Inventory Management System For Retailers

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Bachelor of Engineering

Computer Science and Engineering

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1. INTRODUCTION

1.1 Project Overview

Retail inventory management involves making sure you have the right amount of inventory, neither too little nor too much of the goods that customers want to buy. Retailers may meet client demand without running out of product by properly managing their inventory.

Effective retail inventory management reduces costs and improves knowledge of sales patterns in practice. Tools and techniques for retail inventory management provide merchants with more data on which to run their businesses. Applications have been created to assist shops in keeping track of and managing the supply of their own products. Retailers will be prompted by the System to register their accounts by providing necessary information. Retailers can log into the programme to access their accounts.Once retailers have successfully logged in to the programme, they can update the information on their inventory. Users can also add new goods by providing the necessary information regarding the item. They have access to the current inventory's specifics. If there is no stock found in the accounts of the retailers, the System will automatically send an email alert to them. In order for them to order new stock.

1.2 Purpose

The goal of retail inventory management is to maintain the right amount of desired product in stock. Retailers may meet client demand without running out of product by properly managing their inventory.

2. LITERATURE SURVEY

2.1 Existing problem

At an Engineering College, there is a student-run store called stationery shop that sells a range of items that students need, including safety boots, workshop jackets, stationery, and textbooks. It requires ongoing monitoring of stock-in and stock-out because it is a well-established store. The shop's inventory management, however, is not practical or effective enough to handle all the stock in the inventory because they continue to use a manual inventory system. This causes a number of issues, one of which is that the members of the shop always have to manually gather and calculate their stock at the start of each semester.

2.2 References

1. A. Dahbi and H. T. Mouftah, "Supply chain efficient inventory management as a service offered by a cloud-based platform," *2016 IEEE International Conference on Communications (ICC)*, 2016, pp. 1-7, doi: 10.1109/ICC.2016.7510722.
2. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0259284

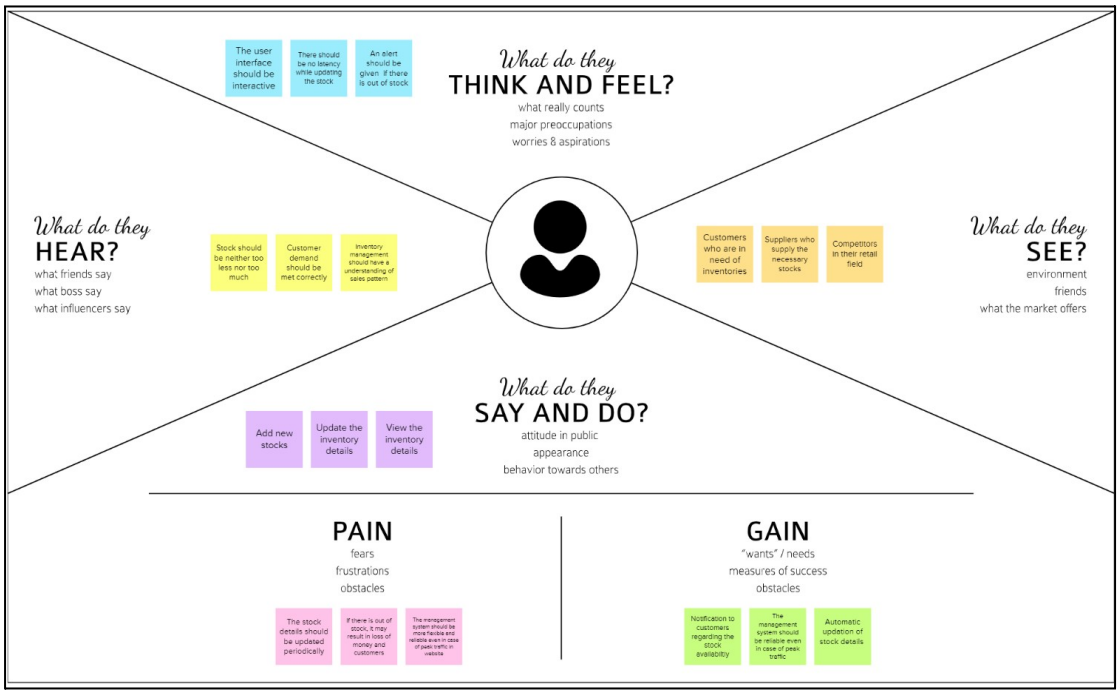
3. W. Intayoad and P. Temdee, "Inventory cloud service for local SME: A scenario study for Ice cream factory," 2013 13th International Symposium on Communications and Information Technologies (ISCIT), 2013, pp. 741-745, doi: 10.1109/ISCIT.2013.6645952.
4. R. F. Olanrewaju, A. Irham Dollah and B. A. Ajayi, "Cloud-Based Inventory System for Effective Management of Under and Over-stock Hazards," 2021 8th International Conference on Computer and Communication Engineering (ICCCE), 2021, pp. 274-278, doi: 10.1109/ICCCE50029.2021.9467138.

2.3 Problem Statement Definition

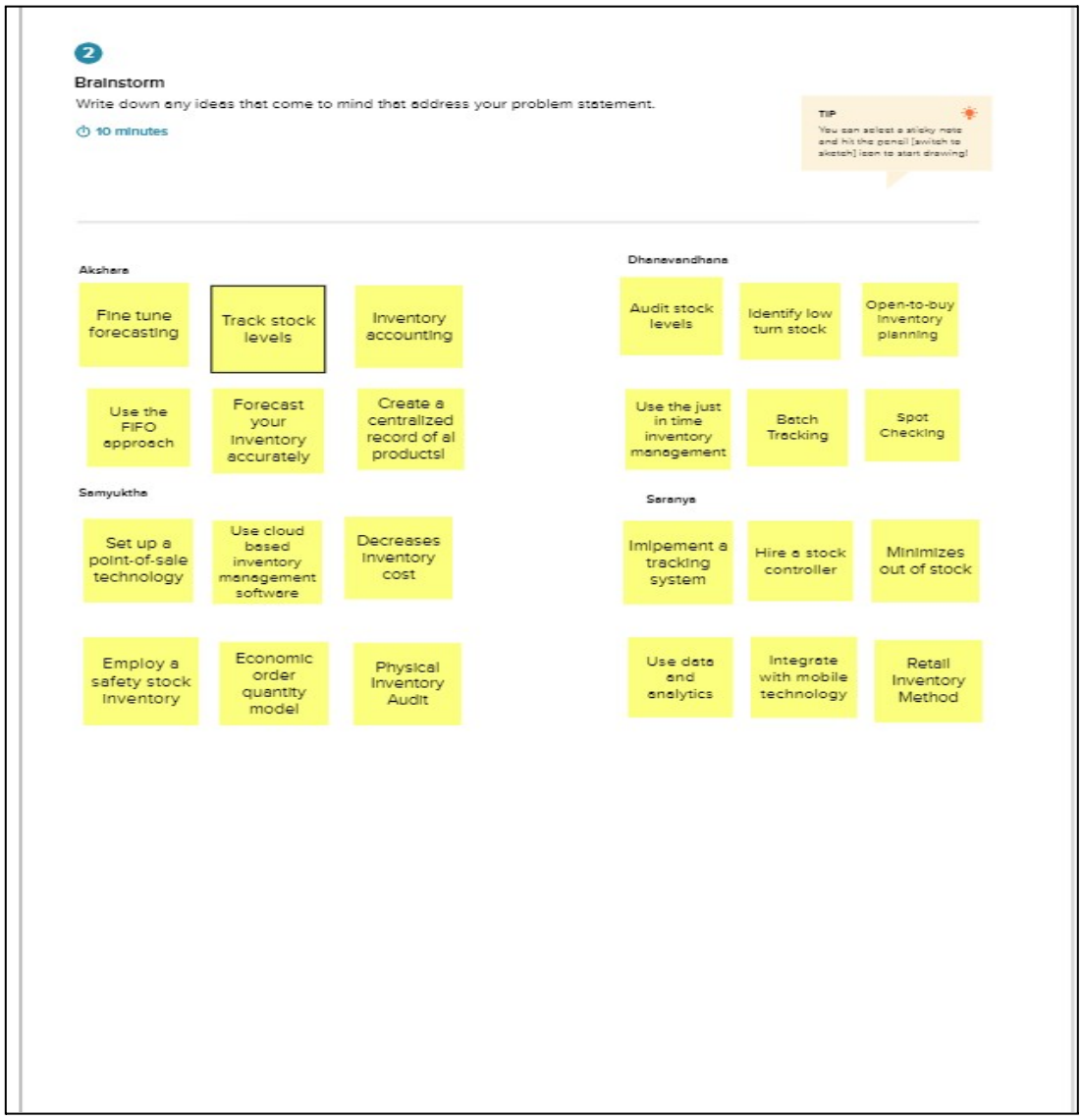
Retail inventory management involves making sure you have the right amount of inventory that customers want to buy. Retailers may meet client demand without running out of product by properly managing their inventory.

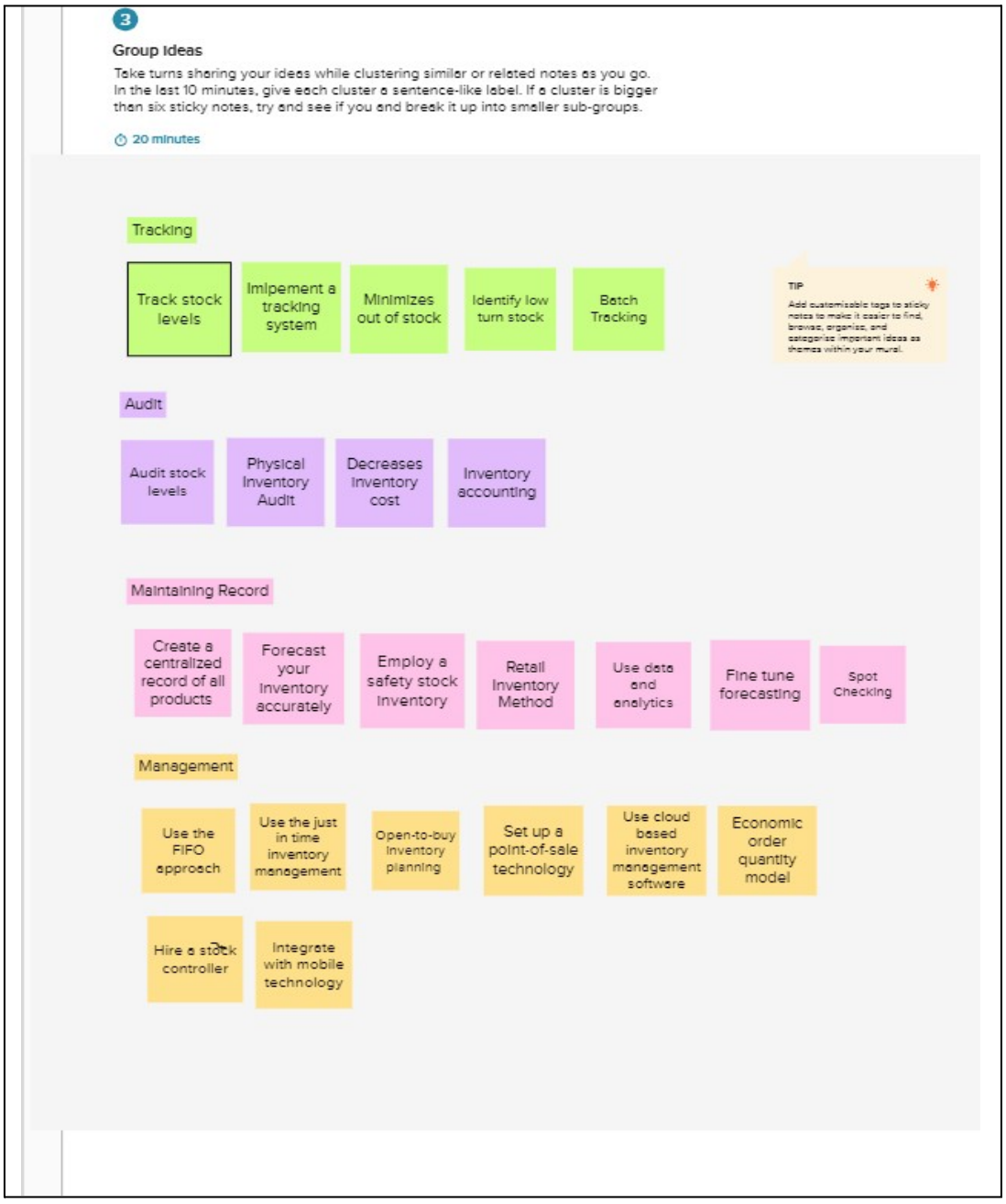
3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.2 Ideation & Brainstorming




3
Group Ideas
Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.
20 minutes
Tracking
Track stock levels
Implement a tracking system
Minimizes out of stock
Identify low turn stock
Batch Tracking
TIP
Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.
Audit
Audit stock levels
Physical Inventory Audit
Decreases inventory cost
Inventory accounting
Maintaining Record
Create a centralized record of all products
Forecast your inventory accurately
Employ a safety stock inventory
Retail Inventory Method
Use data and analytics
Fine tune forecasting
Spot Checking
Management
Use the FIFO approach
Use the just in time inventory management
Open-to-buy inventory planning
Set up a point-of-sale technology
Use cloud based inventory management software
Economic order quantity model
Hire a stock controller
Integrate with mobile technology


4
Prioritize
Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.
20 minutes
Batch Tracking
Use the FIFO approach
Track stock levels
Retail Inventory Method
Economic order quantity model
Forecast your Inventory accurately
Use cloud based inventory management software
Use the just in time inventory management
Open-to-buy inventory planning
Minimizes out of stock
Inventory accounting
Integrate with mobile technology
Employ a safety stock Inventory
Identify low turn stock
Use data and analytics
Fine tune forecasting
Set up a point-of-sale technology
Audit stock levels
Implement a tracking system
Decreases inventory cost
Hire a stock controller
Physical Inventory Audit
Spot Checking
Create a centralized record of al productsl
Importance
If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?
Feasibility
Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	To develop an inventory management system to add new stocks, update the existing stocks, view the stock details and to notify retailers when there is out of stock.
2.	Idea / Solution description	The inventory management system allows the retailers to log in to the application to perform necessary actions. Once logged in, the user can add new stocks into the applications. In case there are some changes in the stock, the user can update it accordingly. Our application allows the user to view the stock details. The retailers will be notified if there is no stock in their accounts. Our application will keep the retailers about their stock details and help them to meet the customer demands accordingly.
3.	Novelty / Uniqueness	As this application is hosted in the cloud,it can be shared among multiple retailers to maintain and manage their inventory at the same time.Also this application has no downtime unlike the web servers thus monitoring the retailer's stocks constantly and notifying them when needed.
4.	Social Impact / Customer Satisfaction	Our application will be very useful for retailers in their business. It helps them to keep track of their stocks which almost reduce their workload. The retailers do not need to remember all the stock details as our application notifies them regularly. Retailers do not need to appoint a person to manage the stock details. By using our application their money, time and workload will be reduced.

5.	Business Model (Revenue Model)	As retailers will be informed about the out of stock, it will be helpful for them to add new stocks. By notifying the retailers, they can prevent the loss which might occur due to out of stock. Retailers will be very much satisfied when they do not lose any of their customers.
6.	Scalability of the Solution	This application can handle request from a large number of users at the same time thus making it highly scalable.It also allows users to add more stocks into the system without concerning about storage.

3.4 Problem Solution fit

4. REQUIREMENT ANALYSIS

4.1 Functional requirement

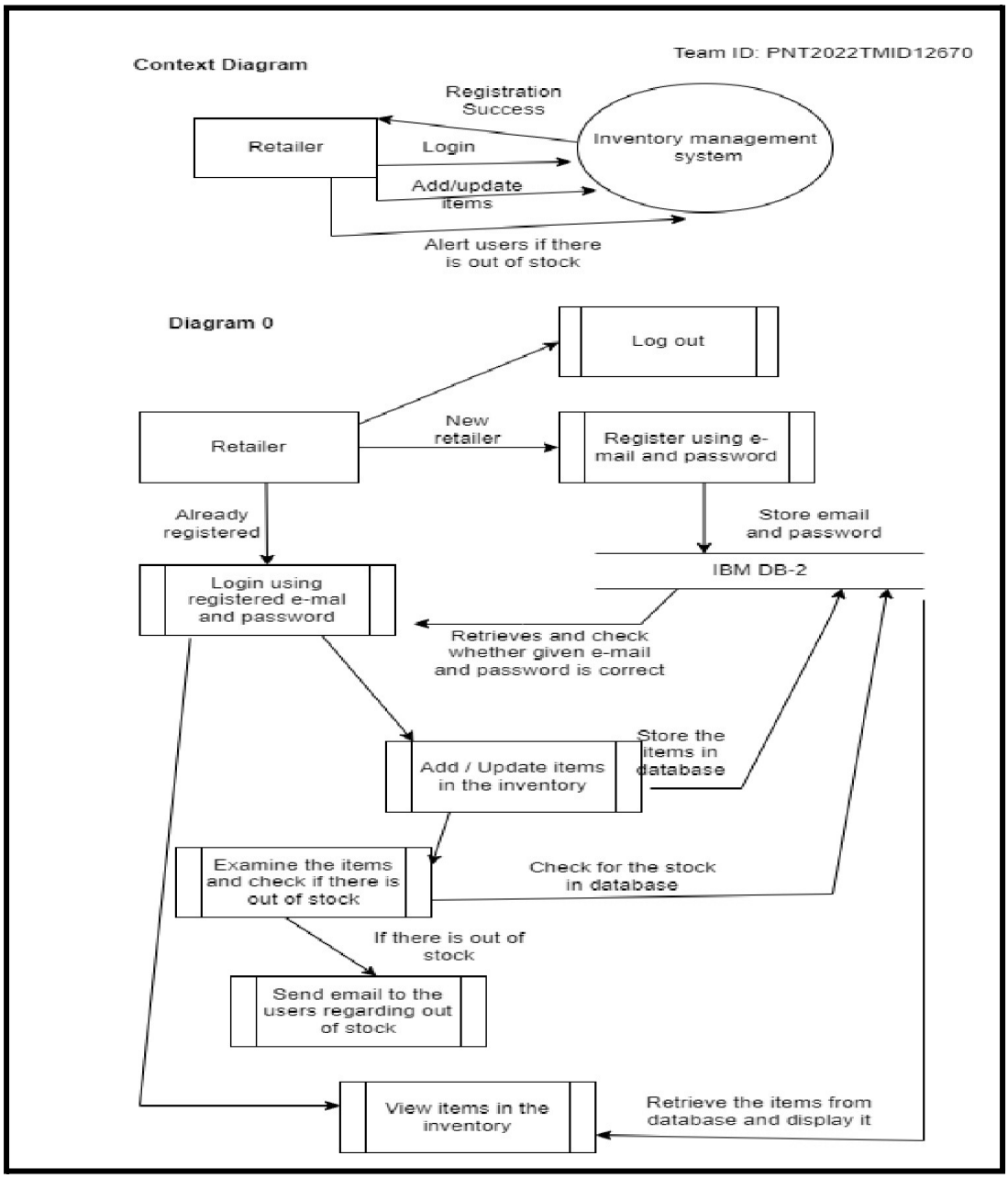
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Successful Log in	Notification through Email
FR-4	Update inventory details	Notification through Email
FR-5	Add new stock	Notification through Email
FR-6	Unavailability of stock	Alert notification through Email

4.2 Non-Functional requirements

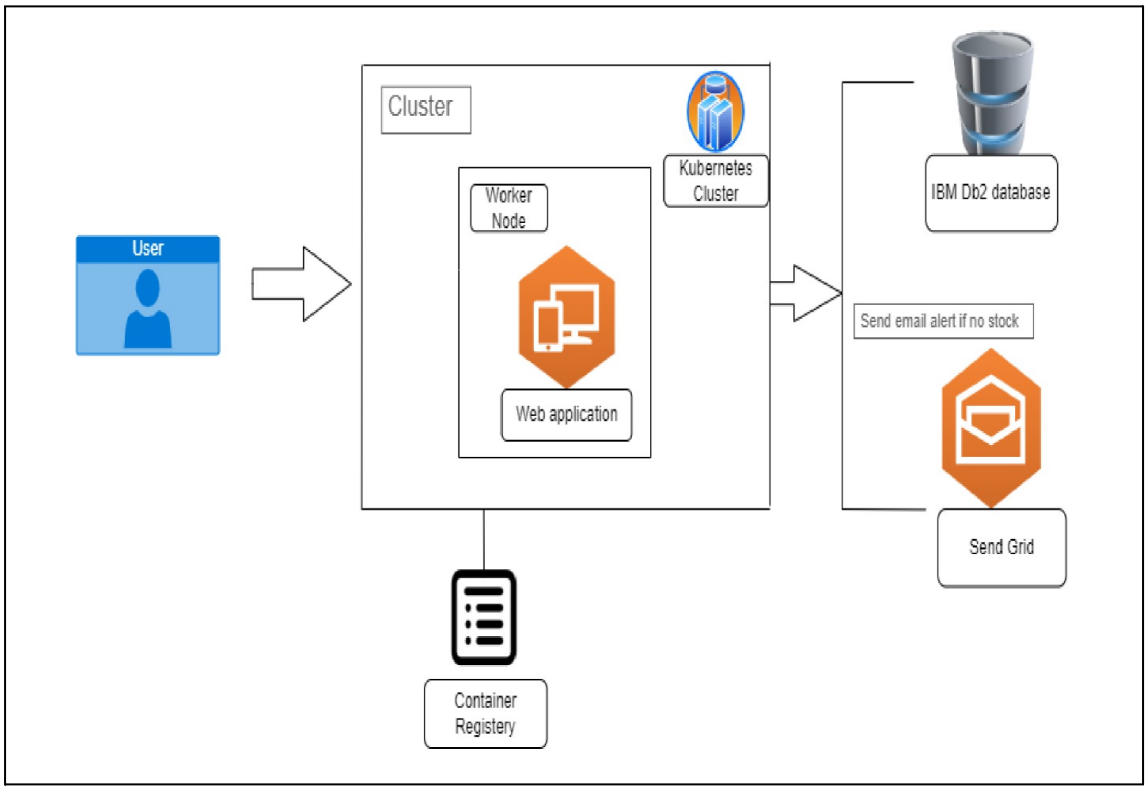
FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Easy to use and learn
NFR-2	**Security**	Customer data integrity
NFR-3	**Reliability**	Reliable transport of messages
NFR-4	**Performance**	Less response time
NFR-5	**Availability**	No downtime
NFR-6	**Scalability**	Can handle large no of customers at the same time

5. PROJECT DESIGN

5.1 Data Flow Diagrams



5.2 Solution & Technical Architecture



5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Web user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
	Login	USN-2	As a user, I can log into the application by entering email & password	I can access my account / dashboard	High	Sprint-1
	Add/delete items in the inventory	USN-3	As a user, I can add or delete items in the inventory	I can store the stock items and its details in the database	High	Sprint-2
	View items	USN-4	As a user, I can view the items in the inventory	I can view items which is stored in database	Medium	Sprint-2
	Update items	USN-5	As a user, I can update the existing items details	The database will be updated	High	Sprint-2
	Alert users	USN-6	As a user, I can alert the users if there is a out of stock or low stock	I can refill the stock details	Medium	Sprint-3
	Log out	USN-7	As a user, I can log out the web application	I will be redirected to login page again once I log out	High	Sprint-1

6. PROJECT PLANNING & SCHEDULING

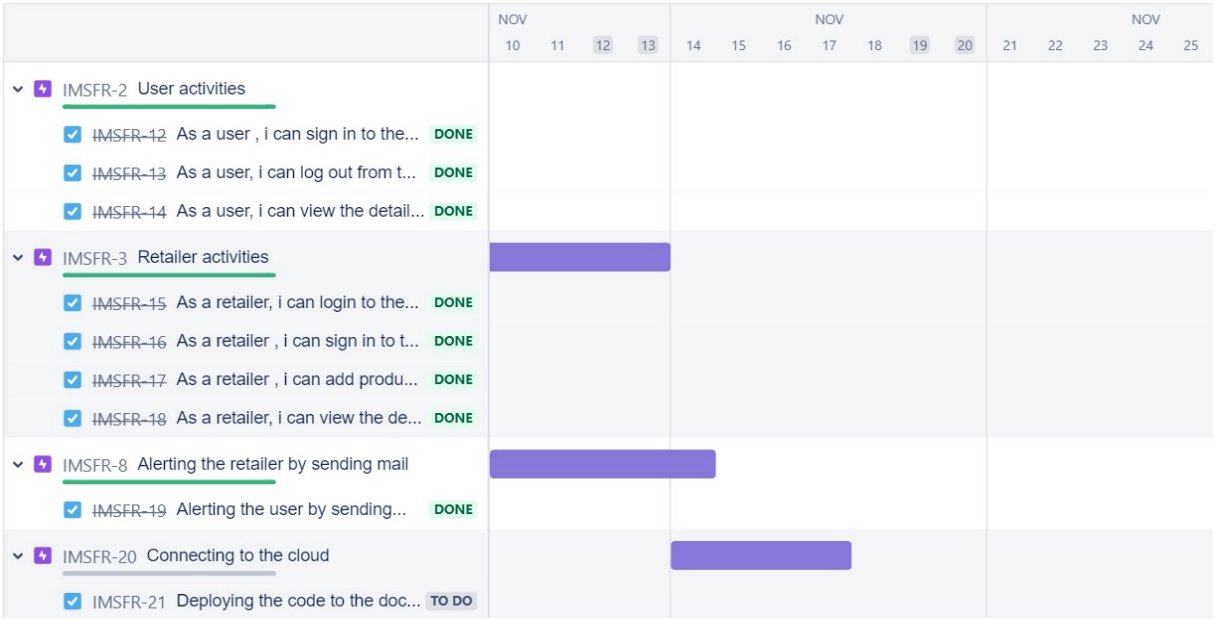
6.1 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	4
Sprint-1	Login	USN-2	As a user, I can log into the application by entering email & password	1	High	4
Sprint-2	Add/delete items in the inventory	USN-3	As a user, I can add or delete items in the inventory	2	High	4
Sprint-2	View items	USN-4	As a user, I can view the items in the inventory	1	Medium	4
Sprint-3	Update items	USN-5	As a user, I can update the existing items details	2	High	4
Sprint-4	Alert users	USN-6	As a user, I can alert the users if there is a out of stock or low stock	1	Medium	4
Sprint-1	Log out	USN-7	As a user, I can log out the web application	1	High	4

6.2 Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	7	6 Days	24 Oct 2022	29 Oct 2022	7	29 Oct 2022
Sprint-2	9	6 Days	31 Oct 2022	05 Nov 2022	9	05 Nov 2022
Sprint-3	5	6 Days	07 Nov 2022	12 Nov 2022	5	12 Nov 2022
Sprint-4	10	6 Days	14 Nov 2022	19 Nov 2022	10	19 Nov 2022

6.3 Reports from JIRA



7. CODING & SOLUTIONING (Explain the features added in the project along with code)

7.1 Login

Users are able to login to the system by filling in the details like their username and password, if the entered details are correct it will leave the message like ‘ Logged in successfully’ ; if not it will leave the message like ‘ incorrect username / password’.

```
@app.route('/')
def hello():
    return render_template('home.html')

@app.route('/login', methods=['GET', 'POST'])
def login():
    global userid
    msg = ''
    if request.method == 'POST' :
        username = request.form['username']
        pd = request.form['password']
        sql = "SELECT * FROM people WHERE username =? AND password=?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.bind_param(stmt,2,pd)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
        print (account)
        if account:
            session['loggedin'] = True
            session['id'] = account['USERNAME']
            userid=  account['USERNAME']
            session['username'] = account['USERNAME']
            msg = 'Logged in successfully !'

            return render_template('dashboard.html', msg = msg)
        else:
            msg = 'Incorrect username / password !'
    return render_template('login.html', msg = msg)
```

7.2 Sign up

Users can sign up into the system by entering their details. If the account already exists it will leave the message like ‘Account already exists’ / ‘ Enter the valid email address’ / ‘name must contain only characters and numbers’. If users entered the correct details then it will send the message like ‘ You are successfully registered click signin !’.

```
@app.route('/signup', methods=['GET', 'POST'])
def signup():
    mg=''
    if request.method == "POST":
        username=request.form['name']
        email=request.form['email']
        pw=request.form['password']
        address=request.form['address']
        phone=request.form['phone']
        sql='SELECT * FROM people WHERE email =?'
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,email)
        ibm_db.execute(stmt)
        acnt=ibm_db.fetch_assoc(stmt)
        print(acnt)

        if acnt:
            mg='Account already exits!!'

        elif not re.match(r'[^@]+@[^@]+\.[^@]+', email):
            mg='Please enter the avalid email address'
        elif not re.match(r'[A-Za-z0-9]+', username):
            ms='name must contain only character and number'
        else:
            insert_sql='INSERT INTO people VALUES (?,?,?,?,?)'
            pstmt=ibm_db.prepare(conn, insert_sql)
            ibm_db.bind_param(pstmt,1,username)
            ibm_db.bind_param(pstmt,2,address)
            ibm_db.bind_param(pstmt,3,phone)
            ibm_db.bind_param(pstmt,4,email)
            ibm_db.bind_param(pstmt,5,pw)
            ibm_db.execute(pstmt)
            mg='You have successfully registered click signin!!'
            return render_template("login.html")
```

```
else:
    msg="fill out the form first!"
    return render_template('signup.html',meg=mg)
```

7.3 Log out

Users can log out from the system by clicking the log out option, it will send the message like ‘ You are now logged out , success ‘.

```
@app.route('/logout')
def logout():
    session.clear()
    flash("You are now logged out", "success")
    return render_template("home.html")
```

7.4 Add stock

Users are able to insert the products into the system by using the Add stock function. After adding the products it will send the message like ‘ You have successfully added the products’. If the product already exists it will send the message like ‘ Product already exists !! ‘.

```
def add_stock():
    mg=''
    if request.method == "POST":
        prodname=request.form['prodname']
        quantity=request.form['quantity']
        warehouse_location=request.form['warehouse_location']
        sql='SELECT * FROM product WHERE prodname =?'
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,prodname)
        ibm_db.execute(stmt)
        acnt=ibm_db.fetch_assoc(stmt)
        print(acnt)

        if acnt:
            mg='Product already exits!!'
        else:
            insert_sql='INSERT INTO product VALUES (?,?,?)'
            pstmt=ibm_db.prepare(conn, insert_sql)
            ibm_db.bind_param(pstmt,1,prodname)
            ibm_db.bind_param(pstmt,2,quantity)
            ibm_db.bind_param(pstmt,3,warehouse_location)
            ibm_db.execute(pstmt)
            mg='You have successfully added the products!!'
            return render_template("dashboard.html")

    else:
        msg="fill out the form first!"
        return render_template('add_stock.html',meg=mg)
```

7.5 Delete stock

Users can delete the products from the system using the Delete stock function. After deleting the products it will send the message like ‘ Product deleted, Success’.

```
@app.route('/delete_stock',methods=['GET','POST'])
def delete_stock():
    if(request.method=="POST"):
        prodname=request.form['prodname']
        sql2="DELETE FROM product WHERE prodname=?"
        stmt2 = ibm_db.prepare(conn, sql2)
        ibm_db.bind_param(stmt2,1,prodname)
        ibm_db.execute(stmt2)

        flash("Product Deleted", "success")

        return render_template("dashboard.html")
```

7.6 Update stock

Users can Update the details of the products from the system using the update stock function. After updating the products it will send the message like ‘ You have Successfully updated the products! !’.

```
def update_stock():
    mg=''
    if request.method == "POST":
        prodname=request.form['prodname']
        quantity=request.form['quantity']
        quantity=int(quantity)
        print(quantity)
        print(type(quantity))
        warehouse_location=request.form['warehouse_location']
        sql='SELECT * FROM product WHERE prodname =?'
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,prodname)
        ibm_db.execute(stmt)
        acnt=ibm_db.fetch_assoc(stmt)
        print(acnt)

        if acnt:
            insert_sql='UPDATE product SET  quantity=?,warehouse_location=? WHERE prodname=? '
            pstmt=ibm_db.prepare(conn, insert_sql)
            ibm_db.bind_param(pstmt,1,quantity)
            ibm_db.bind_param(pstmt,2,warehouse_location)
            ibm_db.bind_param(pstmt,3,prodname)
            ibm_db.execute(pstmt)
            mg='You have successfully updated the products!!'
            limit=5
            print(type(limit))
            if(quantity<=limit):
                  alert("Please update the quantity of the product {}, Atleast {} number of pieces must be added!".format(prodname,10))
            return render_template("dashboard.html",meg=mg)
```

```
    else:
        mg='Product not found!!'


else:
    msg="fill out the form first!"
    return render_template('update_stock.html',meg=msg)
```

7.7 View stock

Users can View the products in the system using the View stock function. If the product is not found in the system it will send the message like ‘ No products found’.

```
def view_stock():

    sql = "SELECT * FROM product"
    stmt = ibm_db.prepare(conn, sql)
    result=ibm_db.execute(stmt)
    print(result)

    products=[]
    row = ibm_db.fetch_assoc(stmt)
    print(row)
    while(row):
        products.append(row)
        row = ibm_db.fetch_assoc(stmt)
        print(row)
    products=tuple(products)
    print(products)

    if result>0:
        return render_template('view.html', products = products)
    else:
        msg='No products found'
        return render_template('view.html', msg=msg)
```

7.8 Send grid

An account was created in sendgrid and apikey was generated for smtp connection. Using the api key generated, we accessed the smtp port with the help of python code and send an alert email. An alert email will be sent if the product quantity is less than 5 to the retailers.

```
import smtplib
import os
from dotenv import load_dotenv
from email.mime.multipart import MIMEMultipart
from email.mime.text import MIMEText
from email.mime.base import MIMEBase

def alert(main_msg):
   mail_from = '19z311@psgtech.ac.in'
   mail_to = 'dhanavandhanakannan3@gmail.com'
   msg = MIMEMultipart()
   msg['From'] = mail_from
   msg['To'] = mail_to
   msg['Subject'] = '!Alert Mail On Product Shortage! - Regards'
   mail_body = main_msg
   msg.attach(MIMEText(mail_body))
   print(msg)

   try:
      server = smtplib.SMTP_SSL('smtp.sendgrid.net', 465)
      server.ehlo()
      server.login('apikey',os.environ.get('SENDGRID_API_KEY'))
      server.sendmail(mail_from, mail_to, msg.as_string())
      server.close()
      print("Mail sent successfully!")
   except:
      print("Some Issue, Mail not Sent :(")
```

7.9 Database Schema

Table 1 -people

- This people table used to store users details while registering
- Used to store details of users while login
- This table contains users details so it is used to verify the user credentials

Table 2- product

- This product table used to store the details of the product present in the stock
- This table is used to know the amount of product present in the stock

8. TESTING

8.1 Test Cases

	Test Scenarios
	Login
1	Verify user is able to see login page
2	Verify user is able to loginto application or not?
3	Verify login page elements
	Register
1	Verify if user is able to enter all the details and register
2	Verify if user is redirected to login page once registered.
	Add products
1	Verify user is able to add products in ad product page
2	Verify whether added products are correctly added in the table
	View products
1	Verify whether products can be viewed in view page
2	Verify whether products can be retrieved correctly from database
	Update Products
1	Verify user is able to update products in update page
2	Verify whether updated product details are correctly updated in the table
3	Verify if the product quantity is less than 5
4	Verify if an alert email has been sent to retailer if the product quantity is less than 5
	Delete Products
1	Verify user is able to delete product movements
2	Verify whether deleted product gets deleted from the table

8.2 User Acceptance Testing

The project has been tested extensively with a number of users. The users found the interface very easy to use. The Web pages were colorful and attractive. There were no unnecessary details in the web page. It was clean and simple that any new user could master. The data input format was also simple.The user can login to the system by entering username and password and they can add stock,delete stock,update stock and view stock. Various inputs have been given by the users to test the consistency of the model. The model proved itself and all the users accepted the model as reliable and convenient.

9. RESULTS

9.1 Performance Metrics

The application that we have developed has better performance in speed.An alert email will be sent if the product quantity is less than 5 to the retailers.. The application developed also performed well with no glitches or lag found during the testing phase.

10. ADVANTAGES & DISADVANTAGES

Advantages:

- It helps to maintain the right amount of stocks
- It leads to a more organized warehouse
- It saves time and money
- A well-structured inventory management system leads to improved customer retention

Disadvantages:

- Increased space is need to hold the inventory
- Complexity
- High implementation costs

11. CONCLUSION

It is obvious that the manual inventory system needs to be replaced with an automated one that can shorten the time required, minimize human error, and increase inventory efficiency. The software of choice is also able to meet the specified demands intended to address the issue. The system can be made better in the future by including a place to store receipts and generate receipts for each transaction. Additionally, a profile area for each user may be created to store additional information about the users. Lastly, there is a feature that can tell the user when an item is getting close to its expiration date.

12. FUTURE SCOPE

There will be even more technological advancements in the field of inventories. To boost sales and draw customers, innovations ranging from artificial intelligence to inventory-free businesses are always being produced.

13. APPENDIX

Source Code

Backend code:

app.py:

```
from flask import Flask, redirect, url_for, request, render_template, session, flash
import sqlite3 as sql
import re
import ibm_db
from sendgrid import *
conn
    =ibm_db.connect("DATABASE=bludb;HOSTNAME=ba99a9e6-d59e-4883-8fc0-d6a8c9f
    7a08f.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=31321;SECURITY=SS
    L;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=xwz94276;PWD=0HI7kIeAaMG
    SpL03","","")
app = Flask(_name_)
app.secret_key="dhana"

@app.route('/')
def hello():
   return render_template('home.html')

@app.route('/login', methods=['GET', 'POST'])
def login():
   global userid
   msg = ''
   if request.method == 'POST' :
      username = request.form['username']
      pd = request.form['password']
      sql = "SELECT * FROM people WHERE username =? AND password=?"
      stmt = ibm_db.prepare(conn, sql)
      ibm_db.bind_param(stmt,1,username)
      ibm_db.bind_param(stmt,2,pd)
      ibm_db.execute(stmt)
```

```
        account = ibm_db.fetch_assoc(stmt)
        print (account)
        if account:
            session['loggedin'] = True
            session['id'] = account['USERNAME']
            userid=  account['USERNAME']
            session['username'] = account['USERNAME']
            msg = 'Logged in successfully !'

            return render_template('dashboard.html', msg = msg)
        else:
            msg = 'Incorrect username / password !'
    return render_template('login.html', msg = msg)


@app.route('/signup', methods=['GET', 'POST'])
def signup():
    mg=''
    if request.method == "POST":
        username=request.form['name']
        email=request.form['email']
        pw=request.form['password']
        address=request.form['address']
        phone=request.form['phone']
        sql='SELECT * FROM people WHERE email =?'
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,email)
        ibm_db.execute(stmt)
        acnt=ibm_db.fetch_assoc(stmt)
        print(acnt)

        if acnt:
            mg='Account already exits!!'
```

```
        elif not re.match(r'[^@]+@[^@]+\.[^@]+', email):
            mg='Please enter the avalid email address'
        elif not re.match(r'[A-Za-z0-9]+', username):
            ms='name must contain only character and number'
        else:
            insert_sql='INSERT INTO people VALUES (?,?,?,?,?)'
            pstmt=ibm_db.prepare(conn, insert_sql)
            ibm_db.bind_param(pstmt,1,username)
            ibm_db.bind_param(pstmt,2,address)
            ibm_db.bind_param(pstmt,3,phone)
            ibm_db.bind_param(pstmt,4,email)
            ibm_db.bind_param(pstmt,5,pw)
            ibm_db.execute(pstmt)
            mg='You have successfully registered click signin!!'
            return render_template("login.html")

    else:
        msg="fill out the form first!"
        return render_template('signup.html',meg=mg)

@app.route('/logout')
def logout():
    session.clear()
    flash("You are now logged out", "success")
    return render_template("home.html")

@app.route('/add_stock',methods=['GET','POST'])
def add_stock():
    mg=''
    if request.method == "POST":
        prodname=request.form['prodname']
        quantity=request.form['quantity']
        warehouse_location=request.form['warehouse_location']
        sql='SELECT * FROM product WHERE prodname =?'
```

```
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,prodname)
        ibm_db.execute(stmt)
        acnt=ibm_db.fetch_assoc(stmt)
        print(acnt)

        if acnt:
            mg='Product already exits!!'
        else:
            insert_sql='INSERT INTO product VALUES (?,?,?)'
            pstmt=ibm_db.prepare(conn, insert_sql)
            ibm_db.bind_param(pstmt,1,prodname)
            ibm_db.bind_param(pstmt,2,quantity)
            ibm_db.bind_param(pstmt,3,warehouse_location)
            ibm_db.execute(pstmt)
            mg='You have successfully added the products!!'
            return render_template("dashboard.html")

    else:
        msg="fill out the form first!"
        return render_template('add_stock.html',meg=mg)

@app.route('/delete_stock',methods=['GET','POST'])
def delete_stock():
    if(request.method=="POST"):
        prodname=request.form['prodname']
        sql2="DELETE FROM product WHERE prodname=?"
        stmt2 = ibm_db.prepare(conn, sql2)
        ibm_db.bind_param(stmt2,1,prodname)
        ibm_db.execute(stmt2)

        flash("Product Deleted", "success")

        return render_template("dashboard.html")
```

```
@app.route('/update_stock',methods=['GET','POST'])
def update_stock():
    mg=''
    if request.method == "POST":
        prodname=request.form['prodname']
        quantity=request.form['quantity']
        quantity=int(quantity)
        print(quantity)
        print(type(quantity))
        warehouse_location=request.form['warehouse_location']
        sql='SELECT * FROM product WHERE prodname =?'
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,prodname)
        ibm_db.execute(stmt)
        acnt=ibm_db.fetch_assoc(stmt)
        print(acnt)

        if acnt:
                insert_sql='UPDATE product SET quantity=?,warehouse_location=? WHERE
    prodname=? '
            pstmt=ibm_db.prepare(conn, insert_sql)
            ibm_db.bind_param(pstmt,1,quantity)
            ibm_db.bind_param(pstmt,2,warehouse_location)
            ibm_db.bind_param(pstmt,3,prodname)
            ibm_db.execute(pstmt)
            mg='You have successfully updated the products!!'
            limit=5
            print(type(limit))
            if(quantity<=limit):
                    alert("Please update the quantity of the product {}, Atleast {} number of pieces
    must be added!".format(prodname,10))
            return render_template("dashboard.html",meg=mg)
```

```
        else:
            mg='Product not found!!'


    else:
         msg="fill out the form first!"
         return render_template('update_stock.html',meg=msg)

@app.route('/view_stock')
def view_stock():

    sql = "SELECT * FROM product"
    stmt = ibm_db.prepare(conn, sql)
    result=ibm_db.execute(stmt)
    print(result)

    products=[]
    row = ibm_db.fetch_assoc(stmt)
    print(row)
    while(row):
        products.append(row)
        row = ibm_db.fetch_assoc(stmt)
        print(row)
    products=tuple(products)
    print(products)

    if result>0:
        return render_template('view.html', products = products)
    else:
        msg='No products found'
        return render_template('view.html', msg=msg)
```

```
@app.route('/delete')
def delete():
    return render_template('delete_stock.html')

@app.route('/update')
def update():
    return render_template('update_stock.html')
if__name__== "_main_":
    app.run(debug=True)
```

sendgrid.py:

```
import smtplib
import os
from dotenv import load_dotenv
from email.mime.multipart import MIMEMultipart
from email.mime.text import MIMEText
from email.mime.base import MIMEBase

def alert(main_msg):
  mail_from = '19z311@psgtech.ac.in'
  mail_to = 'dhanavandhanakannan3@gmail.com'
  msg = MIMEMultipart()
  msg['From'] = mail_from
  msg['To'] = mail_to
  msg['Subject'] = '!Alert Mail On Product Shortage! - Regards'
  mail_body = main_msg
  msg.attach(MIMEText(mail_body))
  print(msg)

  try:
    server = smtplib.SMTP_SSL('smtp.sendgrid.net', 465)
    server.ehlo()
    server.login('apikey',os.environ.get('SENDGRID_API_KEY'))
    server.sendmail(mail_from, mail_to, msg.as_string())
    server.close()
```

```
      print("Mail sent successfully!")
    except:
      print("Some Issue, Mail not Sent :(")
```

Front end code:

Home.html:

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Inventory Management System by Tufayel Ahmed</title>
    <!-- Bootstrap CSS -->
     <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta3/dist/css/bootstrap.min.css"
rel="stylesheet"
integrity="sha384-eOJMYsd53ii+scO/bJGFsiCZc+5NDVN2yr8+0RDqr0Ql0h+rP48ckxlpbzK
gwra6" crossorigin="anonymous">

<link
rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.4.1/font/bootstrap-icons.css">
    <style>
        body {
            background-color: rgb(221, 221, 221);
            color: black;
        }
    </style>
</head>

<body>
    <div class="header text-center">
        <h1 class="my-5 mx-3">Welcome to Inventory Management System</h1>
```

```
    </div>
    <div class="container text-center mb-5">

<button class="btn btn-primary" onclick="location.href='/login'"><i class="bi-door-open"></i>
Login</button>

<button class="btn btn-info text-white" onclick="location.href='/signup'">
<i class="bi-person-plus"></i>
Sign Up</button>
    </div>
    <div class="accordion m-3" id="accordionExample">
        <div class="accordion-item">
            <h2 class="accordion-header" id="headingOne">

<button
class="accordion-button"
type="button" data-bs-toggle="collapse"
 data-bs-target="#collapseOne"
 aria-expanded="true" aria-controls="collapseOne">
                    Sign Up
    </button>
   </h2>

<div
id="collapseOne"
class="accordion-collapse collapse show"
 aria-labelledby="headingOne"
 data-bs-parent="#accordionExample">
                <div class="accordion-body">
                    Register to use the inventory management system
                </div>
            </div>
        </div>
        <div class="accordion-item">
```

```
        <h2 class="accordion-header" id="headingTwo">

<button class="accordion-button collapsed" type="button" data-bs-toggle="collapse"

data-bs-target="#collapseTwo" aria-expanded="false" aria-controls="collapseTwo">
                Login
            </button>
        </h2>

<div id="collapseTwo" class="accordion-collapse collapse" aria-labelledby="headingTwo"
            data-bs-parent="#accordionExample">
            <div class="accordion-body">
                Login and access the inventory
            </div>
        </div>
    </div>

  </div>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta3/dist/js/bootstrap.bundle.min.js"

integrity="sha384-JEW9xMcG8R+pH31jmWH6WWP0WintQrMb4s7ZOdauHnUtxwoG2vI5D
kLtS3qm9Ekf"
      crossorigin="anonymous"></script>
</body>
</html>
```

Signup.html:

```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<style>
```

```
body, html
  { height:
  100%;
  font-family: Arial, Helvetica, sans-serif;
  background-color: #9f9da7;

}

* {
  box-sizing: border-box;
}

.bg-img {

   background-color: #9f9da7;

  /* Center and scale the image nicely */
  background-position: center;
  background-repeat: no-repeat;
  background-size: cover;
  position: relative;
  position: absolute;
  top: 0;
  left: 0;
  right: 0;
  bottom: 0;
  margin: auto;
  min-width: 50%;
  min-height: 50%;
}

/* Add styles to the form container */
.container
  { position:
  absolute;right: 0;
```

```
  margin: 0px;
  max-width: 500px;
  padding: 16px;
  vertical-align: center;
  background-color: white;
  width:500px;
  height: 600px;
  margin:auto;
  left: 70px;
  top: 10px;


}

.button {
  background-color:#00cccc;
  padding: 15px 25px;
  text-align: center;
  text-decoration: none;
  display: block;
  margin: auto;
  cursor: pointer;
  border-radius: 16px;
  background-color: white;
  color: black;
  width:190;
  border: 2px solid #00cccc;

}
.button2:hover
  { background-
  color:#00cccc;color: white;
}
```

```
/* Set a style for the submit button */


</style>
</head>
<body >
</br></br></br>
<div class="bg-img">

  <form class="container"  action="{{url_for('signup') }}" method="POST">
    <h1>Sign-up/Register</h1>
    <br>

    <label for="name" style="font-size: 24">Name:</label>
       <input type="text" id="name" name="name" placeholder="Enter name" style="width: 100%;height: 30;padding: 9px;margin: 5px 0 22px 0;border: none;background: #f1f1f1;"><br>
    <label for="addr" style="font-size: 24">Address:</label>
          <input type="text" id="address" name="address" placeholder="Enter Address" style="width: 100%;height: 30;padding: 9px;margin: 5px 0 22px 0;border: none;background: #f1f1f1;"><br>

    <label for="phone" style="font-size: 24">Phone:</label>
      <input type="text" id="phone" name="phone" placeholder="Enter Phone" style="width: 100%;height: 30;padding: 9px;margin: 5px 0 22px 0;border: none;background: #f1f1f1;"><br>

    <label for="mail" style="font-size: 24">Email-id:</label>
       <input type="email" id="email" name="email" placeholder="Enter Email" style="width: 100%;height: 30;padding: 9px;margin: 5px 0 22px 0;border: none;background: #f1f1f1;"><br>
```

```
    <label for="password" style="font-size: 24">Password:</label>
     <input type="password" id="password" name="password" placeholder="Enter Password"
style="width: 100%;height: 30;padding: 9px;margin: 5px 0 22px 0;border: none;background:
#f1f1f1;"><br>
    <input type="submit" class="button button2" name="submit" value="Register">

</form>
</div>
</body>
</html>
```

Login.html:

```
<!DOCTYPE html>
<html lang="en" >
<head>
  <meta charset="UTF-8">
  <title>HTML5 Login Form with validation Example</title>

<link
rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/normalize/5.0.0/normalize.min.css">
  <link rel= "stylesheet" type= "text/css" href= "{{ url_for('static',filename='style.css') }}">

</head>
<body>
<!-- partial:index.partial.html -->
<div id="login-form-wrap">
  <h2>Login</h2>
  <form id="login-form"  action="{{url_for('login') }}" method="POST">
    <p>
            <input    type="text"    id="username" name="username" placeholder="Username"
required><i class="validation"><span></span><span></span></i>
    </p>
    <p>
```

```
        <input type="password" id="password" name="password"  placeholder="Password"
required>
<i class="validation"><span></span><span></span></i>
    </p>
    <p>
    <input type="submit" id="login" value="Login">
    </p>
  </form>
  <div id="create-account-wrap">
    <p>Not a member? <a href="#">Create Account</a><p>
  </div><!--create-account-wrap-->
</div><!--login-form-wrap-->
<!-- partial -->

</body>
</html>
```

Dashboard.html:

```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<link                                                                    rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">

<style>
body {
  font-family: "Lato", sans-serif;
  background-image: url("");
  background-attachment: fixed;
  background-position: 70% 50%; background-repeat: no-repeat;
}

/* Fixed sidenav, full height */
```

```
.sidenav
  { height:
  100%; width:
  300px;
  position: fixed;
  z-index: 1;
  top: 0;
  left: 0;
  background-color: #0059b3;
  overflow-x: hidden;
  padding-top: 20px;
}

/* Style the sidenav links and the dropdown button */
.sidenav a{
  padding: 6px 8px 6px 16px;
  text-decoration: none;
  font-size: 20px;
  color: rgb(239, 239, 239);
  display: block;
  border: none;
  background: none;
  width: 100%;
  text-align: left;
  cursor: pointer;
  outline: none;
}

/* On mouse-over */
.sidenav
  a:hover{color:
  #111;
}
```

```
/* Some media queries for responsiveness */
@media screen and (max-height: 450px) {
  .sidenav {padding-top: 15px;}
  .sidenav a {font-size: 18px;}
}
</style>
</head>
<body>

<div class="sidenav">

   <a href="{{url_for('add_stock') }}"><strong>Add stock<strong></a>
   <a href="{{url_for('update') }}"><strong>Update stock details<strong></a>
   <a href="{{url_for('view_stock') }}"><strong>View stock<strong></a>
    <a href="{{url_for('delete')}}"><strong>Delete stock<strong></a>
  <a href="{{url_for('logout') }}"><strong>Log out<strong></a>




  </body>
  </html>
```

Add_stock.html:

```
<! Doctype html>
    <html lang="en">
    <head>
    <title>Add stock</title>

      <meta charset="utf-8">
      <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
      <style>
      label{
      display: inline-block;
        width: 150px;
```

```
        text-align: right;
        }


/* Add padding to containers */
#form1 {
  padding: 16px;
}

/* Full-width input fields */
input[type=text], input[type=number] input[type=float]  input[type=date]  {

    height: 30px;
    width: 735px;
    text-align: center;
    clear: both;
    margin-bottom:0px;
    padding-top:5px;
}


input[type=text]:focus,
input[type=number]:focus
input[type=float]:focus
input[type=date]:focus
{ background-color:
#ddd; outline: none;
}

/* Overwrite default styles of hr */
hr {
  border: 1px solid #f1f1f1;
  margin-bottom: 25px;
}
```

```
/* Set a style for the submit/register button */
.registerbtn {
  background-color: darkblue;
  border-radius: 5px;
  -webkit-border-radius: 5px;
  padding: 4px 14px;
  height:34px;
  width:120px;
  cursor: pointer;
  font-size: 1em;
  border: 1px solid #b5b5b5;
  text-transform:uppercase;
  color:white;
  font-weight:bold;
}

.registerbtn:hover
  {opacity:1;
}

/* Set a grey background color and center the text of the "sign in" section */
#form1 {
  background-color: #f1f1f1;
  text-align: center;
}

div {
        margin-bottom: 10px;
      }

      .sidenav
  { height:
  100%; width:
  200px;
```

position: fixed;

```
  z-index: 1;
  top: 0;
  left: 0;
  background-color: #0059b3;
  overflow-x: hidden;
  padding-top: 20px;
}

/* Style the sidenav links and the dropdown button */
.sidenav a{
  padding: 6px 8px 6px 16px;
  text-decoration: none;
  font-size: 20px;
  color: rgb(239, 239, 239);
  display: block;
  border: none;
  background: none;
  width: 100%;
  text-align: left;
  cursor: pointer;
  outline: none;
}

/* On mouse-over */
.sidenav a:hover, .dropdown-btn:hover
  {color: #111;
}

/* Some media queries for responsiveness */
@media screen and (max-height: 450px) {
  .sidenav {padding-top: 15px;}
  .sidenav a {font-size: 18px;}
}
```

```
</style>
<center>
</head>
<body style="background-color:white;">
<h1 style="
text-align: center;
color: #fff;
font-size: 1.6em;
background: #616161;
display: block;
border-radius: 5px;
margin-bottom: 0px;
width: 700px;
padding: 30px 0px 30px 0px;
line-height: 0px !important;">  <br />ADD STOCK</h1>
<div class="sidenav">

  <a href="{{url_for('add_stock') }}"><strong>Add stock<strong></a>
  <a href="{{url_for('update') }}"><strong>Update stock details<strong></a>
  <a href="{{url_for('view_stock') }}"><strong>View stock<strong></a>
   <a href="{{url_for('delete')}}"><strong>Delete stock<strong></a>
 <a href="{{url_for('logout') }}"><strong>Log out<strong></a>
  </div>
<form method="post" action="{{url_for('add_stock') }}" style="
  background:#f7f7f7;
  width: 700px;
  border:1px solid #ccc;
  padding:30px 0px 30px 0px;
  box-shadow: 0px 5px 5px rgba(0,0,0,0.2);
  margin-top:10px;">

    <label> Product name:   </label> <input type="string" name="prodname"
style="width: 150px" autocomplete="off" >
```

```
    <br> <br>
        <label> Item quantity:   </label> <input type="number" name="quantity"
style="width: 150px" autocomplete="off" >

    <br> <br>
    <label
style="width:250px;margin-left:-175px;"> Warehouse location:   </label>
    <select name="warehouse_location">
          <option value="Chennai">Chennai</option>
          <option value="Banglore">Banglore</option>

        </select>
    <br> <br>
    <input class="registerbtn" type="submit" name="submit" value="Submit">
  </form>
  </center>
  </body>
  </html>
```

Delete_stock.html:

```
<! Doctype html>
  <html lang="en">
  <head>
  <title>Delete stock</title>

    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
    <style>
    /*label{
        cursor: pointer;
        display: inline-block;
        padding: 3px 6px;
        text-align: right;
        width: 150px;
```

```
        vertical-align: top;
      }
    .error {
            color: white;
            font-family: lato;
            color:red;
            display: inline-block;
            padding: 2px 10px;
    }
    input{


    } */
    label{
    display: inline-block;
      width: 150px;
      text-align: right;
      }

/* Add padding to containers */
#form1 {
  padding: 16px;
}
/* Full-width input fields */
input[type=text], input[type=number] input[type=float]  input[type=date]  {
  /*width:  20%;
  padding: 15px;
  margin: 5px 0 22px 0;
  display: inline-block;
  border: none;
  background: #f1f1f1;*/

   height: 30px;
   width: 735px;
   text-align: center;
```

```
    clear: both;
    margin-bottom:0px;
    padding-top:5px;
}
input[type=text]:focus,
input[type=number]:focus
input[type=float]:focus
input[type=date]:focus
{ background-color:
#ddd; outline: none;
}

/* Overwrite default styles of hr */
hr {
  border: 1px solid #f1f1f1;
  margin-bottom: 25px;
}

/* Set a style for the submit/register button */
.registerbtn {
  /*font-size:130%;
  color: white;
  padding: 16px 20px;
  margin-left: 10% ;
  border: none;
  cursor: pointer;
  width: 10%;
  opacity: 0.9;*/

  background-color: darkblue;
  border-radius: 5px;
  -webkit-border-radius: 5px;
  padding: 4px 14px;
  height:34px;
```

```
  width:120px;
  cursor: pointer;
  font-size: 1em;
  border: 1px solid #b5b5b5;
  text-transform:uppercase;
  color:white;
  font-weight:bold;
}

.registerbtn:hover
  {opacity:1;
}

/* Set a grey background color and center the text of the "sign in" section */
#form1 {
  background-color: #f1f1f1;
  text-align: center;
}

div {
        margin-bottom: 10px;
      }

      .sidenav
  { height:
  100%; width:
  300px;
  position: fixed;
  z-index: 1;
  top: 0;
  left: 0;
  background-color: #0059b3;
  overflow-x: hidden;
  padding-top: 20px;
}
```

```
/* Style the sidenav links and the dropdown button */
.sidenav a{
  padding: 6px 8px 6px 16px;
  text-decoration: none;
  font-size: 20px;
  color: rgb(239, 239, 239);
  display: block;
  border: none;
  background: none;
  width: 100%;
  text-align: left;
  cursor: pointer;
  outline: none;
}

/* On mouse-over */
.sidenav a:hover, .dropdown-btn:hover
  {color: #111;
}

/* Some media queries for responsiveness */
@media screen and (max-height: 450px) {
  .sidenav {padding-top: 15px;}
  .sidenav a {font-size: 18px;}
}
    </style>
    <center>
    </head>
    <body style="background-color:white;">
      <div class="sidenav">

        <a href="{{url_for('add_stock') }}"><strong>Add stock<strong></a>
        <a href="{{url_for('update') }}"><strong>Update stock details<strong></a>
        <a href="{{url_for('view_stock') }}"><strong>View stock<strong></a>
```

```
        <a href="{{url_for('delete')}}"><strong>Delete stock<strong></a>
       <a href="{{url_for('logout') }}"><strong>Log out<strong></a>
        </div>
    <h1 style="
    text-align: center;
    color: #fff;
    font-size: 1.6em;
    background: #616161;
    display: block;
    border-radius: 5px;
    margin-bottom: 0px;
    width: 700px;
    padding: 30px 0px 30px 0px;
    line-height: 0px !important;">  <br />Delete stock</h1>
    <form method="post" action="{{url_for('delete_stock') }}" style="
      background:#f7f7f7;
      width: 700px;
      border:1px solid #ccc;
      padding:30px 0px 30px 0px;
      box-shadow: 0px 5px 5px rgba(0,0,0,0.2);
      margin-top:10px;">
      <label> Product name:   </label> <input type="text" name="prodname"
style="width: 150px" autocomplete="off" >

      <br> <br>
      <input class="registerbtn" type="submit" name="submit" value="Delete">
    </form>
    </center>
    </body>
    </html>
```

delete_stock.html(after deleting a stock):

```
<!DOCTYPE html>
<html>
<style>
.registerbtn {
  /*font-size:130%;
  color: white;
  padding: 16px 20px;
  margin-left: 10% ;
  border: none;
  cursor: pointer;
  width: 10%;
  opacity: 0.9;*/

  background-color: darkblue;
  border-radius: 5px;
  -webkit-border-radius: 5px;
  padding: 4px 14px;
  height:34px;
  width:320px;
  cursor: pointer;
  font-size: 1em;
  border: 1px solid #b5b5b5;
  text-transform:uppercase;
  color:white;
  font-weight:bold;
}
</style>
<body>
    <center>
        <h3>Record deleted successfully!</h3>
            <form action="" method="POST">
            <input type="submit" value="Redirect to Dashboard" class="registerbtn"/>
            </form>
```

```
    </center>
</body>

</html>
```

Update_stock.html:

```
<! Doctype html>
   <html lang="en">
   <head>
   <title>Add stock</title>

    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
    <style>
    /*label{
        cursor: pointer;
        display: inline-block;
        padding: 3px 6px;
        text-align: right;
        width: 150px;
        vertical-align: top;
     }
    .error {
            color: white;
            font-family: lato;
            color:red;
            display: inline-block;
            padding: 2px 10px;
    }
    input{


    } */
    label{
    display: inline-block;
```

```
        width: 150px;
        text-align: right;
        }


/* Add padding to containers */
#form1 {
  padding: 16px;
}

/* Full-width input fields */
input[type=text], input[type=number] input[type=float]  input[type=date]  {
  /*width:  20%;
  padding: 15px;
  margin: 5px 0 22px 0;
  display: inline-block;
  border: none;
  background: #f1f1f1;*/

    height: 30px;
    width: 735px;
    text-align: center;
    clear: both;
    margin-bottom:0px;
    padding-top:5px;
}

input[type=text]:focus,
input[type=number]:focus
input[type=float]:focus
input[type=date]:focus
{ background-color:
#ddd; outline: none;
}
```

```
/* Overwrite default styles of hr */
hr {
  border: 1px solid #f1f1f1;
  margin-bottom: 25px;
}

/* Set a style for the submit/register button */
.registerbtn {
  /*font-size:130%;
  color: white;
  padding: 16px 20px;
  margin-left: 10% ;
  border: none;
  cursor: pointer;
  width: 10%;
  opacity: 0.9;*/

  background-color: darkblue;
  border-radius: 5px;
  -webkit-border-radius: 5px;
  padding: 4px 14px;
  height:34px;
  width:120px;
  cursor: pointer;
  font-size: 1em;
  border: 1px solid #b5b5b5;
  text-transform:uppercase;
  color:white;
  font-weight:bold;
}
.registerbtn:hover
  {opacity:1;
}
```

```
/* Set a grey background color and center the text of the "sign in" section */
#form1 {
  background-color: #f1f1f1;
  text-align: center;
}

div {
        margin-bottom: 10px;
      }

      .sidenav
  { height:
  100%; width:
  300px;
  position: fixed;
  z-index: 1;
  top: 0;
  left: 0;
  background-color: #0059b3;
  overflow-x: hidden;
  padding-top: 20px;
}

/* Style the sidenav links and the dropdown button */
.sidenav a{
  padding: 6px 8px 6px 16px;
  text-decoration: none;
  font-size: 20px;
  color: rgb(239, 239, 239);
  display: block;
  border: none;
  background: none;
  width: 100%;
  text-align: left;
  cursor: pointer;
```

```
outline: none;
```

```
}

/* On mouse-over */
.sidenav a:hover, .dropdown-btn:hover
  {color: #111;
}

/* Some media queries for responsiveness */
@media screen and (max-height: 450px) {
  .sidenav {padding-top: 15px;}
  .sidenav a {font-size: 18px;}
}
    </style>
    <center>
    </head>
    <body style="background-color:white;">
      <div class="sidenav">

        <a href="{{url_for('add_stock') }}"><strong>Add stock<strong></a>
        <a href="{{url_for('update') }}"><strong>Update stock details<strong></a>
        <a href="{{url_for('view_stock') }}"><strong>View stock<strong></a>
         <a href="{{url_for('delete')}}"><strong>Delete stock<strong></a>
       <a href="{{url_for('logout') }}"><strong>Log out<strong></a>
        </div>
    <h1 style="
    text-align: center;
    color: #fff;
    font-size: 1.6em;
    background: #616161;
    display: block;
    border-radius: 5px;
    margin-bottom: 0px;
    width: 700px;
    padding: 30px 0px 30px 0px;
```

```
    line-height: 0px !important;">  <br />UPDATE STOCK</h1>
    <form method="post" action="{{url_for('update_stock') }}" style="
      background:#f7f7f7;
      width: 700px;
      border:1px solid #ccc;
      padding:30px 0px 30px 0px;
      box-shadow: 0px 5px 5px rgba(0,0,0,0.2);
      margin-top:10px;">

        <label> Product name:   </label> <input type="string" name="prodname"
style="width: 150px" autocomplete="off" >

      <br> <br>
         <label> Item quantity:   </label> <input type="number" name="quantity"
style="width: 150px" autocomplete="off" >

      <br> <br>

      <label
style="width:250px;margin-left:-175px;"> Warehouse location:   </label>
      <select name="warehouse_location">
            <option value="Chennai">Chennai</option>
            <option value="Banglore">Banglore</option>
          </select>
      <br> <br>

     <input class="registerbtn" type="submit" name="submit" value="Update">
    </form>
    </center>
    </body>
    </html>
```

View_stock.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <style>
      table {
          margin: 0 auto;
          font-size: large;
          border: 1px solid black;
      }

      h1 {
          text-align: center;
          color: #006600;
          font-size: xx-large;
          font-family: 'Gill Sans', 'Gill Sans MT',
          ' Calibri', 'Trebuchet MS', 'sans-serif';
      }

      td {
          background-color: #E4F5D4;
          border: 1px solid black;
      }

      th,
      td {
          font-weight: bold;
          border: 1px solid black;
          padding: 10px;
          text-align: center;
      }

      td {
          font-weight: lighter;
```

```
        }
        .sidenav
  {          height:
  100%;    width:
  300px;
  position: fixed;
  z-index: 1;
  top: 0;
  left: 0;
  background-color: #0059b3;
  overflow-x: hidden;
  padding-top: 20px;
}

/* Style the sidenav links and the dropdown button */
.sidenav a{
  padding: 6px 8px 6px 16px;
  text-decoration: none;
  font-size: 20px;
  color: rgb(239, 239, 239);
  display: block;
  border: none;
  background: none;
  width: 100%;
  text-align: left;
  cursor: pointer;
  outline: none;
}

/* On mouse-over */
.sidenav a:hover, .dropdown-btn:hover
  {color: #111;
}

/* Some media queries for responsiveness */
```

```
@media screen and (max-height: 450px) {
  .sidenav {padding-top: 15px;}
  .sidenav a {font-size: 18px;}
}


    </style>

</head>
<body>
    <div class="sidenav">

        <a href="{{url_for('add_stock') }}"><strong>Add stock<strong></a>
        <a href="{{url_for('update') }}"><strong>Update stock details<strong></a>
        <a href="{{url_for('view_stock') }}"><strong>View stock<strong></a>
         <a href="{{url_for('delete')}}"><strong>Delete stock<strong></a>
       <a href="{{url_for('logout') }}"><strong>Log out<strong></a>
        </div>

      <div class="container" >

        <table class="table table-hover">
          <thead>
            <tr>
                <th>Product name</th>
                <th>Item quantity</th>
                <th>Warehouse location</th>
            </tr>
          </thead>

        {% for item in products %}

         <tr>
            <td>{{item.PRODNAME}}</td>
```

```
            <td>{{item.QUANTITY}}</td>
            <td>{{item.WAREHOUSE_LOCATION}}</td>

        </tr>
        {% endfor %}
    </table>
     </table>

<body>
</html>
```

GitHub link :

https://github.com/IBM-EPBL/IBM-Project-12287-1659446534