

Boutique Shop Management System

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Approval Certificate

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Abstract

Now-a-days people buy clothes from different popular boutique shops because of their unique design and hospitality. So many people invested in this business but there is a problem in this sector people facing in contrast with the past. They did not able to keep track of their sales, and store their accounts. To reduce this problematic situation, we came up with a solution that can able to fixed the problem by using a web application where they can calculate all their information, transaction and can able to keep all tracking in a smart way.

So, the main mission and vision of this application is helping us to develop this system for future model shops and secure them while using it.

Acknowledgement

I would wish to start out by expression my deepest gratitude to Almighty Allah to giving me a facility and the strength to finish the task successfully within the schedule time.

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Table of Contents

LIST OF TABLES.....	x
LIST OF FIGURES	xi
1. Introduction.....	1
1.1 Purpose.....	1
1.2 Document Convention	1
1.3 Intended Audience and Reading Suggestions.....	2
1.4 Product Scope	2
1.4.1 Sales Reporting.....	2
1.4.2 Inventory Management.....	3
1.4.3 Customer Management.....	3
1.4.4 Employee reporting and Management.....	3
1.5 Goals and Perspective.....	4
1.5.1 Stock system	4
1.5.2 Revenue Count.....	4
1.5.3 Reports Generating	4
1.5.4 Income and Expenses Statement	4
2. Background and Literature Review	5
2.1 Literature Review	5
2.1.1 Background/Origins.....	6
2.1.2 Advanced Technology	6
2.1.3 Next-Gen Point of Sale	6

3. 2.2 Overall Description.....	7
2.2.1 Product Perspective	7
2.2.2 Product Function.....	8
2.2.3 End User and Characteristics.....	9
2.3 User Documentation	10
2.4 Assumptions and Dependencies	10
4. Chapter 3.....	11
5. User Interface (UI).....	11
3.1 Entry Pages	11
3.1.1 Login Interface.....	11
3.1.2 Dashboard	12
3.1.3 Group Entry	12
3.1.4 Product Type Entry.....	13
3.1.5 Product Brand Entry	13
3.1.6 Product Size Entry	14
3.1.7 Manufacture Information Entry	14
3.1.8 Product Information Entry	15
3.1.9 Product Price Entry.....	15
3.1.10 Report Header Information Entry	16
3.1.11 Sales Register.....	16
3.1.12 Sales Return	17
3.1.14 Company Information Entry	18
3.1.15 Counter Entry.....	18
3.1.16 Customer Information Entry	19
3.1.17 Send Mail to Customer	19

3.1.18 Supplier Information Entry	20
3.1.19 Supplier Payment.....	20
3.1.20 Quick View Stock.....	20
3.1.21 Product Purchase Form Supplier	21
3.1.22 Local Purchase.....	21
3.1.23 Purchase wise Bar Code Print	22
3.1.24 Product wise Bar Code Print	22
3.1.25 Direct Stock Out	23
3.1.26 Stock Return to Supplier.....	23
3.2 Details View Pages	24
3.3 Reports.....	27
3.4 User Stories.....	29
3.5 ER Diagram	30
3.6 Activity Diagram	31
3.7 Data Flow Diagram.....	32
3.8 Use Case Diagram	33
3.9 Key Component of POS System.....	34
3.9.1 Software.....	34
3.9.2 Hardware Component.....	34
6. Chapter 4.....	35
7. Project Management Plan & Methodology	35
8. 4.1 Work Breakdown Structure	35
4.2 Background Research	35
4.3 Requirement Collections	36
4.4 Budget Requirements.....	37

4.5 Analysis and Design	37
4.6 Methodology	37
4.7 Risk Management	38
4.8 Development Tools and Technology	38
4.9 Resource Requirement	39
4.9.1 Usability	39
4.9.2 Reliability	39
4.9.3 Performance	39
4.9.4 Supportability	39
4.9.5 Implementation	39
4.9.6 Interfacing	40
4.10 Testing	40
4.10.1 Cashier activity	40
4.10.2 Sales	40
4.10.3 Return & Exchange scenarios	40
4.10.4 Performance	41
4.10.5 Managing Promotions and Discounts	41
4.10.6 Tracking Customer's Data	41
4.10.7 Report Testing	41
4.11 Project Limitation	41
9. Chapter 5	43
10. Implementation	43
5.1 Software Requirements	43
5.2 Hardware Requirements	43
5.3 Software installation	43

5.4 Maintenance Software	43
11. Chapter 6.....	44
12. Conclusion and Recommendation	44
Conclusion	44
Recommendation	44
13. References.....	45
14. Appendix A: Glossary	46
15. Appendix B: To Be Determined List.....	46
16. Appendix C: Accessing Overall Project Risk.....	46

LIST OF TABLES

Table 1: User Stories29

Table 2: Budget Requirements37

Table 3: Risk Management.....38

LIST OF FIGURES

Figure 1: Graphical Context Diagram	8
Figure 2: Process Diagram of the System	9
Figure 3: User Login.....	11
Figure 4: Dash Board.....	12
Figure 5 : Group Entry.....	12
Figure 6 : Product Type Entry	13
Figure 7 : Product Brand Entry.....	13
Figure 8 : Product Size Entry.....	14
Figure 9 : Manufacture Information Entry	14
Figure 10 : Product Information Entry	15
Figure 11 : Product Price Entry	15
Figure 12 : Report Header Entry	16
Figure 13 : Sales Register	16
Figure 14 : Sales Return	17
Figure 15 : Re-print Invoice	17
Figure 16 : Company Information Entry	18
Figure 17 : Counter Entry	18
Figure 18 : Customer Information Entry	19
Figure 19 : Send Mail to Customer	19
Figure 20 : Supplier Information Entry	20
Figure 21 : Supplier Payment	20
Figure 22 : Quick View Stock	20
Figure 23 : Product Purchase from Supplier.....	21
Figure 24 : Local Purchase	21

Figure 25 : Purchase Wise Bar Code	22
Figure 26 : Product wise Bar Code Print	22
Figure 27 : Direct Stock Out.....	23
Figure 28 : Stock Return to Supplier	23
Figure 29 : Product Group View	24
Figure 30 : Product Type View	24
Figure 31 : Product Information View.....	25
Figure 32 : Product Brand View	25
Figure 33 : Product Size View.....	25
Figure 34 : Manufacture Information View.....	26
Figure 35 : Customer Information View	26
Figure 36 : Counter Entry View	26
Figure 37 : Supplier Type View	27
Figure 38 : Supplier Information View	27
Figure 39 : Current Inventory View	27
Figure 40 : ER Diagram.....	30
Figure 41 : Activity Diagram.....	31
Figure 42 : Data Flow Diagram	32
Figure 43 : Use Case Diagram.....	33
Figure 44 : Work Break down Structure.....	35
Figure 45: Development Strategies	38

Chapter 1

Introduction

1.1 Purpose

With the advancement of technology in a rapid face, traditional manual labor oriented business methods are quickly going out of practice. The rise a technology has affected every possible way of business and integrated itself in such a way that performing business without the help of technology has become near impossible and end up being a loss project.

The biggest impact technology has is in the business sector. One prominent example of these changes is how retail business is now being managed by automated inventory system. While it was a costly man hour consuming work it us now possible to manage an entire business with few click in the keyboard requiring minimum people. It has significantly made business process faster by helping keeping records, transactions, stock management, customer and supplier information, sales report, employee information in central way with accountability. The chance of fraudulent has been significantly reduced with the help of technology.

The introduction of cutting age technology has been a blessing to single business owners and small, medium enterprises because us has significantly reduce the cost of business is this site and help them to use that capital to expand the business. Also, it has provided total control to the owners and transparency.

1.2 Document Convention

The format of this document is simple. Bold face with font size 14 and indentation is used on general topics. The remainder of the document will be written using the standard font. Times New Roman and font size is 12. For important sections and document, we used

bold pen to highlight and some of the highlighting past described to the other sections. Every requirement in every section has its own priority and detailed requirements.

1.3 Intended Audience and Reading Suggestions

This project is for boutique shop users, preventing their harassments regarding their business. The user of the system can be owner of the shop, sales man, developer and tester, marketing and business people can also be the part of the usage system. The project manager gives the valuable suggestion for different important purpose and points of view for the entire system. A sequence for reading this document may be achieving a good theme of knowledge with the product scope, product perspective and functions and user documentation.

1.4 Product Scope

Much responsibility in retail store can be overly tedious and useful resource exhaustive. With the right POS system, outlets have the potential to simplify important day business operations with greater proficiency.

1.4.1 Sales Reporting

On the surface, maximum POS System allow you to have a look at your sales. The distinction lies in how the ones numbers are presented, the benefit at which records may be accessed and the way much detail you get.

- Generate detailed income reports(primarily based on product, hour, employee, general fee of objects sold, total retail amount, net earnings, income percentage, gross margin)
- Provide brief snapshots and charts for your store's income performance.

1.4.2 Inventory Management

Probably the most important functions of a Point of sale software, inventory management, at their very essence, keeps monitor of all products therefore you know when actually time for you to order is/ or not order specific products.

- You can easily analyze sales data, number out how well single item on your racks sell, and adjust buying levels accordingly.
- Shop owner can easily maintain a sales record to help adjust the buying decisions for temporary purchasing trends.
- Shop owner could improve pricing accuracy by simple integrating bar-code scanners and even credit-based card authorization ability along with the Pos software.
- Manage stock by simply creating product variations (size, color).
- Enable seamless ordering some as automatically setting customized reorders of best sellers.
- Combing purchase and orders inside on one record.

1.4.3 Customer Management

Building sturdy relationship with your clients will cause repeat business. A POS should have consumer Management to tune all client data.

- Attach a sale/transaction to consumer
- Keep song of your customer's buy history.
- Capture consumer records which includes name, age ,birthday, phone range and e-mail address
- Use email advertising to keep in contract with them.
- More advanced structure may have built-in loyalty program.

1.4.4 Employee reporting and Management

The overall performance of your employees could make or ruin the fulfillment of your store. Having the ability to set sales targets in addition to recognize who your pinnacle performers are and who requires extra training will help boom sales.

- Add personal to your system.
- Create and adjust schedule for personal based totally on forecasted activity.
- Email schedule to employee.

- Track employees' hours weekly and over time.
- Analyze who your pinnacle performers.

1.5 Goals and Perspective

1.5.1 Stock system

- When a shop owner buys products he can input to the stock with product specific code and price. So, when any product sells it will reduce from the stock.
- Shop keepers can able to see the available products by using stock system by demand of the customer.

1.5.2 Revenue Count

- When any product sell from the shop and customer pay for it. The system calculates the price of the stock value and selling value and calculated the revenue from it.

1.5.3 Reports Generating

- There will be report generated in every week that can show the selling of the week and stock available products.
- Same report will generate widely in every month for the target sell for annual earning by business.

1.5.4 Income and Expenses Statement

- Income statement produce after on product is sold. So, this process is a continuous process shop owner can able to see those report at daily basis at any time.
- There will be income and expense statement produce every month to calculate the revenue and expense.

Chapter 2

Background and Literature Review

2.1 Literature Review

A POS system is an automated, computerized version of the combination of transaction which is performed during the buy sale of product and inventory management system. A point of sale is normally a retail outlet. Kim & Kim define a point of sale gadget as a “Supply net administration system for customer management” which is delivers actual time manipulate of products in inventory and sale estimation. According to Malcolm Tatum (2010), “while the specific of a sale system will vary somewhat form one situation to another, the final outcome is always the same”.

At a glance a POS system is software which helps the owner to buy/sale products, calculate money and keep track of his products via inventory management and many more. According to Ellram et al. (1999), POS system deliver valuable, close to actual-time statistic income, one of these systems can be used to replace inventory stock status and generate purchase order as wished.

Point of sale machine generally found in supermarket, the factor of sales machine includes the checkout counter, bar code scanner and the coins register. Whenever while an object is scanned, the device count number the value, till the items decided on by the customer are scanned, the machine will calculate the full price of all object that client would love to purchase. Customer will then pay amount money, the use of either credit card or cash, the sales system will permit the cashier to enter the amount of cash that patron pay and calculate the stability that have to be lower back to the patron. When the payment is done, point of sales machine will generate a receipt and keep log within the server.

POS system have come pretty long distance since the primary “arthrometer”. Long gone are the days when POS systems were simply a way to finish income transaction with the

purchaser. Now those intelligent systems do the whole thing from tracking client information and returned end inventory to dealing with customer relationship.

2.1.1 Background/Origins

The first “POS system” was a kind of mechanical calculator invented in 1623. From there, the calculator grew to do bigger and higher things. From this, the arithrometer have become the first business calculator within the late 1800s. The arithrometer used a sequence of buttons and sliders to add, subtract, divide, multiply, and even locate roots of numbers. Improvements to the capability of those early POS system persisted to boost competencies till the first “incorruptible” register was put to use in 1883. Over time, mathematicians and engineers developed more security capabilities and complex computing capabilities.

2.1.2 Advanced Technology

By the late 1990s, POS system becomes a relevant hub for income manages. The first touch-screen POS’s have been invented within the late 1980s and gave business proprietors the potential to track income, print receipts, input stock data, scan credit card and more. Since then, advance technology continued to add enhancements to those systems, turning them right into a powerhouse for managing the front end business.

2.1.3 Next-Gen Point of Sale

Now, enterprise proprietors manipulate the front of sales at the POS terminal, however in addition they manipulate back end operations. With integrated structures like stock management and CRM capabilities, POS structure allows modern-day business full control. Sales marketing, inventory tracking accounting, and customer statistics can all be accessed and analyzed with custom designed reports.

Mobile POS system revolutionized the meaning of control and allows employees to take these capabilities anywhere. EMV (Europay, Mastecard, Visacard) capability is made into the newest variations of POS structure and provides better security measures for card scanning. Looking in the direction of the future, commercial enterprise owners will see scalable easy-to-use, and stable structure that provide full manipulate over business operations remotely and on the terminal.

Technology evolves over the years to fit the every-changing wishes of these day's consumers. Luckily, POS system these days are fast, intuitive, and full of every characteristic and functionality that you may think of.

2.2 Overall Description

This Section will give a summary of the entire system. The system is going to be explained in its context to point out how the system interacts with other system and introduce the essential functionality of it. It is also describe what sort of stakeholders who will use the system and what functionality is out there for every type. At last, the constraints and assumptions for the system are going to be presented.

2.2.1 Product Perspective

Tasnim's Boutique Shop needs some sort of fully integrated Point of sale system in order to help the boutique shop rise efficiency that help get rid of waste in physical and even human resource.

Boutique shop intelligence is a customize web based multi-station point of sales system With functions such as automatic ordering and substantial speed bank card readers. The particular system will automate key business functions by checking inventory, ordering supplies, taking care of labor, and generating economical reports. The pos software need to comprise of an amount of added functionalities not really typically seen is this device (e.g. customer shopping history) that enhances the user ad client experience and makes the particular system robust. Even more importantly, the system will be needing scalability which expands to support both present and upcoming business requirements. Figure-1.1 details the client vision of how the Pos system will allow them in order to receive and transform purchase in timely way as well as keep track of inventory and customer preferences represented as information in context diagram and in Figure-1.2 show the Data flow diagram.

Furthermore Tasnim's Boutique needs a web based business option designed to assist in retrieving online instructions with ease. The web site is going to be designed to user interface with the Pos software. The particular product will be created with an SQL database along with GUI interface.

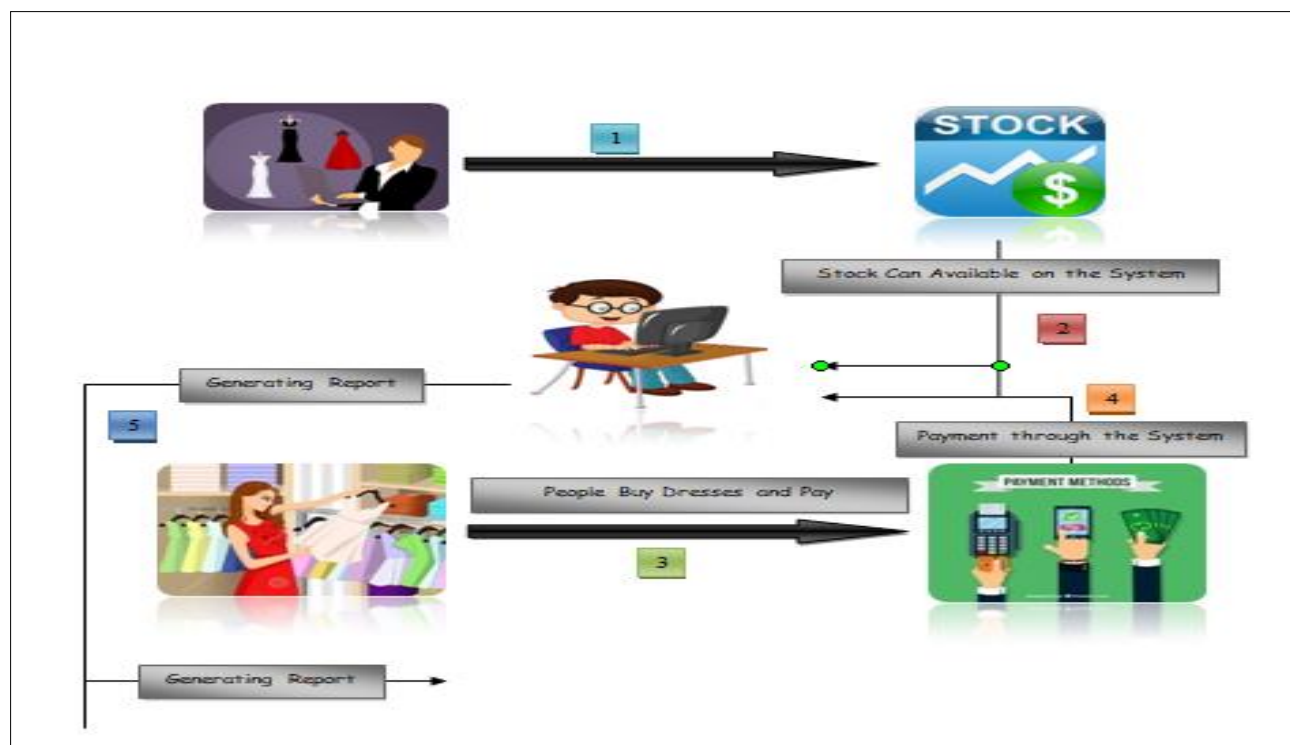


Figure 1: Graphical Context Diagram

2.2.2 Product Function

Stock System: Retailer find that using POS system in their business improves the efficiency to manage their inventory. Just input the existing stock amount and product description for each and every product when they set up their pos for the first period. From then on each order process the application adjusts inventory levels simply by itself.

Billing and Order Processing: Scan product, capture different payment modes, and discount, generate order invoice, reprint and email invoice to the customer.

Reports Generating: There will be report generated in every week that can show the selling of the week and stock available products. Same report will generate widely in every month for the target sell for annual earning by business intelligence.

Income & Expenses Statement: Income statement produce after in product sold. So, this process is a continuous process shop owner can able to see those report at daily basis at

any time. There will be income and expense statement produce every month to calculate the revenue and expense.

Customer Relationship and Experience: Store customer data and purchase history which is useful for advertising as this data can provide insights on which customer would be interested in your site.

Employee Management: Store employee data management of staffing levels, employee hours, and sales performance to track employee productivity.

Loyalty Programs and Gift Cards: Track customer loyalty incentives and manage gift.

Return Policy: The store's return policy is important to its success. That's why POS application should be able in order to implement a shopper friendly return policy as customer need. It should offer versatile options to return things for both store or refund amount straight to their bank account or give user a product exchange offer.

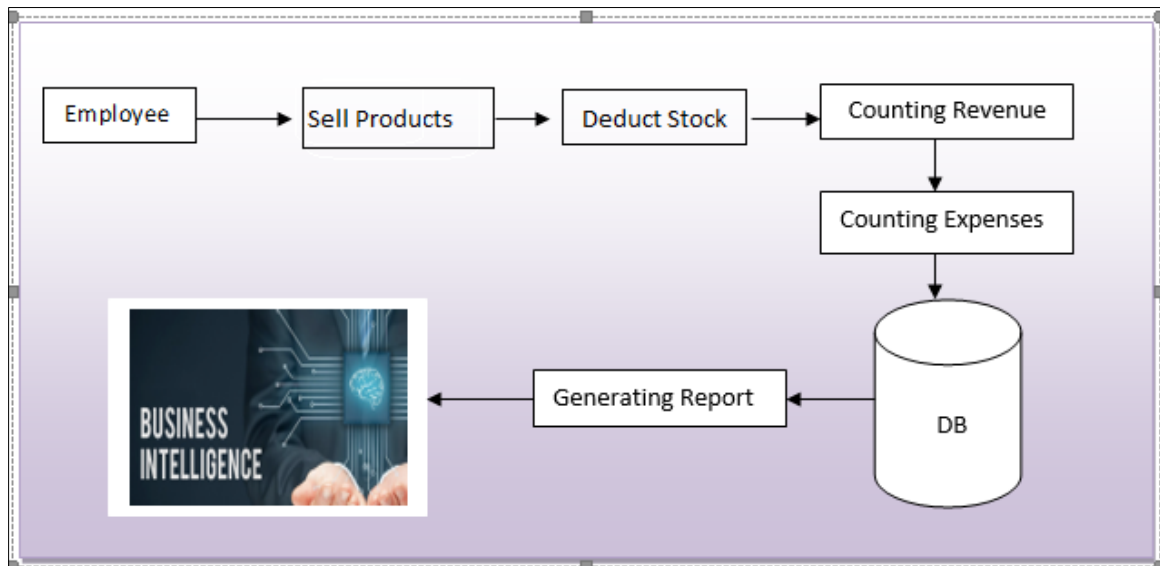


Figure 2: Process Diagram of the System

2.2.3 End User and Characteristics

Administrator: the system will assist the manager perform extra efficient ways to run the business. The administrator is getting reliable and extra reports on inventory sales report. By way of these reports the administrator can make a very good business decisions, determine goods that contribute to revenue and create new business strategies and enhancement.

Store Clerk: The clerk will certainly be more productive throughout checking the stock-in and stock-out of the business. It will make sure that the inventory attendant in doing reports with regard to the system will create stock reports.

Cashier: After implementing the system, typically the cashier will be even more productive and efficient throughout doing work, providing dependable reports for manager and even giving the customer high quality service. The cashier certainly not is worried about doing regular calculations, for the system will certainly generate sales reports.

2.3 User Documentation

The user interface and use experience will be very authentic for this system. The environment will be made so user-friendly that a user can easily operate the system. Though there will be a manual describes functionality and feature for POS system when running in the standard mood and using mouse and keyboard.

2.4 Assumptions and Dependencies

There are some assumptions and dependencies factors that might be affected in the system applications they are listed below –

- Quite expensive to develop and maintain
- Alarming Factor
- Developers Failure
- Design and implementation Failure
- Network Failure
- Disable Identity

Chapter 3

User Interface (UI)

User interface is one of the most crucial elements of any system. It indicates how the user will interact with the system smoothly. Bellow is the information of user interface. It's going to go from admin panel to team of workers panel smoothly.

3.1 Entry Pages

3.1.1 Login Interface

Here person need to enter their credentials (username and password) to access as admin or staff. It will display the user panel (admin or staff) following their roles form database.

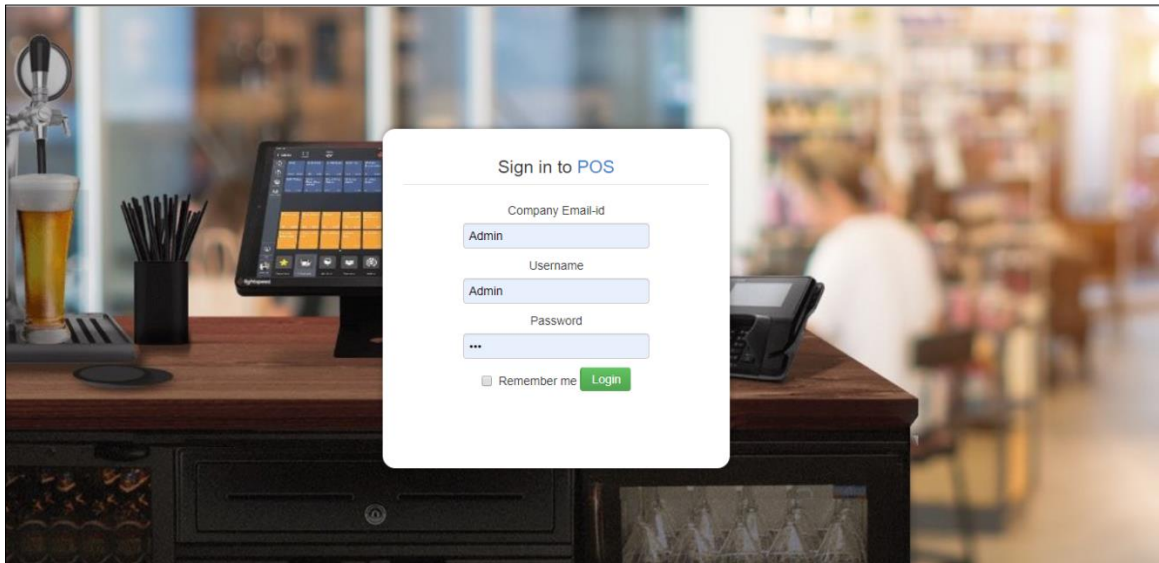


Figure 3: User Login

3.1.2 Dashboard

In this page at a glance user can see Net sell information, Sell Return, Monthly sell, Day to Day sell and Product stock information.

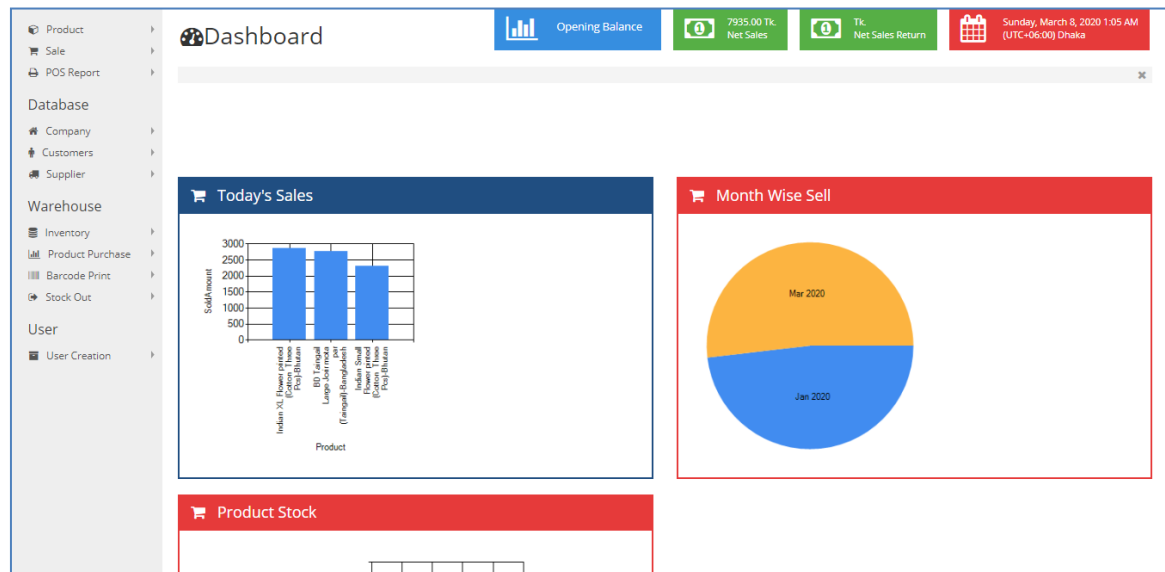


Figure 4: Dash Board

3.1.3 Group Entry

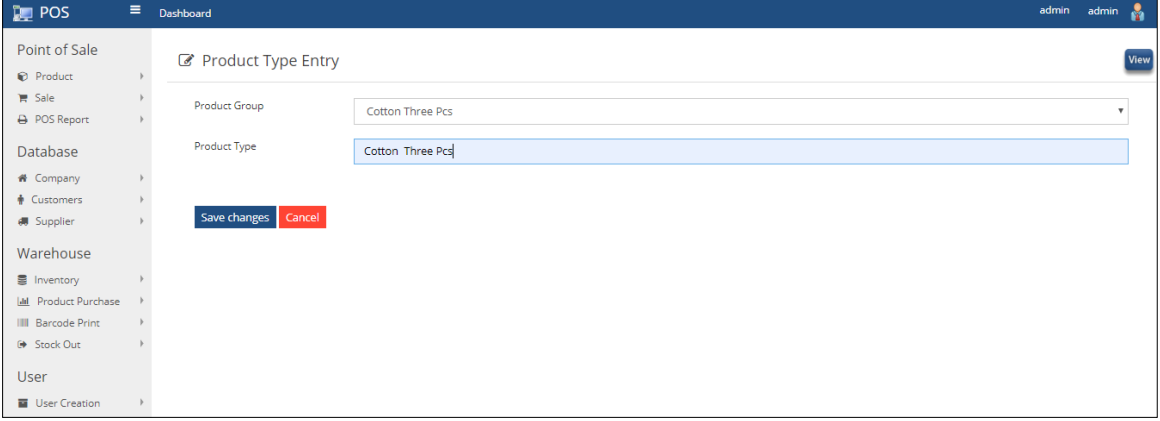
Product Unique Group Name can add in this interface.

The screenshot shows the 'Product Group Entry' form in the POS system. The sidebar menu is visible on the left. The main form has a 'Product Group Name' input field with the text 'Dress' entered. Below the input field are 'Save changes' and 'Cancel' buttons. A 'View' button is located in the top right corner of the form area.

Figure 5 : Group Entry

3.1.4 Product Type Entry

Different kind of clothes will be selling in the store .The type of product can added in this interface.

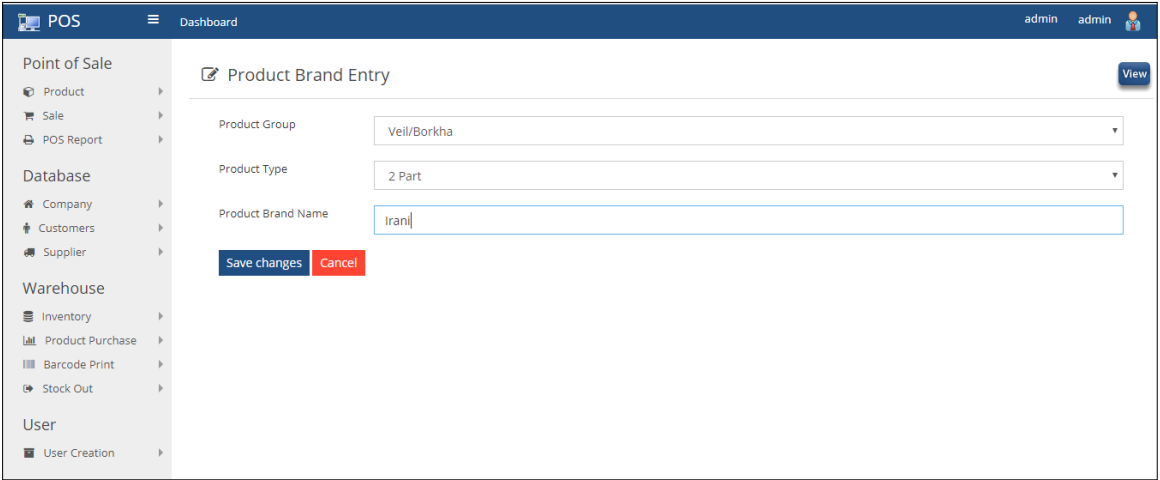


The screenshot shows the 'Product Type Entry' form in the POS system. The left sidebar contains a menu with categories: Point of Sale (Product, Sale, POS Report), Database (Company, Customers, Supplier), Warehouse (Inventory, Product Purchase, Barcode Print, Stock Out), and User (User Creation). The main form area has a title 'Product Type Entry' and a 'View' button. It contains two dropdown menus: 'Product Group' with the value 'Cotton Three Pcs' and 'Product Type' with the value 'Cotton Three Pcs'. Below these are 'Save changes' and 'Cancel' buttons.

Figure 6 : Product Type Entry

3.1.5 Product Brand Entry

Different type of brand cloth will be available in the store. User can use brand entry screen to input brand information which will be available in the stock.

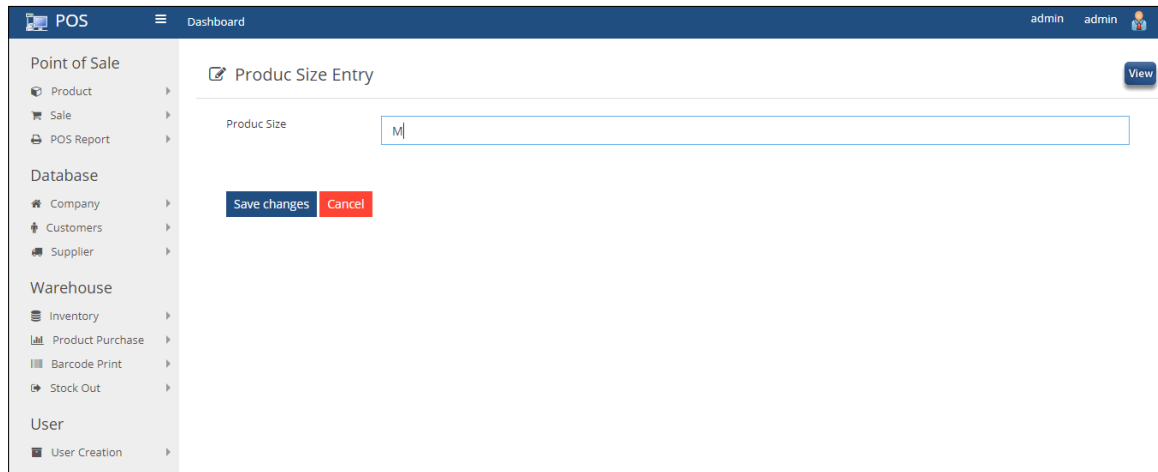


The screenshot shows the 'Product Brand Entry' form in the POS system. The left sidebar is identical to the previous form. The main form area has a title 'Product Brand Entry' and a 'View' button. It contains three input fields: 'Product Group' with the value 'Veil/Borkha', 'Product Type' with the value '2 Part', and 'Product Brand Name' with the value 'Iran'. Below these are 'Save changes' and 'Cancel' buttons.

Figure 7 : Product Brand Entry

3.1.6 Product Size Entry

In this interface type of product size (small, medium, XL ...etc) information can input here.

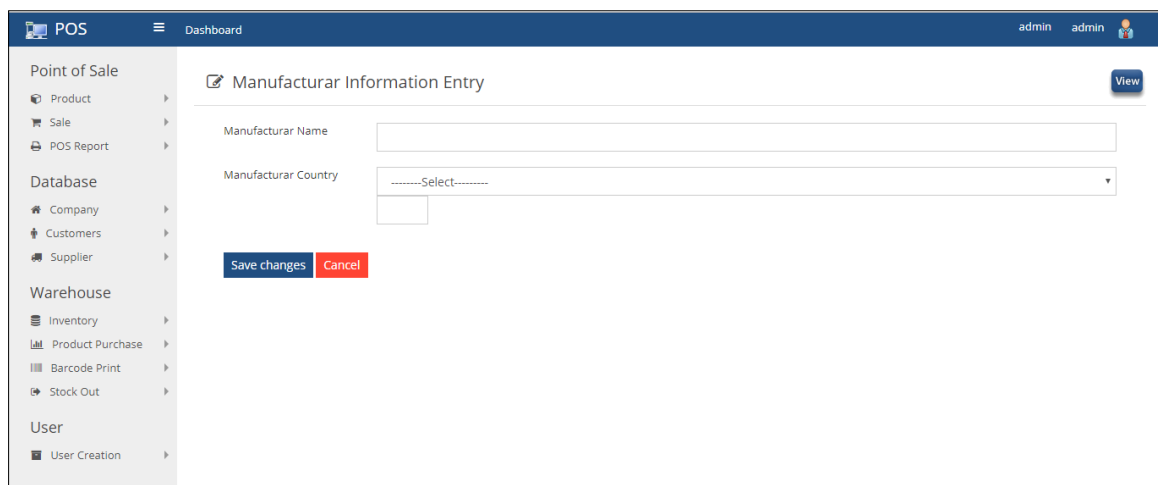


The screenshot shows the 'Product Size Entry' form within the POS system. The left sidebar contains a navigation menu with categories: Point of Sale (Product, Sale, POS Report), Database (Company, Customers, Supplier), Warehouse (Inventory, Product Purchase, Barcode Print, Stock Out), and User (User Creation). The main content area is titled 'Product Size Entry' and features a 'View' button in the top right. Below the title, there is a 'Product Size' label followed by a text input field containing the letter 'M'. At the bottom of the form, there are two buttons: 'Save changes' (blue) and 'Cancel' (red).

Figure 8 : Product Size Entry

3.1.7 Manufacture Information Entry

Product manufactures information (Name, location) entry in this interface.



The screenshot shows the 'Manufacture Information Entry' form within the POS system. The left sidebar is identical to the previous screenshot. The main content area is titled 'Manufacture Information Entry' and features a 'View' button in the top right. Below the title, there are two input fields: 'Manufacturer Name' (a text box) and 'Manufacturer Country' (a dropdown menu with '-----Select-----' as the selected option). At the bottom of the form, there are two buttons: 'Save changes' (blue) and 'Cancel' (red).

Figure 9 : Manufacture Information Entry

3.1.8 Product Information Entry

Product details information entry form this interface. To add new product information user need to add unique Product ID with the details of GROUP, SIZE, COLOUR, and BRAND etc.

The screenshot shows the 'Product Information Entry' form. On the left is a sidebar menu with categories: Point of Sale, Database, Warehouse, and User. The main area contains several dropdown menus for 'Product Group' (Sharee), 'Product Type' (Zakat sharee), 'Product Brand' (BD Zakar sharee), 'Product Size' (XXL), 'Stock Unit Of Measurement' (PCS), and 'Default Sale Unit' (PCS). There is a text field for 'Product Description' (Printed Zakat sharee) and a dropdown for 'Product Manufacturer' (Local). Below these are checkboxes for 'Bar Code' (Software Generated and Product Generated). At the bottom are 'Save changes' and 'Cancel' buttons.

Figure 10 : Product Information Entry

3.1.9 Product Price Entry

Product sale price and vat percentage and form which date entered sale price will be applicable for product will also be input from this screen. And if any sale price needs to update also use this screen.

The screenshot shows the 'Product Price Setup' form. The sidebar menu is similar to the previous form. The main area has two tabs: '1 New Product Price Set' (active) and '2 Product Price Update'. The 'New Product Price Set' tab contains fields for 'Product' (BD Zakar sharee XXL Printed Zakat sharee (Zakat sharee)-Bangladesh), 'Sale Unit Price' (800), 'VAT Percentage' (15), and 'Active Date' (14-Aug-2019). There is a 'Submit' button and 'Back' and 'Next' buttons at the bottom.

Figure 11 : Product Price Entry

3.1.10 Report Header Information Entry

Report Header Text which will be use as a Report Header will be entry from this screen.

The screenshot shows the 'Report Header Entry' form in the POS system. The form is titled 'Report Header Entry' and has a 'View' button in the top right corner. The form contains the following fields:

- Company Name
- Address
- Contact No
- Email Address
- Fax
- Remarks

At the bottom right, there are three buttons: 'Save changes' (blue), 'Cancel' (red), and 'View' (blue).

Figure 12 : Report Header Entry

3.1.11 Sales Register

From this interface user can sell product. To sell product user have to search product by name and product information will be loaded automatically. User only needs to input product quantity, discount and amount information. User can also suspend sell and screen will be clear and for sell user need to click prepare for sell button and a receipt invoice will generate.

The screenshot shows the 'Sales Register' interface in the POS system. The interface includes a search bar for customers and products, a table for product details, and a right-hand panel for sale preparation and payment.

Search Customer: [Search Customer] [Add Customer]

Search Product: [Search Product] [Global Discount(%):]

Table:

Product	Stock	U.Price	Vat(%)	Total Vat	Dis(%)	Dis.Amt	U.SalePrice	Qty	UOM	TotalPrice	Less	NetTotal
	0							0				

Right Panel:

- Prepare for Sale** (blue button) **Suspend Sale** (red button)
- Item in Cart**
- Quantity**
- Price** ₹
- Vat** ₹
- Discount(%)** ₹
- Discount** ₹
- Adjustment** ₹
- Grand Price** ₹
- Net Paid** ₹
- Pay Type** Cash
- Cash** [Input field]
- Received** [Input field]
- Change** [Input field]

Figure 13 : Sales Register

3.1.12 Sales Return

If any user needs to return any product then sales staff needs to use this interface. For return product sales staff needs to input sales invoice number and product information will be loaded.

POS Dashboard admin admin

Point of Sale Hide Side Menu

Sales Return

Please Execute Opening Balance Process For Today!

Invoice No: Customer: Discount:

Counter: Select

Product	Unit Price	Vat(%)	Total Vat	Discount(%)	Discount Amt	Unit Sale Price	Qty	Unit	Total Price	Less Amt	Net Total	Return Qty	Return Amt
							0					0	

Total Item in Cart: Total Qty in Pcs:

Total Price Amount: 0.00
Total Vat Amount: 0.00
Total Discount Percent: 0.00
Total Discount Amount: 0.00
Total Less Adjustment: 0.00
Grand Total Amount: 0.00

Paid Status: Full Paid
Net Paid Amount: 0.00
Due Amount: 0.00
Return Amount: 0.00

Figure 14 : Sales Return

3.1.13 Re-Print Invoice

If sales invoice need to print again for any circumstances sales staff can use this screen for re-print invoice form here.

POS Dashboard admin admin

Re-Print Invoice

Invoice: Customer: Discount:

Product	Unit Price	Vat(%)	Total Vat	Dis(%)	Dis. Amt	Unit Sale Price	Qty in Pcs	Total Price	Less Amt	Net Total
							0			

Total Item in Cart: Total Qty in Pcs:

Total Price Amount: 0.00
Total Vat Amount: 0.00
Total Discount Percent: 0.00
Total Discount Amount: 0.00
Total Less Adjustment: 0.00
Grand Total Amount: 0.00

Paid Status: Full Paid
Net Paid Amount: 0.00
Payment Type: Cash
Received Amt: 0.00
Change: 0.00
Card Amount: 0.00
Card No: 0.00

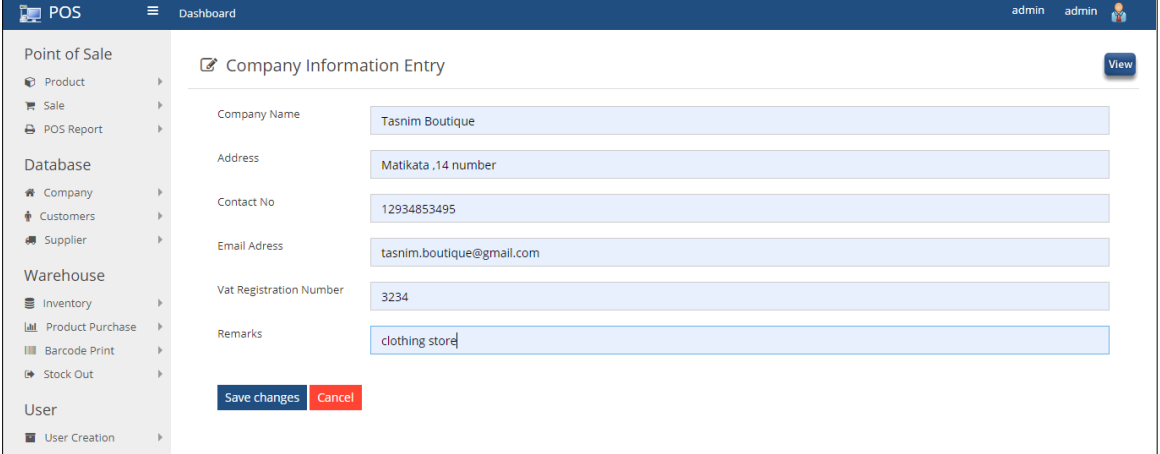
Re-Print Invoice Void

Figure 15 : Re-print Invoice

3.1.14 Company Information Entry

This is representing business entity, which is separated by different name and code.

System will be operated as separate business entity.

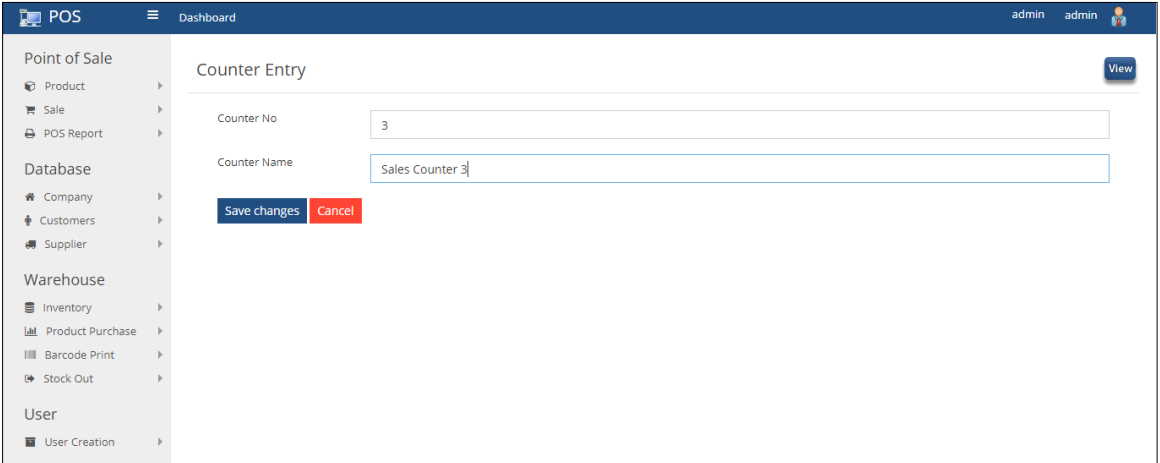


The screenshot shows the 'Company Information Entry' form in the POS system. The form is titled 'Company Information Entry' and has a 'View' button in the top right corner. The form contains several input fields: 'Company Name' (Tasnim Boutique), 'Address' (Matikata ,14 number), 'Contact No' (12934853495), 'Email Address' (tasnim.boutique@gmail.com), 'Vat Registration Number' (3234), and 'Remarks' (clothing store). At the bottom of the form, there are two buttons: 'Save changes' and 'Cancel'.

Figure 16 : Company Information Entry

3.1.15 Counter Entry

How many counter will be available in a store this information insert here (exp- Counter-1 or Counter-2 etc.)



The screenshot shows the 'Counter Entry' form in the POS system. The form is titled 'Counter Entry' and has a 'View' button in the top right corner. The form contains two input fields: 'Counter No' (3) and 'Counter Name' (Sales Counter 3). At the bottom of the form, there are two buttons: 'Save changes' and 'Cancel'.

Figure 17 : Counter Entry

3.1.16 Customer Information Entry

For run a business successfully relation with customer is most important part. To build up personal relation need to communicate will the customer and send customer greetings or any discount offer or inform any promotion customer data will be needed. Customer information can collect through this screen.

The screenshot shows the 'Customer Information Entry' form within the POS system. The interface includes a sidebar menu on the left with categories like 'Point of Sale', 'Database', 'Warehouse', and 'User'. The main form area has a title bar with a user icon and the text 'Customer Information Entry'. Below the title bar, there are six input fields arranged in a 2x3 grid: 'Customer Name', 'Present Address', 'Mobile No', 'Email ID', 'MemberShip Card No', and 'Category'. The 'Category' field is a dropdown menu currently showing 'Loyal Customers'. At the bottom of the form, there are two buttons: 'Save changes' (blue) and 'Cancel' (red). A 'View' button is located in the top right corner of the form area.

Figure 18 : Customer Information Entry

3.1.17 Send Mail to Customer

Sales Staff can send any greeting message with attach document to customer form this screen. Sales staff can send any particular customer or resisted customer mail through this screen.

The screenshot shows the 'Send Mail to Customer' form within the POS system. The interface includes a sidebar menu on the left with categories like 'Point of Sale', 'Database', 'Warehouse', and 'User'. The main form area has a title bar with a mail icon and the text 'Mail Content'. Below the title bar, there are four input fields: 'To', 'Subject', 'Attachment', and 'Message Body'. The 'To' field has a checkbox labeled 'All Registerd Customer' (note the typo) and a text input field. The 'Subject' field is a text input field. The 'Attachment' field has a 'Choose Files' button and the text 'No file chosen'. The 'Message Body' field is a large text area. At the bottom of the form, there are two buttons: 'Send Mail' (blue) and 'Cancel' (red).

Figure 19 : Send Mail to Customer

3.1.18 Supplier Information Entry

Supplier has one of the most important roles in retail business. To keep supplier information user can use this interface.

The screenshot shows the 'Supplier Information Entry' form in the POS system. The left sidebar contains a menu with categories: Point of Sale, Database, Warehouse, and User. The main form area has the following fields: Supplier Type (dropdown menu with 'Affiliate Merchants' selected), Supplier Name (text input), Address (text input), Contact No (text input), and Remarks (text input). At the bottom of the form are two buttons: 'Save changes' (blue) and 'Cancel' (red). The top of the interface shows the 'POS' logo, a 'Dashboard' tab, and user information 'admin admin'.

Figure 20 : Supplier Information Entry

3.1.19 Supplier Payment

Supplier Payment information can be found form this screen.

The screenshot shows the 'Supplier Payment' form in the POS system. The left sidebar is the same as in Figure 20. The main form area has a 'Supplier Name' dropdown menu with a placeholder '-----Select-----'. A yellow warning banner at the top right says 'Please Execute Opening Balance Process For Today!!'. On the right side, there is a summary box with the following fields: Total Paid Amount (text input), Ref No (text input), Ref Date (text input), Paid Date (text input), and Payment By (dropdown menu with 'Cash' selected). The top of the interface shows the 'POS' logo, a 'Dashboard' tab, and user information 'admin admin'.

Figure 21 : Supplier Payment

3.1.20 Quick View Stock

Item wise stock quantity will be found at a glance form this screen.

The screenshot shows the 'Current Inventory View' table in the POS system. The left sidebar is the same as in Figure 20. The table has three columns: Product, BarCode, and Current Stock. A search bar is located at the top right of the table. The table contains the following data:

Product	BarCode	Current Stock
BD Taingail Large Jorir mota par (Taingail)-Bangladesh	100005	20.000
BD Zakar sharee XXL Printed Zakat sharee (Zakat sharee)-Bangladesh	100004	280.000
Indian Medium Printed Cotton Radimate (Cotton Three Pcs)-Bhutan	100003	20.000
Irani XL Irani 2 Part Borkha (2 Part)-Bangladesh	100003	10.000
Local 8.25 to 7.50 Multicolour Bed sheet (3 PCS BedSheet)-Bangladesh	100001	7.000

The top of the interface shows the 'POS' logo, a 'Dashboard' tab, and user information 'admin admin'.

Figure 22 : Quick View Stock

3.1.21 Product Purchase Form Supplier

Which product purchase from which supplier information input in this interface. Product purchase Supplier Name, Invoice no, Chalan no, Receive date, Receive person and Payment information can also be input from this screen.

Point of Sale

Product Purchase From Supplier

Please Execute Opening Balance Process For Today!

Supplier Name: Invoice No: Invoice Date: Chalan No:

Chalan Date: Received By: Receive Date: Reference Person:

ID	Product	Unit Price	Rcv Qty	Total Price	Manuf. Date	Expiry Date	UOM

Total Qty:

Total Price Amount:

Grand Total Amount:

Payment Type:

Paid Amount:

Due Amount:

Payment By:

Figure 23 : Product Purchase from Supplier

3.1.22 Local Purchase

Local Purchase Product Information input from this screen. Product name, quantity, payment, receives date and Person data input in this screen.

POS Dashboard

Local Purchase

Please Execute Opening Balance Process For Today!

ID	Product	Unit Price	Rcv Qty	Total Price	Manuf. Date	Expiry Date	UOM

Total Qty:

Total Price Amount:

Grand Total Amount:

Reference No:

Reference Date:

Receive Date:

Receive By:

Figure 24 : Local Purchase

3.1.23 Purchase wise Bar Code Print

After Purchase product user can find the product list with purchase invoice number form this screen which is not fitted with barcode sticker.

POS Dashboard admin

Point of Sale

- Product
- Sale
- POS Report

Database

- Company
- Customers
- Supplier

Warehouse

- Inventory
- Product Purchase
- Barcode Print
- Stock Out

User

- User Creation

BarCode Print

Product Purchase ID :

Id	Product Code	Product Description	Price	Barcode	Quantity

Figure 25 : Purchase Wise Bar Code

3.1.24 Product wise Bar Code Print

User can check product list which is not fitted with barcode sticker by find product list.

POS Dashboard admin admin

Point of Sale

- Product
- Sale
- POS Report

Database

- Company
- Customers
- Supplier

Warehouse

- Inventory
- Product Purchase
- Barcode Print
- Stock Out

User

- User Creation

BarCode Print

Product :

Id	Product Code	Product Description	Price	Barcode	Quantity

Figure 26 : Product wise Bar Code Print

3.1.25 Direct Stock Out

If any reject product found from local purchase Sales staff can return product from this screen. User need to input local purchase code and data will be loaded and then input the reject quantity keep this information in database.

Product	Purchase Price	Receive Qty	Total Price	Stock Qty	Stock Total Price	Return Qty	Return Price

Figure 27 : Direct Stock Out

3.1.26 Stock Return to Supplier

If any reject product found from supplier purchase Sales staff can return product from this screen. User need to input supplier purchase code and data will be loaded and then input the reject quantity keep this information in database.

Product	Purchase Price	Receive Qty	Total Price	Stock Qty	Stock Total Price	Return Qty	Return Price

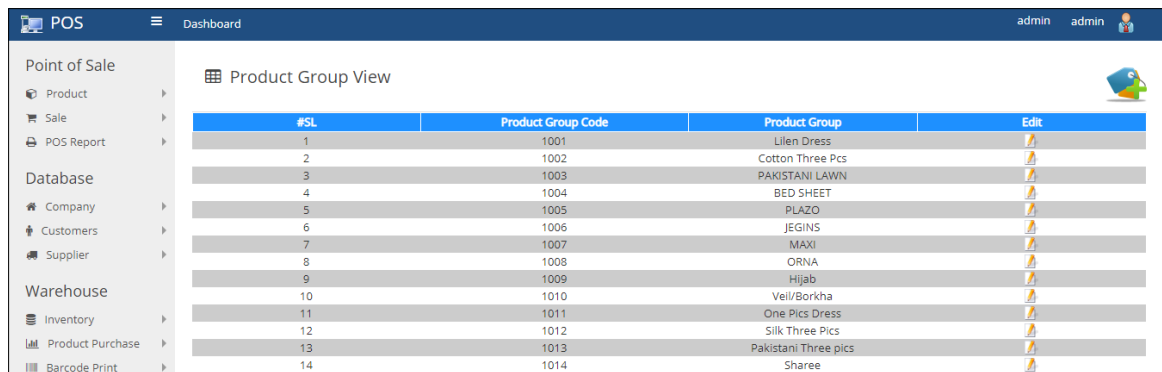
Figure 28 : Stock Return to Supplier

3.2 Details View Pages

Different type of details view page available. This entire view pages use can see all the entry data at a glance. Here some view pages image shown in bellow-

3.2.1 Product Group View

In this view pages user can see total group list which are already entered in the system.

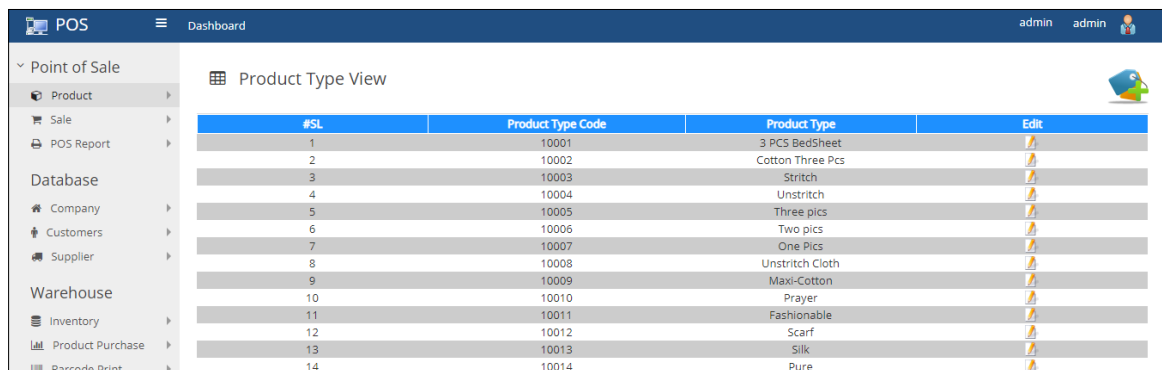


#SL	Product Group Code	Product Group	Edit
1	1001	Lilen Dress	
2	1002	Cotton Thre Pcs	
3	1003	PAKISTANI LAWN	
4	1004	BED SHEET	
5	1005	PLAZO	
6	1006	JEGINS	
7	1007	MAXI	
8	1008	ORNA	
9	1009	Hijab	
10	1010	Veil/Borkha	
11	1011	One Pics Dress	
12	1012	Silk Three Pcs	
13	1013	Pakistani Three pics	
14	1014	Sharee	

Figure 29 : Product Group View

3.2.2 Product Type View

In Product Type View page user can see all the product type which are already entered in the database.



#SL	Product Type Code	Product Type	Edit
1	10001	3 PCS BedSheet	
2	10002	Cotton Three Pcs	
3	10003	Stritch	
4	10004	Unstritch	
5	10005	Three pics	
6	10006	Two pics	
7	10007	One Pics	
8	10008	Unstritch Cloth	
9	10009	Maxi-Cotton	
10	10010	Prayer	
11	10011	Fashionable	
12	10012	Scarf	
13	10013	Silk	
14	10014	Pure	

Figure 30 : Product Type View

3.2.3 Product Information View

The entire available product in the store can see from in this view page. After enter any new product user can check if the information is correct or not if any modification needed they can modify.

#SL	Product Code	Product	Product Barcode	Is Active	Edit
1	10021000210002100002	Indian Medium Printed Cotton Redimate (Cotton Three Pcs)-Bhutan	100002	True	
2	10041000110001100001	Local 8.25 to 7.50 Multicolour Bed sheet (3 PCS BedSheet)-Bangladesh	100001	True	

Figure 31 : Product Information View

3.2.4 Product Brand View

All the brand information available in the store are user can seed form this page without running report.

#SL	Product Brand Code	Product Brand	Edit
1	10001	Local	
2	10002	Indian	
3	10003	BD Taingail	
4	10004	BD joni print	
5	10005	BD Zakar sharee	

Figure 32 : Product Brand View

3.2.5 Product Size View

Which size product available in the stock user can check form this view page and after entry any new size user can update information.

#SL	Size	Edit
1	8.25 to 7.50	
2	Large	
3	Medium	
4	XL	
5	XXL	

Figure 33 : Product Size View

3.2.6 Manufacture Information View

Product manufacture information can get from this page and if user needs any update information they can do from this page by click edit button.

Manufactur Information View			
#SL	Manufacturer Name	Manufacturer Country	Edit
1	China	China	
2	Indian	India	
3	Local	Bangladesh	
4	Pakistan	Pakistan	

Figure 34 : Manufacture Information View

3.2.7 Customer Information View

If any promotional event running or there is customer information need to found, user Can easily fetch data from this page and if any update requires user can click edit option.

Customer Information View						
#SL	Customer Name	Permanent Address	MobileNo	EmailId	CustomerCardNo	Edit
1	shakila jannat	mirpur dhaka	11111	shikjannat@gmail.com	10100001	
2	Real Hasmain	Mirpur	222222222222222	real.creatribd@gmail.com	000099077	
3	rini sohaly	Mirpur	0178980	rinisohaly2003@gmail.com	849847593485	

Figure 35 : Customer Information View

3.2.8 Counter Entry View

Store Counter information can view form this page in update or delete needed user can update and delete from this page.

Counter Information View				
#SL	Counter No	CounterName	Edit	Delete
1	1	Sales Counter 1		
2	2	Sales Counter 2		

Figure 36 : Counter Entry View

3.2.9 Supplier Type View

Type of supplier information can found at a glance from this page and if any update needed user can update from this screen.

Supplier Type View			
#SL	Supplier Type		Edit
1	Manufacturers and Vendors		
2	Wholeseller		
3	Affiliate Merchants		
4	Franchisors		
5	Importers and exporters		
6	Independent crafts people		
7	Droshippers		
8	Distributor		
9	Importer		

Figure 37 : Supplier Type View

3.2.10 Supplier Information View

The entire supplier information data user can found easily in this view page and if needed user can modify data.

Supplier Information View						
#SL	Supplier Name	Address	Contact No	Type		Edit
1	Tawhid AL Mahadi	Dhaka	012344899009	Wholeseller		
2	Mrs.Lina	Narayngonj	093897817	Importers and exporters		

Figure 38 : Supplier Information View

3.2.11 Current Inventory View

Current Inventory status can found from this page. If user need to the stock information of any selling product user can easily find the information from this page.

Current Inventory View				Search
Product	BarCode	Current Stock		
BD XXL Maxi Cotton (COTTON)-Bangladesh	100010	10.000		
Block Print XL Block print (Bangladesh)-Bangladesh	100002	25.000		
Ganga XL Ganga (Indian)-India	100004	45.000		
Joyturi XL Joyturi (Indian)-India	100005	33.000		
Maxi-China XXL Maxi-China (LILEN)-China	100011	35.000		
Mayur XL Mayur (Indian)-India	100006	10.000		
N/A Medium Bangla palazzo (BANGLA PALAZO)-Bangladesh	100007	8.000		
Zakat N/A suti sharee (Sharee)-Bangladesh	100015	30.000		

Figure 39 : Current Inventory View

3.3 Reports

General Reports

- Company information report
- Counter Information Report
- Customer Information Report

Sales Reports

- Total Sales Report

- Direct Sales Report
- Sales Return Report
- Details Sales Return Report
- Product wise sales report
- Product wise sales summary Report

Inventory Reports

- Current stock Report
- Purchase Form Supplier Summary Report
- Purchase from Supplier Details Report
- Local Purchase Summer Report
- Local Purchase Detail Report

Supplier Reports

- Supplier information Report
- Supplier payment Report
- Supplier Payment Detail Report

Product Reports

- Product Group Report
- Product Type Report
- Product Brand Report
- Product Brand Report
- Manufacture Report
- Product Information Report
- Product Price Report
- Product vat Report
- Product Reorder Report
- Product Previous Sales Report

3.4 User Stories

Table 1: User Stories

SL	As a/an	I want to	Acceptance Criteria
3.3.1	Employee	Login in to the system	Secure my data and business.
3.3.2	Employee	Update the stock with new product arrival	New product id will create.
3.3.3	Employee	Sell products to customer	Automated reduction in stock.
3.3.4	Employee	Keep the cash from customer	Automated update on system revenue
3.3.5	Employee	See the stock availability	As customer requisition
3.3.6	Employee	Update the reports of daily sale	Shop owner able to see the status
3.3.7	Employee	Follow up the business intelligence	For better revenue of the company
3.3.8	Employee	edit the reports	If any reports occur error
3.3.9	Employee	input the expenses	To acknowledge the shop owner
3.3.10	Employee	see my salary disbursement	At the end of the month.
3.3.11	Owner	login the system in specific manner	Special logging in the system
3.3.12	Owner	see the daily sells	Daily revenue report
3.3.13	Owner	see the monthly revenue	Monthly revenue report
3.3.14	Owner	pay my expenses	Daily expenses
3.3.15	Owner	Give salary to my employee	Monthly expenses
3.3.16	Owner	See my stock status to buy products	Stock ending

3.5 ER Diagram

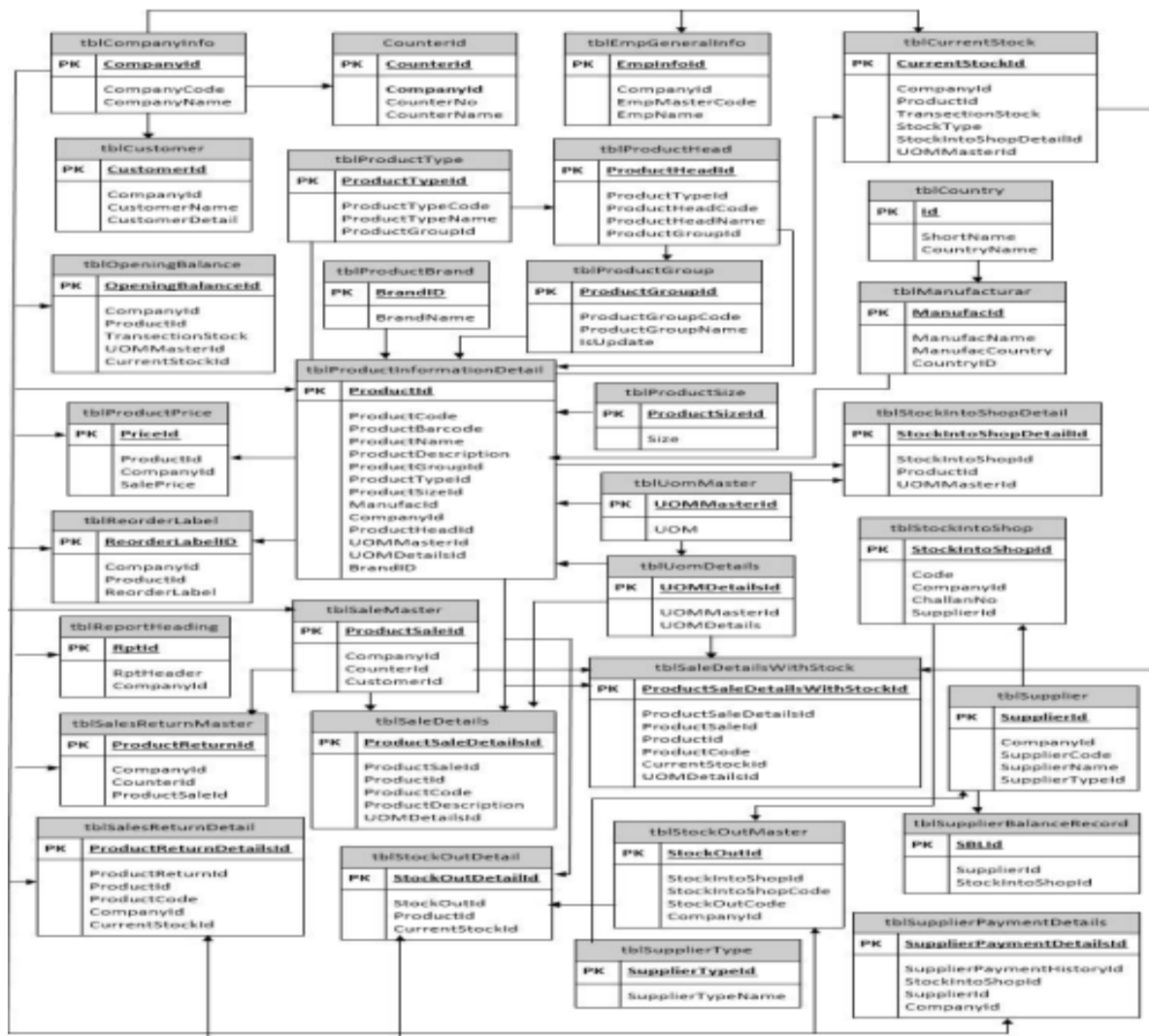


Figure 40 : ER Diagram

3.6 Activity Diagram

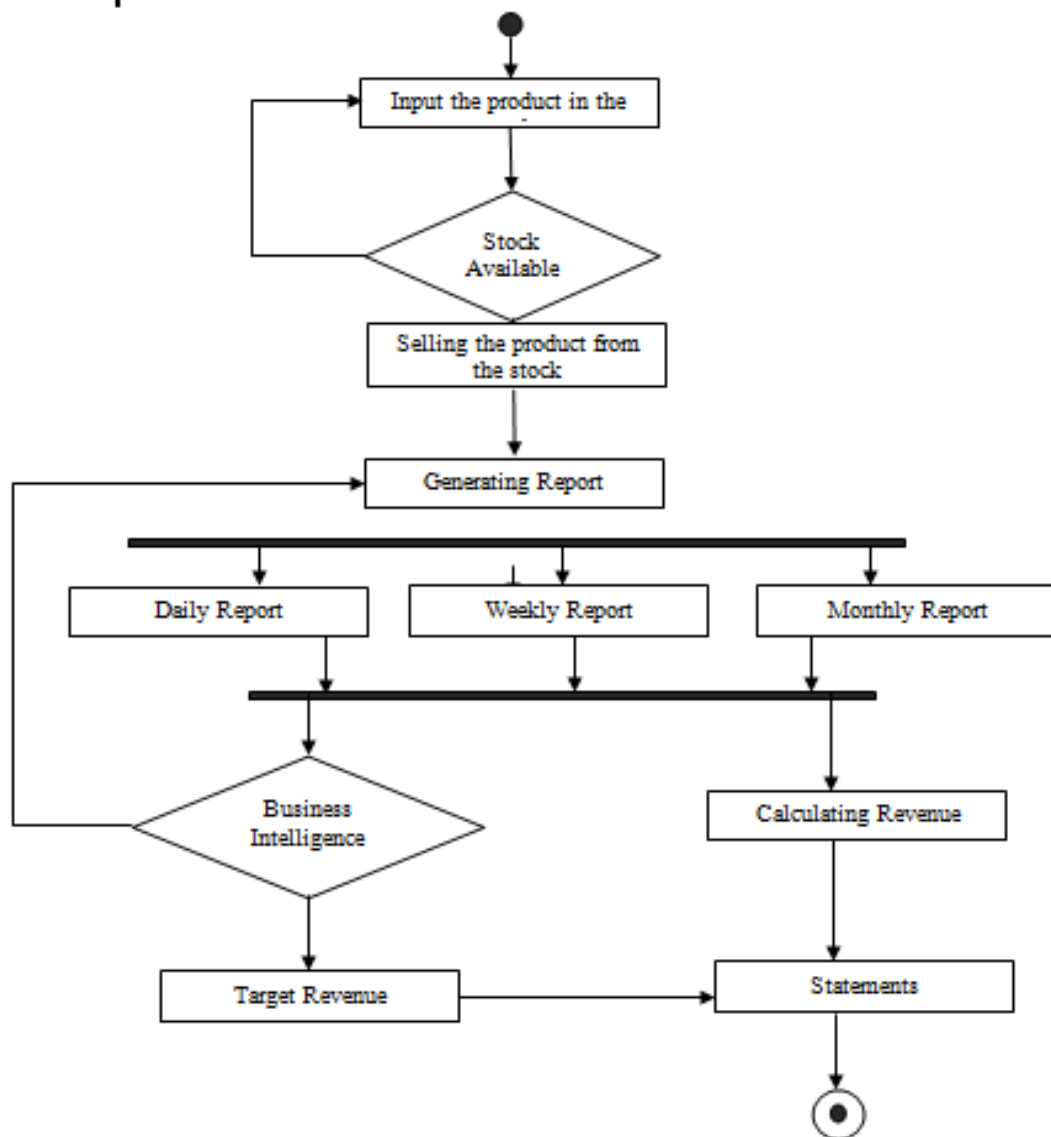


Figure 41 : Activity Diagram

3.7 Data Flow Diagram

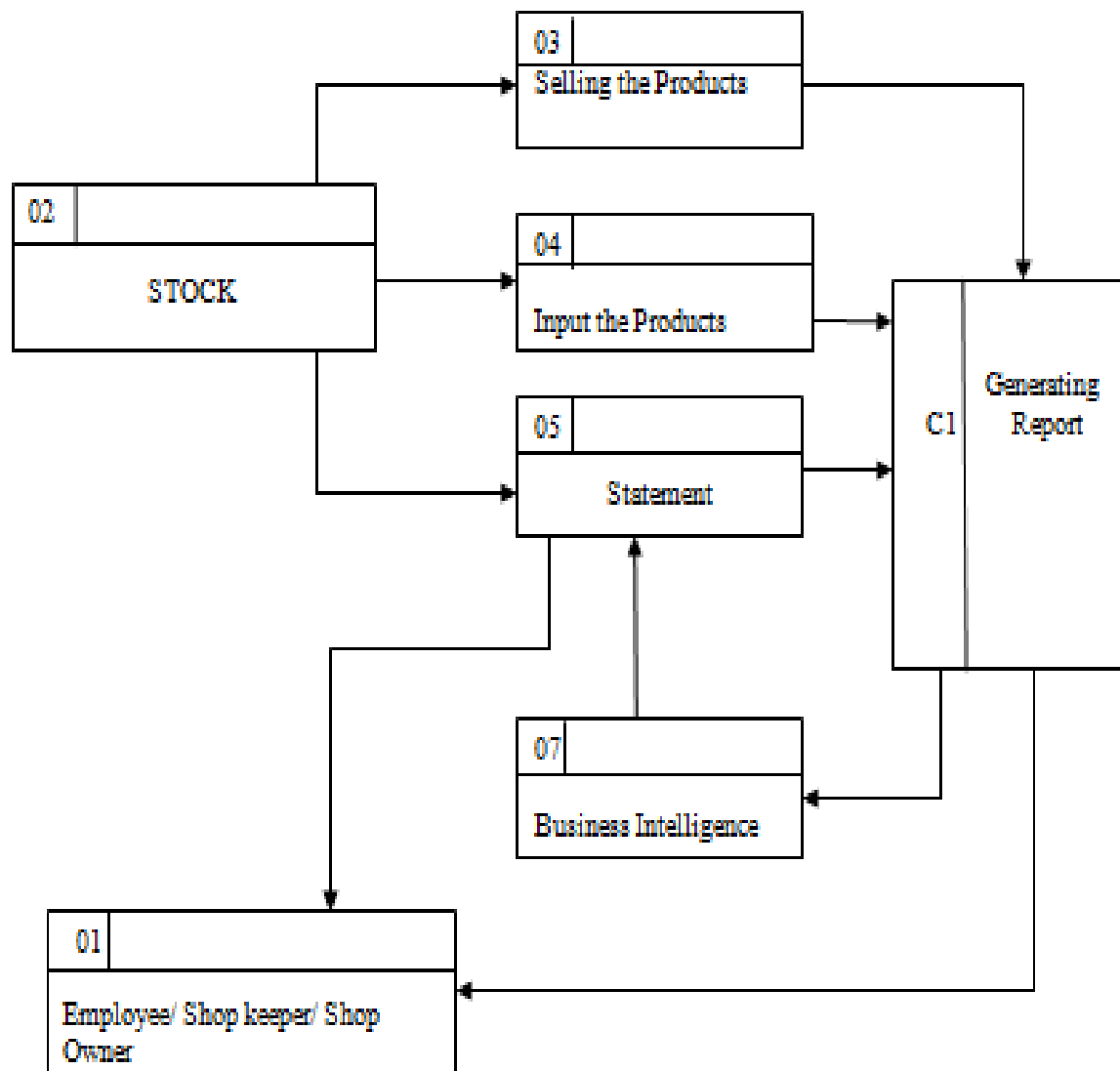


Figure 42 : Data Flow Diagram

3.8 Use Case Diagram

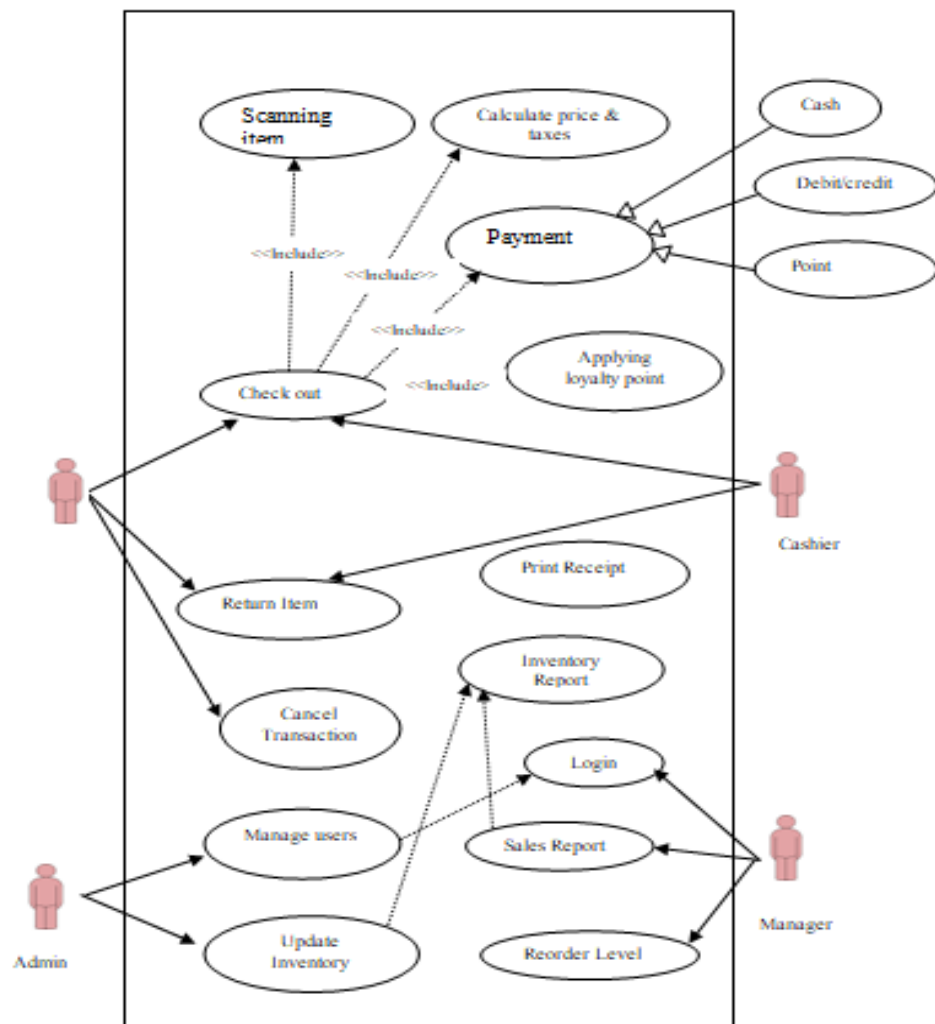


Figure 43 : Use Case Diagram

3.9 Key Component of POS System

Every POS System contains of software program and hardware components that making strolling day by day operations and make system simpler and faster.

3.9.1 Software

POS System has front end interface for display data and backend for behind the scene analytical and management functionality. POS system is windows based service require windows Server. All the software is based in closed computer network, it does not require internet. POS system can differ extremely in terms of what feature and layout system provided.

3.9.2 Hardware Component

These are the common physical components required to get POS up and running.

- **Monitor:** Display the product database and permits different functions, such as worker clock-in and viewing sales reports.
- **Barcode Scanner:** Automates the checkout process. Scanning barcodes pulls product information and adds it to the checkout total. Barcode scanners can also integrate with inventory management structures to mechanically adjust stock levels.
- **Card Machine:** Used to process bills made via debit or credit paying cards. Traditional card machines require software program installation and SIM card or landline cable, even as app-based card readers use Wi-Fi or network information from connected mobile device.
- **Receipt Printer:** Email and text receipt can be gaining popularity, however paper receipt remain vital for providing clients with a short snapshot of their buy or returns.
- **Cash Drawer:** it might also fade away in years to come, but cash continues to be king. Until then a POS owner need a secure place to shop cash for transactions. Another advantage of coins, there are not any associated credit card fees.

Chapter 4

Project Management Plan & Methodology

4.1 Work Breakdown Structure

The segment describes the methods that were utilized to accumulate the necessities of the system. It secured Data collection, Analysis and configuration tools, and Development.

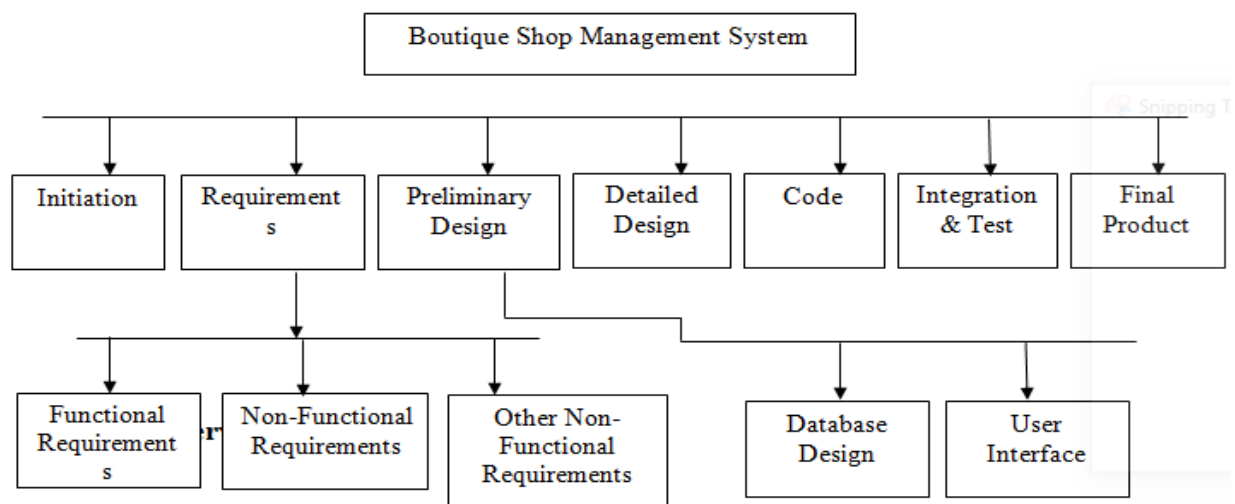


Figure 44 : Work Break down Structure

4.2 Background Research

We began to examine the Tasnim's Boutique Shop to understand the scope of the system. At first we limited our examination to locate the general reasons that raised the requirement of POS System. We utilized the various systems to gather information that can plainly give us the general picture of the application. The procedures we utilized were meeting the owner, visiting on the web sites that are introduced as the formats visiting some association to see their application. Fundamentally the accompanying factors constrained us to create the application:

- Cost and moderateness
- Lack of inventory management.
- Effective development of stock trade and management.

- Difficulty in checking the inventory management.

4.3 Requirement Collections

We collect some of requirements for task of research, internet site visit collect some template reading some research paper for gathering knowledge about pos system, interview to the concern person and their experience concerning the concept of the development. We also visit the shop talk to employer to find out the weakness and difficulties they face day to day work which all we have to overcome to build our system. We decide same type of software with different business flow and which language will be appropriate for small business.

The purpose of the system to manage the inventory feature of the organization in a systematic way, once the system will computerized all the function of can be acquire competitive advantage. Business requirement are already discuss in scope section with subsequent additional details.

- Help to look the unique product and remaining stock.
- Details record approximately the product sales and purchase.
- Brief information wide variety of present inventory as in keeping with the date entered.
- It enables to identify overall presented stock with the inventory.
- To realize the stability and details of sales disbursed in unique date.
- There is right transaction management of inventory.
- All transaction has particular access date along with quantity and rate.
- Only admin can login and get access the entire module.

4.4 Budget Requirements

The following is the hardware and software program specification necessary in the implementation of the system and necessity within the system of the crucial budgetary requirements, as follows (Example for single sales counter)

Table 2: Budget Requirements

System Requirements	Unit	Total Prize
Invoice Printer	1 Pcs	10000 tk.
Desktop Unit	1 set	30000 tk.
Barcode Sticker paper (1 Roll)	10 Roll	6500 tk.
POS Invoice paper roll	10 Roll	1500 tk.
Cash Drawer	1 set	15000 tk.
TOTAL:	-	63000 tk.

4.5 Analysis and Design

The requirements of the proposed mechanism were derived the statistics that contain inside the structure inputs like group information and the records contained inside the outputs just like the stock cards reports. The Use Case diagram (Figure 1.32), Context diagram (Figure 1.1), Entity relationships diagram (Figure-1.29) had been absolutely working. All those models will deliver the conceptual view and validate analyzed end user requirements. As a primary modeling tool entity diagrams help to organizing the statics the undertaking into entities and also the outline the relationship among the entities. The method enabled to analyst to apprehended database structure so that facts may be saved and retrieve most efficient manner. DFD diagram (Figure 1.31) showed flow of the data from outside entities into the system. It also showed how information moved from one technique to another as well as logical storage.

4.6 Methodology

The Agile development cycle is follow for the introduction of the inventory management with POS. The agile method is a particular method of the undertaking improvement. This technique assisted the team at some stage in the improvement of the system to make necessary feature in the step with the desire of the business



Figure 45: Development Strategies

4.7 Risk Management

Table 3: Risk Management

Risk	Probability	Impact
Requirements aren't clearly defined	60%	2
Requirements need to change for business reasons.	40%	2
Workers can drop out middle of the project.	30%	3
Workplace instruments can fall out	15%	1
Customer will change requirements	50%	2
Large number of users than planned	30%	1
Delivery Deadline will be tightened	40%	2

Impact Values:

1 = Catastrophic

2= Critical

3= Marginal

4.8 Development Tools and Technology

In developing a system, the application tools are very important to support the front and back end of software to be developed. In able to develop a system the tools and technologies that will be used is one of the most important factors to be consider.

The following are the list of tools and technology to be used:

- **Microsoft visual Studio 2010**
- **Language: C # .net language**
- **SQL Server 2008 R2**

- **HTML-Hyper Text Language**
- **Java Script**

4.9 Resource Requirement

4.9.1 Usability

- The systems have to easy to apply by using the person such that they do not need to read intensive quantity of manual.
- The menus of the device should be navigate without difficulty by the user and easy to understand.

4.9.2 Reliability

- The systems have to give correct stock status and transaction information to the user.
- The system should not update any records in the database for any failed process.

4.9.3 Performance

- The system must complete updating database, adding, deleting, updating and searching of product and accounts and adding stocks to a selected item correctly whenever the user request this type or process.
- All the functions of the structure have to be accessible whenever the system is turn on.

4.9.4 Supportability

- The software program is design such that it really works if system have minimum configurations
- The system is adaptable although extra plugging or modules are bought at later point.

4.9.5 Implementation

- The system user interface is built in Visual Studio 2010.
- The programming is done in Visual Studio 2010
- The database is applied on Microsoft SQL Server 2012.

4.9.6 Interfacing

- The system ought to provide a clean and simple way of viewing a current day stock and transaction facts.

4.10 Testing

The reason behind software testing is to access or evaluate the capabilities or attributes of software program ability to correctly meet the applicable requirements and utility need. Testing does not ensure the quality and testing is not isn't the reason locate bugs. Testing can be verification and validation or reliability estimation.

4.10.1 Cashier activity

- Test the entry of things purchased by a client is correct.
- Test discounts are measure applied properly.
- Check fund management works unneeded to mention.
- Check totals and closings match.
- Test the POS system is compatible with peripherals like bar code scanner.

4.10.2 Sales

- Check for a daily sale method.
- Check for correct prices are displayed for merchandise purchased.
- Check for "0" or null operation.
- Check for billing details.
- Check the print format of the receipt generated.
- Verify that the correct right code is generated for approved, hold or declined transactions.

4.10.3 Return & Exchange scenarios

- Check for exchange or coming back of an item with money
- Check system method the sale with receipt or short of a receipt
- Verify system show both the current amount also because the discount quantity on an exchange of item if applicable

4.10.4 Performance

- Check for speed or time taken to receive a response or send a request
- Check the transaction-based rules square measure are applicable (discounts/tax/rebates etc.)
- Verify that the correct code is generated for approved, hold or declined transactions

4.10.5 Managing Promotions and Discounts

- Test system for various discounts.
- Test system for varied promotional offers on bound line things.
- Test whether or not receipt print the precise discount or offers that are square measure leveraged.
- Test system for allocating wrong offers or discount on-line item.
- Test the order management method.

4.10.6 Tracking Customer's Data

- Test for system response with incorrect customer information input.
- Test the database for recording customer's shopping for history like (what they buy, how frequent they buy, etc.).

4.10.7 Report Testing

- Testing of an analysis report
- Test for the individual also as consolidated reports of consumers buying history
- Test for online report generation

4.11 Project Limitation

Since this is our first task it has some limitation. Due to much less much less expertise in particular fields and restrained time we were not capable to satisfy all our expectations that we predicted. We hope these boundaries will be considerable. Some of the assignment limitations are:

- This software is not suitable for those organizations in which there is large quantity of product and unique stage of warehouse.
- This software is only capable for generating simple report.
- It is not suitable for large organization.
- Single admin panel is only ready.

Chapter 5

Implementation

This is the maximum essential part for finalizing the software program development. Earlier then we hand over the system to the client we need to justify the system necessities in order that client can run the system without any obligation and disappointment.

5.1 Software Requirements

Operating system: windows server 2012 or higher.

Database Management System: Microsoft SQL Server 2008 R2

IDE (Integrated Development Environment): Visual studio 2010, notepad ++

Others: .Net Framework 4.5.

5.2 Hardware Requirements

RAM: Minimum 2 GB or higher.

HDD: Minimum 150 GB.

Processor: Intel Core i3 or AMD.

5.3 Software installation

- Boutique Shop Intelligence software might be installed through the developer. The developer additionally gives a manual to the manager on how the system works and how to use it.
- The developers also provide training and demonstrate to the owner on the way to use the system.

5.4 Maintenance Software

- The developer is willing to develop enhance the system improvement.
- If the user find any error or bug while using the system proprietor can contract with the developer.

Chapter 6

Conclusion and Recommendation

Conclusion

The management of the boutique shop will be benefited by the proposed system, as it will automate the whole supply procedure, which will reduce the workload. There is always a room for improvement in any software, however efficient the system maybe. The important thing is that the system should be flexible enough for future modifications. The system has been made to coder all user requirements and make it user friendly.

Recommendation

- Boutique shop needs to maintain proper inventory coding system
- They should concern about security issue
- Need to use reliable devices for data input
- Must secure the customers' information
- Take quick steps to fix issues for ensuring customer satisfaction
- Emphasize on automated data input rather than manual

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Appendix A: Glossary

- **Moderator** – The person who administers or controls the session.
- **Participant** – A user that contributes to the session.
- **Problem Statement** – The issue that the brainstorm session is generating ideas for
- **Session** – A timed period for when users can enter ideas/needs. It is where all of the information is kept for the related topic

Appendix B: To Be Determined List

- ✓ User must have to login into the system
- ✓ Every feature is given as a list, user have to click to open the feature.
- ✓ At last part of each UI there will be a documentation of that feature, that what's the purpose of that feature
- ✓ A feature can be activated easily by clicking over it
- ✓ Report functionality is for when user want to.

Appendix C: Accessing Overall Project Risk

1. Have software engineer team formally committed to support the project?

Answer: Yes. All the members are formally committed to support the project. They also ensure that they will give all types of available facilities.

2. Are requirements fully understood by the software engineering team and their customers?

Answer: Yes. As the software engineering team or the developers has the sound knowledge about the requirements so it is easily understandable by the team. The requirements details are well organized also informative, so it is under stable by the customers.

3. Are end-users enthusiastically committed to the project and the system/product to be built?

Answer: Yes. Because the end-users are expecting that, they will be able to find all kind of information about Anti-theft security System.

4. Have user been involved fully in the definition of requirements?

Answer: Yes. The user has been fully involved in the definition of requirements. They are aware of the application requirements.

5. Is project scope stable?

Answer: Yes. Project scope is stable because the minimum and mandatory scope is almost covered by the software engineering team. If any further scope will arise then just adding it with the old ones.

6. Does the software engineering team have the right mix of skills?

Answer: Yes. The software engineering team has the right mix of skills. The team members have the capability of doing their work in a team, ability to work in pressure and also have sound knowledge according to the software implementation.

7. Are project requirements stable?

Answer: Yes. Currently all possible requirements are being listed, and seem that if anything would be added later to the list will not make the project unstable. All requirements for this project are easily available that will enthusiast the end-user to use it.

8. does the project team and client is aware about the possible risks?

Answer: Yes. Project team prepare the possible risk assessment and aware of handling the risk. Client is also being notified