Software Requirements Specification

Version #1

Made to Measure

Client: Cyber Solutions

Team #2

|  |  |
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Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Name(s)** | **Date** | **Reason(s) For Change(s)** | **Version** |
| Hamza Saleem, Luqman ud din, Sherjeel Amer, Sultan Ahmad, Hammad Zia | 20-Sep. 2016 | Use cases are added | 0.1 |
| Hamza Saleem | 21-Sep. 2016 | Non functional & other requirements are added | 0.2 |
| Khizar Iqbal | 22 Sep. 2016 | Use cases & requirements corrected | 0.3 |
| Khizar Iqbal | 22 Sep. 2016 | IV&V report added | 0.4 |
| Hamza Saleem | 22 Sep. 2016 | Risk report, Glossary, Project Plan added | 1 |

# Introduction

## Product

“Made to Measure” is web based management suite for tailoring industry which will cover sales, order processing, inventory at warehouse and real time order status for customers.

## Scope

This software system will be a web based management suite for the tailoring industry. We intend to design it in order to ease the day to day business workflow and organize processes. This will in turn help the tailoring industry to maximize their work efficiency while remaining easy to understand and use.

More specifically, the system is designed to handle the operations regarding sales at the shop, stock at the warehouse, and feedback of stitching processes at the stitching units. Going one step further, we plan to engage the customer by sending stitching feedback once each process is completed via the web portal and SMS.

The software will also facilitate communication between the head office, warehouses and shops by providing a real time view of the whole ongoing operations respectively ranging from stock position to orders received.

## Business Goals

Scalability and Time Saving: The system will replace the uses of pencil and paperwork; the shopkeeper will not go through all the notebooks to check measurements of one customer. The shopkeeper and warehouse manager can easily check the status of stock sitting on their chairs.

Business Monitoring: Admin can monitor and control his/her business from remote locations.

Keep track of stock: Keeping the history of stocks in digital machine will aid in calculating statistics of the stocks for future times.

Customer Satisfaction: Facility for customers to track their order status will increase customer satisfaction.

## Document Conventions

N.A.

## References

<https://www.tailorstore.com/>

<https://www.tutorialspoint.com/software_testing_dictionary/software_requirement_specification.htm>

<https://www.youtube.com/watch?v=sSS1tu1yQ-Q>

# Overall Description

## Product Features

With this web application, shopkeepers will be able to book a stitching order and meanwhile lookup the current stock position at the warehouse. System will also provide the functionality to generate invoice/receipt.

Moreover, the system shall keep a record of incoming/outgoing stock and generate barcodes for stock arrivals at the warehouse. Production process at the stitching unit is also accounted for by notifying the customer once each task is completed (cutting has been done for e.g.). Administrative functionalities are also provided by the system to create logins for new employees, add new shops/warehouses/stitching units and generate reports.

Finally, the customer portal will show customer profile and list the order history.

## User Classes and Characteristics

The users are distinguished on privilege level. The different types of users are explained below.

**Admin**

Admin is a user who can add/remove a “Warehouse”, “Shop”, “Stitching Unit”, “Shopkeeper”, “Warehouse Manager”, “Stitching Unit manager” and “Stitching Unit Staff” in the system. Admin has the right to associate shops with warehouse and warehouses with stitching unit. In addition to this he can generate reports about the status of orders queued in shops.

**Customer**

Customers are part of the system. Their profile is maintained. They can track the status of their order and can also view their order history.

**Shopkeeper**

Shopkeeper can add a customer in the system and can add different type of jobs such as “Stitching Job” and “Alteration Job” for further processing. Shopkeeper can generate and adjust invoice. In addition to this he can view any customer order record. He can view stock position at specific warehouse. He can place order at warehouse for stock.

**Warehouse Manager**

A warehouse manager can add fabric and accessories in the inventory. He can process orders and attach fabric and accessories according to order requirements. Warehouse manager can view stock position at the warehouse. Warehouse manager can process shop orders for the stock and can place items to be purchased in the vendors list.

**Stitching Unit Manager**

Stitching Unit Manager can assign roles such as “Quality Assurance”, “Stitching” and “Cutting” to stitching unit staff members.

**Stitching Unit Staff**

Stitching unit staff can add an entry of an order subtask completion according to their role in the system just by scanning the job card attached with the order.

## Operating Environment

The website will be accessed through desktop computers at the shops, warehouses and stitching units. Barcode Scanners and Printers need to be attached with these systems. The system will be accessed through Microsoft Windows operating system at these places. However, the customer can access the system through desktop computer, laptop or smart phone with varying software and hardware specifications.

## Design and Implementation Constraints

The website should be implemented using ASP.NET. MVC architecture should be used along with SQL databases. Responsive design should be implemented. Every input field should be validated against false/malicious inputs. Basic security concerns like SQL Injection and XSS should be removed.

## Assumptions and Dependencies

Since our system is web app, it is assumed that internet will be available at the shops, warehouses and stitching unit to access the system. Moreover, the system requires the use of barcode scanners and printers along with desktop computers present at all three places and their availability is assumed.

We also plan to use a software component to send SMS to customers, and we have assumed that it works fine and is available open source for use.

# Functional Requirements

## Use-Case 1

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Track Order Status | |
| **Purpose** | | Customer sees the status of particular order whether it is finished processing and ready at shop or is still in particular stage of processing. | |
| **Priority** | | Medium | |
| **Actors** | | Customer | |
| **Pre-condition(s)** | | system is online | |
| **Post-condition(s)** | | No change in system | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter login info (phone number and password) | |  |
| **2** |  | | Display customer’s home page |
| **3** | Select pending orders option | |  |
| **4** |  | | Display all pending orders list |
| **5** | Select particular order from the list | |  |
|  |  | | Show details of selected order |
| **Alternate Course of Action(Incorrect Login Info)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter Incorrect Login Info | |  |
| **2** |  | | Display error “The login information you entered is incorrect” |
| **Alternate Course of Action(No Pending Order)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **4** |  | | Show message “No pending order” |

## Use-Case 2

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | View Order History | |
| **Purpose** | | Customer sees history of all the orders placed till today | |
| **Priority** | | Medium | |
| **Actors** | | Customer | |
| **Pre-condition(s)** | | System is online; Customer account is created | |
| **Post-condition(s)** | | No change in system | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter login info (phone number and password) | |  |
| **2** |  | | Display customer’s home page |
| **3** | Select orders history option | |  |
| **4** |  | | Display list of all of customer’s orders by sorted by descending order date |
| **5** | Select particular order from the list | |  |
|  |  | | Show details of selected |
| **Alternate Course of Action(Incorrect Login Information)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter Incorrect Login Information | |  |
| **2** |  | | Display error “The login information you entered is incorrect” |

## Use-Case 3

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | View Profile | |
| **Purpose** | | Customer views his/her profile, profile contains customer name, contact number, current measurements etc. | |
| **Priority** | | Medium | |
| **Actors** | | Customer | |
| **Pre-condition(s)** | | System is online; Customer account is created | |
| **Post-condition(s)** | | No change in system | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter login info (phone number and password) | |  |
| **2** |  | | Display customer’s home page, home page contains customer’s profile |
| **Alternate Course of Action(Incorrect Login info)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter Incorrect Login Information | |  |
| **2** |  | | Display error “The login information you entered is incorrect” |

## Use-Case 4

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Add a new Customer | |
| **Purpose** | | To add a new Customer to the system | |
| **Priority** | | Medium | |
| **Actors** | | Shopkeeper | |
| **Pre-conditions** | | Shopkeeper is logged in | |
| **Post-conditions** | | A new customer is added to the system. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Selects the option to add a new customer. | |  |
| **2** |  | | Prompts for user details. |
| **3** | Provides details about the customer and selects the add button. | |  |
| **4** |  | | Shows confirmation message. |
| **Alternate Course of Action(Already existing user added)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **4** |  | | Displays Error message “Customer already exists”. |

## Use-Case 5

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Add a Stitching Job | |
| **Purpose** | | To add a Stitching Job by the shopkeeper | |
| **Priority** | | Medium | |
| **Actors** | | Shopkeeper | |
| **Pre-conditions** | | Shopkeeper is logged in | |
| **Post-conditions** | | A new job is added to the system. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Selects the option to add a new stitching job. | |  |
| **2** |  | | Prompts for stitching job details and advance amount to be paid. |
| **3** | Provides details about the job, Customer and selects the add button. | |  |
|  |  | | Shows confirmation message and prints an invoice of the job. |
| **Alternate Course of Action(Customer does not exist)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **3** | Enter Customer that does not exist | |  |
| **4** |  | | Displays Error message “Customer does not exist”. |

## Use-Case 6

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Add an Alteration Job | |
| **Purpose** | | To add an Alteration Job by the shopkeeper | |
| **Priority** | | Medium | |
| **Actors** | | Shopkeeper | |
| **Pre-conditions** | | Shopkeeper is logged in | |
| **Post-conditions** | | A new job is added to the system. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Selects the option to add a new alteration job. | |  |
| **2** |  | | Prompts for alteration job details. |
| **3** | Provides details about the job, Customer and selects the add button. | |  |
|  |  | | Shows confirmation message, prints an invoice of the job and job card. |
| **Alternate Course of Action(Customer does not exist)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **3** | Enter Customer that does not exist | |  |
| **4** |  | | Displays Error message “Customer does not exists” |

## Use-Case 7

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Generate Invoice | |
| **Purpose** | | As soon as all stitching jobs of a particular customer have been added, an invoice is generated and handed over to the customer indicating an advance payment. | |
| **Priority** | | High | |
| **Actors** | | Shopkeeper | |
| **Pre-condition(s)** | | All stitching job(s) have been added. | |
| **Post-condition(s)** | | An invoice against orders is issued. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Add stitching job(s) UC(UC-5). | |  |
| **2** | Select generate invoice. | |  |
| **3** |  | | System prompts for advance payment. |
| **4** | Enter advance payment received. | |  |
| **5** |  | | System logs in that amount and calculates outstanding balance. |
| **6** | Select print invoice. | |  |
|  |  | | System prints the invoice with unique invoice number. |
| **Alternate Course of Action(Shopkeeper changes advance payment)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **4** | Shopkeeper enters a new payment | |  |
| **5** |  | | System recalculates the outstanding balance. |
| **Go to 6** | | | |

## Use-Case 8

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | View History Details | |
| **Purpose** | | To view the measurements in case the customer asks for a stitching job on the basis of recent measurements. | |
| **Priority** | | High | |
| **Actors** | | Shopkeeper | |
| **Pre-condition(s)** | | Customer has registered a stitching job before. | |
| **Post-condition(s)** | | These measurements are used to create a stitching job. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter customer’s Phone number | |  |
| **2** |  | | System displays the order history of that customer. |
| **3** | Select a particular order. | |  |
| **4** |  | | System displays the job details of that particular order. |
| **5** | Select these measurements to create a stitching job | |  |
| **6** |  | | System uses these measurements and then continues execution from UC#5(Add a stitching job). |

## Use-Case 9

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Adjust invoice on pickup | |
| **Purpose** | | Once the customer arrives for collecting the order, the outstanding balance is reconciled and a receipt indicating the transaction is issued. | |
| **Priority** | | High | |
| **Actors** | | Shopkeeper | |
| **Pre-condition(s)** | | Package has arrived at the shop. | |
| **Post-condition(s)** | | A receipt against the invoice is issued. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter invoice number | |  |
| **2** |  | | System displays the invoice. |
| **3** | Select generate receipt. | |  |
| **4** | Enter advance payment received. | |  |
| **5** |  | | System asks for confirmation of outstanding balance received. |
| **6** | Confirm outstanding balance received. | |  |
|  |  | | System prints the receipt with a unique receipt number. |
| **Alternate Course of Action(Decline Outstanding Balance)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **6** | Decline outstanding balance received. | |  |
| **Go To Step 2** | | | |

## Use-Case 10

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | View the stock position of specific warehouses | |
| **Purpose** | | How a shopkeeper can view stock position of the warehouse associated | |
| **Priority** | | High | |
| **Actors** | | Shopkeeper | |
| **Pre-condition(s)** | | Shopkeeper is logged in | |
| **Post-condition(s)** | | None | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select view stock position | |  |
| **2** |  | | Display stock position of the selected warehouse |

## Use-Case 11

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | View the stock position of Item in warehouse | |
| **Purpose** | | How a shopkeeper can view stock position of an item in the warehouse associated. | |
| **Priority** | | High | |
| **Actors** | | Shopkeeper | |
| **Pre-condition(s)** | | Shopkeeper is logged in | |
| **Post-condition(s)** | | None | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select view stock position of an item | |  |
| **2** |  | | Prompts for the item name |
| **3** | Enter item name | |  |
| **4** |  | | Display stock position of the item |
| **Alternate Course(s) of Action(Item not found)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **4** |  | | Display “Item Name Not Found” |
| **Go to step 3** | | | |

## Use-Case 12

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Order stock from the associated warehouse | |
| **Purpose** | | How a shopkeeper can order stock from the warehouse associated. | |
| **Priority** | | High | |
| **Actors** | | Shopkeeper | |
| **Pre-condition(s)** | | Shopkeeper is logged in | |
| **Post-condition(s)** | | Add entry to the the vendor list of warehouse | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select order stock Option | |  |
| **2** |  | | Prompts for the item name |
| **3** | Enter item name | |  |
| **4** |  | | Prompts for item quantity |
| **5** | Enter item quantity | |  |
| **6** |  | | Display “Stock Order Issued” |
| **Alternate Course(s) of Action(Item Not found)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **6** |  | | Display “Item Name Not Found” |
| **Go to step 3** | | | |

## Use-Case 13

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Generate job card | |
| **Purpose** | | How a shopkeeper can generate job card for a specific job | |
| **Priority** | | High | |
| **Actors** | | Shopkeeper | |
| **Pre-condition(s)** | | Shopkeeper is logged in and a particular job exists | |
| **Post-condition(s)** | | Job card id is registered in the System | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select issue job card | |  |
| **2** |  | | Asks for job or order number |
| **3** | Enter job number | |  |
| **4** |  | | Display the details of job |
| **7** |  | | Prompts for confirmation |
| **8** | User confirms | |  |
| **9** |  | | Generate Job Card |
| **Alternate Course(s) of Action(Job not found)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **4** |  | | Display “Job Not Found” |
| **Go to step 3** | | | |
| **Alternate Course(s) of Action(Cancel Process)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **8** | User Declines | |  |
| **9** |  | | Display “You have Declined Job Card Issuance” |

## Use-Case 14

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Add fabric stock to the inventory | |
| **Purpose** | | Warehouse manager adds new fabric stock issued from vendors to the warehouse. | |
| **Priority** | | Medium | |
| **Actors** | | Warehouse Manager | |
| **Pre-condition(s)** | | System is online; Manager is logged in | |
| **Post-condition(s)** | | New fabric stock added to the system | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select option for adding new fabric | |  |
| **2** |  | | Generate the barcode |
| **3** |  | | Print the barcode |
| **4** |  | | Prompt the user to enter the required details for item |
| **5** | Enter the required details | |  |
|  |  | | Add new fabric stock entry in the database |
| **Alternate Course(s) of Action(Incomplete Information)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **3** |  | | Display ” Enter Complete information” |
| **Go To 4** | | | |

## Use-Case 15

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Add accessary stock to the inventory | |
| **Purpose** | | Warehouse manager adds new accessory stock issued from vendors to the warehouse. | |
| **Priority** | | Medium | |
| **Actors** | | Warehouse Manager | |
| **Pre-condition(s)** | | System is online; Manager is logged in | |
| **Post-condition(s)** | | New accessory stock added to the system | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select option for adding new accessory | |  |
| **2** |  | | Generate the barcode |
| **3** |  | | Print the barcode |
| **4** |  | | Prompt the user to enter the required details for the item |
| **5** | Enter the required details | |  |
|  |  | | Add new accessory stock entry in the database |
| **Alternate Course(s) of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **3** | All required details not entered | |  |
| **4** |  | | Focus cursor to the “Not entered” required detail and show message “This detail is mandatory” |

## Use-Case 16

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Process Order with fabric issued from shop | |
| **Purpose** | | Warehouse manager processes required accessories to send to the stitching unit for further order processing | |
| **Priority** | | Medium | |
| **Actors** | | Warehouse Manager | |
| **Pre-condition(s)** | | System is online; Manager is logged in | |
| **Post-condition(s)** | | Accessory stock decreased from warehouse | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select option for processing new order without fabric | |  |
| **2** |  | | Display list of orders |
| **3** | Select order from the list | |  |
| **4** |  | | Waiting for reading the barcode for accessory |
| **5** | Scan required accessories | |  |
| **6** |  | | Prompt the user to enter number of scanned accessory required, color etc. |
|  | Enter the ordered info for scanned accessory; If there are further accessories to be scanned, got to 3 | |  |
|  |  | | Save the order info to the system history; generate job order for further processing to the selected stitching unit |
| **Alternate Course(s) of Action(Barcode Not Properly scanned)** | | | |
|  | **Actor Action** | | **System Response** |
| **6** |  | | Barcode not being read properly; display message “Please enter item no manually” |
| **7** | Enter accessory no manually | |  |
| **8** |  | | Go to step 6 in sunny day scenario |

## Use-Case 17

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Process order with fabric not issued from shop | |
| **Purpose** | | Warehouse manager processes required accessories to send to the stitching unit for further order processing in case fabric is not issued from shop | |
| **Priority** | | Medium | |
| **Actors** | | Warehouse Manager | |
| **Pre-conditions** | | Warehouse Manager is logged in | |
| **Post-conditions** | | A confirmation message is displayed and the system waits for further instructions. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Selects the option to View Orders. | |  |
| **2** |  | | Displays all the available orders and their details. |
| **3** | Selects an order from the list with those orders whose fabric is not issued from the shop. | |  |
| **4** |  | | Shows order details. |
| **5** | Selects the option to process order. | |  |
| **6** |  | | Asks to scan the fabric and accessories bar code. |
| **7** | Scans the fabric and accessories bar code. | |  |
| **8** |  | | Shows a confirmation message and prints the job card. |
| **Alternate Course of Action(Wrong item scanned)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **7** | Scans the fabric and accessories bar code. | |  |
| **8** |  | | The system displays error message that the barcode scanned does not belong to the fabric or accessories required by the order. |
| **Go To 6** | | | |
| **Alternate Course of Action(Item Quantity not available)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **7** | Scans the fabric and accessories bar code. | |  |
| **8** |  | | The system displays error message that the fabric or accessary whose barcode is scanned does not contain enough amount to process the order. |
| **Go To 6** | | | |

## Use-Case 18

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Stock Adjustment | |
| **Purpose** | | To adjust the Stock quantities of items. | |
| **Priority** | | Medium | |
| **Actors** | | Warehouse Manager | |
| **Pre-conditions** | | Warehouse Manager is logged in | |
| **Post-conditions** | | System waits for further instructions. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Selects the option of Stock Adjustments. | |  |
| **2** |  | | Asks to scan the bar code of the item. |
| **3** | Scans the bar code of the item. | |  |
| **4** |  | | Shows the stock details of the item with options to edit the quantities. |
| **5** | Edits the stock details and selects the save button. | |  |
| **6** |  | | Displays a confirmation message. |
| **Alternate Course of Action(Parameters not appropriate)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **5** | Edits the stock details and selects the save button. | |  |
| **6** |  | | The system displays error message that the parameters are not appropriate. |

## Use-Case 19

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Process Shop Order | |
| **Purpose** | | Warehouse manager will process the order that came from that particular shop and send the required stock | |
| **Priority** | | Medium | |
| **Actors** | | Warehouse Manager | |
| **Pre-condition(s)** | | System is online; Ware House Manager is logged in | |
| **Post-condition(s)** | | System database will be updated according to the stock ordered | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select option for processing shop orders | |  |
| **2** |  | | Displays list of orders from various shops |
| **3** | Selects a shop order | |  |
| **4** |  | | Checks the presence of all required stock in the database mentioned in the order |
| **5** |  | | Updates the system database |
| **6** |  | | Displays the message “Order Successfully processed” |
| **Alternate Course(s) of Action(No order present)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **4** |  | | Displays error message “No orders present” |
| **Alternate Course(s) of Action(Stock Not available)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **5** |  | | Displays error message “Required stock Not Available” |

## Use-Case 20

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Process Order from other Warehouses | |
| **Purpose** | | Warehouse manager will process the order request from other warehouses and transfer the required stock to that warehouse depending upon the order | |
| **Priority** | | Medium | |
| **Actors** | | Warehouse Manager | |
| **Pre-condition(s)** | | System is online; Manager is logged in | |
| **Post-condition(s)** | | System database will be updated according to the stock transferred | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select option for processing transfer orders | |  |
| **2** |  | | Displays list of transfer order requests from different warehouses |
| **3** | Selects a transfer order | |  |
| **4** |  | | Checks the presence of all required stock in the database mentioned in the order |
| **5** |  | | Updates the system database |
| **6** |  | | Displays the message “Order Successfully transferred” |
| **Alternate Course(s) of Action(No order Present)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **4** |  | | Displays message “No orders present” |
| **Alternate Course(s) of Action(Stock Not available)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **5** |  | | Displays error message “Required stock Not Available” |

-

## Use-Case 21

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Transfer order | |
| **Purpose** | | Warehouse manager will transfer the order to another warehouse | |
| **Priority** | | Medium | |
| **Actors** | | Warehouse Manager | |
| **Pre-condition(s)** | | System is online; Manager is logged in | |
| **Post-condition(s)** | | None | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select option for transferring order | |  |
| **2** |  | | Displays list of warehouses |
| **3** | Selects a warehouse | |  |
| **4** |  | | Displays the message “Order successfully transferred” |

## Use-Case 22

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Add to Vendor List | |
| **Purpose** | | Warehouse manager adds the running out stock in the vendor list | |
| **Priority** | | Medium | |
| **Actors** | | Warehouse Manager | |
| **Pre-condition(s)** | | System is online; Manager is logged in | |
| **Post-condition(s)** | | Vendor list will be updated | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select option for adding stock to vendors list. | |  |
|  |  | | Displays a list of vendors |
| **3** | Selects a vendor id from the list | |  |
| **4** |  | | Prompts to enter the items to be ordered along with their quantities |
| **5** | Enters the required information | |  |
| **6** |  | | Adds items to the list and displays the message “Items Successfully added to Vendors List” |

## Use-Case 23

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Assign Roles to Stitching Employees | |
| **Purpose** | | Stitching Unit Manager assigns job roles to different employees working in various sections of stitching Unit | |
| **Priority** | | Medium | |
| **Actors** | | Stitching Unit Manager | |
| **Pre-condition(s)** | | System is online; Stitching Unit Manager is logged in | |
| **Post-condition(s)** | | A particular job role will be assigned against the user id entered | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select option for assigning job roles | |  |
| **2** |  | | Prompts to enter user id (phone Number) of an employee. |
| **3** | Enters user id | |  |
| **4** |  | | Displays a list of job roles |
| **5** | Selects a job role | |  |
| **6** |  | | Assigns the selected job role to the entered user id |
| **Alternate Course(s) of Action(Invalid User Id)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **4** |  | | Displays error message “Invalid User Id” |
| **GO TO 3** | | | |

## Use-Case 24

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Process job role | |
| **Purpose** | | Stitching Unit Manager will scan the job card and will update the order status according to the job role processed | |
| **Priority** | | Medium | |
| **Actors** | | Stitching Unit Manager | |
| **Pre-condition(s)** | | System is online; Stitching Unit Manager is logged in | |
| **Post-condition(s)** | | Order status will be updated according to the job role processed | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select option for processing job roles | |  |
| **2** |  | | Prompts to enter user id (phone Number) of an employee. |
| **3** | Enters user id | |  |
| **4** |  | | Waits for scanning |
| **5** | Scans the job card | |  |
| **6** |  | | Prompts for confirmation of particular job role against the job card scanned |
| **7** | Confirms the processing of job role | |  |
| **8** |  | | Updates the order status accordingly |
| **Alternate Course(s) of Action(Invalid User Id)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **4** |  | | Displays error message “Invalid User Id” |
| **Go To 3** | | | |

## Use-Case 25

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Add new Shop | |
| **Purpose** | | Admin adds a new record if a new shop is about to start its operations. | |
| **Priority** | | Medium | |
| **Actors** | | Admin | |
| **Pre-condition(s)** | | System is online. | |
| **Post-condition(s)** | | New Shop record added. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter login info. | |  |
| **2** |  | | Display admin’s home page |
| **3** | Select add a new shop. | |  |
| **4** |  | | Prompts for the information required (shop address for e.g.) |
| **5** | Fill in the information and confirm. | |  |
| **6** |  | | System adds the shop |
| **Alternate Course of Action(Incorrect Information)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **2** |  | | Display error “The login information you entered is incorrect” |
| **Alternate Course of Action(Incomplete Information)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **6** |  | | Display error “Fill out the complete information”. |
| **7** | **Go To 3** | | |

## Use-Case 26

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Add new Wareshouse | |
| **Purpose** | | Admin adds a new record if a new warehouse is about to start its operations. | |
| **Priority** | | Medium | |
| **Actors** | | Admin | |
| **Pre-condition(s)** | | System is online. | |
| **Post-condition(s)** | | New Warehouse record added. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter login info. | |  |
| **2** |  | | Display admin’s home page |
| **3** | Select add a new warehouse. | |  |
| **4** |  | | Prompts the information required (warehouse address for e.g.) |
| **5** | Fill in the information and confirm. | |  |
| **6** |  | | System adds the warehouse. |
| **Alternate Course of Action(Incorrect Login Info)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **2** |  | | Display error “The login information you entered is incorrect” |
| **Alternate Course of Action(Incomplete information)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **6** |  | | Systems throws an exception to fill all required fields. |
| **Go To 5** | | | |

## Use-Case 27

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Add new Stitching Unit | |
| **Purpose** | | Admin adds a new record if a new stitching unit is about to start its operations. | |
| **Priority** | | Medium | |
| **Actors** | | Admin | |
| **Pre-condition(s)** | | System is online. | |
| **Post-condition(s)** | | New Stitching unit record added. | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Enter login info. | |  |
| **2** |  | | Display admin’s home page |
| **3** | Select add a new stitching unit. | |  |
| **4** |  | | Display the information required (stitching unit address for e.g.) |
| **5** | Fill in the information and confirm. | |  |
| **6** |  | | System adds the stitching unit. |
| **Alternate Course of Action(Incorrect Login Info)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **2** |  | | Display error “The login information you entered is incorrect” |
| **Alternate Course of Action(Incomplete information)** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **6** |  | | Systems throws an exception to fill all required fields. |
| **Go To 5** | | | |

## Use-Case 28

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Associate Shop with Warehouse | |
| **Purpose** | | How an admin can link shop(s) with a warehouse | |
| **Priority** | | Medium | |
| **Actors** | | Admin | |
| **Pre-condition(s)** | | Admin is logged in | |
| **Post-condition(s)** | | Shop(s) linked with selected warehouse | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select Associate shop(s) and warehouse Option | |  |
| **2** |  | | Prompts List of warehouse(s) |
| **3** | Select warehouse by location | |  |
| **4** |  | | Prompts list of shop(s) |
| **5** | Select shop(s) by location to be associated | |  |
| **6** |  | | Add shop(s) in the selected list |
| **7** | User press save button | |  |
| **8** |  | | Display shop(s) linked with that specific warehouse |

## Use-Case 29

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Associate shop with Stitching Unit | |
| **Purpose** | | How an admin can link a shop with unit | |
| **Priority** | | Medium | |
| **Actors** | | Admin | |
| **Pre-condition(s)** | | Admin is logged in | |
| **Post-condition(s)** | | A shop is linked with selected stitching unit | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select Associate shop and stitching unit Option | |  |
| **2** |  | | Prompts List of shops |
| **3** | Select shop by location | |  |
| **4** |  | | Prompts list of stitching units |
| **5** | Select stitching unit by location to be associated | |  |
| **6** |  | | Add stitching unit in the selected list |
| **7** | User press save button | |  |
| **8** |  | | Prompts stitching unit is linked with that specific shop |

## Use-Case 30

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Associate Stitching unit with Warehouse | |
| **Purpose** | | How an admin can link a stitching unit with multiple warehouses | |
| **Priority** | | Medium | |
| **Actors** | | Admin | |
| **Pre-condition(s)** | | Admin is logged in | |
| **Post-condition(s)** | | A stitching unit is linked with selected warehouse | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select Associate stitching unit and warehouse from menu | |  |
| **2** |  | | Prompts List of stitching units |
| **3** | Select stitching unit by location | |  |
| **4** |  | | Prompts list of warehouse |
| **5** | Select warehouse by location to be associated | |  |
| **6** |  | | Add warehouse in the selected list |
| **7** | User press save button | |  |
| **8** |  | | Display warehouse linked with that specific stitching unit |

## Use-Case 31

|  |  |  |  |
| --- | --- | --- | --- |
| **Identifier** | | Generate Report | |
| **Purpose** | | How an admin can generate orders fulfillment report | |
| **Priority** | | Medium | |
| **Actors** | | Admin | |
| **Pre-condition(s)** | | Admin is logged in | |
| **Post-condition(s)** | | Processed orders report is generated | |
| **Typical Course of Action** | | | |
| **S#** | **Actor Action** | | **System Response** |
| **1** | Select Generate Report | |  |
| **2** |  | | Prompts List of shops |
| **3** | Select shop by location | |  |
| **4** |  | | Generates report |

# Nonfunctional Requirements

## Performance Requirements

1. The system shall not take more than 2 minutes of time for sending the customer, the updated status of his order via SMS.

## Security Requirements

1. The system shall not allow malicious input and should prevent SQL Injection and XSS.

2. The identity information required by the staff to log in shall be provided by the admin.

# Other Requirements

1. The system shall be implemented as a Web Application using ASP.NET framework following the MVC architecture.

2. SQL databases shall be used.

3. The staff shall be able to use the system functions after three hours of training. After this training, the average number of errors made by experienced users shall not exceed 4 per hour of system use.

4. The system shall provide captions for the jobs/tasks in Urdu font as well to facilitate the easy understanding and use of the system by the personnel at the stitching units.

# Appendix A: Glossary

ASP.NET: Stands for “Active Server Pages .NET”, developed by Microsoft and used to create dynamic, rich web sites and web applications and is an integral part of Microsoft's .NET framework vision.

Barcode: An optical, machine-readable, representation of data.

MVC: Stands for “Model, View, Controller”. A software architectural pattern widely adopted for World Wide Web applications in major programming languages.

Printer: A peripheral which makes a persistent human-readable representation of graphics or text on paper or similar physical media.

Shop: Refers to one of the many tailoring shops/outlets.

SQL: A special-purpose programming language designed for managing data held in a RDBMS, or for stream processing in a relational data stream management system RDSMS.

Stitching unit: Refers to one of the many stitching units used to stitch/alter the clothes sent to them by warehouses or shops.

Warehouse: Refers to one of the many warehouses used to store and manage the inventory of fabric and different accessories used in stitching clothes.

# Appendix B: Analysis Models

<Include the following analysis models: use-case diagram, entity-relationship diagram, class diagram, data flow diagram.>

# Appendix C: Design Models

*< Include the following design model: component diagram.>*

# Appendix D: Screenshots

*< Include all screenshots of your software application’s graphical user interface.>*

# Appendix E: Test Cases

< Fill out the following template for each test case.>

|  |  |
| --- | --- |
| **Identifier** | TC-1 |
| **Priority** | <Choose one from {High, Medium, Low}> |
| **Related requirements(s)** | <Include use-case identifier(s) for functional requirement(s) and SRS section/sub-section number(s) for other requirement(s).> |
| **Short description** | … |
| **Pre-condition(s)** | … |
| **Input data** | … |
| **Detailed steps** | … |
| **Expected result(s)** | … |
| **Post-condition(s)** | … |

Table 2: TC-1

# Appendix F: IV & V Report

**IV & V Resource**

Khizar Iqbal L13-4183 

Name Roll # Signature

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S#** | **Defect Description** | **Origin Stage** | **Status** | **Fix Time** | |
| **Hours** | **Minutes** |
| 1 | Security Requirement #1 vague. | Requirements Engineering | Fixed | 0 | 10 |
| 2 | Other Requirement #3 not quantifiable | Requirements engineering | Fixed | 0 | 10 |
| 3 | Other requirement #4 not quantifiable and vague. | Requirements Engineering | Fixed | 0 | 10 |
| 4 | Non-identical template of Use Case #2,#4,#6,#7,#9,#10,#11,#12,#25,#26 | Requirements Engineering | Fixed | 1 | 0 |
| 5 | Consistency Issues in Use Case #28 and Use Case #30 | Requirements Engineering | Fixed | 0 | 20 |
| 6 | Issue in Alternate flow of Use Case#18,#20 | Requirements Engineering | Fixed | 0 | 15 |
| 7 | Repeating the pre-requisite process in use case | Requirements Engineering | Fixed | 0 | 10 |
| 8 | Missing headings for alternate flow of Action in all use cases | Requirements engineering | Fixed | 0 | 30 |

**Table 3: List of non-trivial defects**

# Appendix G: Risk Report

**[[1]](#footnote-1)Project Risks**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Risk Description** | **Impact**  **(1 – 10)** | **Probability**  **(0 – 1)** | **[[2]](#footnote-2)Risk**  **Exposure** | **Weeks Active** | **Mitigation Strategy** |
| The time required to develop the software is underestimated | 8 | 0.6 | 4.8 | 9 | Discuss the requirements of the system with the team members to develop a better understanding of project, develop a project plan, establish deadlines and have a 10 minutes meeting everyday with the team members to know the progress. |
| The software component used for sending SMS will require major changes in implementation before reuse | 6 | 0.5 | 3 | 3 | Research the internet to find the software component and read the documentation to know what changes the component might require to meet the needs. |
| A team member is ill at critical times in the project | 7 | 0.4 | 2.8 | 9 | Assign the work in pairs(Pair Programming) so that if one member is ill the other can still continue with the work |
| The source code of the software component used for sending SMS will not be available | 7 | 0.3 | 2.1 | 3 | Research the internet to be sure of its availability. |
| Organizational financial constraints do not allow the deployment of barcode scanners & printers. | 8 | 0.2 | 1.6 | 2 | Meet the customer to discuss the issue. |
| There will be a larger number of changes to the requirements than anticipated | 8 | 0.2 | 1.6 | 9 | Discuss the requirements and design of the system with the team members and the client to better anticipate the real need & project goals. |
| A team member drops the course | 8 | 0.1 | 0.8 | 9 | Discuss the issue with the team members to anticipate the likelihood. Alert customer to potential difficulties and the possibility of delay in case of such likelihood. |

# Appendix H: Activity Timesheet

|  |  |  |
| --- | --- | --- |
| **Activity** | **Time** | |
| **Hours** | **Minutes** |
| Requirements Engineering | 95 | 0 |
| Analysis and Design |  |  |
| Implementation |  |  |
| Testing |  |  |
| Deployment |  |  |
| Project Management |  |  |
| IV & V |  |  |

**Project Manager**

Hamza Saleem L13-4106 

Name Roll # Signature

# Appendix I: Updated Project Plan

# GANTT.pngTask%20Set.png

1. Risks should be sorted in descending order of risk exposure. [↑](#footnote-ref-1)
2. Risk Exposure = Risk Impact x Risk Probability [↑](#footnote-ref-2)