Order
- Product
- Client
- Logout

User: user4(Manager)

Register User

user5

user5@gmail.com

John

Doe

....

Manager ▼

Register

Clear

9.2.5.Client

Create Client

Create Client



Create Client

Client details

Client Company Name

Client Contact Person Name

Client Address

Client GSTIN/UIN

Client Phone Number

Client Discount Rate

Mode/Terms of Payment

Client Email

Client Website

Client Instagram

Client Facebook

Client LinkedIN

Client Instagram

Client Facebook

Client LinkedIN

Client Twitter

Select Salesperson

Create Client

Clear

View Client

View All Clients

Client
ID:61ac85b9c74df119855c821e

clientCompanyName:client1

clientContactPersonName:person1

clientAddress:addr1

clientGST:gst123

clientPhoneNumber:028395-
8

clientDiscountRate:1

modeTermsOfPayment:mode1

clientEmail:email1

clientWebsite:website1

clientInstagram:insta1

clientFacebook:facebook1

clientLinkedIn:linkedin1

clientTwitter:twitter1

salespersonName:salesperson2

Create Product



Create Product

Product details

Product Name

Product SKU

Product Description

Product MRP

Choose product Image

Choose file

No file chosen

Product Category

Product Stock

Product HSN

Product GSTPercent

Create Product

Clear

[View Inventory](#)

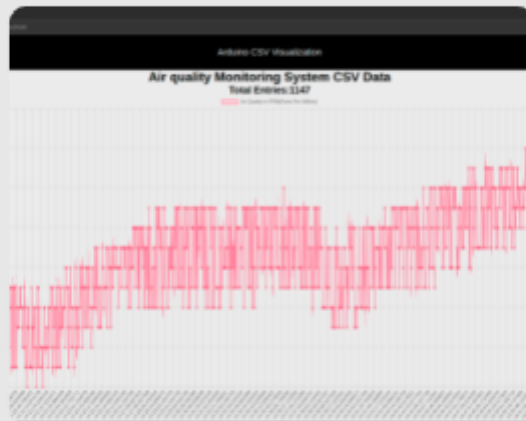
View all Products



View All Products

Product

ID:61ac9570c74df119855c8233



productName:prod2

productSKU:sku2

productDescription:proddesc2

productMRP:1234

productCategory:category1

productStock:12

productHSN:hsn1234

productGSTPercent:18

Update Inventory

Add/Remove Product Stock ▾


Add/Reduce Product Stock

Product SKU

Latest Stock

Update(Add/Delete)


9.2.7.Order
Create Order

Create Order 

create

Create Order

Order details

Select a client 

Client ID

Sales person

Order ID

Create Order

Clear

View Orders

View all Orders ▾

view

View All Orders

OrderID:61aca96a8088b39372ac1d9b

Date:05/12/2021(2 days ago)

ClientID:12

OrderNumber:Order1

Client Name:Client1

SalesPerson:sp1

Make SalesOrder

Make Invoice

Update Payment

Update Delivery

Payment:Not Paid

Delivery:On the way

Order Status:Cancelled


Cancel Order

Update Order Delivery status

View all Orders ▾

view

View All Orders

 **Order**
ID:61aca96a8088b39372ac1d9b

Delivery Status

Enter delivery status

Select Delivery Status ▾

Update Delivery

Cancel

Update Order Payment status

View all Orders ▾

view

View All Orders

✕

Order

ID:61aca96a8088b39372ac1d9b

Update Payment Status

Enter payment status

Select Payment Status ▾

Update Payment Status


Cancel

Update Order status to cancelled

View all Orders ▾

view

View All Orders

 **Order**
ID:61aca96a8088b39372ac1d9b

Cancel Order

**Are you sure you want to mark the
order as cancel?**

Cancel Order


Dont Cancel

Create sales order pdf

View all Orders ▾

view

View All Orders

 **Order**
ID:61accace078ce787de25acc7

Create SalesOrder

Distributor Company Name

Distributor Address

Distributor Company GSTIN/UIN

Distributor Company State Name

Distributor Company State Code

Distributor Company Contact

Distributor Company Email

Distributor Company Website

Sales Order Number(VoucherNo)

Sales Order Date

dd/mm/yyyy



Mode/Terms of Payment

Other Reference(s)

Despatch through

Destination

Terms of Delivery

Sales person

Sales order made by

Despatch to

Client Company Name

Client Address

Client GSTIN/UIN

Client State Name

Client State Code

Invoice to

Client Company Name

Client Address

Client GSTIN/UIN

Client State Name

Client State Code

Supplier Ref

Purchase Order Date

dd/mm/yyyy

Product Name1

Product Name 2

Price 1

Price 2

Create SO and Download PDF

Cancel

Source code

Github link :

[https://github.com/JayakumarClassroom/fs_21_22_cse3002_eth_g2_iwp-NeelChoksi/tree/main/Home work/PROJECT](https://github.com/JayakumarClassroom/fs_21_22_cse3002_eth_g2_iwp-NeelChoksi/tree/main/Home%20work/PROJECT)

Zip file uploaded on Github:

https://github.com/JayakumarClassroom/fs_21_22_cse3002_eth_g2_iwp-NeelChoksi/blob/main/Homework/PROJECT/DistributorLevelOperationsManager.zip

Future Scope

Analytics can be shown to higher level management to track performance of the company. Analytics could be done based on the Inventory input done by warehouser, financier, manager, Sales output done by manager final approval according to sales person, according to month, according to year, according to day. Payment due for the clients Product Availability for the salesperson, manager. Graphs could be generated using Sales data based on invoice creation of the order generated. Amount sold by client. Amount sold by product name. Number of pieces sold by client. Number of pieces sold by product name. Payment due per client. Total amount sold per product. Total amount sold per client. Total amount sold in orders date separated. Total number of pieces sold in orders date separated. Higher level of modelling and error handling can be done at the client side and the server side to decrease erroneous inputs. Machine learning models for prediction of sales data based on invoices can be integrated. Provision for invoice and waybill could be provided.