Warehouse Inventory Management

Project Plan

CMSC 495 - 7983

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System Goal:

The goal of the proposed system is to create a program that will more easily allow one to track where inventory is in a warehouse. This will be done by having an aisle, bay and shelf location for each inventory number so that a user would be able to easily and quickly locate it, or move it to a new location. The user will also be able to add in new inventory via received shipments, if an item number of the received inventory does not exist, a new inventory item will be created, otherwise, the quantity of the inventory on hand will be increased. The system will also allow items to be loaded and delivered via trucks with inventory items having their quantity is decreased accordingly.

Team Members and Roles:

- **Project Lead: David Kirkman**
    - Will be in charge or gathering project requirements and setting up all milestones. Will also maintain Trello board with constant updates to ensure project is on track for completion. Will work with technical writer for design and weekly report submissions.
- **Technical Writer – Eric Bridges**
    - Will write all documentation for User Guides and Test data. Will also assist with writing weekly reports as well writing out the project design.
- **Database (backend) Developer – Emily Chiou**
    - Will be in charge of implementing the back-end table structure and applicable fields to store inventory data. Will need to work directly with a front-end developer to ensure data is being updated on the back end from front-end inputs.
- **Front End Developer – Charles Garnette**

    - Will be in charge of implementing the front-end user interface. Will need to work directly with the back-end developer to ensure that data is being updated and pulled from the back end and displayed to the user.
- **Testing - All**
    - All members will be in charge of testing, with the Front-end and Back-end developers focusing on functional testing, and Project Lead and Technical writer focusing on testing to ensure that all requirements are met.

Requirements Specification:

- A user will be able to receive multiple items in the system through shipments
    - A shipment can contain multiple items
    - A PO number should be entered with the shipment
    - If the item does not exist, a new item will be created with a base QTY (amount being received) and warehouse location
        - A default location of 0 for Aisle, Bay, Shelf will be used for initial intake.
    - If the item already exists, the current Qty On Hand will be increased by the amount being received
- A user will be able to see an overview (grid) of all items currently in the warehouse, their current location, and quantity on hand
    - This will be a grid with a row for each item, and a column for Inventory number (inventory ID), inventory name, UPC, Aisle location, bay location, shelf location, and QTY on Hand
    - Can use search filters to narrow down the items shown in the grid to help filter the results.
- A user will be able to view an item's details and transfer location
    - This could likely be done by clicking on the item from the above grid and going into the details.
    - The details screen would show the item number, name, UPC, qty on hand, current location
    - A link that will lead to a small pop up window will show the history of item's qty on hand.
        - Show a grid in the details of Purchase Order (PO) numbers that the inventory came in with, and how much it increased QTY on hand by.
        - Also, in grid show the different ship outs(order #s) with Truck Number with how much it decreased QTY on hand by.
    - Allow the user to assign a new location, however, if inventory is already in this location, do not move it, instead show a message to the user stating which item is in that current location.
- A user will be able to ship out items via trucks
    - The user will be able to ship out multiple inventory items in one shipment

    - A truck number should be entered for record keeping
    - The QTY on hand should be deducted for amount shipped out.
        - If the QTY on hand is less than the amount being shipped out do not allow it.

System Specification:

Hardware:

- This system is expected to run locally on a single user's machine
    - Windows Operating system
    - JDK 8 or higher

Codebase:

- The system will be written in Java using JDK 8 or Higher

Database:

- This system will utilize Oracle Database 11g

Code Repository:

- This system will post project code updates on Github

Project Milestones

WEEK #	TASK	PERSON RESPONSIBLE
2		
	Project Plan Document	David Kirkman
	Confirm Code base and Database technologies	Emily Chiou & Charles Garnette
	Set up Trello Board with Backlog items	David Kirkman
3		
	User's Guide & Test Plan	Eric Bridges
	Setup code repository	Emily Chiou & Charles Garnette
4		
	Design Document	David Kirkman & Eric Bridges **Reviewed w/ all**

	Set up project and database locally	Emily Chiou & Charles Garnette
5	**Development Start**	
	Setup base Database table structure	Emily Chiou
	Setup base screen for Application	Charles Garnette
	Inventory Detail Module (Transfers and Details)	Emily Chiou & Charles Garnette
	QA	All
	Phase 1 Report	David Kirkman & Eric Bridges
6		
	Correct any QA items from Inventory Detail Module	Emily Chiou & Charles Garnette
	Inventory Overview Module	Emily Chiou & Charles Garnette
	QA	All
	Phase 2 Report	David Kirkman & Eric Bridges
7		
	Correct any QA items from Inventory Overview Module	Emily Chiou & Charles Garnette
	Receive Inventory Module	Emily Chiou & Charles Garnette
	QA	All
	Phase 2 Report	David Kirkman & Eric Bridges
8		
	Correct any QA items from Receive Inventory Module	Emily Chiou & Charles Garnette
	Ship Out Module	Emily Chiou & Charles Garnette
	Final QA	All
	Final Report	David Kirkman & Eric Bridges (Primary) **Reviewed w/ all**