
INTRODUCTION

Overview

Company Overview, Background of the Project,
Weakness of the Existing system, Aims and Objectives,
Proposed Solution, Expected Outcome

1.1 Company Overview

Established in 2014, *Nilgala Drinking Water Systems* and this company produced quality, best products of bottled drinking water to the customer.

At *Nilgala Drinking Water Systems*, management focus is directed toward producing and improving the best processes to bring customers, clean, healthy, and hygienic water to quench peoples thirst.

Nilgala drinking water systems company in Uva province, Monaragala district in Sri Lanka. This company situated in *Nilgala* land bounded to *Nilgala* forest. Therefore, company can direct access to the pure water source and company can produce best quality products.

Nilgala Drinking Water Systems Company is awarded company and this is SLS certified company.

Mission:

To be attentive to all our customer needs and create innovative and environmentally friendly packaging solutions and deliver value to our customers, employees and society at large.

Vision:

To serve the consumers in the world by continuously developing and creating products and be a major player in the Sri Lanka water bottle market with innovation, quality, customer partnering, support, operational excellence, international best practices and world class competitive strengths.

1.2 Background of the Project

Stock management software is a web-based system for tracking Stock levels, orders, sales and deliveries. It can also be used in the manufacturing industry to create a work order, bill of materials and other production-related documents. Companies use Stock management software to avoid product overstock and outages. It is a tool for organizing Stock data that before was generally stored in hard-copy form or in spreadsheets. A good Stock are needed the following area:

- Stock is the raw materials, component parts, work-in-process, or finished products that are held at a location in the supply chain.
- Replacement parts, tools, & supplies, Goods-in-transit to warehouses or customers.
- Ensure Stock processes are in compliance with decision.
- Define and apply appropriate procedures for collecting, processing, communicating, and archiving Stock data & information.
- Coordinate with relevant ministries, agencies, and other organizations.
- Provide Stock reports regularly.
- Ensure the quality of Stock data.
- Make arrangements to collect data from statistical agencies, companies, industry associations, etc.
- A key category is one that is prioritized within the Stock system.
- A key category may also be determined through a qualitative assessment.
- Make Stock information available to stakeholders and respond to information requests.
- Archive all documentation and results.
- Continuous improvement feedback.

1.3 Weakness of the Existing system

The existing system of Stock Management system totally is done by manually. All the details are recorded in following item.

- Stock item
- Purchase item
- Purchase return item
- Sales item
- Sales return item
- Supplier details
- Customer details
- Reports details

Employees tend to make errors like data entry and others, Manual entry is also huge time consuming, Reports are not attractive are also conduct in this system.

- The Supplier Invoice contains 'ordered stock details' as well as other information. Therefore, it is inefficient to have two flow lines delivering similar data.
- Supplier sends Payment details. It is unnecessary and irrelevant to store payment data, as it is out of the scope of the Stock Management system.
- The system has the ability to calculate whether the available stock is enough to satisfy the customer order. Therefore, it is inefficient to send available stock details to the Manager.
- The existing system sends 'received stock details' to the Manager. This is unnecessary, as by sending this data to the manager no improvements are made.
- The Customer Invoice contains details as well as other information. Therefore, it is forwarded to Customer as well as the Manager, which is irrelevant.

1.4 Aims and Objectives

- All the irrelevant and unnecessary flow lines in the existing system: ordered stock details, Payment details, and available stock details to the manager, received stock details to the manager, transport criteria, transport bill have been emitted.
- Supplier will send a Stock delivered to warehouse note. Instead fully trusting the Supplier, the system updates the Stock file when the supplier invoice (manually received along with the stock) has been received.
- When the Stock file updates, a Goods Received Note is generating to the Supplier.
- If the system receives a 'stock delivered to warehouse' note but the Stock file does not update (meaning stock has not arrived at the warehouse), the system waits for 3 days. At the end of 3 days, the director receives a 'stock not delivered to warehouse' note.
- The Customer is given 30 days to make payments for the ordered stock. When the customer pays, the Bank sends a 'payment received from customer' note to the system. As the system receives this note, it sends the customer a 'payment received' note.
- While waiting for payment from customer, every 7 days the system sends a 'reminder for payment' note to the customer.
- If the customer does not make payment before 30 days, 'Payment not received from customer' note is sent to the Director.
- At the end of each order, the system checks the Stock levels to verify it has not reduced below the average. If it has, 'Minimum stock level exceeded' not is sent to the Director.
- The director receives Monthly sales report; Monthly purchase report, stock status report and Annual Sales report to make it easy to conclude on re-order levels.

1.5 Proposed Solution

Stock management software is made up of several key components, all working together to create a cohesive Stock for many organizations' systems. These features include:

- **Single Login Panel**

Single type of users

Manager, Stock manager

Above Admin users can able to login by the same login panel.

- **Supplier of Product management**

Should Stock reach a specific threshold, a company's Stock management system can be programmed to tell managers to reorder that product. This helps companies avoid running out of products or tying up too much capital in Stock.

- **Service Management**

Companies that are primarily service-oriented rather than product-oriented can use Stock management software to track the cost of the materials they use to provide services, such as cleaning supplies. This way, they can attach prices to their services that reflect the total cost of performing them

- **Update Data**

Up-to-date, real-time data on Stock conditions and levels is another advantage Stock management software gives companies. Company executives can usually access the software through a laptop or PC to check current Stock numbers. This automatic updating of Stock records allows businesses to make informed decisions.

- **Stock Control**

Improve Stock control through automatically updated stock levels whenever sales and purchases are made.

➤ **Sales Report**

Access accurate sales reports that offer insights for better business decisions, all in real time.

➤ **Stock Optimization**

Stock allows you to have the right amount of stock at the right time: Never over stock or under stock your Stock again.

➤ **Purchasing**

Create purchase orders that update Stock levels automatically while ensuring data accuracy.

➤ **Expiration Date**

Assign expiration dates to items during or immediately after receiving items and more.

➤ **Multi-level Categories**

Adding as many categories as you require, categories just as easily, providing additional Stock item sorting capabilities.

➤ **Graph**

Built in interactive reports for graphs can be generated in real-time.

➤ **Report**

Common reports come pre-configured and ready to go as standard. Including interactive reports for business analysis. Sales, Purchase Report, Purchase Stocks etc.

➤ **Print Report**

Once a report is generated it can be printed or saved to pdf formats ready.

➤ **Supplier Information**

Easy to add supplier and Company details for purchase product.

➤ **Customer Information**

Add Customer with Company for Seals product.

➤ **Stock Notification**

If stock products available less than 10%, then it notifies to admin for purchase of this product.

➤ **Stock availability**

Show how many products are available in stock with product name.

1.6 Expected Outcome

Benefit of a good Stock Management System:

- A good Stock management strategy improves the accuracy of Stock orders.
- A good Stock management strategy leads to a more organized Stock.
- A good Stock management strategy helps save time and money.
- A good Stock management strategy increases efficiency and productivity.
- A good Stock management strategy keeps your customers coming back for more.
- Stock management is primarily about specifying the shape and percentage of stocked goods.
- Stock management leads to optimal Stock levels.
- Stock management can also help companies improve cash flows.
- Management of the inventories, with the primary objective of determining stock levels within the physical distribution system, functions to balance the need for product availability against the need for minimizing stock holding and handling costs.

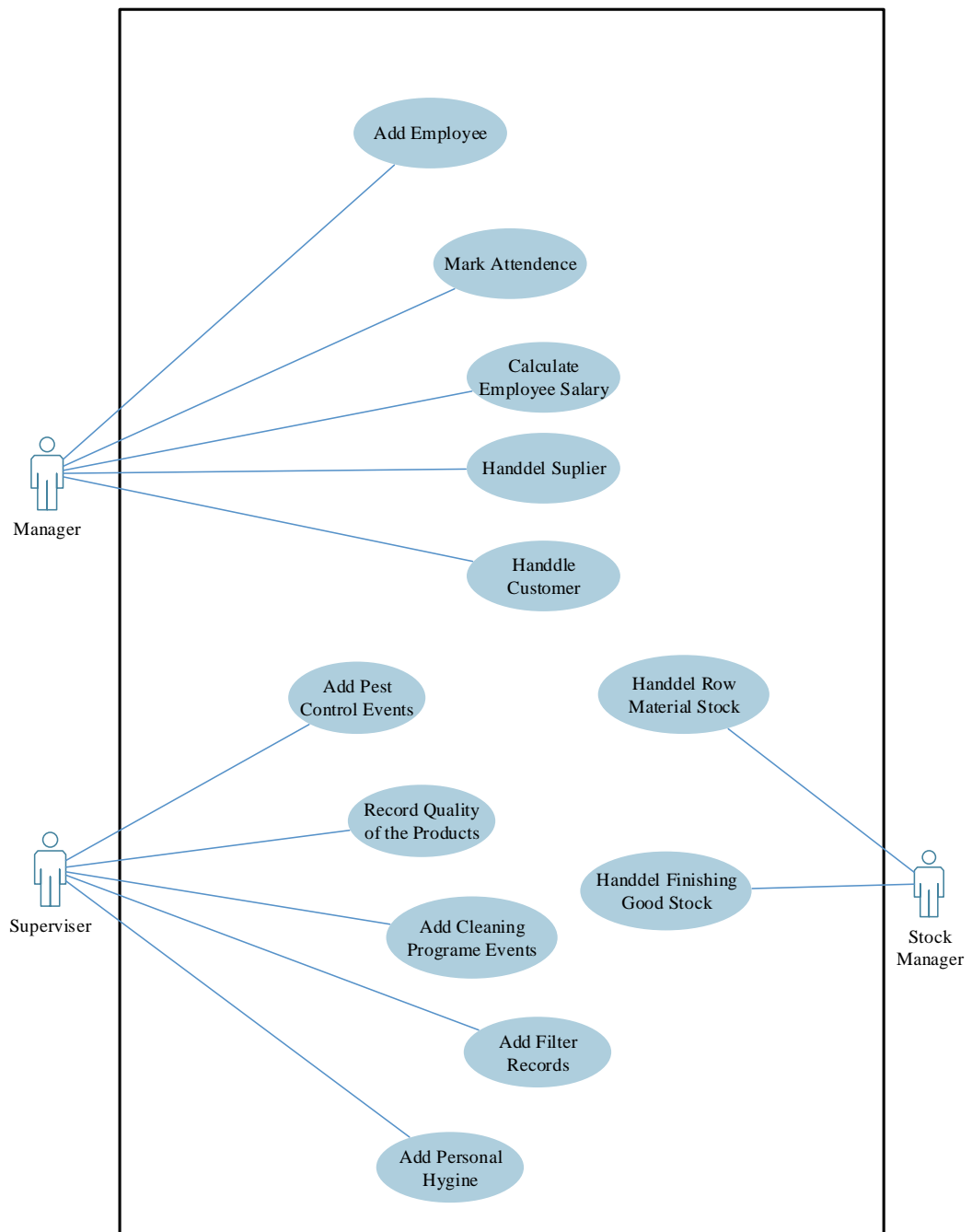
SYSTEM ANALYSIS

Overview

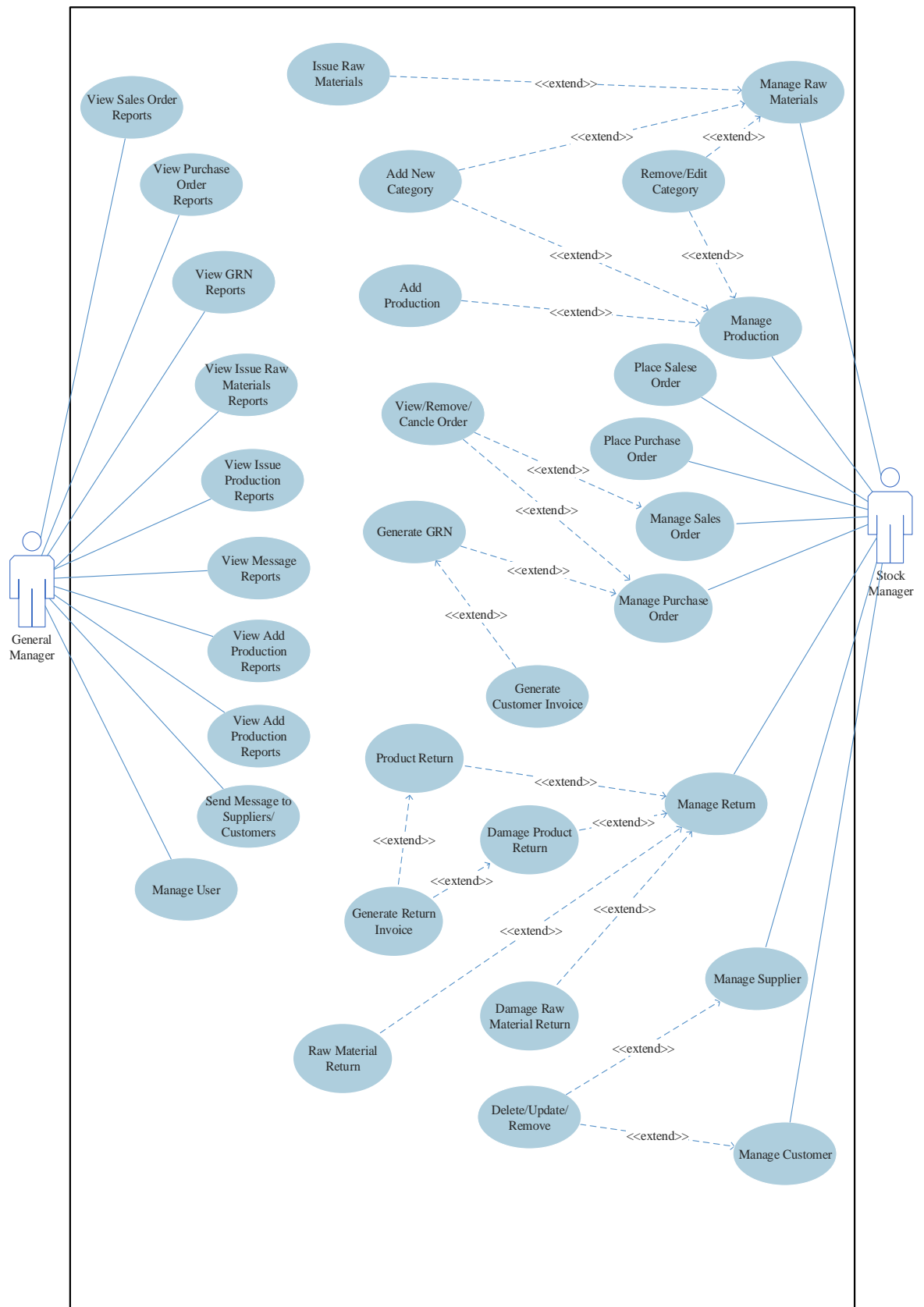
UML Diagrams, ER Diagram for Proposed System

2.1 UML Diagrams

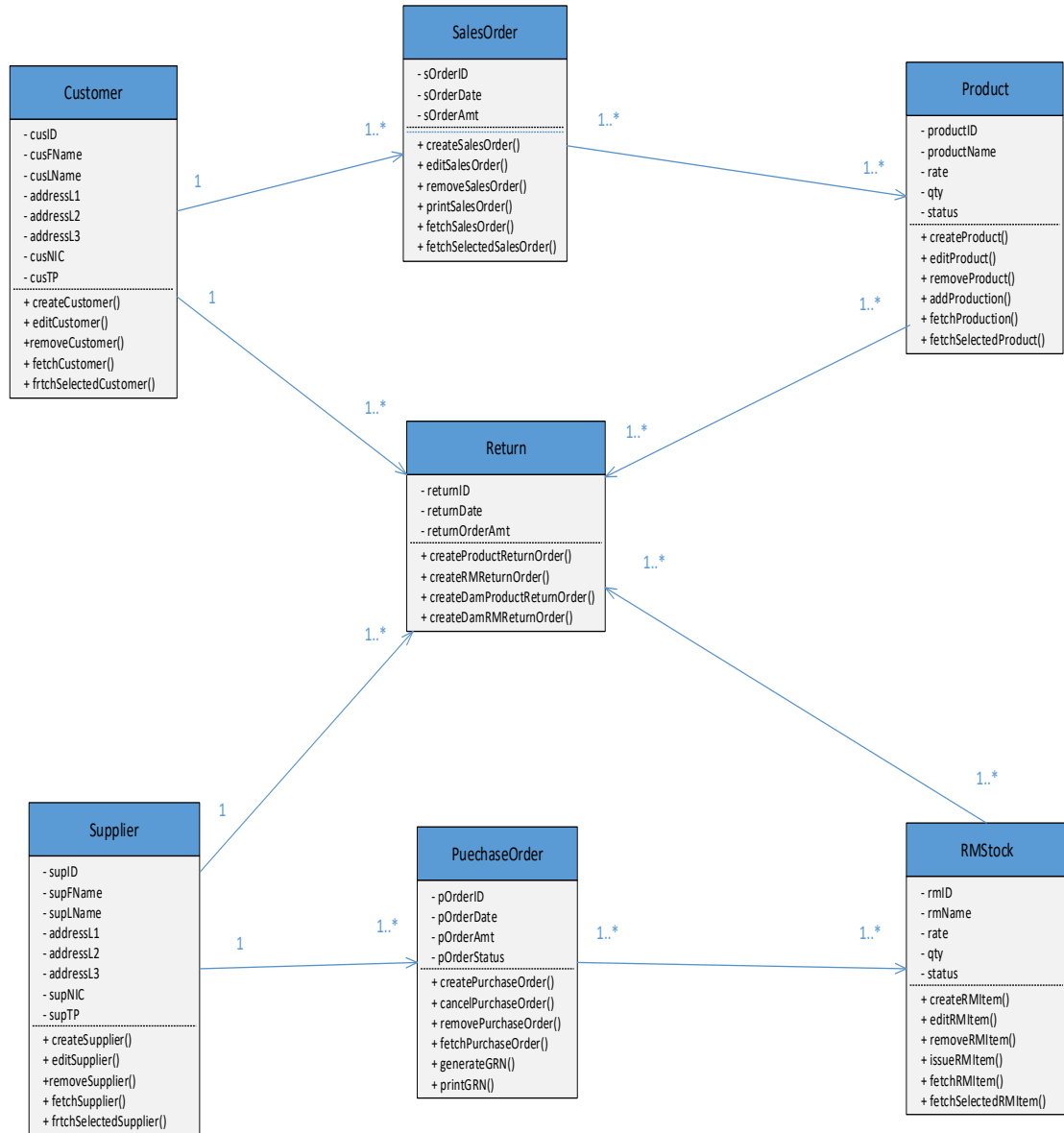
2.1.1 Use Case Diagram for Exiting System.



2.1.2 Use Case Diagram for proposed system

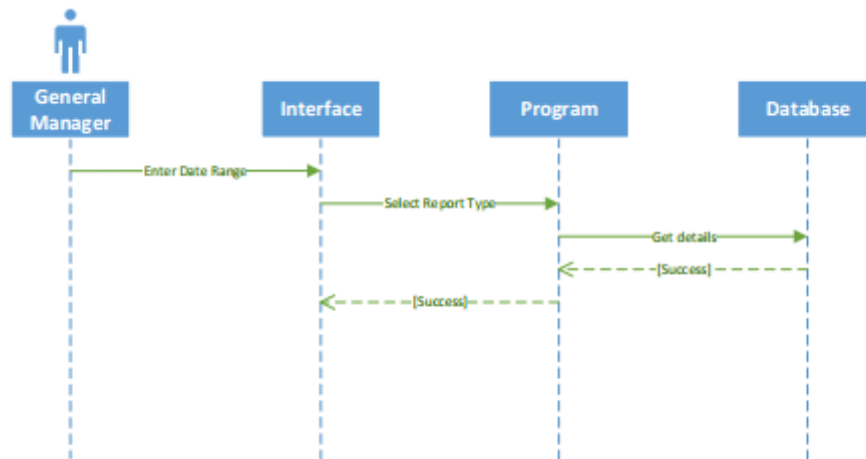


2.1.3 Class Diagram for proposed system

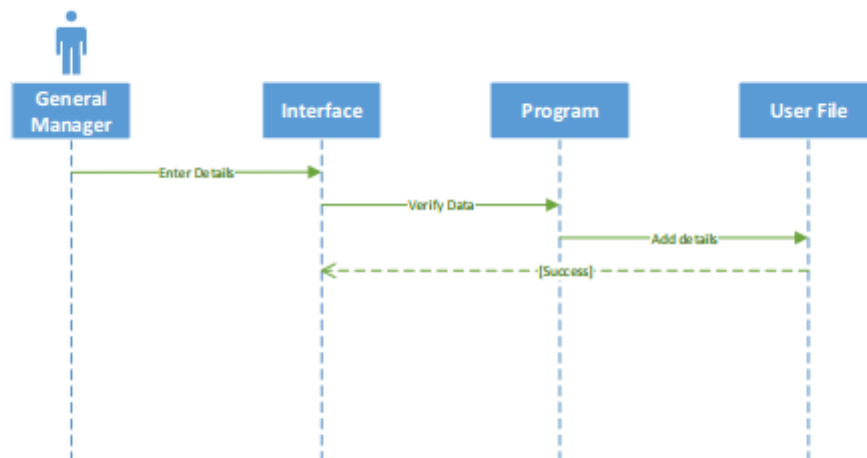


2.1.4 Sequence Diagrams for proposed system

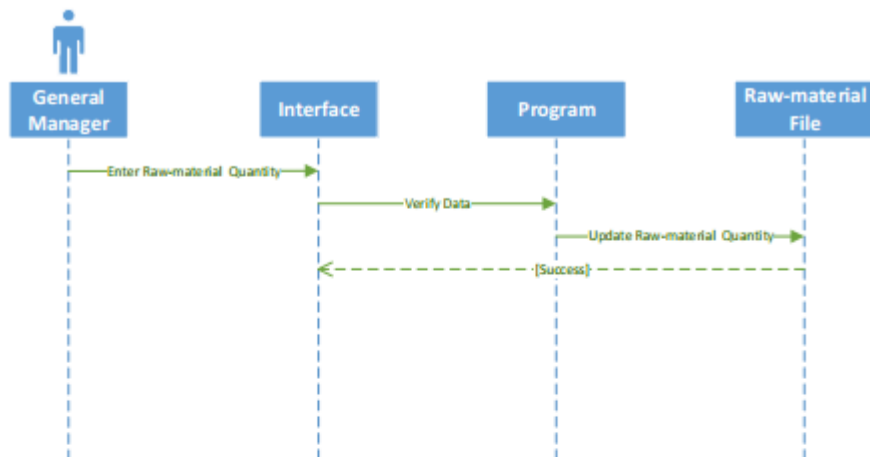
VIEW REPORTS (*General Manager*)



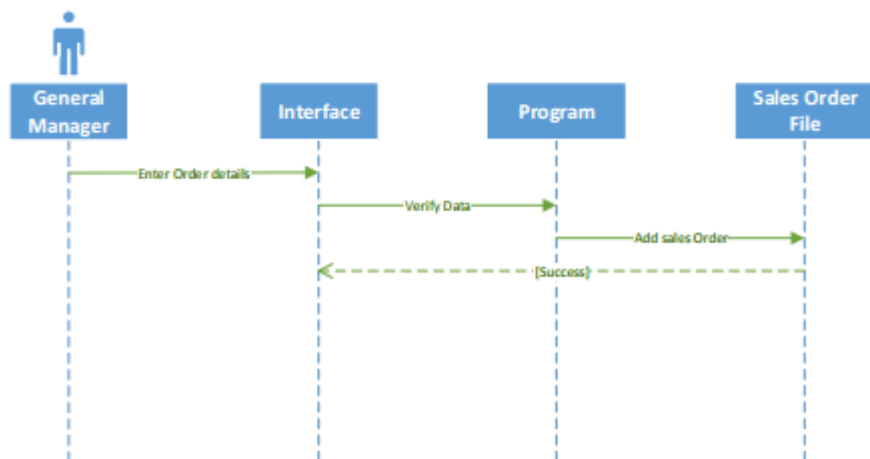
ADD NEW USER (*General Manager*)



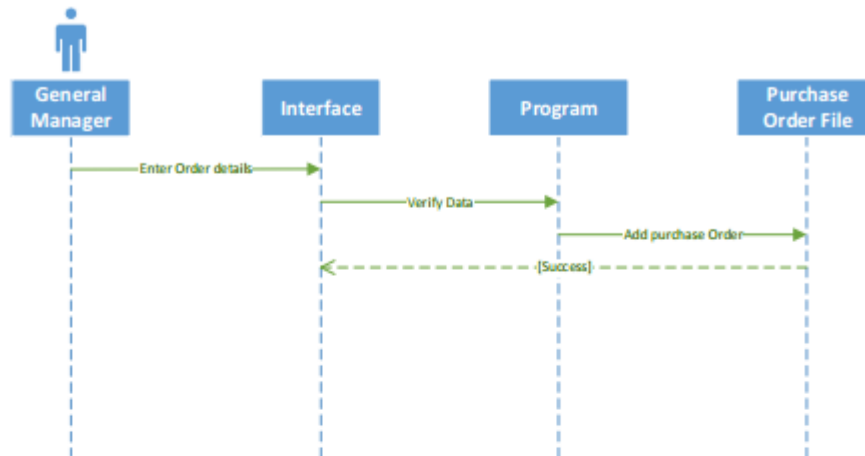
ISSUE RAW-MATERIALS (*Stock Manager*)



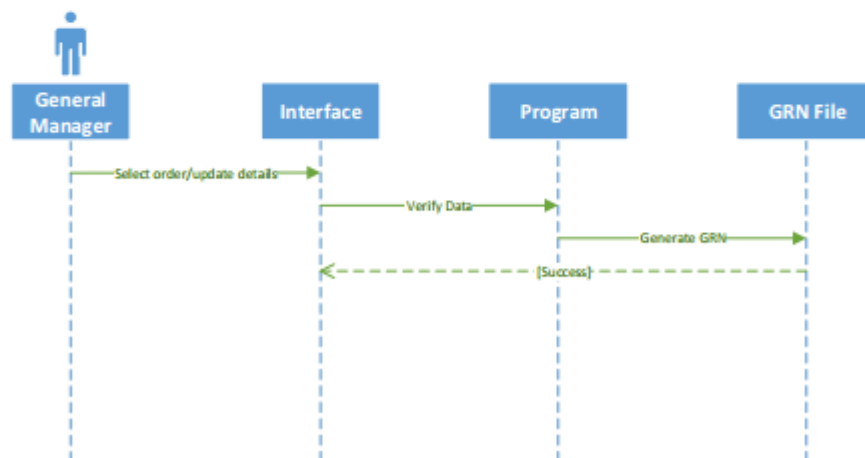
PLACE SALES ORDER (*Stock Manager*)



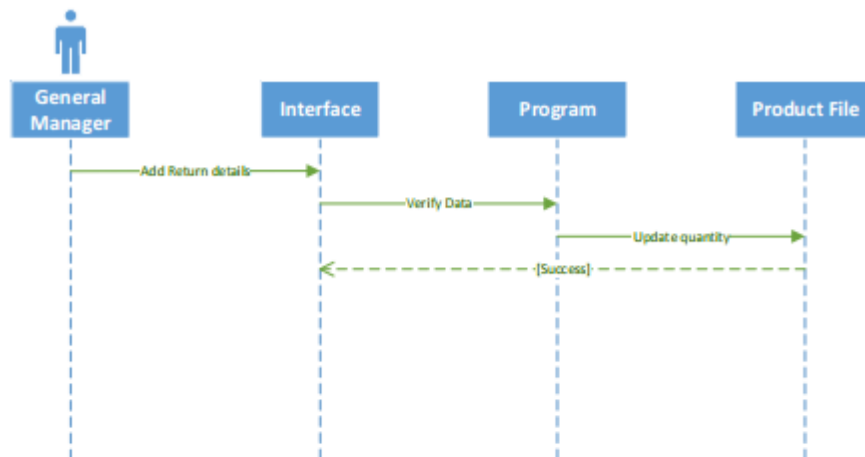
PLACE PURCHASE ORDER (Stock Manager)



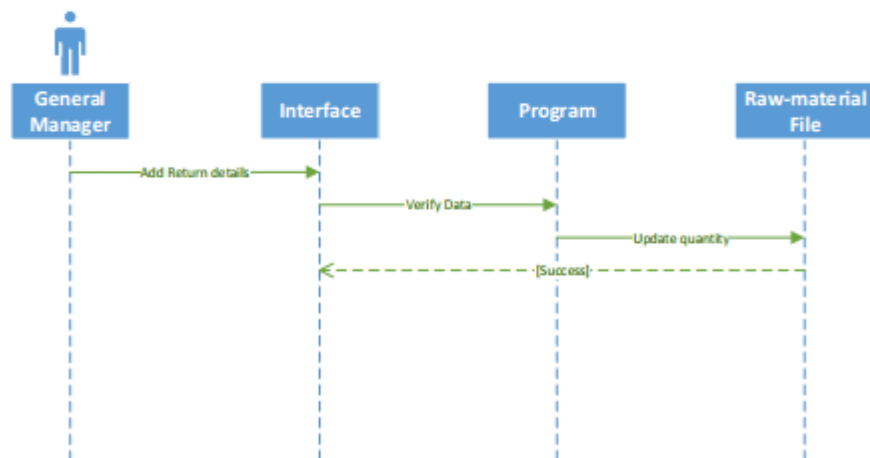
GENERATE GRN (Stock Manager)



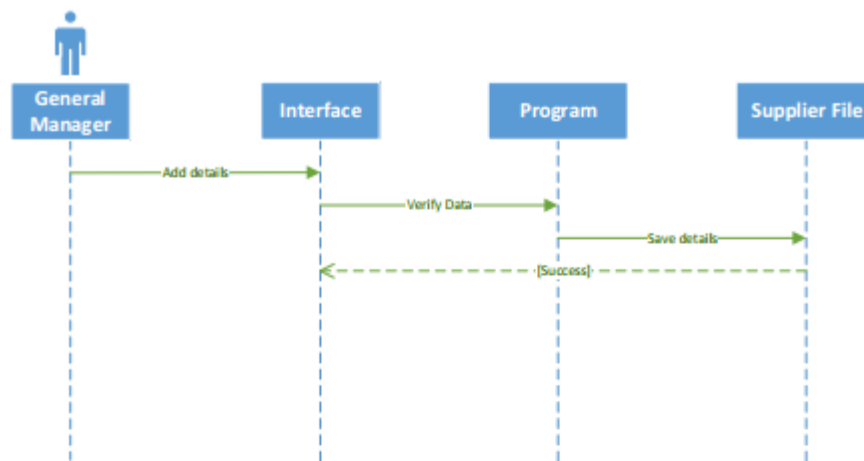
PRODUCT RETURN (*Stock Manager*)



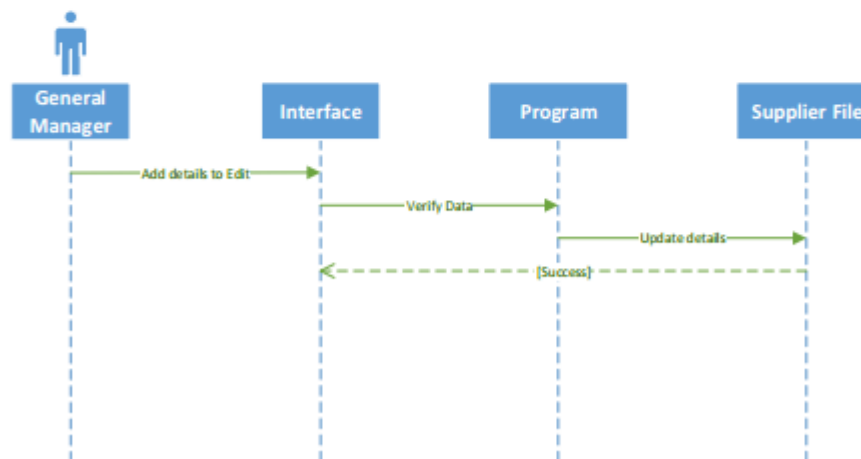
RAW-MATERIAL RETURN (*Stock Manager*)



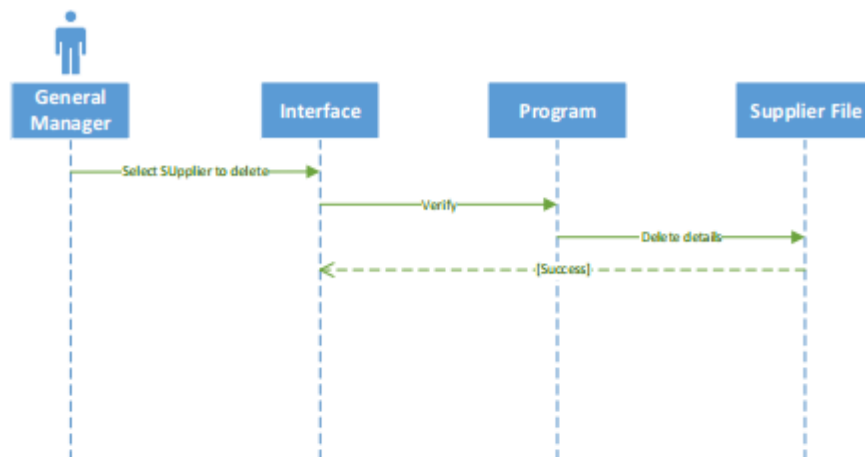
ADD SUPPLIER (Stock Manager)



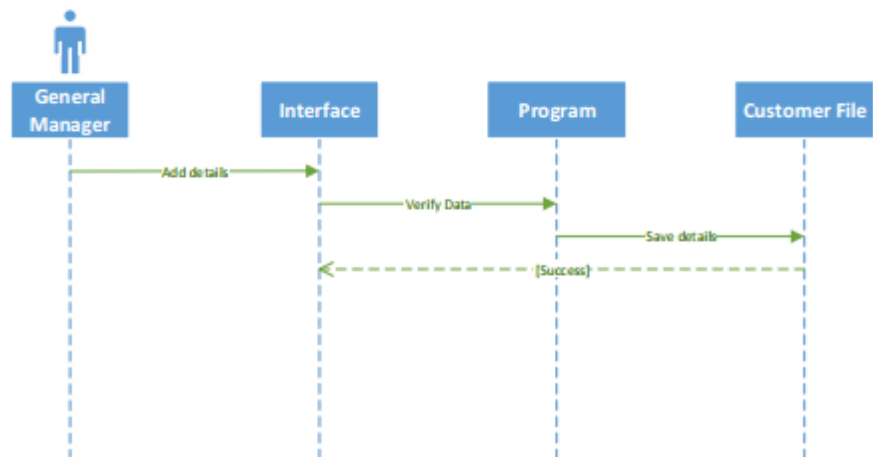
EDIT SUPPLIER (Stock Manager)



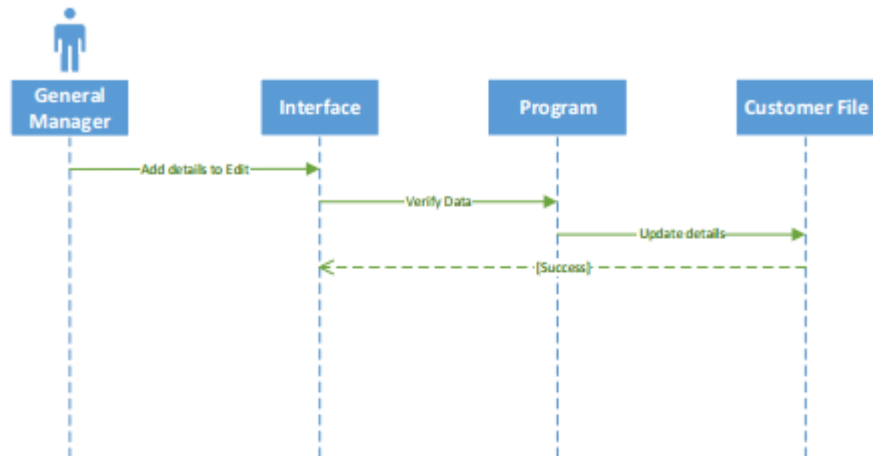
DELETE SUPPLIER (Stock Manager)



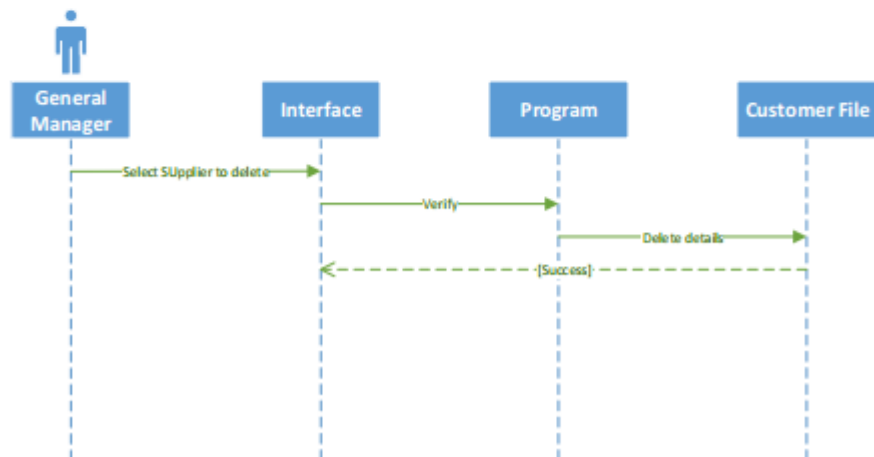
ADD CUSTOMER (Stock Manager)



EDIT CUSTOMER (Stock Manager)



DELETE CUSTOMER (Stock Manager)



2.2 ER DIAGRAM FOR PROPOSED SYSTEM

SYSTEM DESIGN

Overview

Database Design, Interface Design, Report Design

3.1 Database Design

Database name: *ndws_ims_db*

Table Number : No 01

Table Name : addproduct

Field Name	Data Type	Size	Description
addProductID (PK)	Integer	10	Add production ID
date	Date	10	Product added date
time	Time	08	Product added time

Table Number : No 02

Table Name : addproductitem

Field Name	Data Type	Size	Description
addProductItemID (PK)	Integer	10	Add product Item ID
addProductID (FK)	Integer	10	Product added ID
productID(FK)	Integer	10	Product ID
qty	Integer	10	Added item quantity

Table Number : No 03

Table Name : customer

Field Name	Data Type	Size	Description
cusID (PK)	Integer	10	Customer ID
cusName	Varchar	100	Customer's Name
cusAddress	Varchar	150	Customer's address
cusTP	Integer	15	Customer's Contact No
cusNIC	Varchar	15	Customer's NIC No
deleted	Boolean	01	Record status

Table Number : No 04

Table Name : damproreturn

Field Name	Data Type	Size	Description
damProReturnID (PK)	Integer	10	Damaged ProducReturn ID
returnDate	Date	10	Return Date
time	Time	08	Return Time
cusID (FK)	Integer	10	Returned customer ID
orderReturnAmt	Decimal	10, 2	Return Amount of Order
deleted	Boolean	01	Record Status

Table Number : No 05

Table Name : damproreturnitem

Field Name	Data Type	Size	Description
damProReturnItemID (PK)	Integer	10	Damaged ProducReturn ID
damProReturnID (FK)	Integer	10	Damaged ProducReturn ID
productID (FK)	Integer	10	Product ID
Qty	Integer	10	Returned quantity
Rate	Decimal	10, 2	Rate of one Item
Tot	Decimal	10, 2	Return Amount of Item
Deleted	Boolean	01	Record Status

Table Number : No 06

Table Name : damrmreturn

Field Name	Data Type	Size	Description
damRMReturnID (PK)	Integer	10	Damage Return ID
returnDate	Integer	10	Return Date
Time	Time	08	Return Time
supID (FK)	Integer	10	Supplier ID
orderReturnAmt	Decimal	10, 2	Order Return Amount
Deleted	Boolean	01	Record Status

Table Number : No 07

Table Name : damrmreturnitem

Field Name	Data Type	Size	Description
damRMReturnItemID (PK)	Integer	10	Damaged ProducReturn ID
damRMReturnID (FK)	Integer	10	Damaged ProducReturn ID
rmID (FK)	Integer	10	Product ID
Qty	Integer	10	Returned quantity
Rate	Decimal	10, 2	Rate of one Item
Tot	Decimal	10, 2	Return Amount of Item
Deleted	Boolean	01	Record Status

Table Number : No 08

Table Name : grn

Field Name	Data Type	Size	Description
grnID (PK)	Integer	10	GRN ID
grnDate	Date	10	GRN Date
pOrderID (FK)	Integer	10	Product Order ID
grnAmt	Decimal	10, 2	GRN Amount

Table Number : No 09

Table Name : grnitem

Field Name	Data Type	Size	Description
grnItemID (PK)	Integer	10	GRN Item ID
grnID (FK)	Integer	10	GRN ID
rmID (FK)	Integer	10	Raw-material ID
qty	Decimal	10, 2	GRN quantity
rate	Decimal	10, 2	Rate of one Item
tot	Decimal	10, 2	Total amount of an one item

Table Number : No 10

Table Name : issuerm

Field Name	Data Type	Size	Description
issueRMID (PK)	Integer	10	Issue Raw-material ID
date	Date	10	Issued Date
time	Time	08	Issued Time

Table Number : No 11

Table Name : issuermitem

Field Name	Data Type	Size	Description
issueRMItemID (PK)	Integer	10	Issue Raw-material Item ID
issueRMID (FK)	Integer	10	Issue Raw-material ID
rmID (FK)	Integer	10	Raw-material ID
qty	Integer	10	Issued Quantity

Table Number : No 12

Table Name : porderitem

eField Name	Data Type	Size	Description
pOrderItemID (PK)	Integer	10	Product order item ID
pOrderID (FK)	Integer	10	Product Order ID
rmID (FK)	Integer	10	Raw-material ID
qty	Integer	10	Quantity
rate	Decimal	10, 2	Product Rate
tot	decimal	10, 2	Product Totatl

Table Number : No 13

Table Name : preturnitem

Field Name	Data Type	Size	Description
pReturnItemID (PK)	integer	10	Produt return item ID
pReturnID (FK)	Integer	10	Product return ID
productID (FK)	Integer	10	Product ID
qty	Integer	10	Returned Quantity
rate	Decimal	10, 2	Product Rate
tot	Decimal	10, 2	Product Total
deleted	Boolean	1	Record status

Table Number : No 14

Table Name : production

Field Name	Data Type	Size	Description
productID (PK)	Integer	10	Product ID
productName	Varchar	50	Product Name
productRate	Integer	10, 2	Product Rate
productQty	Integer	10	Product Quantity
deleted	Boolean	1	Record Status

Table Number : No 15

Table Name : productreturn

Field Name	Data Type	Size	Description
pReturnID (PK)	Integer	10	Product return ID
returnDate	Date	10	Return date
returnTime	Time	08	Return time
cusID (FK)	Integer	10	Customer ID
orderReturnAmt	Decimal	10,2	Return amount of order
deleted	Boolean	1	Record Status

Table Number : No 16

Table Name : purchaseorder

Field Name	Data Type	Size	Description
pOrderID (PK)	Integer	10	Purchase order ID
pOrderDate	Date	10	Purchase order date
supID (FK)	Integer	10	Supplier ID
pOrderAmt	Decimal	10, 2	Purchase order amount
orderStatus	Integer	1	Order status
deleted	Boolean	1	Record status

Table Number : No 17

Table Name : rmitem

Field Name	Data Type	Size	Description
rmID (PK)	Integer	10	Raw-material ID
rmName	Varchar	50	Raw-material name
rmRate	Decimal	10, 2	Raw-material rate
rmQty	Integer	10	Raw-material quantity
deleted	Boolean	1	Record status

Table Number : No 18

Table Name : rmreturn

Field Name	Data Type	Size	Description
rmReturnID (PK)	Integer	10	Raw-material ID
returnDate	Date	10	Return date
returnTime	Time	08	Return time
supID (FK)	Integer	10	Supplier ID
orderReturnAmt	Decimal	10, 2	Order return Amount
deleted	Boolean	1	Record status

Table Number : No 19

Table Name : rmreturnitem

Field Name	Data Type	Size	Description
rmReturnItemID (PK)			
rmReturnID (FK)	Integer	10	Raw-material Item ID
rmID (FK)	Date	10	Raw-material ID
qty	Time	08	Raw-material quantity
rate	Integer	10	Raw-material rate
tot	Decimal	10, 2	Order return Amount
deleted	Boolean	1	Record status

Table Number : No 20

Table Name : salesorder

Field Name	Data Type	Size	Description
sOrderID (PK)	Integer	10	Sales order ID
sOrderDate	Date	10	Sales order date
cusID (FK)	Integer	10	Customer ID
tot	Decimal	10, 2	Total order amount
discount	Decimal	10, 2	Discount
grandtot	Decimal	10, 2	Grand total of order
payType	Integer	1	Payment type
deleted	Boolean	1	Record status

Table Number : No 21

Table Name : sorderitem

Field Name	Data Type	Size	Description
sOrderItemID (PK)	Integer	10	Sales order item ID
sOrderID (FK)	Integer	10	Sales order ID
productID (FK)	Integer	10	Product ID
qty	Integer	10	Order quantity
rate	Decimal	10, 2	Product rate
tot	Decimal	10, 2	Product total

Table Number : No 22

Table Name : supplier

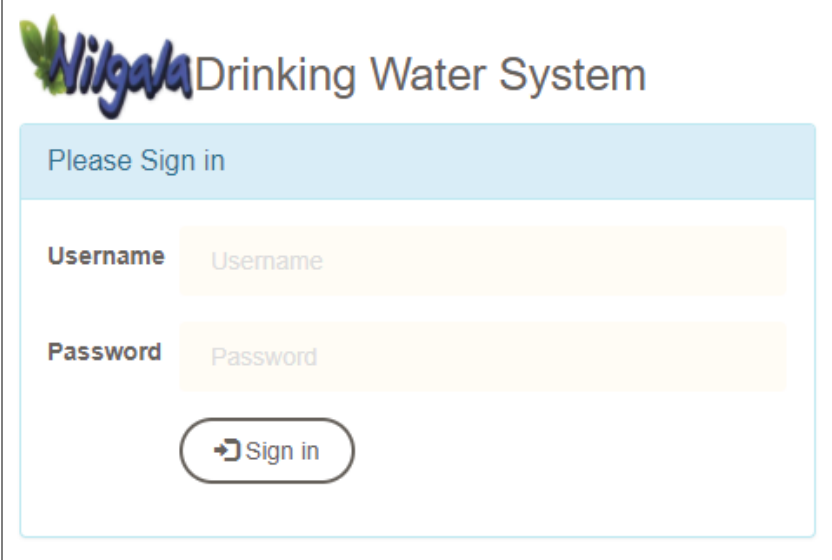
Field Name	Data Type	Size	Description
supID (PK)	Integer	10	Supplier ID
supName	Varchar	100	Supplier's Name
supAddress	Varchar	150	Supplier's address
supTP	Integer	15	Supplier's Contact No
supNIC	Varchar	15	Supplier's NIC No
deleted	Boolean	01	Record status

3.2 Interface Design

Interface number : No 01

Interface name : Login

Description : User can login entering correct username and password



The screenshot displays the login interface for the Niigala Drinking Water System. At the top left is a logo with the word "Niigala" in a stylized blue font and a green leaf icon. To its right, the text "Drinking Water System" is displayed in a dark blue, sans-serif font. Below the header is a light blue rectangular box containing the text "Please Sign in". Underneath this box are two input fields: the first is labeled "Username" and contains the placeholder text "Username"; the second is labeled "Password" and contains the placeholder text "Password". At the bottom of the form is a rounded rectangular button with a dark border, containing a right-pointing arrow icon followed by the text "Sign in".

Figure 3.2.01

Interface number : No 02

Interface name : Manager Dashboard

Description : Manager can view summery of the products, Row-materials, summery etc.

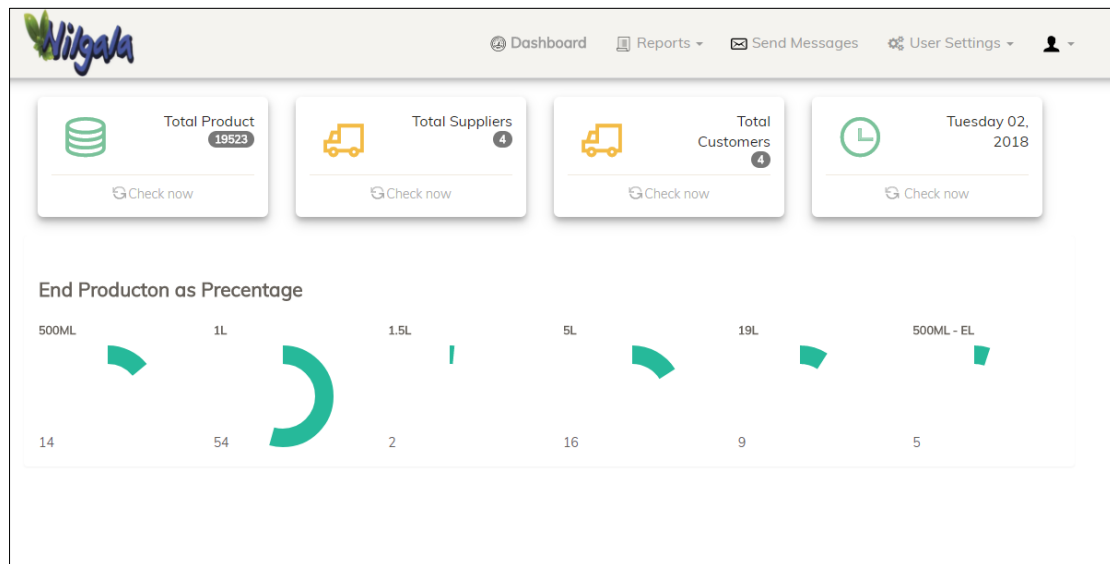


Figure 3.2.02

Interface number : No 03
Interface name : Reports
Description : Manager can view no of reports.

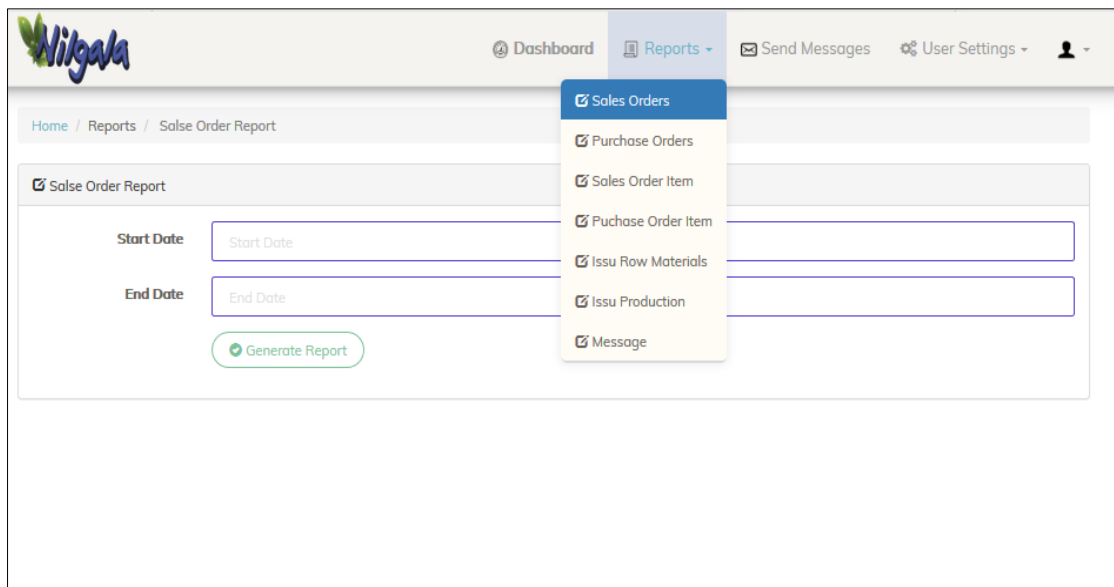


Figure 3.2.03

Interface number : No 04
Interface name : Send Messages
Description : Manager can send messages to registered supplies and customers.

The screenshot displays the 'Send SMS' interface within the Nigala system. The top navigation bar includes the Nigala logo, a 'Dashboard' link, a 'Reports' dropdown, a 'Send Messages' dropdown (which is currently selected), and a 'User Settings' dropdown with a user profile icon. Below the navigation bar, a breadcrumb trail shows 'Home / Send SMS'. The main content area is titled 'Send SMS' and contains a form with the following fields: 'Send To' with a dropdown menu showing '~~SELECT WHO~~', a second dropdown menu showing '~~SELECT TP~~', a 'Number' field with a placeholder 'Number', and a 'Message' field with a placeholder 'Message'. A 'Send' button with a location pin icon is positioned at the bottom left of the form.

Figure 3.2.04

Interface number : No 05
Interface name : Add or remove user
Description : Manager can add new user or remove registered user.

The screenshot displays the 'Add / Remove User' interface within the Wilgala system. The top navigation bar includes the Wilgala logo, a 'Dashboard' link, and dropdown menus for 'Reports', 'Send Messages', 'User Settings', and a user profile. A breadcrumb trail shows 'Home / User Settings / Add / Remove User'. The main section is titled 'Add / Remove User' and contains two sub-sections. The 'Select User to Remove' section features a 'Username' dropdown menu with a placeholder '~~SELECT~~' and a 'Remove' button with a trash icon. The 'Add User' section includes three input fields: 'User Name' (placeholder 'User Name'), 'Password' (placeholder 'New Password'), and 'Confirm Password' (placeholder 'Confirm Password'), followed by an 'Add User' button with a plus icon.

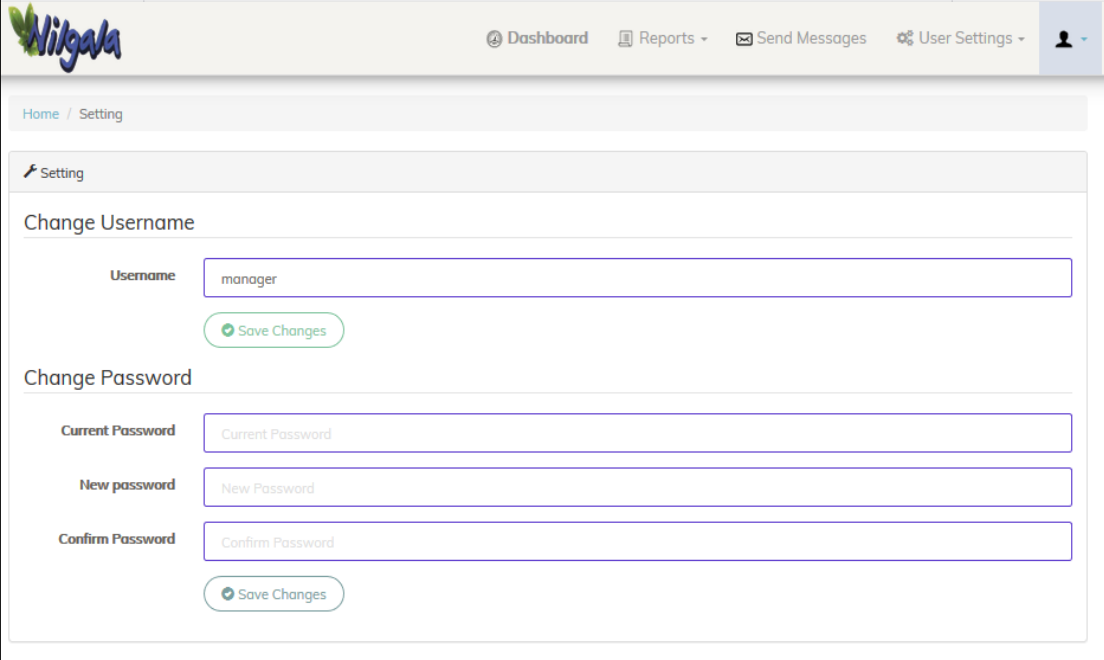
Figure 3.2.05

Interface number : No 06
Interface name : Manage user
Description : Manager can manage registered user details

The screenshot displays the 'Manage User' interface within the Witgala application. The top navigation bar includes the Witgala logo, a 'Dashboard' link, and dropdown menus for 'Reports', 'Send Messages', 'User Settings', and a user profile. The breadcrumb trail shows 'Home / User Settings / Manage User'. The main section is titled 'Manage User' and contains three sub-sections: 'Select User to Manage' with a dropdown menu showing '--SELECT--'; 'Change Username' with a text input field labeled 'Username' and a 'Save Changes' button; and 'Reset Password' with two text input fields labeled 'New password' and 'Confirm Password', followed by a 'Save Changes' button.

Figure 3.2.06

Interface number : No 07
Interface name : Profile settings
Description : User can change username and password.



The screenshot displays the 'Nitgala' user interface. The top navigation bar includes links for 'Dashboard', 'Reports', 'Send Messages', and 'User Settings', along with a user profile icon. The breadcrumb trail shows 'Home / Setting'. The main content area is titled 'Setting' and contains two sections: 'Change Username' and 'Change Password'. The 'Change Username' section has a 'Username' label and a text input field containing 'manager', followed by a 'Save Changes' button. The 'Change Password' section has three labels: 'Current Password', 'New password', and 'Confirm Password', each with a corresponding text input field. The 'Current Password' field contains the placeholder text 'Current Password'. Below these fields is another 'Save Changes' button.

Figure 3.2.07

Interface number : No 08

Interface name : Stock Manager Dashboard

Description : Stock Manager can check availability of goods and get summery of the products etc.

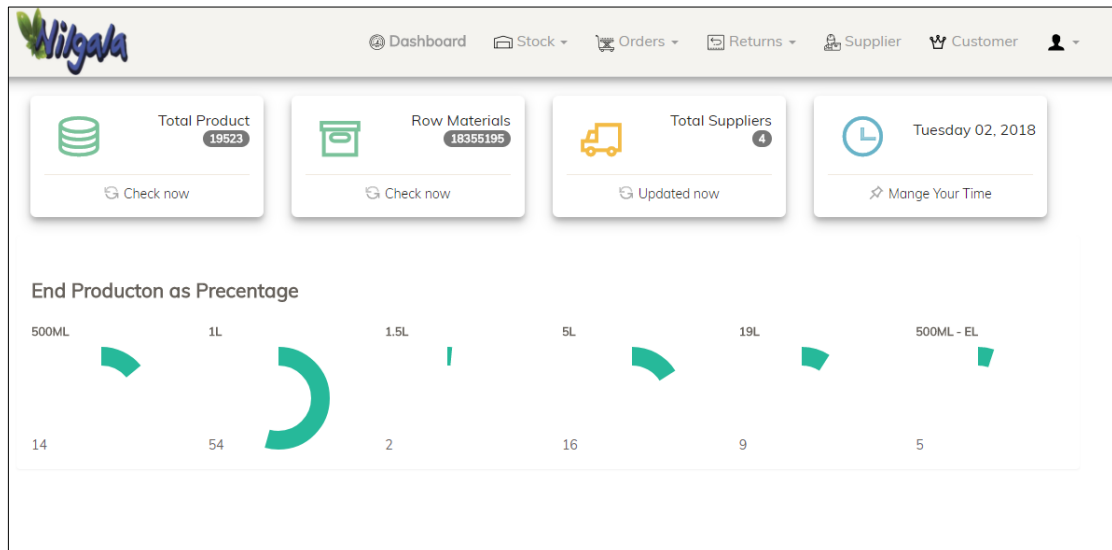
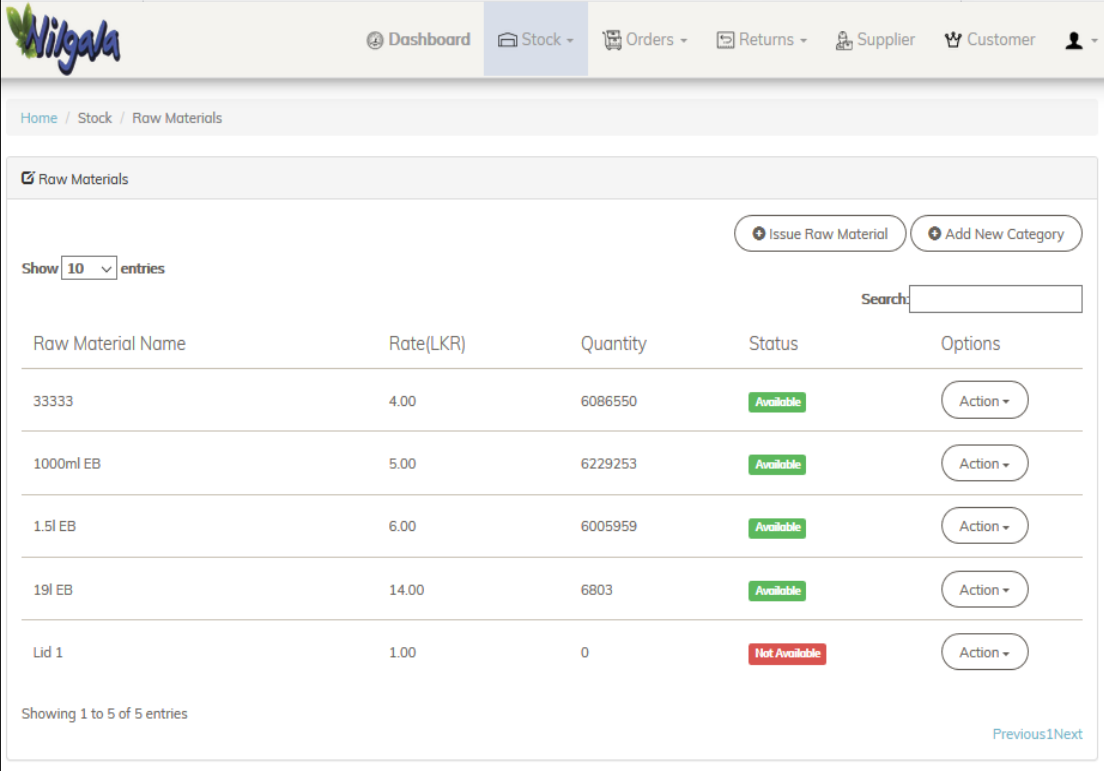


Figure 3.2.08

Interface number : No 09

Interface name : View Raw-materials

Description : Stock Manager can view availability of raw-materials.



The screenshot shows the 'Raw Materials' section of the Nilgala Stock Manager. The interface includes a top navigation bar with 'Dashboard', 'Stock', 'Orders', 'Returns', 'Supplier', 'Customer', and a user profile. The 'Stock' tab is active. Below the navigation bar, there's a breadcrumb trail: 'Home / Stock / Raw Materials'. The main content area has a 'Raw Materials' header with a checkbox. Below this, there are buttons for 'Issue Raw Material' and 'Add New Category'. A 'Show 10 entries' dropdown is present. A search bar is located on the right. The main table displays raw materials with columns: Raw Material Name, Rate(LKR), Quantity, Status, and Options. The table lists five items: '33333', '1000ml EB', '1.5l EB', '19l EB', and 'Lid 1'. The first four are 'Available' and the last is 'Not Available'. Each row has an 'Action' button. At the bottom, it says 'Showing 1 to 5 of 5 entries' and has 'Previous' and 'Next' links.

Raw Material Name	Rate(LKR)	Quantity	Status	Options
33333	4.00	6086550	Available	Action ▾
1000ml EB	5.00	6229253	Available	Action ▾
1.5l EB	6.00	6005959	Available	Action ▾
19l EB	14.00	6803	Available	Action ▾
Lid 1	1.00	0	Not Available	Action ▾

Showing 1 to 5 of 5 entries

Previous Next

Figure 3.2.09

Interface number : No 10

Interface name : Add raw-material

Description : Stock Manager can add new raw-material item

The screenshot shows a web application interface for 'Nilgala'. A modal dialog box titled '+ Add new Raw Material Category' is open in the center. The dialog has two input fields: 'Name' with a placeholder 'Raw-material Name' and 'Rate' with a placeholder 'Rate'. At the bottom of the dialog are two buttons: 'Close' and 'Add'. In the background, the application's 'Raw Materials' section is visible. It includes a breadcrumb 'Home / Stock / Raw Materials', a toggle for 'Raw Materials', a 'Show 10 entries' dropdown, and a table of raw materials. The table has columns for 'Raw Material Name', 'Rate(LKR)', 'Quantity', 'Status', and 'Options'. The status column shows 'Available' in green boxes. The 'Options' column contains 'Action' dropdown menus. A search bar and an 'Add New Category' button are also visible in the background interface.

Raw Material Name	Rate(LKR)	Quantity	Status	Options
33333	4.00	6086550	Available	Action ▾
1000ml EB	5.00	6229253	Available	Action ▾
1.5l EB	6.00	6005959	Available	Action ▾
19l EB	14.00	6803	Available	Action ▾

Figure 3.2.10

Interface number : No 11

Interface name : Edit raw-material

Description : Stock Manager can edit raw-material item

Edit Raw Material

Name : Lid 3

Rate : 4.00

Close Save Changes

Raw Material Name	Rate(LKR)	Quantity	Status	Options
Lid 3	4.00	6086550	Available	Action ▾
1000ml EB	5.00	6229253	Available	Action ▾
1.5l EB	6.00	6005959	Available	Action ▾
19l EB	14.00	6803	Available	Action ▾

Figure 3.2.11

Interface number : No 12

Interface name : Remove raw-material

Description : Stock Manager can remove raw-material item

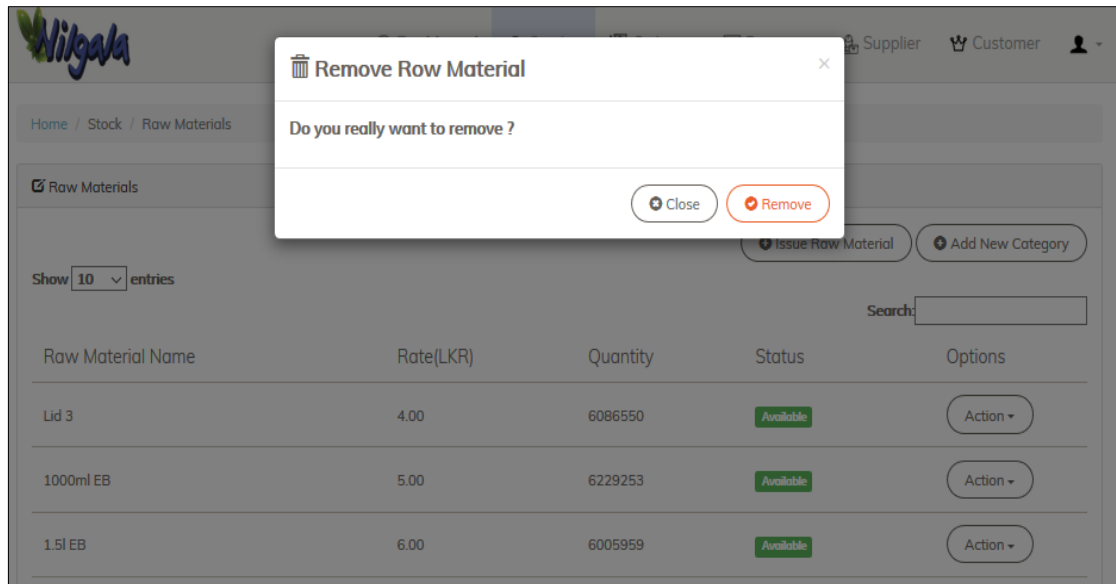


Figure 3.2.12

Interface number : No 13
Interface name : Issue raw-materials
Description : Stock Manager can issue raw-materials

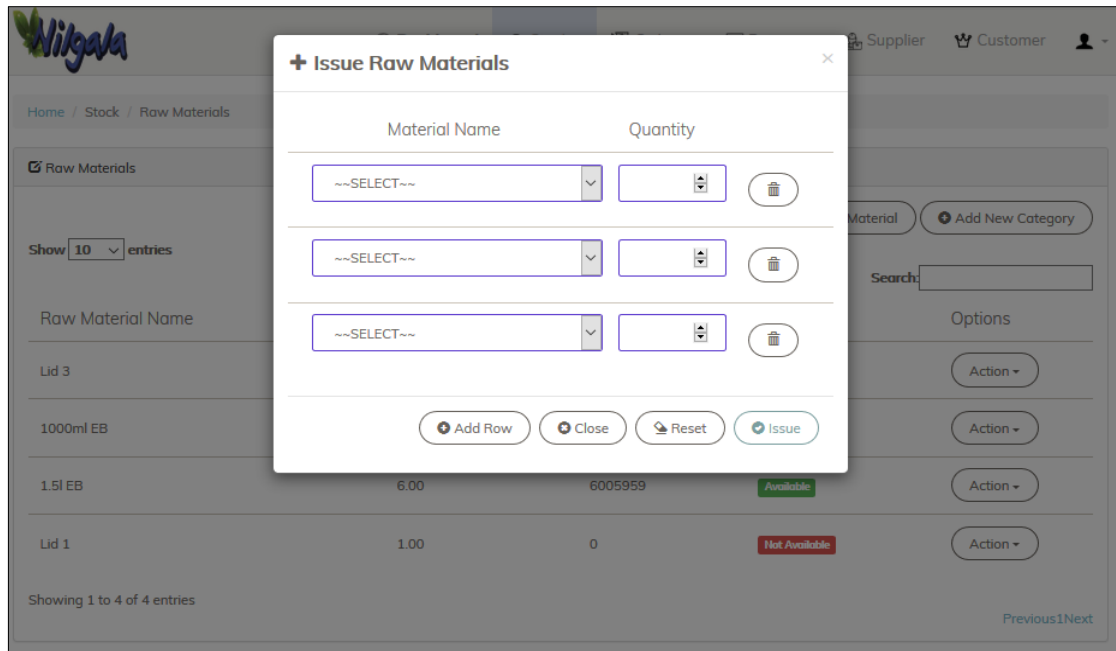
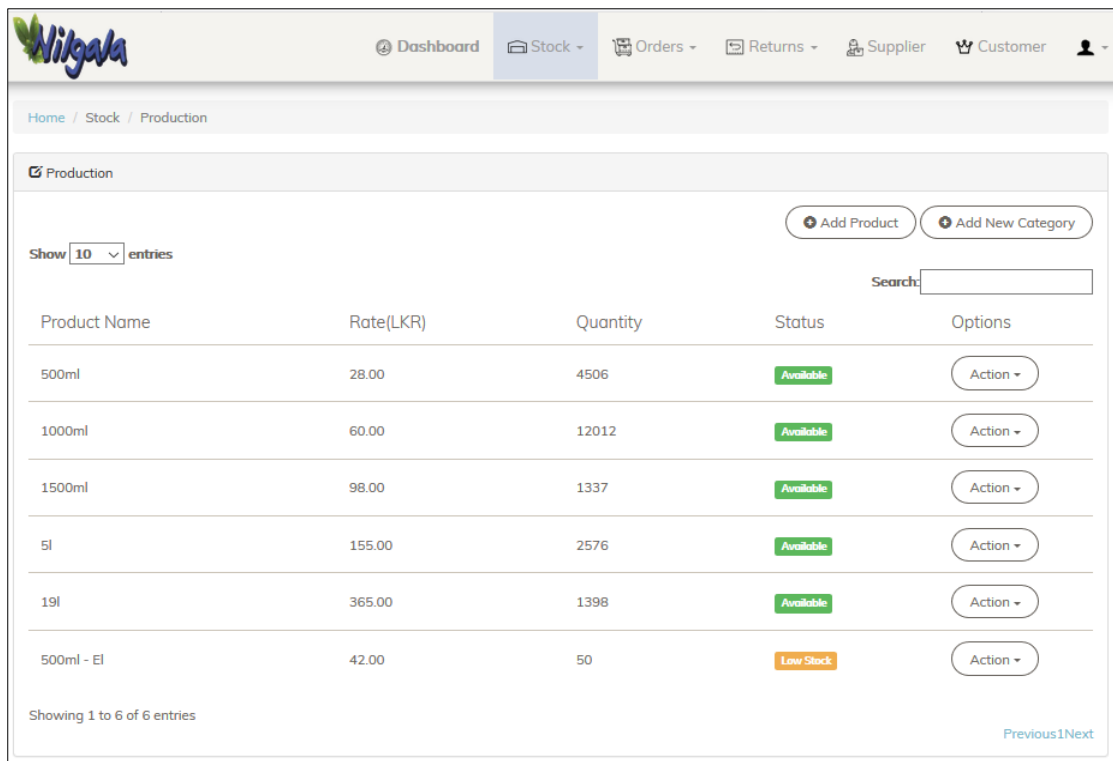


Figure 3.2.13

Interface number : No 14

Interface name : View production

Description : Stock Manager can view all products availability.



Production

Show entries

[Add Product](#) [Add New Category](#)

Search:

Product Name	Rate(LKR)	Quantity	Status	Options
500ml	28.00	4506	Available	Action
1000ml	60.00	12012	Available	Action
1500ml	98.00	1337	Available	Action
5l	155.00	2576	Available	Action
19l	365.00	1398	Available	Action
500ml - El	42.00	50	Low Stock	Action

Showing 1 to 6 of 6 entries

[Previous](#) [Next](#)

Figure 3.2.14

Interface number : No 15

Interface name : Add new product item

Description : Stock Manager can add new product item.

The screenshot shows a web application interface with a modal window titled '+ Add new Product Category'. The modal contains two input fields: 'Name' with the placeholder text 'Production Name' and 'Rate' with the placeholder text 'Production Rate'. At the bottom of the modal are two buttons: 'Close' and 'Add'. The background interface is dimmed and shows a sidebar with 'Home / Stock / Production' and 'Production' checked. The main area has a 'Show 10 entries' dropdown and a table with columns: Product Name, Rate(LKR), Quantity, Status, and Options. The table contains four rows of data for different product volumes (500ml, 1000ml, 1500ml, 5l) with their respective rates and quantities. Each row has an 'Action' button.

Product Name	Rate(LKR)	Quantity	Status	Options
500ml	28.00	4506	Available	Action ▾
1000ml	60.00	12012	Available	Action ▾
1500ml	98.00	1337	Available	Action ▾
5l	155.00	2576	Available	Action ▾

Figure 3.2.15

Interface number : No 16

Interface name : Edit product item

Description : Stock Manager can edit product item.

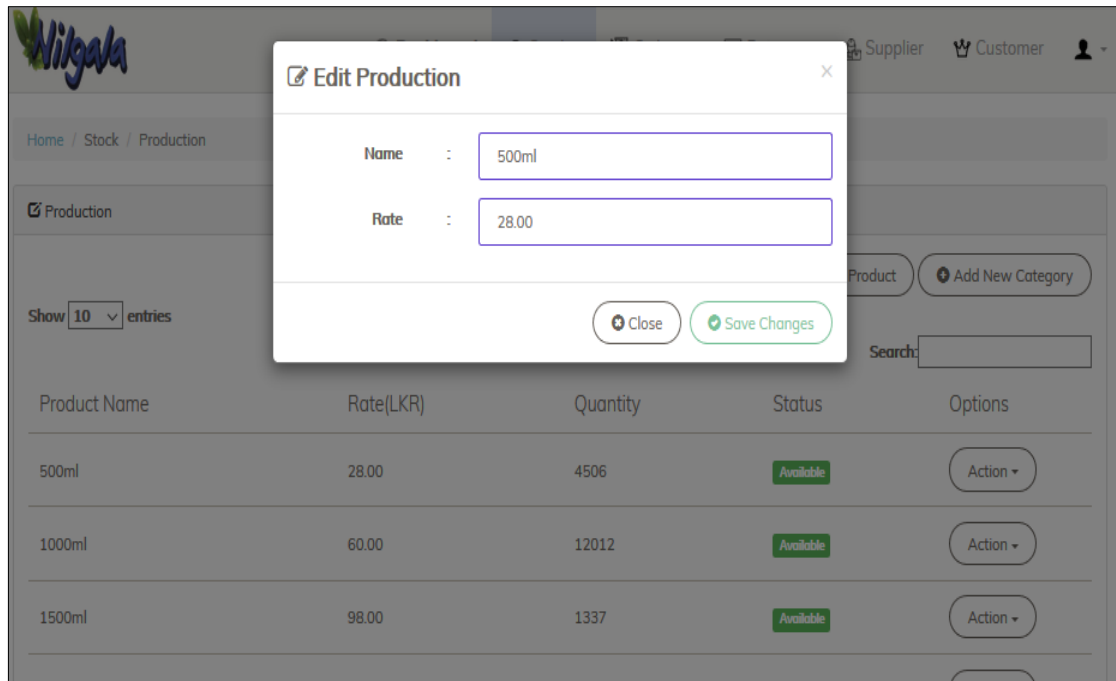


Figure 3.2.16

Interface number : No 17

Interface name : Remove product item

Description : Stock Manager can remove product item.

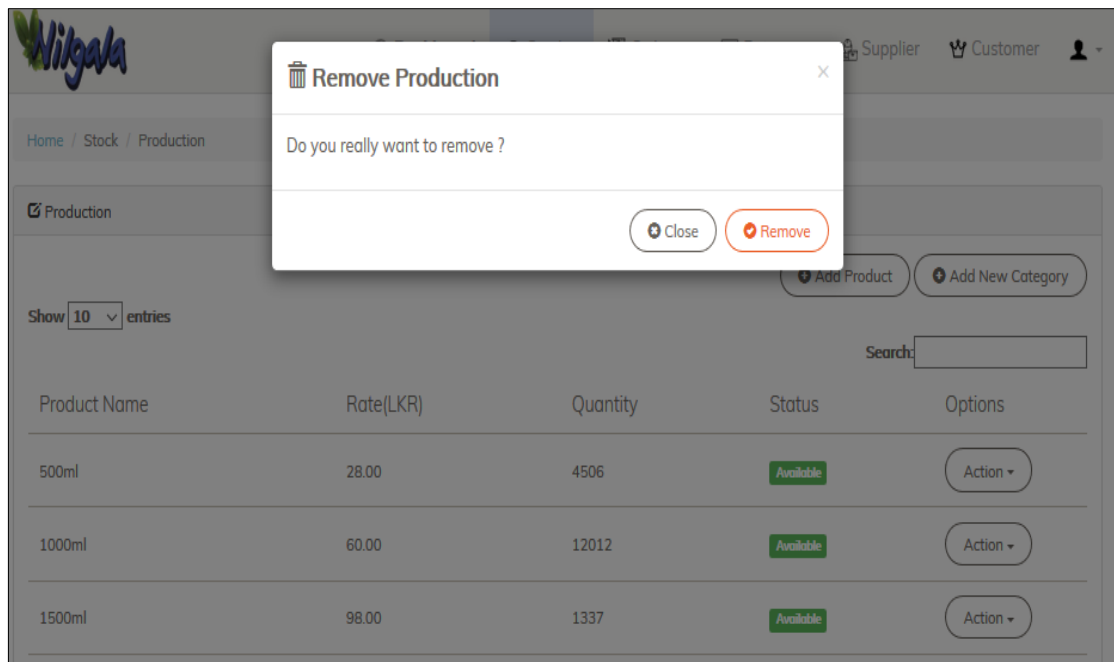


Figure 3.2.17

Interface number : No 18
Interface name : Add production to stock
Description : Stock Manager can add production to stock.

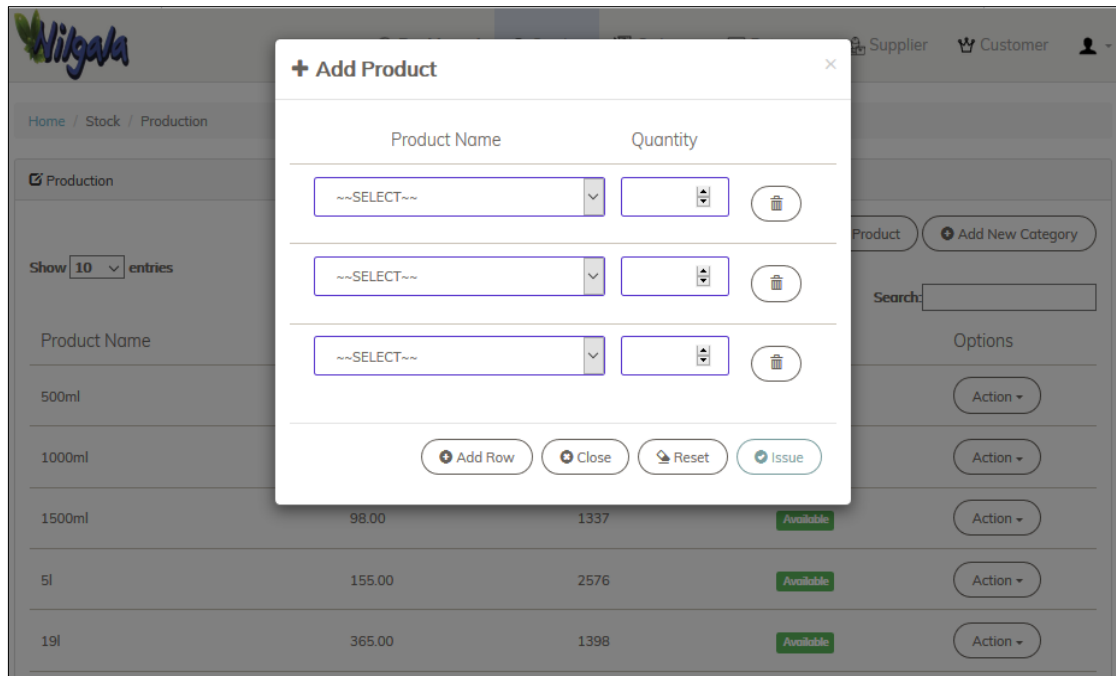


Figure 3.2.18

Interface number : No 19
Interface name : Place sales order
Description : Stock Manager can place new sales order.

Nigala

Dashboard Stock Orders Returns Supplier Customer

Home / Order / Sales Order

Sales Order

Order Date: 2017-11-22

Customer Name: ~Select Customer~

Customer Contact: Contact Number

Product	Rate	Quantity	Total
~SELECT~			
~SELECT~			
~SELECT~			

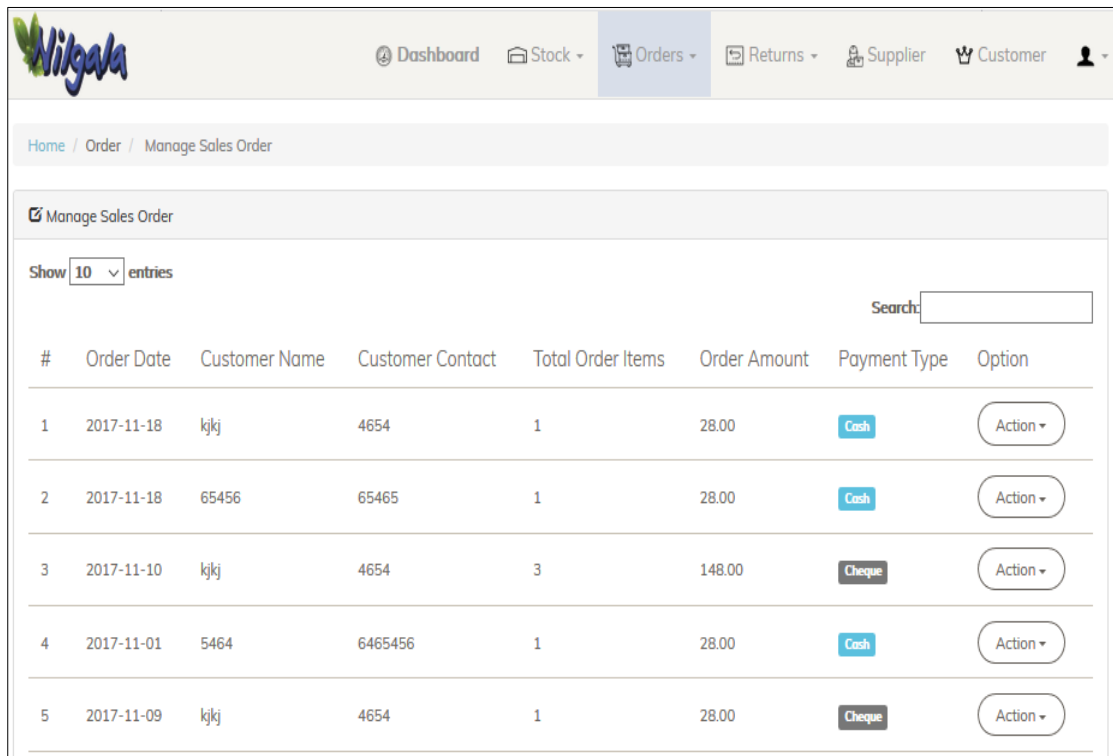
Sub Amount: Grand Total:

Discount: 0.00 Payment Type: ~SELECT~

Add Row Place Order Reset

Figure 3.2.19

Interface number : No 20
Interface name : View sales orders
Description : Stock Manager can view sales order.



#	Order Date	Customer Name	Customer Contact	Total Order Items	Order Amount	Payment Type	Option
1	2017-11-18	kjkj	4654	1	28.00	Cash	Action ▾
2	2017-11-18	65456	65465	1	28.00	Cash	Action ▾
3	2017-11-10	kjkj	4654	3	148.00	Cheque	Action ▾
4	2017-11-01	5464	6465456	1	28.00	Cash	Action ▾
5	2017-11-09	kjkj	4654	1	28.00	Cheque	Action ▾

Figure 3.2.20

Interface number : No 21
Interface name : Print Sales order
Description : Stock Manager can Print Sales order

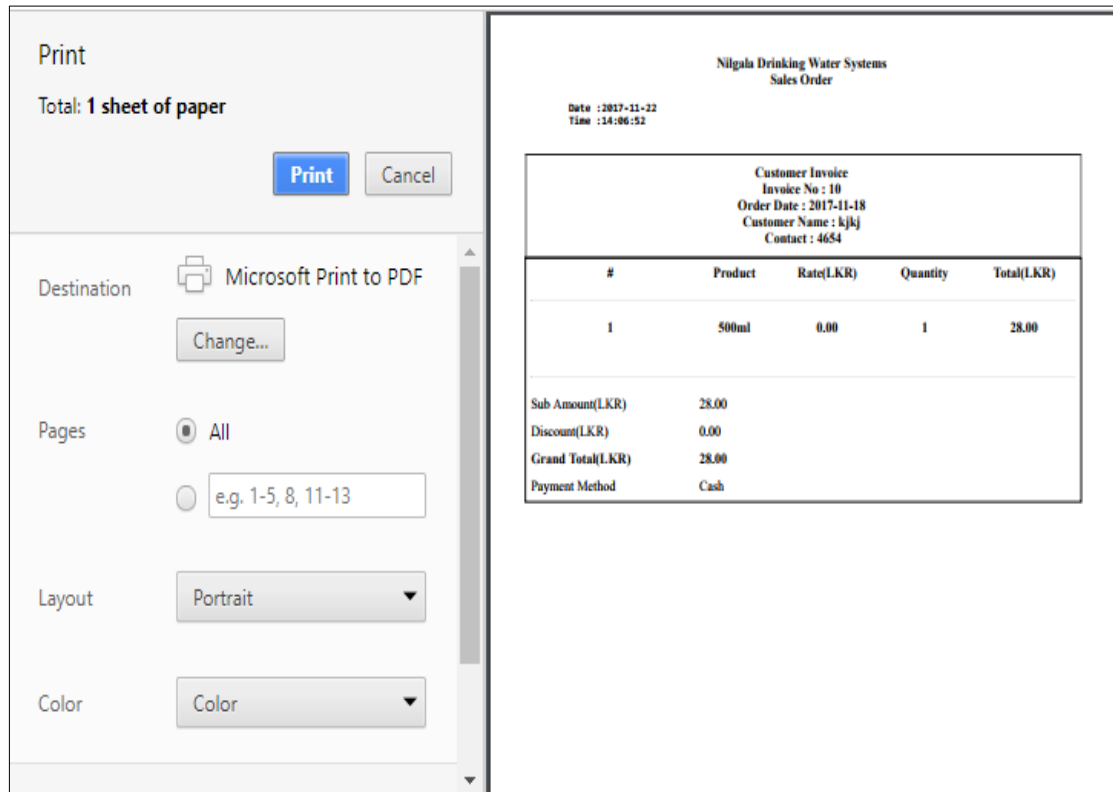


Figure 3.2.21

Interface number : No 22

Interface name : Remove Sales order

Description : Stock Manager can remove Sales order from list

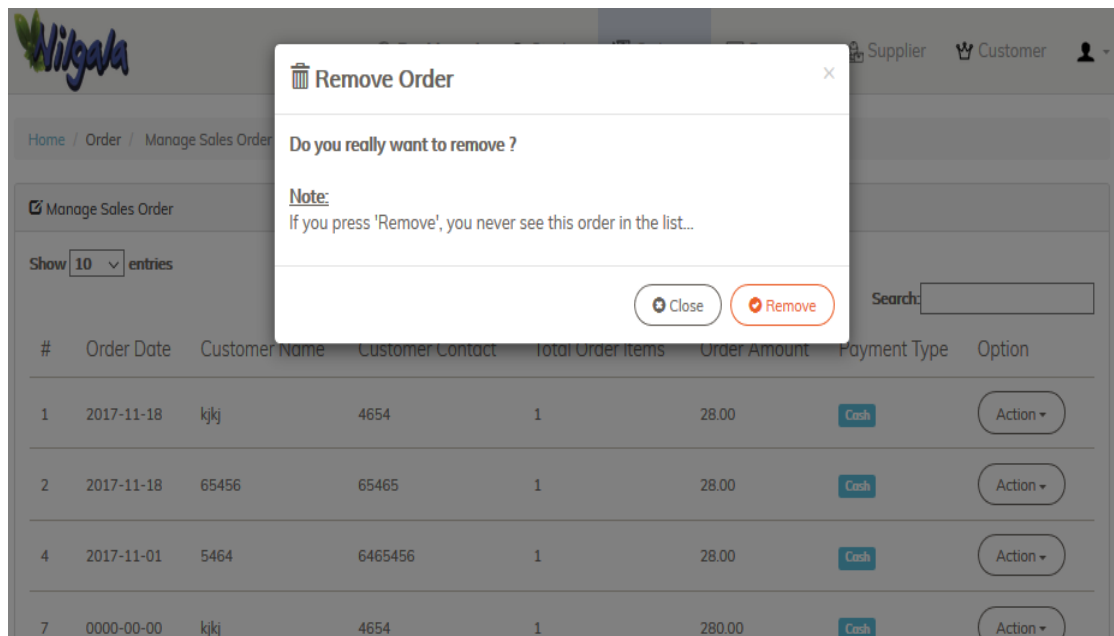


Figure 3.2.22

Interface number : No 23

Interface name : Place purchase order

Description : Stock Manager can Place new purchase order.

The screenshot shows the 'Place Purchase Order' interface in the Nilgala system. The top navigation bar includes links for Dashboard, Stock, Orders (highlighted), Returns, Supplier, Customer, and a user profile icon. The breadcrumb trail is 'Home / Orders / Purchase Order'. The main form is titled 'Place Purchase Order' and contains the following fields:

- Order Date:** A text field with the value '2017-11-22'.
- Supplier Name:** A dropdown menu with the placeholder text '~~Select Supplier~~'.
- Supplier Contact:** A text field with the placeholder text 'Supplier Contact'.

Below these fields is a table with four columns: 'Row-material Name', 'Rate(LKR)', 'Quantity', and 'Total'. The table contains three rows, each with a dropdown menu for the material name (placeholder '~~SELECT~~'), a text field for the rate, a spinner control for the quantity, and a text field for the total. Each row also has a trash icon in the right margin.

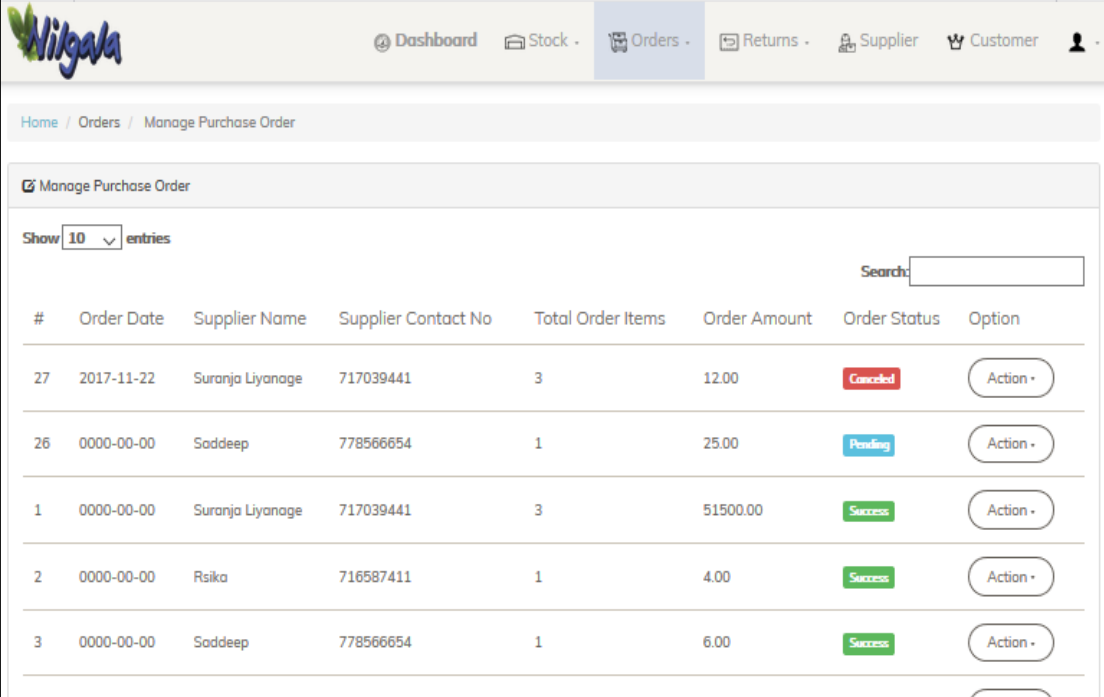
At the bottom of the form, there is an 'Order Amount' text field and three buttons: 'Add Row' (with a plus icon), 'Save Changes' (with a checkmark icon), and 'Reset' (with a circular arrow icon).

Figure 3.2.23

Interface number : No 24

Interface name : View purchase order

Description : Stock Manager can view all purchase orders



Nitgala Dashboard Stock Orders Returns Supplier Customer

Home / Orders / Manage Purchase Order

☒ Manage Purchase Order

Show entries

Search:

#	Order Date	Supplier Name	Supplier Contact No	Total Order Items	Order Amount	Order Status	Option
27	2017-11-22	Suranja Liyanage	717039441	3	12.00	Cancelled	Action •
26	0000-00-00	Saddeep	778566654	1	25.00	Pending	Action •
1	0000-00-00	Suranja Liyanage	717039441	3	51500.00	Success	Action •
2	0000-00-00	Rsika	716587411	1	4.00	Success	Action •
3	0000-00-00	Saddeep	778566654	1	6.00	Success	Action •

Figure 3.2.24

Interface number : No 25
Interface name : Generate GRN
Description : Stock Manager generate GRN to placed purchase orders

Niigala Dashboard Stock Orders Returns Supplier Customer User

Home / Orders / Generate GRN

Generate Purchase GRN

GRN Date November 22, 2017

Supplier Name Saddeep

Supplier Contact 778566654

Row-material Name	Rate(LKR)	Quantity	Total
1000ml EB	5.00	500	2500.00
Lid 3	4.00	500	2000.00

Order Amount 4500.00

Add Row Generate GRN

Figure 3.2.25

Interface number : No 26

Interface name : Cancel Order

Description : Stock Manager can cancel placed purchase orders.

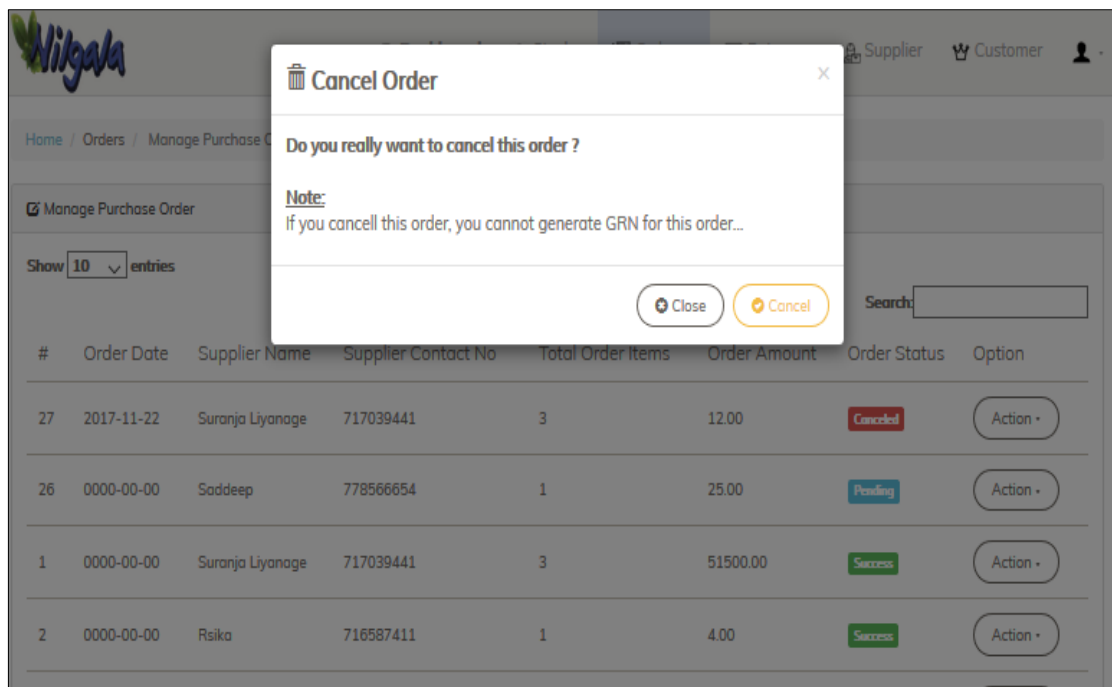


Figure 3.2.26

Interface number : No 27

Interface name : Remove Order

Description : Stock Manager can remove placed purchase orders.

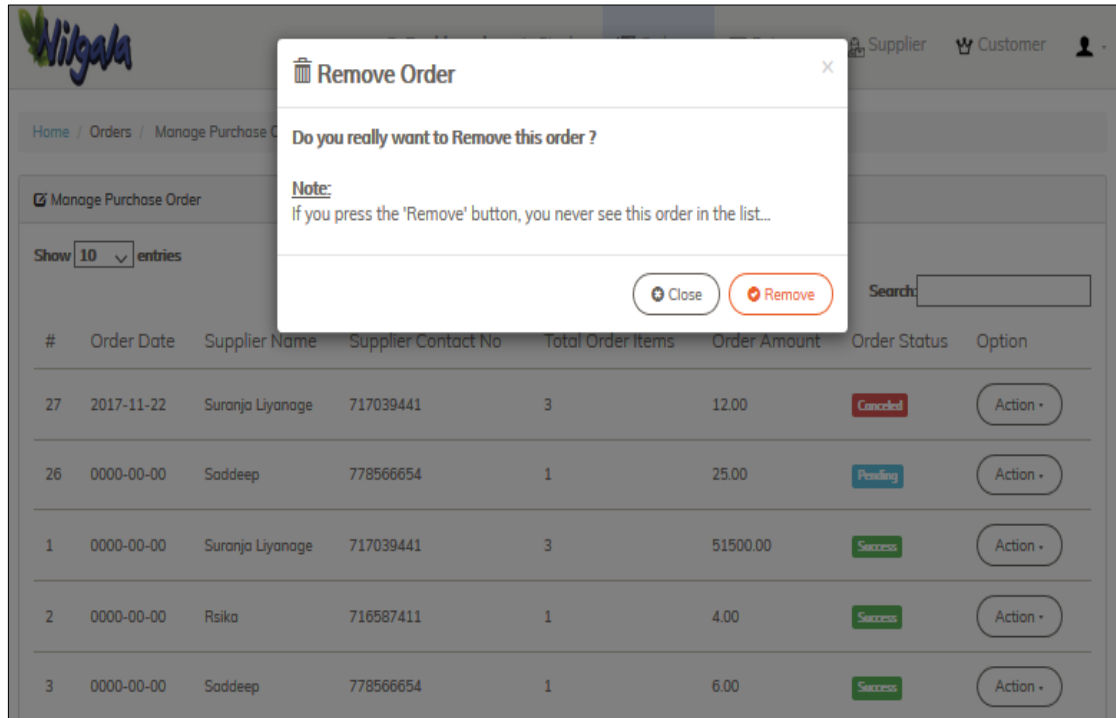


Figure 3.2.27

Interface number : No 28
 Interface name : Print Purchase order
 Description : Stock Manager can Print Purchase order.

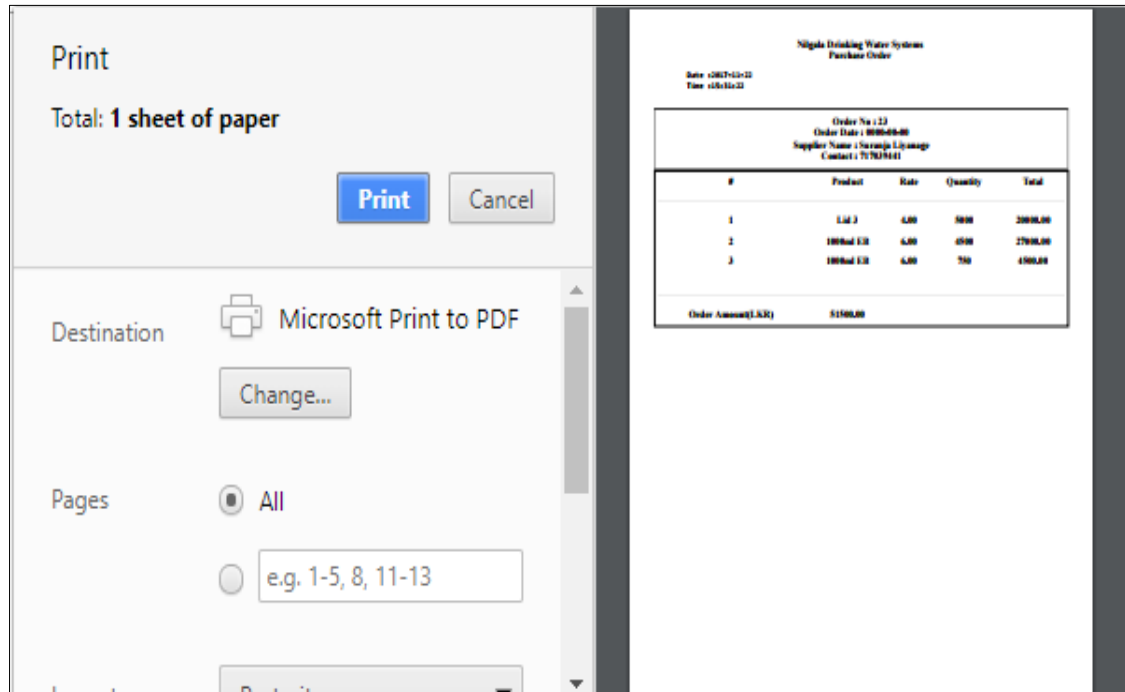


Figure 3.2.28

Interface number : No 29
Interface name : Product Returns
Description : Stock Manager can Place product return from customer.

Nigala

Dashboard Stock Orders Returns Supplier Customer

Home / Returns / Product Returns

Product Returns

Return Date: 2017-11-22

Customer Name: --Select Customer--

Customer Contact: Supplier Contact

Product Name	Rate(LKR)	Quantity	Total
--SELECT--			
--SELECT--			
--SELECT--			

Order Amount:

Add Row Save Changes Reset

Figure 3.2.29

Interface number : No 30

Interface name : Row-materials Returns

Description : Stock Manager can Place Row-materials return to supplier.

Nilgala

Dashboard Stock Orders Returns Supplier Customer

Home / Returns / Row Material Returns

☒ Row Material Returns

Return Date: 2017-11-22

Supplier Name: ~~Select Supplier~~

Supplier Contact: Supplier Contact

Row-material Name	Rate(LKR)	Quantity	Total
~~SELECT~~			
~~SELECT~~			
~~SELECT~~			

Order Amount:

Add Row Save Changes Reset

Figure 3.2.30

Interface number : No 31

Interface name : Damaged product Returns

Description : Stock Manager can Place Damaged product return from customer.

Nilgala

Dashboard Stock Orders Returns Supplier Customer

Home / Returns / Damaged Product

Damaged Products Returns

Return Date 2017-11-22

Customer Name --Select Customer--

Customer Contact Supplier Contact

Product Name	Rate(LKR)	Quantity	Total
--SELECT--			
--SELECT--			
--SELECT--			

Order Amount

Add Row Save Changes Reset

Figure 3.2.31

Interface number : No 32

Interface name : Damaged Raw-materials Returns

Description : Stock Manager can Place Damaged Raw-materials to Supplier.

Nigala Dashboard Stock Orders Returns Supplier Customer

Home / Returns / Damaged Row Material

☒ Damaged Row Materials Returns

Return Date: 2017-11-22

Supplier Name: ~Select Supplier~

Supplier Contact: Supplier Contact

Row-material Name	Rate(LKR)	Quantity	Total
~SELECT~			
~SELECT~			
~SELECT~			

Order Amount:

Add Row Save Changes Reset

Figure 3.2.32

Interface number : No 33
Interface name : View Supplier
Description : Stock Manager can View all registered Suppliers.

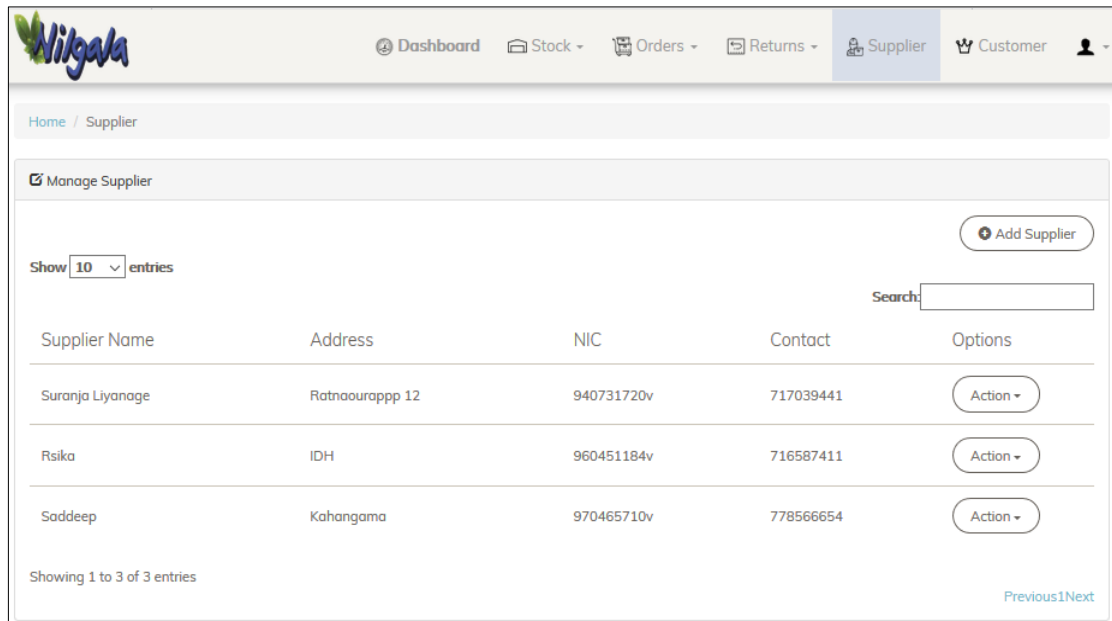


Figure 3.2.33

Interface number : No 34
Interface name : Add Supplier
Description : Stock Manager can Add new Supplier.

The screenshot shows a web application interface with a modal window titled '+ Add Supplier'. The modal contains four input fields: 'Supplier Name', 'Address', 'NIC', and 'Contact No.'. Below the inputs are 'Close' and 'Save' buttons. The background shows a 'Supplier' management page with a table of suppliers and a sidebar with navigation links like 'Home / Supplier', 'Manage Supplier', and 'Show 10 entries'.

Supplier				
Supplier Name				
Suranja Liyanage				
Rsika	IDH	960451184v	716587411	Action ▾
Saddeep	Kahangama	970465710v	778566654	Action ▾

Showing 1 to 3 of 3 entries

Previous1Next

Figure 3.2.34

Interface number : No 35
Interface name : Edit Supplier
Description : Stock Manager can edit Supplier details.

The screenshot displays the 'Edit supplier' modal form. The modal is titled 'Edit supplier' and contains the following fields:

- supplier Name: Suranja Liyanage
- Address: Ratnaourapp 12
- NIC: 940731720v
- Contact: 717039441

At the bottom of the modal, there are two buttons: 'Close' and 'Save Changes'.

The background shows the 'Manage Supplier' page with a table of suppliers:

Supplier Name	IDH	Phone 1	Phone 2	Action
Suranja Liyanage				
Rsika	IDH	960451184v	716587411	Action
Soddeep	Kahangama	970465710v	778566654	Action

Figure 3.2.35

Interface number : No 36
Interface name : Remove Supplier
Description : Stock Manager can remove Supplier.

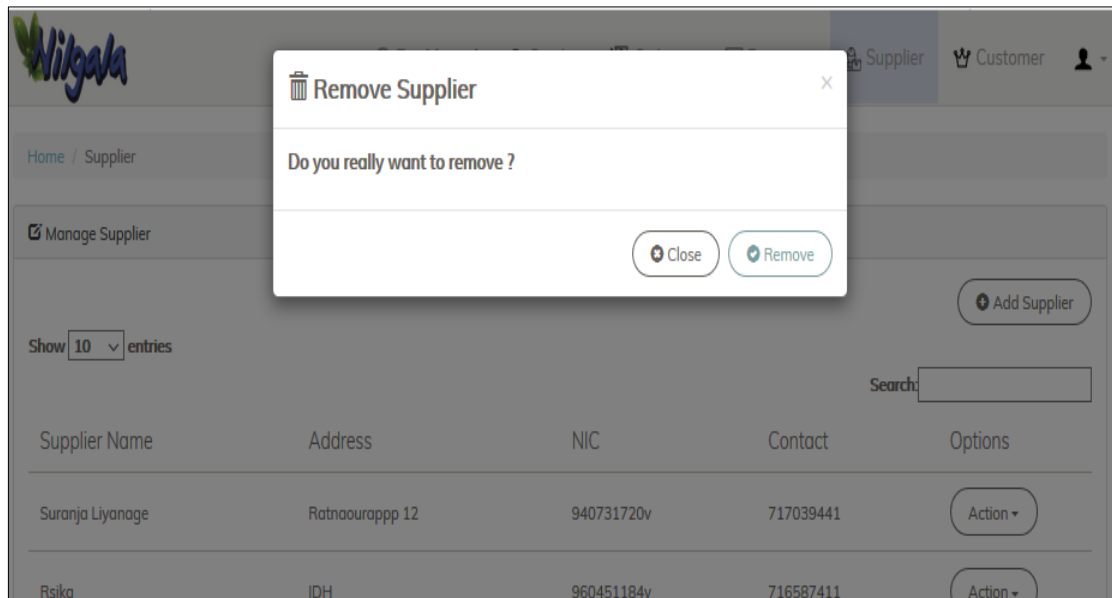


Figure 3.2.36

Interface number : No 37

Interface name : View Customer

Description : Stock Manager can View all registered Customers.

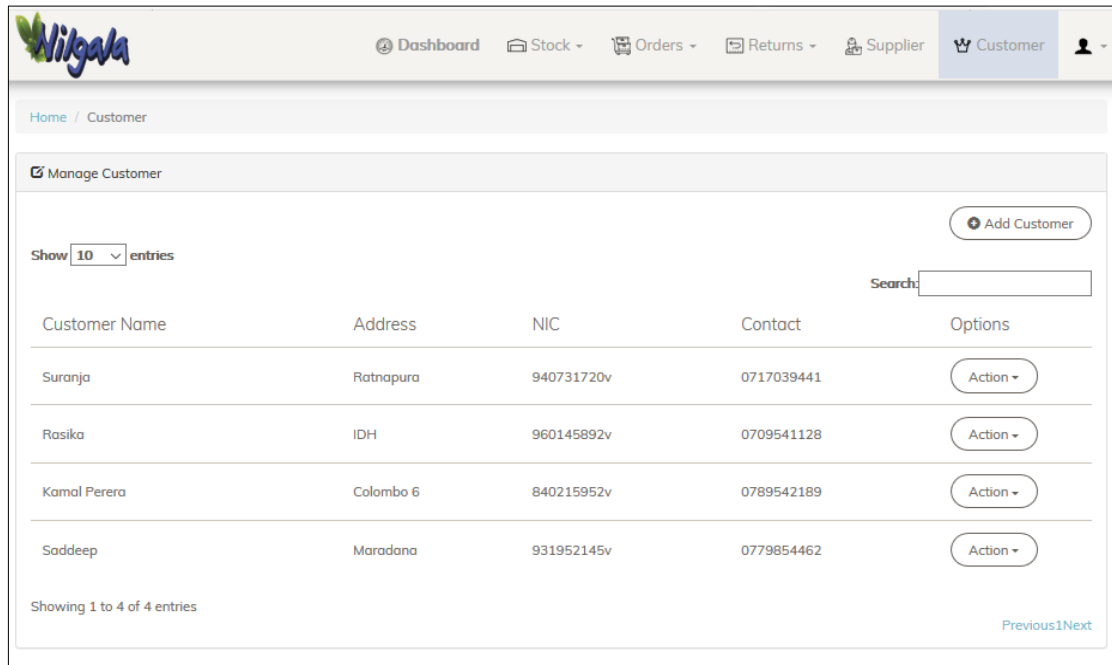


Figure 3.2.37

Interface number : No 38
Interface name : Add Customer
Description : Stock Manager can Add new Customer.

The screenshot displays a web application interface for managing customers. A modal window titled '+ Add Customer' is open, allowing users to add a new customer. The modal contains four input fields: 'Customer Name', 'Address', 'NIC', and 'Contact No.'. Below the fields are 'Close' and 'Save' buttons. The background shows a 'Manage Customer' table with columns for Customer Name, IDH, and phone numbers. The table lists four customers: Suranja, Rasika, Kamal Perera, and Saddeep. A search bar and 'Add Customer' button are also visible in the background.

Customer Name	IDH	Phone Number	Action	
Suranja				
Rasika	IDH	960145892v	0709541128	Action
Kamal Perera	Colombo 6	840215952v	0789542189	Action
Saddeep	Maradana	931952145v	0779854462	Action

Figure 3.2.38

Interface number : No 39
Interface name : Edit Customer
Description : Stock Manager can edit Customer details.

Edit Customer

Customer Name: : Kamal Perera

Address: : Colombo 6

NIC: : 840215952v

Contact: : 0789542189

Close Save Changes

Home / Customer

Manage Customer

Show 10 entries

Customer Name

Suranja				
Rasika	IDH	960145892v	0709541128	Action
Kamal Perera	Colombo 6	840215952v	0789542189	Action
Soddeep	Maradana	931952145v	0779854462	Action

Showing 1 to 4 of 4 entries

Search: Options Action PreviousNext

Figure 3.2.39

Interface number : No 40
Interface name : Remove Customer
Description : Stock Manager can remove Customer.

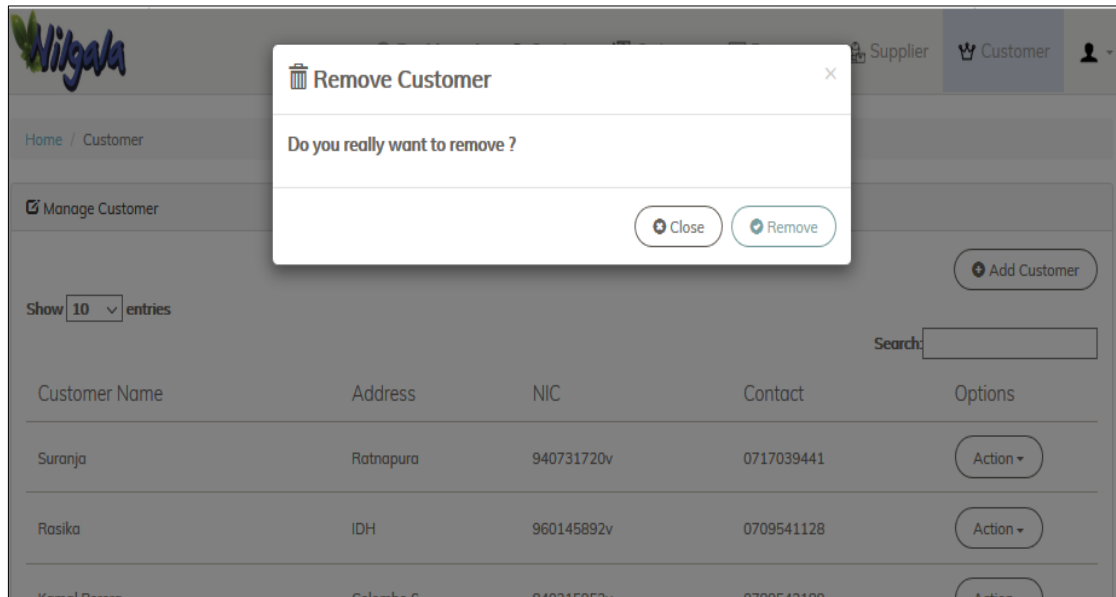


Figure 3.2.40

3.3 Report Design

Report number : No 01

Report name : Damaged Production Report

Description : Manager can view all Damaged Product details by giving date range.

Date :2017-12-21		Nilgala Drinking Water System				
Time :03:55:50		Damaged Product Report 07/03/2017 to 12/13/2017				
Return Date	Return Time	Return Order Amount	Product Name	Product Quantity	Customer Name	Customer Tp
2017-11-18	23:26:55	60.00	1000ml	1	Rasika Lakshan	94712378925
2017-11-18	23:26:55	60.00	1000ml	1	Rasika Lakshan	94712378925
2017-11-18	23:28:14	60.00	1000ml	1	Rasika Lakshan	94712378925

Figure 3.3.01

Report number : No 02

Report name : Damaged Row Material Report

Description : Manager can view all Damaged Row Materials details by giving date range.

Date :2017-12-21		Nilgala Drinking Water System				
Time :03:56:10		Damaged Row Material Report 10/02/2017 to 12/20/2017				
Return Date	Return Time	Return Order Amount	Item Name	Item Quantity	supplier Name	supplier Tp
2017-11-18	23:33:13	23.00	Lid 3	1	Suranja Liyanage	94717039441
2017-11-18	23:33:13	23.00	1000ml EB	1	Suranja Liyanage	94717039441
2017-11-18	23:33:13	23.00	19l EB	1	Suranja Liyanage	94717039441

Figure 3.3.02

Report number : No 03
Report name : Issue Production Report
Description : Manager can view Issue Production details by giving date range.

Date :2017-12-21 Nilgala Drinking Water System
Time :03:53:36 ISSu Production Report 08/01/2017 to 12/20/2017

Issue Date	Issue Time	Product Name	Batch ID	Product Quantity
2017-12-13	10:26:26	500ml	1000	25
2017-12-13	10:26:26	1000ml	1000	25
2017-12-13	10:26:26	1500ml	1000	25
2017-12-13	10:26:26	5l	1000	25
2017-12-13	10:26:26	19l	1000	25
2017-12-13	10:26:26	500ml - El	1000	25
2017-12-13	10:27:49	1000ml	1001	40
2017-12-13	10:27:49	500ml - El	1001	90
2017-12-13	10:27:49	5l	1001	150

Figure 3.3.03

Report number : No 04

Report name : Product Returns Report

Description : Manager can view all Product Returns details
by giving date range.

Date :2017-12-21		Nilgala Drinking Water System				
Time :03:54:32		Product Returns Report 08/01/2017 to 12/20/2017				
Return Date	Return Time	Return Order Amount	Product Name	Product Quantity	Customer Name	Customer Tp
2017-11-18	19:22:32	239825.00	500ml	550	Saddeep Mihiranga	94766295259
2017-11-18	19:22:32	239825.00	1000ml	550	Saddeep Mihiranga	94766295259
2017-11-18	19:22:32	239825.00	1500ml	500	Saddeep Mihiranga	94766295259
2017-11-18	19:22:32	239825.00	5l	860	Saddeep Mihiranga	94766295259
2017-11-18	19:22:32	239825.00	19l	25	Saddeep Mihiranga	94766295259
2017-11-18	20:05:44	888.00	1000ml	1	Rasika Lakshan	94712378925
2017-11-18	20:05:44	888.00	1500ml	1	Rasika Lakshan	94712378925
2017-11-18	20:05:44	888.00	19l	1	Rasika Lakshan	94712378925
2017-11-18	20:05:44	888.00	19l	1	Rasika Lakshan	94712378925
2017-11-18	20:33:39	12.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	20:33:39	12.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	20:33:39	12.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	20:33:39	12.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	20:54:29	28.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	22:28:22	0.00	500ml - El	0	Rasika Lakshan	94712378925
2017-11-18	23:10:49	28.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	23:13:25	224.00	500ml	1	Kamal Perera	94775515391
2017-11-18	23:13:25	224.00	1500ml	1	Kamal Perera	94775515391
2017-11-18	23:13:25	224.00	1500ml	1	Kamal Perera	94775515391

Figure 3.3.04

Report number : No 05

Report name : Purchase Order Item Report

Description : Manager can view all Purchase Order Item details by giving date range.

Date :2017-12-21		Nilgala Drinking Water System				
Time :03:54:32		Product Returns Report 08/01/2017 to 12/20/2017				
Return Date	Return Time	Return Order Amount	Product Name	Product Quantity	Customer Name	Customer Tp
2017-11-18	19:22:32	239825.00	500ml	550	Saddeep Mihiranga	94766295259
2017-11-18	19:22:32	239825.00	1000ml	550	Saddeep Mihiranga	94766295259
2017-11-18	19:22:32	239825.00	1500ml	500	Saddeep Mihiranga	94766295259
2017-11-18	19:22:32	239825.00	5l	860	Saddeep Mihiranga	94766295259
2017-11-18	19:22:32	239825.00	19l	25	Saddeep Mihiranga	94766295259
2017-11-18	20:05:44	888.00	1000ml	1	Rasika Lakshan	94712378925
2017-11-18	20:05:44	888.00	1500ml	1	Rasika Lakshan	94712378925
2017-11-18	20:05:44	888.00	19l	1	Rasika Lakshan	94712378925
2017-11-18	20:05:44	888.00	19l	1	Rasika Lakshan	94712378925
2017-11-18	20:33:39	12.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	20:33:39	12.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	20:33:39	12.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	20:54:29	28.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	22:28:22	0.00	500ml - El	0	Rasika Lakshan	94712378925
2017-11-18	23:10:49	28.00	500ml	1	Rasika Lakshan	94712378925
2017-11-18	23:13:25	224.00	500ml	1	Kamal Perera	94775515391
2017-11-18	23:13:25	224.00	1500ml	1	Kamal Perera	94775515391
2017-11-18	23:13:25	224.00	1500ml	1	Kamal Perera	94775515391

Figure 3.3.05

Report number : No 06

Report name : Purchase Order Report

Description : Manager can view all Purchase Order details by giving date range.

Date :2017-12-21 Time :03:48:52		Nilgala Drinking Water System Purchase Order Report 04/13/2017 to 02/01/2018			
Purchase Order Date	GRN Date	Supplier Name	Supplier Contact	Purchase Order Amount	GRN Amount
2017-11-01	2017-12-12	Suranja Liyanage	94717039441	51500.00	51500.00
2017-12-03	2017-12-29	Saddeep Mihiranga	94766295259	6.00	6.00
2017-12-03	2017-12-25	Saddeep Mihiranga	94766295259	6.00	6.00
2017-11-01	2017-09-11	Suranja Liyanage	94717039441	51500.00	51500.00
2017-12-01	2017-12-26	Saddeep Mihiranga	94766295259	6.00	6.00
2017-12-12	2017-09-11	Suranja Liyanage	94717039441	6.00	4.00
2017-12-12	2017-10-31	Suranja Liyanage	94717039441	6.00	2.00
2017-12-12	2017-10-09	Suranja Liyanage	94717039441	6.00	2.00
2017-12-12	2017-10-15	Suranja Liyanage	94717039441	6.00	2.00
2017-12-12	2017-10-23	Suranja Liyanage	94717039441	6.00	2.00
2017-12-12	2017-10-16	Suranja Liyanage	94717039441	6.00	2.00
Total Amount				103054	103032

Figure 3.3.06

Report number : No 07

Report name : Row Material Returns Report

Description : Manager can view all Row Material Returns details by giving date range.

Date :2017-12-21 Nilgala Drinking Water System
Time :03:55:16 Row Material Returns Report 09/03/2017 to 12/20/2017

Return Date	Return Time	Return Order Amount	Item Name	Item Quantity	supplier Name	supplier Tp
2017-11-18	00:00:00	7500.00	Lid 3	500	Suranja Liyanage	94717039441
2017-11-18	00:00:00	7500.00	1000ml EB	500	Suranja Liyanage	94717039441
2017-11-18	00:00:00	7500.00	1.5l EB	500	Suranja Liyanage	94717039441
2017-11-18	21:07:09	4.00	Lid 3	1	Suranja Liyanage	94717039441
2017-11-18	23:21:22	23.00	Lid 3	1	Suranja Liyanage	94717039441
2017-11-18	23:21:22	23.00	1000ml EB	1	Suranja Liyanage	94717039441
2017-11-18	23:21:22	23.00	19l EB	1	Suranja Liyanage	94717039441
2017-11-18	23:22:10	16.00	1000ml EB	1	Gihan Fernando	94702378925
2017-11-18	23:22:10	16.00	1000ml EB	1	Gihan Fernando	94702378925
2017-11-18	23:22:10	16.00	1.5l EB	1	Gihan Fernando	94702378925
2017-11-18	23:23:22	5.00	1000ml EB	1	Suranja Liyanage	94717039441

Figure 3.3.07

Report number : No 08

Report name : Sales Order Report

Description : Manager can view all Salse Order Report details by giving date range.

Date :2017-12-21		Nilgala Drinking Water System			
Time :03:14:59		Salse Oredr Report 07/02/2017 to 12/21/2017			
Order Date	Customer Name	Customer Contact	Payment Type	Discount	Grand Total
2017-11-10	Rasika Lakshan	94712378925	Cash	0.00	148.00
2017-11-01	Saddeep Mihiranga	94766295259	Cash	0.00	28.00
2017-11-09	Rasika Lakshan	94712378925	Cash	0.00	28.00
2017-11-21	Kamal Perera	94775515391	Cash	0.00	154.00
2017-11-21	Kamal Perera	94775515391	Cash	0.00	155.00
2017-11-21	Rasika Lakshan	94712378925	Cash	0.00	28.00
2017-11-21	Suranja Liyanage	94717039441	Cash	0.00	600.00
2017-11-22	Suranja Liyanage	94717039441	Cash	0.00	28.00
2017-11-27	Rasika Lakshan	94712378925	Cash	0.00	60.00
2017-11-28	Suranja Liyanage	94717039441	Cash	0.00	60.00
2017-12-21	Rasika Lakshan	94712378925	Cash	0.00	60.00
2017-12-21	Suranja Liyanage	94717039441	Cash	0.00	274750.00
2017-12-21	Suranja Liyanage	94717039441	Cash	0.00	249400.00
2017-12-21	Suranja Liyanage	94717039441	Cash	0.00	122000.00
Total Amount					647499

Figure 3.3.08

Overview

Conclusion & Future work planning

4.1 LIMITATION

1. Minimum User panel.
2. If sale any product at first add customer for sale Product.
3. If purchase any stock at first add supplier for purchase stock.
4. Manager can send only one message at one time.
5. Only Cash on Delivery.

4.2 FUTURE WORK

Will fix all limitation. Then make the system stable and bug free.

SMS is inspiring us to do something by own that's why we will try to do something commercial work like as **SMS**. We will try to expose TSRM every stock for solve the problem between admin and supplier with customers also we'll try to crate send message form to send lot of customer and supplier at one time.

Now **SMS** lunched with very minimum requirement but 'insallah' we will improve the feature day by day and make an idea software for Stock Management System.

4.3 CONCLUTION

After the study, we can come to a conclusion that, effectiveness of stock management should improve in all the aspects, hence the industry can still strengthen its position by looking into the following:

- The inventory should be fast moving so that inventory cost can be reduced.
- The finished goods have to be dispatched in feasible time as soon as manufacturing is completed.
- Optimum order quantity should be maintained, hence cost can be minimized.
- Proper inventory control techniques are employed by the inventory control organization within the framework of one of the basic models.

Stock management is the practice of planning directing and controlling of stock so that it contributes to the business profitability. Stock management can help business be more profitable by lowering their costs of goods sold by increasing sales. Stock manager have to provide for stocks, when needed, utilize available storage space efficiencies so that stocks do not exceed the storage space available.

Some minor functional problem may occur during operation, but it will not have any minimum effect on kernel part of the system. If anyone report us that bug, then we will fix the bug as soon as possible.

REFERENCES

Overview

Books & Websites References

5.1 REFERENCES

5.1.1 Websites

- <https://en.wikipedia.org/>
- <http://www.tutorialspoint.com/>
- <http://getbootstrap.com/>
- <http://php.net/>
- <http://www.w3schools.com/>
- <https://chartjs.org/>
- <http://stackoverflow.com/>
- <https://www.youtube.com/>
- <https://www.google.com>

5.1.2 Books

- Head First PHP & MySQL
(Lynn Beighley and Michael Morrison)
- Modern PHP
(Josh Lockhart)
- JavaScript and JQuery: Interactive Front-End Web Development
(Jon Duckett)