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Functional Requirement

No.	Case	Priority
FR-01	Authentication	High

Authentication is important in this inventory system for security purposes. Every user has to authenticate themselves using email and password as credentials. If the credentials match with any existing user then he/she is counted as an authenticated user for the system and they are then redirected to the systems dashboard. Where they can do other operations according to their authorization. Consider below figure:

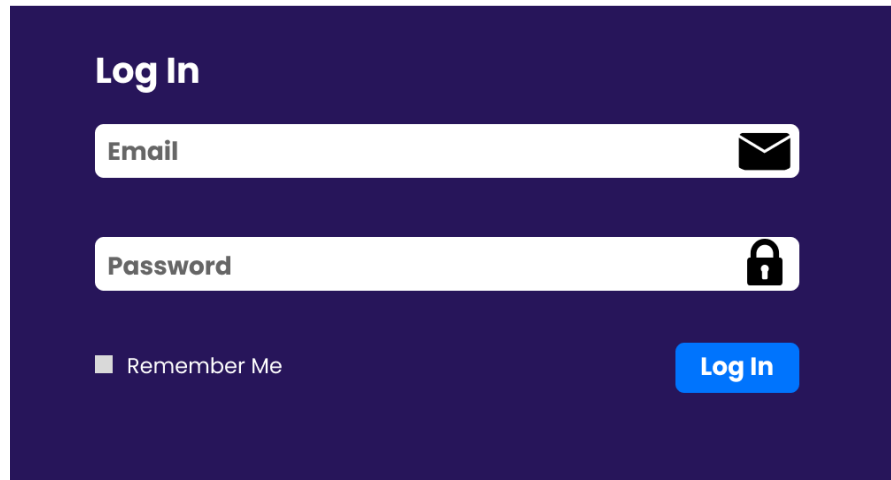


Figure: Authentication

- **Email:**
 - Input type should be “email”.
 - It is a mandatory field for the login page.
 - Accept alphanumeric and special characters.
 - Should be a valid email address, otherwise it shows a validation message.
- **Password:**
 - Input type should be “password”.
 - It is also mandatory for the login page.
 - Accept alphanumeric and special characters.
 - Should require a minimum length.

No.	Case	Priority
FR-02	Dashboard	High

Dashboard shows a minimum overview of the whole inventory system. In this system, stockout alert and running low alert are shown here. It also shows a count on total customers, checkout and suppliers. In the last section, the most sold products are displayed. It gets the best products from checkout count. Below figure shows Dashboard sample:

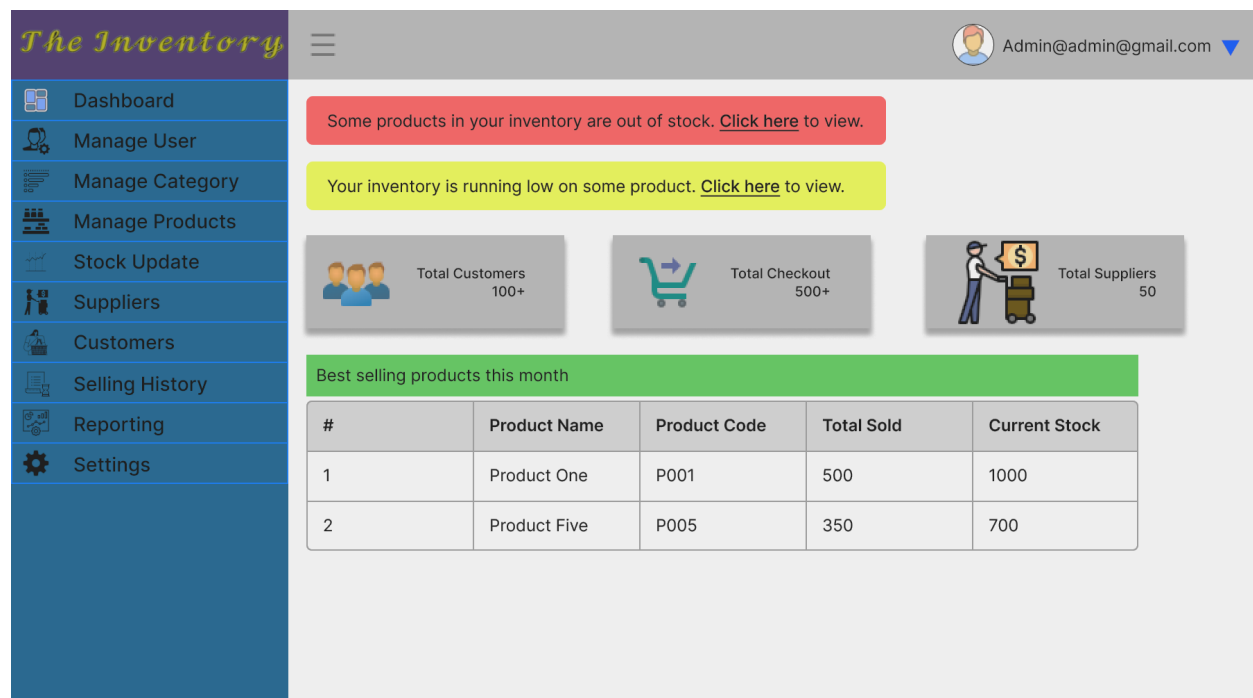


Figure: Dashboard

This figure also shows the master layout of the inventory system. Layout contains few sections to make the UI more user friendly and flexible. Header contains inventory logo, expand and collapse button to hide/show side menu bar and on the right side an image of user with his email and a drop down which contain logout option. Then there is

- **Header**
 - Inventory logo in the left corner.
 - Show/hide button for side menu bar.
 - User Image with user email as right align.
 - Dropdown menu which contains the logout option.

- **Side Menu Bar**

- Side menu bar starts under the header on the left side of the screen.
- Dashboard option that redirects to the dashboard.
- All other menu items in the list as the authorization.

Manage User:

Operations like adding new system users, assigning their role and giving access to different operations is available in this Menu.

Manage Category:

Category related operations are available here.

Manage Products:

Product information, keeping track of products and controlling their flow is the main target of this Option.

Stock Update

Working with stock will be done here such as opening a new stock, adding information for a stock, checking stock availability is available in this part of the system.

Suppliers and Customers

No.	Case	Priority
FR-03	User management	Medium

Firstly, the admin can create roles and give access to different operations for those roles. He also assigns users to those roles according to their position. If the admin gives someone access to manage users and roles then the user also can do those operations like the admin. Authenticated users only can do those operations in the system that are permitted for their assigned role. Admin can also remove anyone's permission anytime. See the figures below:

Manage Users

Show 10 entries

+ Add New

Search...

Email	Name	Role	Contact Number	Action
someone@example.com	John Doe	Admin	017XXXXXXX	View Edit Delete
someone@example.com	John Doe	Admin	017XXXXXXX	View Edit Delete
someone@example.com	John Doe	Admin	017XXXXXXX	View Edit Delete
someone@example.com	John Doe	Admin	017XXXXXXX	View Edit Delete

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Figure: Manage User

Admin or permitted users can see the users list and view their activity, update their personal information if needed and can delete an user whenever needed. He can also add new users using the “+Add” button on the right top corner of the figure.

Add User

Name:*

Email:*

UserName:

Roles and Permissions

Roles:*

Please Select a Role ▼

Password:*

Confirm Password:*

More Informations

Phone Number:*

Permanent Address:*

Save

Figure: Add User

- **Name:**
 - Input type field should be “text”.
 - Accept characters, “.”, “-” and spaces.
 - Mandatory field for adding users.
 - Shows validation message in case of invalid inputs or no inputs at all.
- **Email:**
 - Input field type should be “email”.

- Accept alphanumeric and special characters.
 - Should be a valid email address, shows validation message otherwise.
 - Mandatory field in this case.
- **Username:**
 - “Text” type input field which accepts characters, numbers and special characters.
 - Doesn’t accept spaces.
 - It's an optional field.
 - Shows validation message if filled with any spaces.
- **Roles:**
 - Dropdown item contains all role items as option items.
 - It’s a mandatory field.
 - The selected role will be assigned to the new user.
 - Shows validation message in case of not selecting any option.
- **Password:**
 - “Password” type input field.
 - Allows alphanumeric and special characters.
 - There is a minimum number of input required and also mandatory fields for this situation.
 - Shows validation message in case of blank or lower than minimum required character.
- **Confirm Password:**
 - Same as **Password** field.
 - This field input will match with **Password** field input.
 - Shows validation message in case it does not match with the **Password** field.
- **Mobile Number:**
 - “Text” type input field.
 - Allows numbers only and should be 11 digit or less.
 - This field is optional. Shows validation message in case of invalid input.
- **Permanent Address:**
 - “Text” type input field.
 - Allows alphanumeric, special characters and blank spaces.
 - Not mandatory.
 - Does not show any validation message in any case.

+ Add New

Show 10 entries
Search...

Roles	Action
Admin	✎ Edit ✖ Delete
Sales Executive	✎ Edit ✖ Delete
General Manager	✎ Edit ✖ Delete
Human Resource	✎ Edit ✖ Delete

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Figure: Manage Role

Admin and permitted users can manage roles for users. New roles can be added by clicking the “+Add” button from above figure. A list of all available roles will be shown. Authorized user can delete or edit any existing user role. Also can assign roles to a specific user.

Add Role

Role Name:*

Permissions:

Manage User	<input type="checkbox"/>
Manage Roles	<input type="checkbox"/>
Manage Products	<input type="checkbox"/>

Figure: Add Role

- **Role Name:**

- “Text” input field type.
- Required field allows alphabetic character with spaces.
- Below fields are different permissions that want to add to the new role.

No.	Case	Priority
FR-04	Product management	Medium

Admin and permitted users can see available products, their available stock, product code, unit price and brand name by selecting a category. Also product images are available. From the list, any product stock can be deleted, updated or new product stock can be added, new stock also can be added. Also categories and brands can be added to categorized products.



All Products					
Please Select Category ▼					+ Add New
Show 10 entries					Search...
Product	Code	Price	Current Stock	Brand	Action
Product One	0001	10000.00	100	One Brand	+ Add Stock Edit Delete
Product Two	0003	2000.00	250	Two Brand	+ Add Stock Edit Delete
Product Three	0004	1200.00	50	Brand One	+ Add Stock Edit Delete
Product Four	0005	250.00	1000	Brand One	+ Add Stock Edit Delete
Product Five	0022	500.00	350	Two Brand	+ Add Stock Edit Delete
Product Six	1122	800.00	680	One Brand	+ Add Stock Edit Delete

Figure: All Products

Above figure shows a part of Product Management of the Inventory Management System. List of available products appear on the figure with some information and operations. A user can easily check any product from this list and it's needed information. Also can do some operations like Edit, Delete or Add stock.

There is also an “Add” button in the top right corner. Which is used to add new stock of product which will be added in the list after add. Consider below figure:

Add Product

Product Name:*	Product Code:
<input type="text"/>	<input type="text"/>
Brand:	Category:
<div>Please Select a Brand ▼ </div>	<div>Please Select a Category ▼</div>
Price:*	Product Image:
<input type="text"/>	<div>Please Upload Product Image </div>
Quantity:	
<input type="text"/>	




Figure: Add Product

- **Product Name:**
 - “Text” type mandatory input field.
 - Allows alphanumeric, spaces and special characters.
 - Shows validation message in case of blank submit.
 - Generally takes input as a new product name.
- **Product Code:**
 - “Text” type input field.
 - This is a unique value for every new type of product stock.
 - Alphanumeric and spaces are valid inputs for this field.
 - Helps to find product details in the time of filtering or scanning through QRcode or BARcode.
- **Brand:**
 - Specify products by its brand name.
 - Dropdown select option takes a value from already existing brand names or users can add a new brand name by clicking the “+” sign next to the dropdown field.
 - It will open a modal which will take a “text” type input as brand name.
 - Which allows alphanumeric and special characters as input.
 - Brand name field is mandatory field when adding new brands.
 - An optional “text” input field is available when adding a new brand as Description.
- **Category:**
 - Dropdown select item to categorize products on their usability and behavior.
 - New category can be added from another page.
 - Category field is not mandatory for adding products.
- **Product Image:**

- “File” type input field.
- Allows image files like .jpg, .jpeg, .png, .gif and file size should be less than 5MB.
- Shows validation message if does not match the above conditions of the uploaded file.
- **Price:**
 - “Text” type input field allows only decimal values and also a required field for adding a new product.
 - Shows validation message in case of blank input.

Opening Stock:

Opening stock keeps track of products which were available before the installation of the inventory system. Shortly after the integration of the system admin can add the products as opening stock.

Stock Update

Supplier:

Please Select Supplier ▼

Purchase No.:

Date:

Product	Quantity	Rate	Total	
Product One	15	50.00	750	Remove
Product Two	5	30.50	152.5	Remove
Grand Total			902.5	Add More

Figure: Stock Update

- **Supplier:**
 - DropDown Select list of Suppliers.
 - Mandatory field for stock update and shows validation message in case of not selected
- **Purchase No.:**
 - Text field for Purchase no.
 - Mandatory field and shows validation message if not filled.
- **Date:**
 - Date field for Purchase date.

- Mandatory field and shows validation message if not filled.
- **Product:**
 - Takes product which is being purchased
 - Mandatory for purchasing
- **Quantity:**
 - Number field for number of products purchasing
 - Takes integer value
 - Mandatory field and show validation message if not filled
- **Rate:**
 - Number field for selected products unit price
 - Takes decimal value
 - Mandatory fields and shows validation message if not filled
- **Remove/Add More:**
 - Remove button remove the respected row from purchase
 - Add more button adds a new row for purchase

No.	Case	Priority
FR-05	Category	Medium

Category is important for categorizing products on their useability or on other properties. It helps to easily find any product or group of products. With this feature, one can compare many products of the same type. Through this system, new categories can be added, can view available categories and can update or delete them easily. In case of delete, it shows an alert about removing all products under the category. Below figures easily demonstrate the operations:

+ Add New

Show 10 entries

Search...

#	Category Name	Actions
1	Category 1	<div>+ Add Stock</div> <div>Edit</div> <div>Delete</div>
2	Category 2	<div>+ Add Stock</div> <div>Edit</div> <div>Delete</div>
3	Category 3	<div>+ Add Stock</div> <div>Edit</div> <div>Delete</div>

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Figure: Category List

+ Add New

Show 10 entries

Search...

Category Name:

Submit

#	Category Name	Actions
1	Category 1	<div>+ Add Stock</div> <div>Edit</div> <div>Delete</div>
2	Category 2	<div>+ Add Stock</div> <div>Edit</div> <div>Delete</div>
3	Category 3	<div>+ Add Stock</div> <div>Edit</div> <div>Delete</div>

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Figure: Add Category

- Category Name:
 - “Text” input type field.

- Required field.
- Shows validation message in case blank submit
- Accepts alphanumeric characters and spaces.
- Shows validation error message in case of other inputs.

No.	Case	Priority
FR-06	Sale Management	Medium

Admin and authorized users can manage sales of the business through the inventory management system. Users can see previous sales with all details, can view and print the invoice of any sale and can filter records according to customer and date range. Consider the figure below:

Filters

Customer:
Date Range:

Show entries

Date	Reference No.	Customer Name	Contact Number	Location	Total Items	Added by	Action
24/09/2022	2022/0022	Some One	01XXXXXXXXXX	Mirpur Branch	05	Mr. X	<input type="button" value="Actions"/>
29/09/2022	2022/0025	Mr. Y	01XXXXXXXXXX	Farmgate Branch	10	Mr. T	<input type="button" value="Actions"/>
04/10/2022	2022/0030	Mr. Z	01XXXXXXXXXX	Dhanmandi Branch	09	Mr. R	<input type="button" value="Actions"/>

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Figure: Sales List

Generally the sales list appears with some important information about the sale like Date of sale, Reference No, Customer name if the customer is registered otherwise “Walk in customer”, his/her contact number, Location of sale, number of items sold and the name of staff who sold the products. There are also some operations like export the sale details and delete the record.

Filters

Business Location:

Please Select a location

Customer:

Please Select a Customer

Date Range:

24/09/2022 - 01/10/2022

User:

Please Select an User

Show10entries

+ Add New

Search...

Date	Invoice No.	Customer Name	Payment Status	Location	Total Amount	Payment Due	Action
24/09/2022	2022/0022	Some One	Due	Mirpur Branch	10000.00	10000.00	Actions
29/09/2022	2022/0025	Mr. Y	Paid	Farmgate Branch	500	0	Actions
04/10/2022	2022/0030	Mr. Z	Due	Dhanmondi Branch	2000.00	2000.00	Actions
Total:			Due-2, Paid-1		12500.00	12000.00	

Showing 3 of 3 entries

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Figure: Sale Return

Above figure shows the return list from customers. This list contains invoice No., Date, customer name, location of sale, payment status, total price and due amount. Authorized users can print the information about any returned products details. This part helps in managing returned products easily and saves time also.

Filters

Business Location:

Please Select a location

Customer:

Please Select a Customer

Date Range:

24/09/2022 – 01/10/2022

User:

Please Select an User

Payment Status:

Please Select a Status

Shipping Status:

Please Select a Status

Show10 entries

+ Add New

Search...

Date	Invoice No.	Customer Name	Contact Number	Location	Payment Status	Shipping Status	Action
24/09/2022	2022/0022	Some One	01000000000X	Mirpur-2, Block-A, Rd-4, Building-03	Paid	In Transit	Actions
29/09/2022	2022/0025	Mr. Y	01000000000X	West Raja Bazar, 58/D, Dhanmondi	Paid	Processing	Actions
04/10/2022	2022/0030	Mr. Z	01000000000X	Kawran Bazar, ARA bhaban	Paid	Shipped	Actions

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Figure: Shipping Details

Shipping Details helps to keep track of shipments status of ordered products. This list contains fields like Date, invoice, customer name, contact number, location, shipping status, payment status etc. Authorized users can view this list and can print any shipping details with some other additional information. This list could be filtered by different attributes like Business location

wise, customer wise, date range wise, user who sold the product wise, payment status wise and shipping status wise.

No.	Case	Priority
FR-07	Report	Medium

The proposed Inventory Management System gives report support. It gives common reports such as profit or loss reports and purchase and sale reports. Those reports help for understanding business current conditions and also helps in future planning. Analyzing a business becomes very easy with this reporting feature.

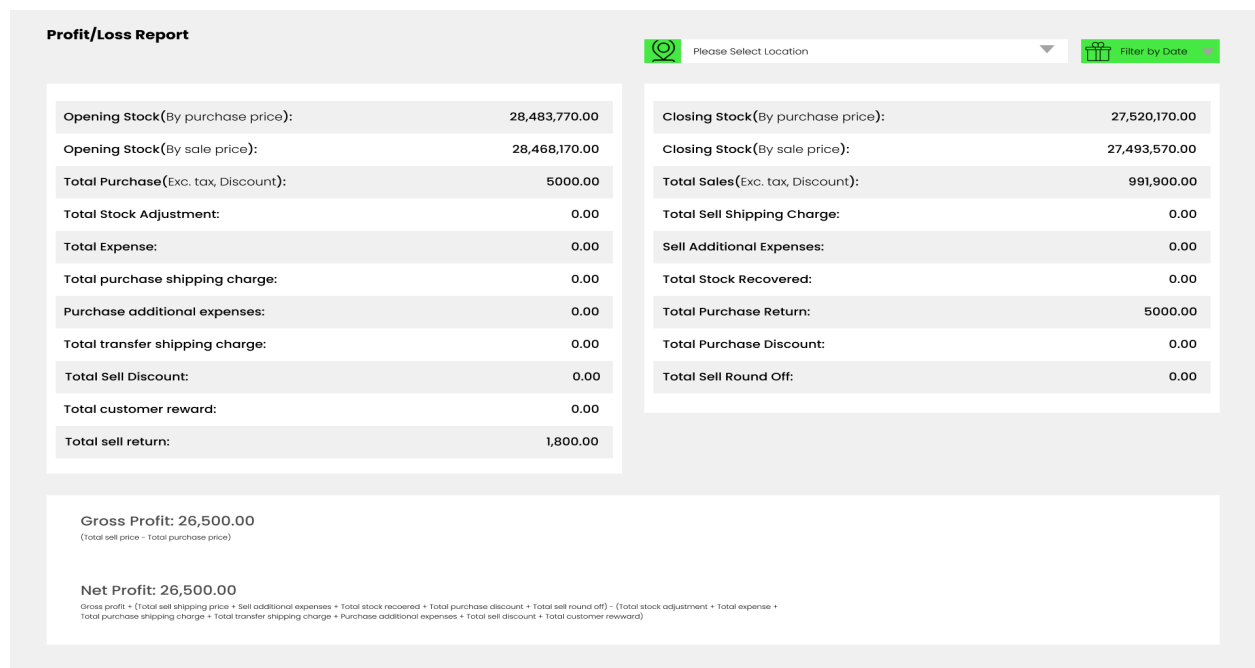


Figure: Profit/Loss Report

Profit/loss report shows all the information about all transactions and calculate them and finally return profit of loss value. This detailed report helps to easily understand the flow of profit or loss. This report can be filtered by business location and date.

- **All Location:**
 - Dropdown list items that contain all business locations that are listed in the Inventory System.
 - Can select one item and after selecting the below report will be filtered by that location only.

- **Filter by Date:**

- This field takes a date range and filters the report between those ranges.
- Input type is datetime.
- From date must be less than to date.

The purchase and inventory out report shows the tracking of the product. Receive requests to sell products randomly, which products are purchased, how many purchased and how often. This helps determine which products are in high demand.