System Implementation

Stock Management system

Report 1 - Part 3

Wajih, Zaid
IUPUI – INFO -C451
SHAWN DAI

Contents

Section 1: Customer Problem Statement

A case study at "Zake's Warehouse" (warehouse that keeps all sorts of products such as home supplies and office supplies) they cited issues regarding keeping track of all their warehouse inventory products information, Imports, and Exports; Imports as all new products that have been ordered and export all products that all Zake's clients have purchased.

The user currently manually keeps track of each warehouse inventory using folders and folder cabinets to archive the data in case of a need to get back to it, such as any record or audits purposes, calculating and analyzing the data to enhance the performance in the future. This process usually requires human resources and a significant amount of time to complete it; it's also not free from human errors. Users keep track of; Sold product information, inventory of their stock in each warehouse, reports, supplier information, payment details information, all client information. Sometimes they miss sending orders because they lose track of sales details and place orders to the vendor by doing it manually.

I propose a solution for Zake's Warehouse accountant or any user that wants to perform one/all and more tasks from mentioned above using software linked with a database. Each warehouse has a separate DB that holds its record, but for now, they want to pilot the software in their main warehouse and see if it's worth investing in the rest of the warehouses to use this software.

The software will keep track of inventory in the warehouse and revise it according to the daily sales and received inventory. All individual products are linked to a unique product number that helps identify the product in different tables in the database. To help keep all data up to date

in the DB through utilizing the inventory. The software is dynamic if the company decides to expand their inventory, item and new product can easily be added to the DB.

The software provides an efficient interface to the users in the warehouse to pull any data they need promptly to help improve the productivity of the employee day. The software helps with pulling reports after analyzing all the data of total sales/ordered products. Users can add and delete any products listed in the system. Users can view/edit all supplier information. As I mentioned, the software is dynamic if decided to add it in all other warehouses; the software then allows the user to coordinate all inventory across all warehouses locations and sales to help better keep the logic flow and enhance it and to ensure that all stock inventory managed effectively and efficiently for the whole company.

2. System Requirements

In this table, I will list all system functionality from the problem statement, sort them by their priority weight for the business, and describe each one.

NO.	Priority Weight	Description
REQ-1 (log in)	Critical	This page allows the users to enter their credentials to log in
REQ-2 (home_page)	Critical	This is the main page the user will land on after the login process
REQ-3 (stock_page)	Critical	The user has the option to choose this page from the main page. On this page, the user can add, delete and browse accounts.
REQ-4 (stock_report)	Critical	On this page, users can review all accounts and make changes to their information
REQ-5(company_page)	Critical	Users can review, add, and delete new or existing stock companies on this page.
REQ-6 (user_page)	Critical	On this page, the admin user can add and revoke access for other users
REQ-7(orderdetails_page)	High	This page displays the order details for the client and, overall, for the upcoming orders
REQ-8 (sell_page)	High	On this page, users can see all stocks sold from different companies.
REQ-9 (stock_alerts)	High	On this page, users can see all accounts below the pre-set amount.
REQ-10 (payment_page)	High	On this page, users can see all posted payments for each stock.
REQ-11(print)	Low	This page enables the users to print reports
REQ-12(inventory_page)	High	This page provides inventory status min and max stock points
REQ-13(employee_page)	High	This page will contain all employee's information

Nonfunctional requirements-

- System to have an easy interface
- System to be reliable
- System to be able to hold a decent amount of data
- System to be able to pull, add, delete and update data in a timely matter

3. Functional Requirement Specification

Stakeholders

In this case, the stakeholder is Zake's warehouse owner and the warehouse managers, and employees.

The owner of Zake's warehouse benefits because it enhances the productivity of the warehouse; it will free more time for the managers to do more data and inventory analysis to improve the flow in the warehouse.

The employee benefits from the software because it automates many daily tasks, and the software will provide it more efficiently.

Use Cases

1. User to have a different user account log-in

Users are directed to the log-in page; users need to enter their credentials.

2. User to be able to add a vendor (company)

Users can add a new vendor to the vendor list in the DB.

3. User to be able to check the inventory

This page displays the overall inventory for the warehouse. Users can search by product name

4. Add new product

Users can add a new product to the DB.

5. Delete products

Users can delete products if they stop supplying them.

6. Remove vendors (suppliers)

Users can remove vendors in case they stop dealing with them.

7. Modify suppliers information

Users can update the vendor information in case of change.

8. View order details

Users can check all order states; canceled orders, placed orders, and returned orders.

9. View payment details

Users can check all payments details and payments for the vendors

10. View client

Users can check all customer's details as well as modify them in case of any changes.

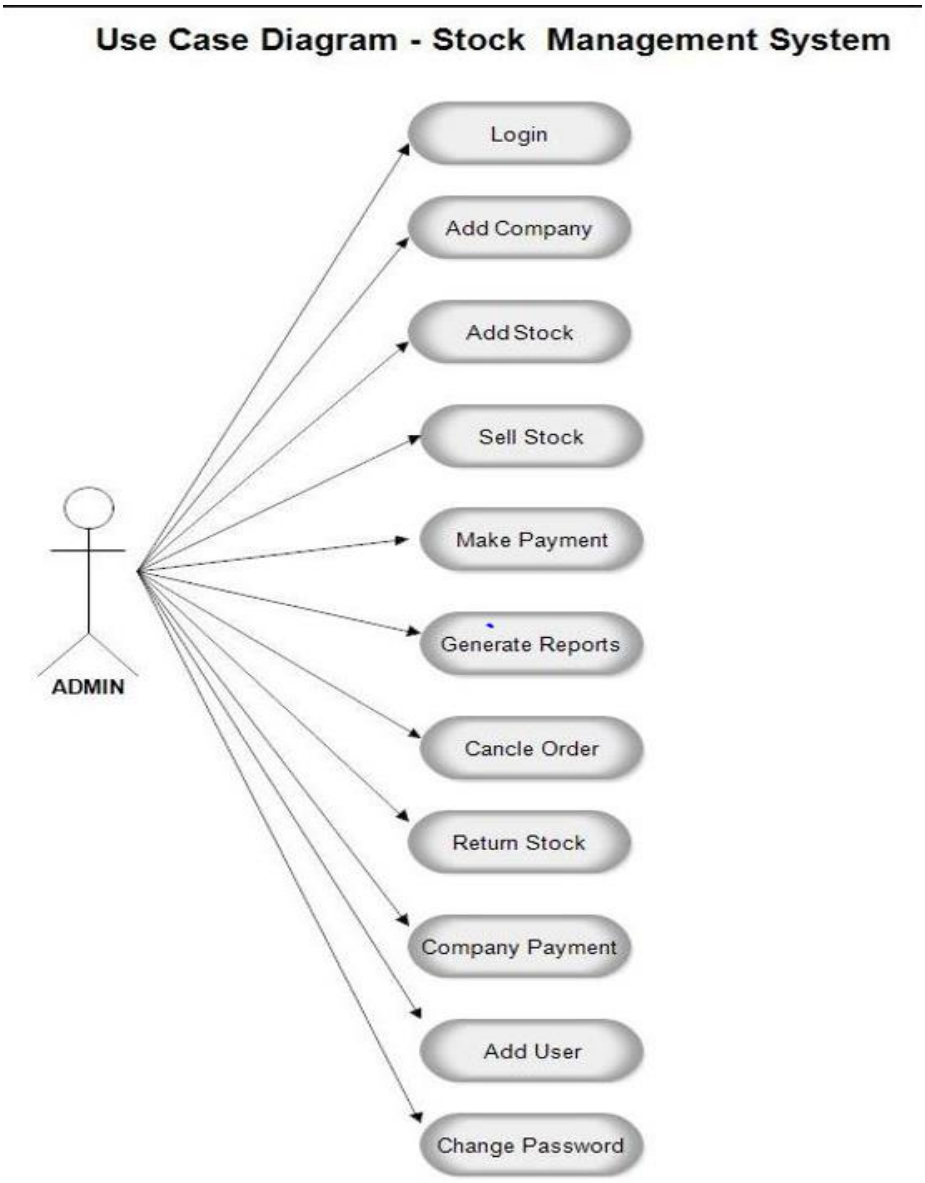
11. Add Users

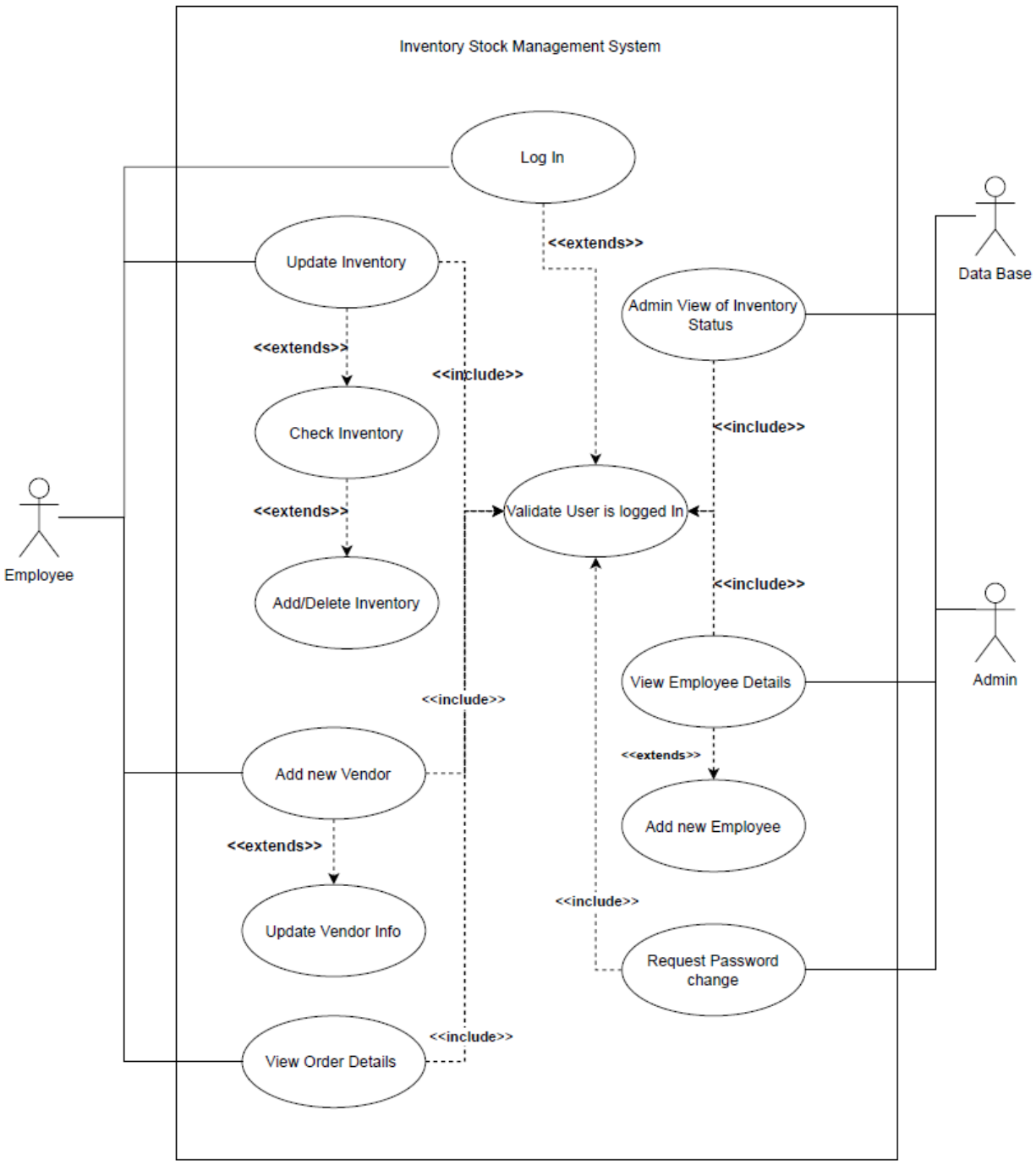
This is for the Admin user for the system; Admin user has access to add and remove user accounts in the software and controls their access.

12. Change Password

This allows admin users to rest or change other users' account passwords in case of a lost or locked account.

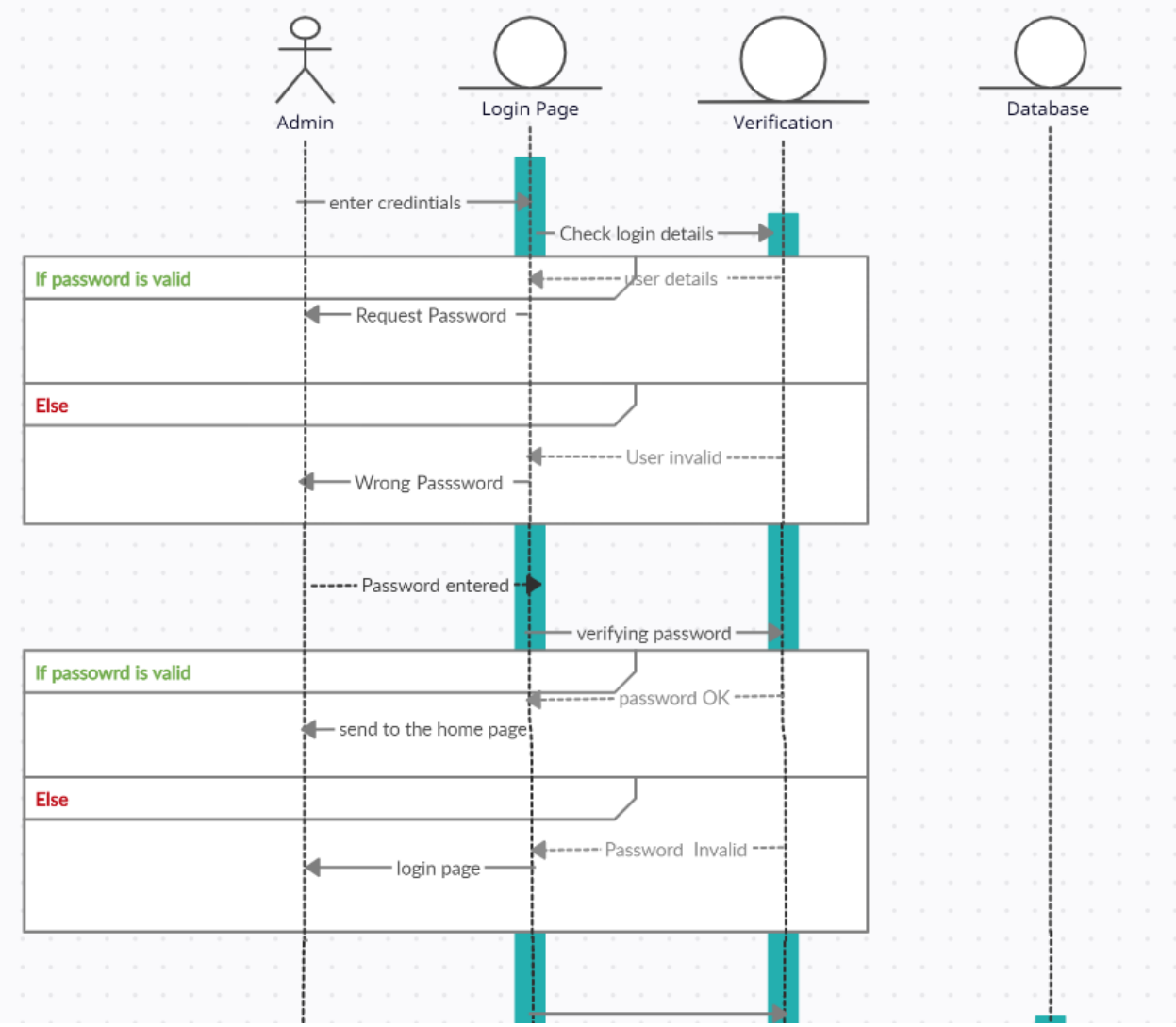
Use Case Diagrams




Inventory Stock Management System
Log In
Update Inventory
Check Inventory
Add/Delete Inventory
Add new Vendor
Update Vendor Info
View Order Details
Admin View of Inventory Status
Validate User is logged In
View Employee Details
Add new Employee
Request Password change
<<extends>>
<<include>>
Employee
Data Base
Admin

System Sequence Diagram

Login process



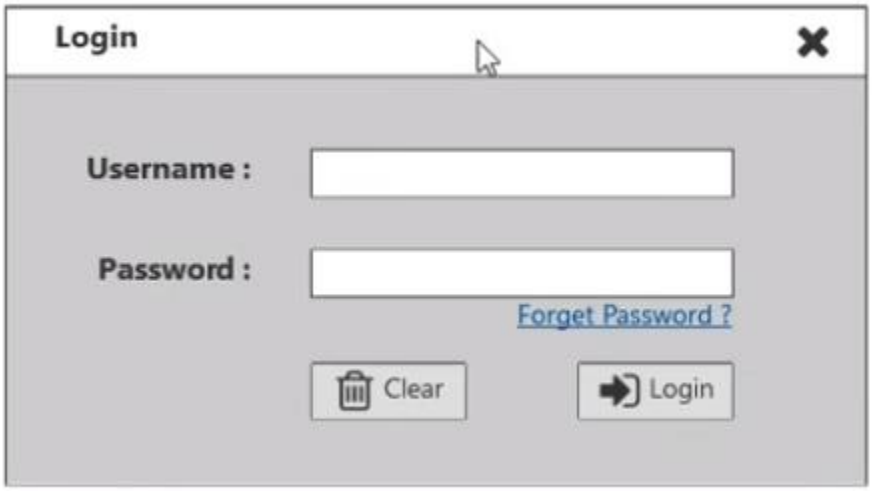
4. User Interface Specification

Preliminary Design / User Effort Estimation

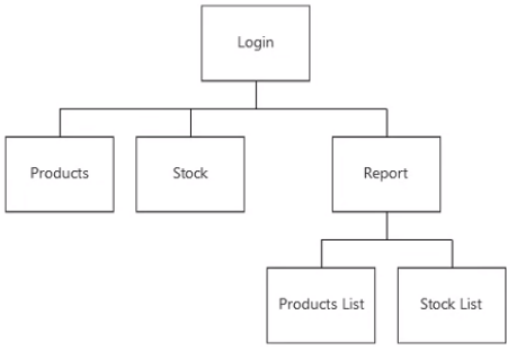
This will be the login popup window once started the software.

Users need to fill in their credentials for the username; usually, users enter approx ~8-12 letters and approx. ~ 8-24 characters for the password and then one mouse click to log in.

Users must enter their username and then click on forget the password to start the forgotten password process.



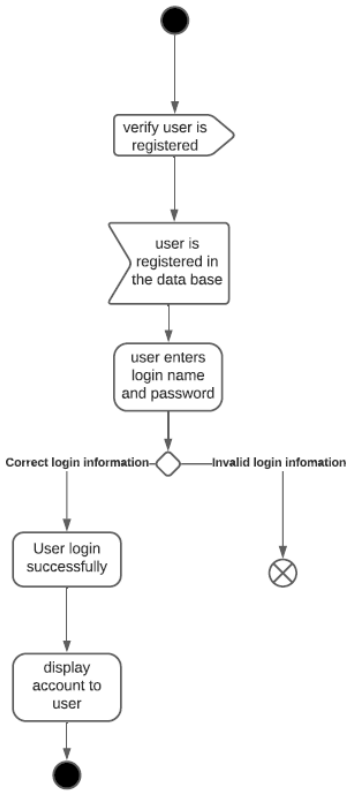
This is for the login process flow



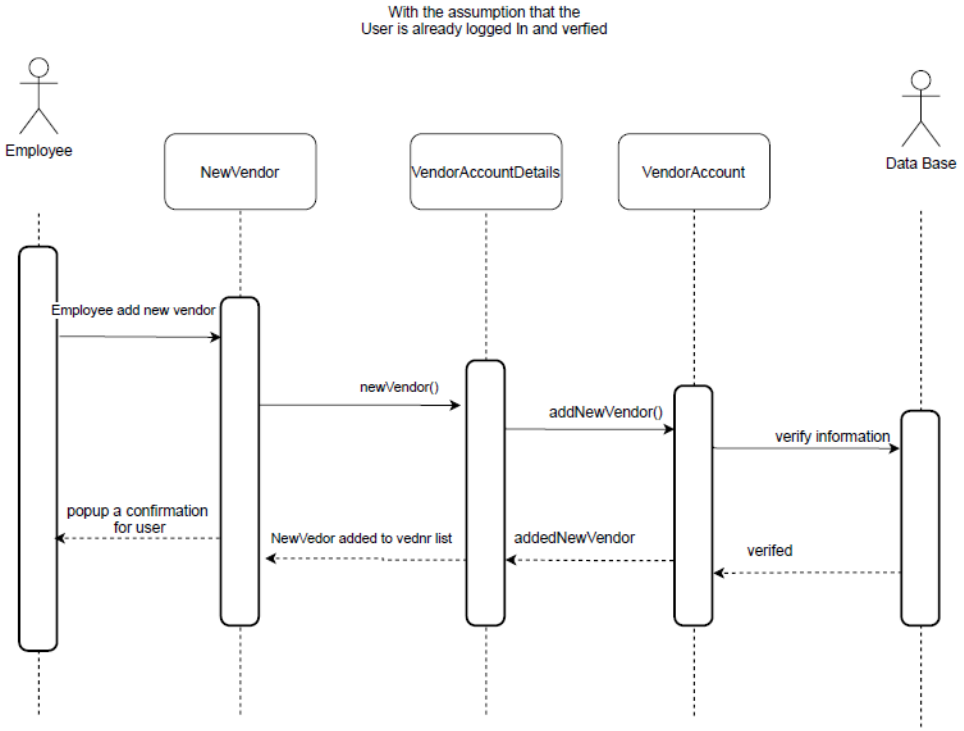
5. Domain Model

This software aims to help manage and control the import and export products in the warehouse to help minimize waste costs, damage..etc. As mentioned in the customer problem statement, this software will only be piloted in the HQ warehouse to test and see if there is a domain for deploying it in the rest of Zake's warehouses. The software is dynamic and can easily be deployed for the rest of the warehouses by adding the needed DB. We aim to have complete visibility over the company warehouse to help with comprehensive, accurate data and numbers of reports.

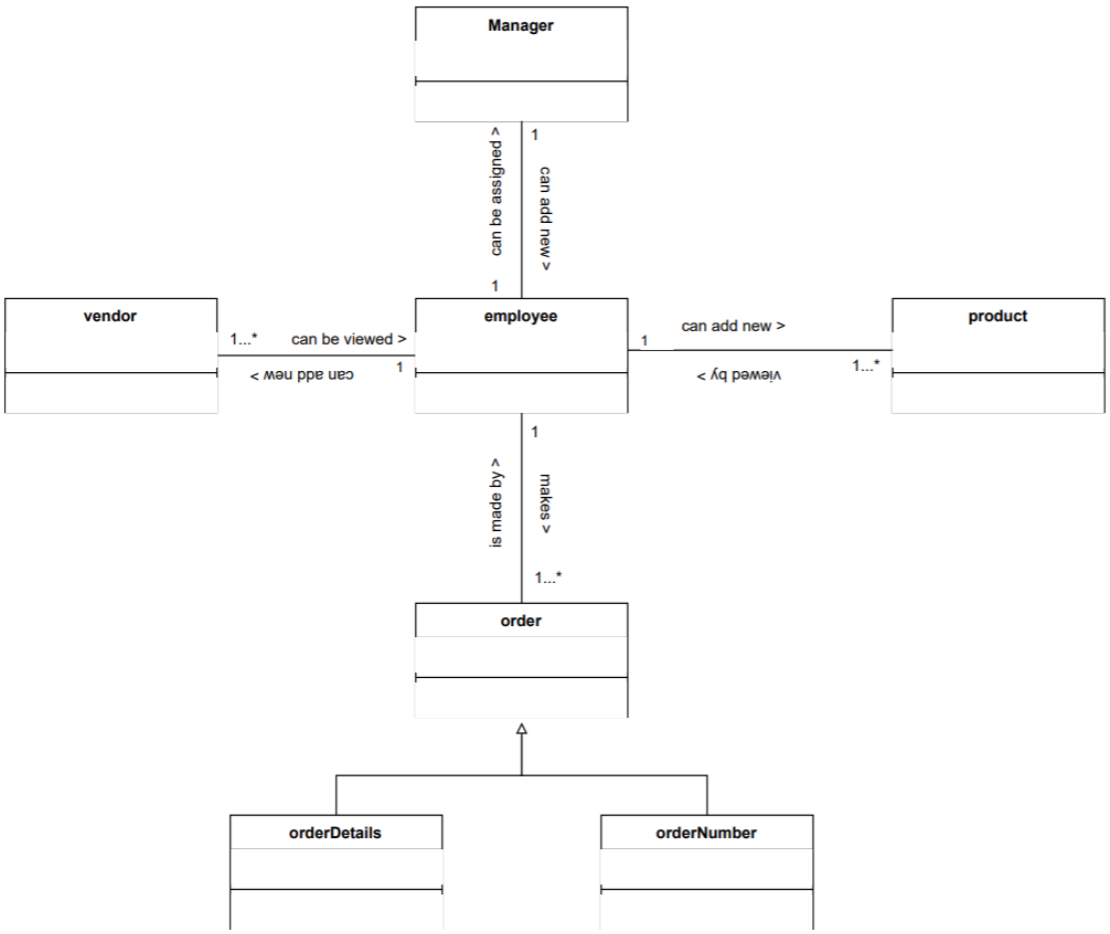
Activity Diagram for User login



Sequence Diagram for adding a new vendor to the vendor list in the database



Class Diagram for the employee function



6. Plan of Work

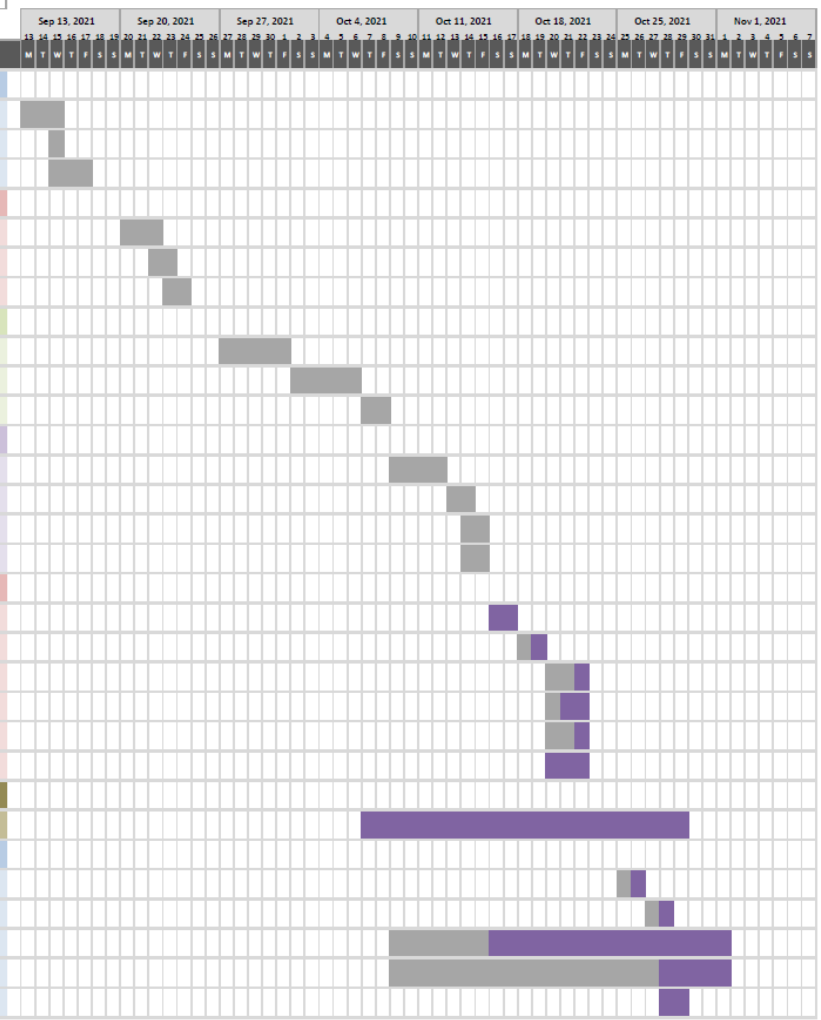
In this project, a system must be designed to support connectivity with a database management system that will store and keep all records for the system. The software application to be made consists of at least main business functions and meet all business requirements. The application will involve basic e-commerce activities, such as employee, manager login, browsing between products, and buy/sell activities. The entire system must be developed in (C#) to be easy to maintain and extend. Below is the project plan for each implementation section for the project.

Stock Management System Implementation

Zaid Wajih
INFO-C451

Project Start: 9/3/2021
Display Week: 3

TASK	ASSIGNED TO	PROGRESS	START	END
Part 1 - Assignment 2 (First draft)				
Section 1 - Customer Problem Statemenet	Zaid Wajih	100%	9/13/21	9/15/21
Section 2 - System Requirements	Zaid Wajih	100%	9/15/21	9/15/21
Submit Assignment 2 - Part 1	Zaid Wajih	100%	9/15/21	9/17/21
Part 2 - Assignment 2				
Section 3 - Functional Requirements Specification	Zaid Wajih	100%	9/20/21	9/22/21
Section 4 - User Interface Specification	Zaid Wajih	100%	9/22/21	9/23/21
Submit Assignment 2 - Part 2	Zaid Wajih	100%	9/23/21	9/24/21
Part 3 - Assignment 2 (Final)				
Section 5 - Domain Analysis	Zaid Wajih	100%	9/27/21	10/1/21
Section 6 - Plan of Work	Zaid Wajih	100%	10/2/21	10/6/21
Submit Assignment 2 - Part 3	Zaid Wajih	100%	10/7/21	10/8/21
Part 1 - Assignment 3 (First draft)				
Report 2 - Interacrtion Diagrams	Zaid Wajih	100%	10/9/21	10/12/21
*Create Diagrams for each use case for the system	Zaid Wajih	100%	10/13/21	10/14/21
*Create UML Diagrams for the use cases	Zaid Wajih	100%	10/14/21	10/15/21
Submit Assignment 3 - Report 2 Part 1	Zaid Wajih	100%	10/14/21	10/15/21
Part 2 - Assignment 3				
Report 2 - Classes Diagrams and Interface Specification	Zaid Wajih	20%	10/16/21	10/17/21
*Assign relationships for the class	Zaid Wajih	80%	10/18/21	10/19/21
*UML Notation for each class	Zaid Wajih	80%	10/20/21	10/22/21
System Architecture and system design	Zaid Wajih	60%	10/20/21	10/22/21
Global Control Flow	Zaid Wajih	70%	10/20/21	10/22/21
Submit Assignment 3 - Report 2 Part 2	Zaid Wajih	0%	10/20/21	10/22/21
Milestone **				
Midterm Project Demo 1	Zaid Wajih	0%	10/7/21	10/29/21
Part 3 - Assignment 3 (Final Draft)				
Report 3 - Algorithms and Data Sturctures	Zaid Wajih	50%	10/25/21	10/26/21
*Algorithms and Data Structures	Zaid Wajih	50%	10/27/21	10/28/21
*Design Of Test	Zaid Wajih	30%	10/9/21	11/1/21
*User Interface Design and Implementation	Zaid Wajih	80%	10/9/21	11/1/21
Submit Assignment 3 Report 2 - Part 3	Zaid Wajih	0%	10/28/21	10/29/21



References

I used the below website to get the templet for the project plan.

Smartsheet. (2021). *Powerful Project Planning Software*.

https://www.smartsheet.com/s/project-planning?s=1&c=3&m=461&a=356234702625&k=excel%20project%20plan%20template&mtp=e&adp=&net=g&dev=c&devm=&plc=&ds_rl=1286294&exp=&gclid=Cj0KCQiAy4eNBhCaARIsAFDVtI2si_sPHA3rA9Ue4_VrSg0c28IJDyMvefa761nLQFgh_8SODumvbJUaAkJFEALw_wcB&gclsrc=aw.ds