# ABC’s Inventory Management System

## Project Vision

To improve the inventory management system of the company by digitizing it using appropriate technology in inventory management.

## Introduction

ABC is a retail Company that deals with men’s clothing in the New South Wales. Due to the increasing demand in managing inventory, there is a need for the ABC’s management to adopt an appropriate technology that would make this task easier. This can be achieved by employing a digital system that would enable the movement, monitoring, and distribution of stock across all the stores.

## Positioning

## Problem Statement

The problem affecting ABC is the management of its inventory due to increasing stock that makes it difficult for the employees to monitor its movement, distribution and management.

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| The problem of | Tracking the movement of the products.  Stock theft.  Finding the current products based on the products’ information such as product code, location of the product, etc.  Check the quantity of the product.  Re-viewing the records of the stock’s transfer. |
| affects | Store staff  Ware house staff  Customer  Supplier  Company’s owner |
| the impact of which is | Not being able to track the movement of the products.  Lack of detailed information about the movement of the stock and stock theft.  Finding the current products based on the products’ information such as product code, location of the product, product image, etc. is time-consuming.  Difficulty in checking the quantity of each product.  Difficulty in re-viewing the records of the stock’s transfer |
| a successful solution would be | Company getting detailed and precise information about the stock movement and stock theft.  Employees being able to look up current stock contents of the warehouse and each store and then request stock as required.  Employees being able to send stock digitally i.e. automatically make an update to the database when stock is sent.  Distribution of stock being much easier for the warehouse staff as they will know the quantity of each stock for each store.  Implementing a digitized inventory management system that would ensure easy management, monitoring, movement and distribution of stock thus saving time and cost. |

## Product Position Statement

The product intends to meet the demand for men’s clothing in the marketplace. The implementation of the digital technology would facilitate easy movement of the product to the market.

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| For | customers |
| Who | to meet the increasing customer demand |
| The (product name) | men’s clothing |
| That | are of high quality  keep the product always available for selling  quickly serve the customer  track and check the quantity of each product in each location |

## Stakeholder Descriptions

## Stakeholder Summary

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| --- | --- | --- |
| **Name** | **Description** | **Responsibilities** |
| ABC owner | This is a person who owns and runs the company. | * Coordinate and oversees all the activities of the Company. |
| Financial Manager | This is a person who is in charge of financial activities. | * Ensures that the revenue generated is well utilized, keeps financial records, updates financial records. |
| Store Staff | Are the individuals who work in the stores. | * Search the products/ Scan the products’ barcode * Check the products’ information * Send the request to warehouse staffs to get the products * Check the records. * Frontline employees. |
| Warehouse Staff | Are the individuals who work in the warehouse and act as admin | * Receive the request from store staff * Send the products * Check the products’ information * Add new products, update products’ information * Delete products * Check the records * Add new staff account. |
| Project Manager | This is a person who is in charge of project activities. | * Actively Planning * Making Schedules and dividing task * Making sure everyone is working in accordance with the schedule * Conducting Meetings * Making sure the overall work of the team is of high standard * Leading the team * Reviewing final version of products and posting it to the submission document * Documentation * Programming (includes debugging and testing) |
| Developer | This is a person who is in charge of coding activities. | * Making sure codes are of appropriate standard * Making sure each team member is on schedule with their coding task * Reviewing code * Make sure there is proper collaboration of codes * Make sure the product is of high standard * Documentation * Programming (includes debugging and testing) |
| Documentation and Marketing | This is a person who is in charge of documenting and marketing activities. | * Making sure all the documentations are of appropriate standard * Preparing reports for each iteration * Preparing reports for meetings with the Sponsor * Making sure team members are on schedule with their documentation tasks * Reviewing documentations if required * Documentation * Programming (includes debugging and testing) * Marketing products and promotions. |
| Business Analyst | This is a person who is in charge of analyzing the business activities. | * Assisting with the business case * Planning and monitoring * Eliciting requirements * Translating and simplifying requirements. * Requirements analysis |
| Subject Matter Expert | This is a person who define the business processes, the business policies and the application requirements. | * Validate the requirements and deliverables that describe the product or service that project will produce * Provide input for design and construction of test cases and scenarios and may also validate executed test results. * Provide input into and create and execute user documentation and training material |
| Database Administrator | This is a person who is in charge of database management. | * Monitor performance and manage parameters in order to provide fast responses to front-end users. * Map out the conceptual design for a planned database. * Develop, manage and test back-up and recovery plans. * Consider both back-end organization of data and front-end accessibility for end-users. |
| Designer | This is a person who is in charge of designing the user interface of the application. | * Develop intuitive, usable, and engaging interactions and visual designs for system. * Break any design problem done into viable actionable chunks and solve them with clarity and precision. * Collaborate with cross-functional teams throughout the design process. |
| System Analyst | This is a person who is in charge of solving problems related to computer technology. | * Defines application problem by conferring with clients; evaluating procedures and processes. * Develops solution by preparing and evaluating alternative workflow solutions. * Ensures operation by training client personnel; providing support. |
| Tester | This is a person who is in charge of testing the bugs or issues of the system. | * Monitoring applications and software systems. * Writing and executing test scripts. * Running manual and automated tests. * Writing bug reports. * Reviewing documentation. * Designing test to mitigate risk. |

## User Environment

The working environment of the target user will be a PC running Windows OS where every activity and transaction is entered into the system. The employees can access to the system using the store computer or the warehouse computer. The target users are expected to be fluent with the windows environment. However, effective user manuals will be developed for end users to refer to if they have any confusions. External devices like scanners to scan bar codes and printers to print labels will also be included in the user environment. User manuals explaining how to use these devices will also be developed for users to refer to. The environmental constraint that can limit the implementation of this project is periodic licensing of the system and the operating system issued by the producer. Mobile apps are commonly in use currently and can be integrated with this new system in the future to ensure easier accessibility of the system’s features.

## Development Environments

The following are the development environments for the system:

* JDK 9 and JRE 9 installed on the respective platforms.
* IntelliJ IDEA Ultimate version. (This can be downloaded using your respective CSU student ID)
* JDBC Library added to the project within the IDE. The library can be downloaded through the following link:

<http://www.java2s.com/Code/Jar/j/Downloadjdbcjar.htm>

* MySQL Workbench Installed on the respective platforms.
* Design documents using draw.io which is to be saved on a separate location to the repository. Finalized drawings to be then screenshotted and posted on the repository.
* Project Libre calendar set to 7-day work week. Working time set from 8 am to 5 pm. However, actual working time can be different to this.

## Product Overview

## Needs and Features

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| **Need** | **Priority** | **Features** | **Planned Release** |
| Limit the people that can access the system. | 8 | Users enter their assigned username and password to get access to the system. Users are able to operate the system for their task after successful log in. | 29/05/2018 |
| Find the product’s information through product code | 7 | User enters product keyword or product code searching for the information of the product and the quantity in each location. | 26/05/2018 |
| Add product, update product’s information, delete the product from system | 8 | Products that are needed to be added to the system and product with no stock available in the warehouse are managed by the actor authorized. | 01/07/2018 |
| Request multiple products | 9 | User selects the items from the list of products which get saved in cart list. The cart list can be reviewed by the actor. The items listed in the cart can be modified, deleted and even add additional items. | 01/06/2018 |
| Send the information of the request to the other location | 8 | After the confirmation of the order, the request is sent to the other location notifying them with all details including shipments details. | 04/06/2018 |
| Check the products which are requested | 9 | User views the requested items and conducts appropriate actions. | 12/06/2018 |
| Send the stocks as requested from a location. | 7 | The product item enlisted in the cart are properly organised to be shipped. A label is printed for the destination location to accept it in their system. The stocks are double checked and sent to the requested store via a third party delivery company. | 18/06/2018 |
| Accept stock from the sending location | 7 | Accept the stock in the destination location by scanning the barcode in the label of the parcel and update the database. | 25/06/2018 |
| Warehouse staffs add a new store staff account | 6 | Warehouse staff reviews the new applicant’s information and adds their account to the system | 20/07/2018 |
| Check the record of all requests. | 8 | Record all movements of stock in the database | 06/07/2018 |
| Check notification | 7 | Notify the staff on other location about stock requests | 09/06/2018 |
| Report faulty products | 7 | Add a product to the faulty list | 15/07/2018 |

## Other Product Requirements

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| **Requirement** | **Priority** | **Planned Release** |
| User manuals | For guidance | Before operation |
| Labeling | Identification | During packaging |
| Online help | Efficiency | During placing of orders |
| Installation | Security & efficiency | During implementation |
| Reasonable response time | Performance | During testing |
| Login requirements for the users | Security | During implementation |
| Warehouse staff should have more functionalities than store staff | Security | During implementation |
| The system should be available 24/7 | Availability | After deployment |
| The system can have at most 100 hours of downtime per year | Reliability | After deployment |
| The system must have a white or gray background while buttons and links should have black font color so that these elements are very clear | Usability | After system worked perfectly |
| The system must be able to handle 1000s of requests per hour | Capacity | During testing |