Pharmacy Management System

A Project Report Submitted

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by

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ABSTRACT

The pharmacy management system designed by us is almost an exact replica of those we see on a day-to-day basis, only in terms of functionalities and automation. Essentially, a pharmacy management system is a software program that provides to customers, managers, and pharmacists alike, a consolidated platform to streamline all three sets of business operations.

Associated with the pharmacy management system are all the tasks normally performed at a tangible pharmacy- like customer billing, filling of prescriptions, and inventory management. Using this platform, all users benefit, in way of saving time, reduction of errors, and overall increase in the quality of patient and customer care.

Additionally, such platforms in general find it easier to comply with regulatory requirements, such as the Information Technology (Reasonable Security Practices and Sensitive Personal Data or Information) Rules, 2011 (establishing rules for the collection, usage, and disclosure of sensitive personal data, such as health information), and drug safety protocols.

Overall, a pharmacy management system is a powerful tool that helps pharmacies all over the globe operate in an efficient manner, under the umbrella of a consolidated medical dispensary system. One other benefit this has had on pharmacists and their supervisors alike is that it has freed them up to focus on providing personalized care to their customers, without having the profitability and success of the business taking a back seat.

[SDG]:

1. Industry, Innovation, and Infrastructure
2. Sustainable Cities and Communities
3. Responsible Consumption and Production

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List of Tables

Supplier (S_ID, SName, SPhone, Scity)

Product (PName, PCode, S_ID, Type, Unit, Price per unit, brand, expiry, dosage)

Pharmacist (P_ID, PhName, PhPassword)

Customer (C_ID, Cname, Cphone, CAddress, CDOB, Cpassword)

Stock (Pcode, Shelf no, P_units) Purchase(Pcode, S_ID, P_ID, no of units, total price)

Sale (SDate, C_ID, P_ID, PCode, units_num, Selling price)

Complaint (P_ID, Comp_ID, complaint)

Supervisor (Sup_ID, SupName, SupPassword, EmployDate, SupDuration)

Purchase (PCode, S_ID, P_ID, No_of_units, Total_price)

List of Figures

Chapter 1

The Introduction

The pharmacy management system is a consolidated platform consisting of pharmacists, their managers along with their end users, i.e., the customers.

Associated with the pharmacy management system are all the tasks normally performed at a tangible pharmacy- like customer billing, filling of prescriptions, and inventory management. Using this platform, all users benefit, in way of saving time, reduction of errors, and overall increase in the quality of patient and customer care.

Chapter 2

The Background

2.1 The Role, Functionalities and Utility of the Pharmacy Management System

The Pharmacy Management system helps the organization streamline their end users into a particular format, under the umbrella organization of an online pharmacy.

- For their pharmacists, customer order, and stock access is given, so that they can place the necessary orders if the supply is running low, or fulfill outstanding orders placed by the customers via the same platform, but different interface.

- For supervisors, they can update the stocks, along with keep an eye on the pharmacists working under them. For the proper functioning of a large online pharmacy, multiple supervisors are required, to take care of stocks, pharmacists, and all complaints that are addressed to them regarding any aspect of the pharmacy.

- For the customers, they are the very basis of the pharmacy management system, without whom the system wouldn't operate. They can place orders for medicines as per their prescriptions, and shop for additional products, such as beauty, skin care and hair care products.

Chapter 3

The Problem Statement

3.1 A Stepwise Analysis

- The software to be produced is for the Pharmacy Management System
- There are 3 modules:
  1. Customer
  2. Supervisor
  3. Pharmacist
- The first plan of action is to register new users and pharmacists if they don't already have an account on the online Pharmacy portal.
- The customer is at liberty to place orders for both OTC and prescribed drugs, along with any and all supplementary products, such as beauty, haircare, and skincare products.
- The task of the pharmacist is to fulfill all pending orders at the earliest. Additionally, their job is to keep an eye on the stocks, to make sure it doesn't dip below a certain level. If medicine stocks are low, they place an order for new supplies.
- The role of the supervisor is to manage all pharmacists. This means that he keeps an eye on their functioning and details. Additionally, they look at the lodged complaints and resolve them to the best of their ability.

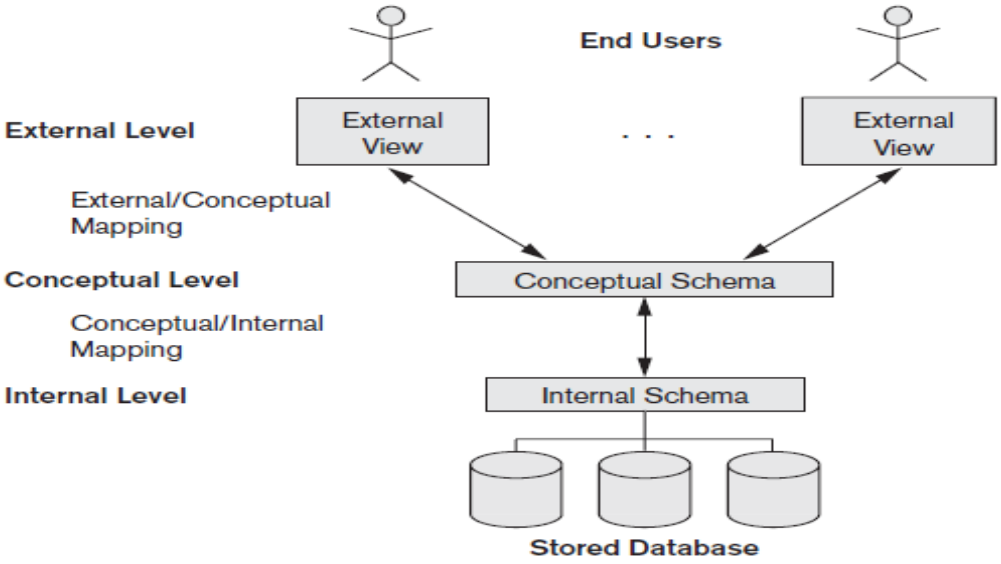
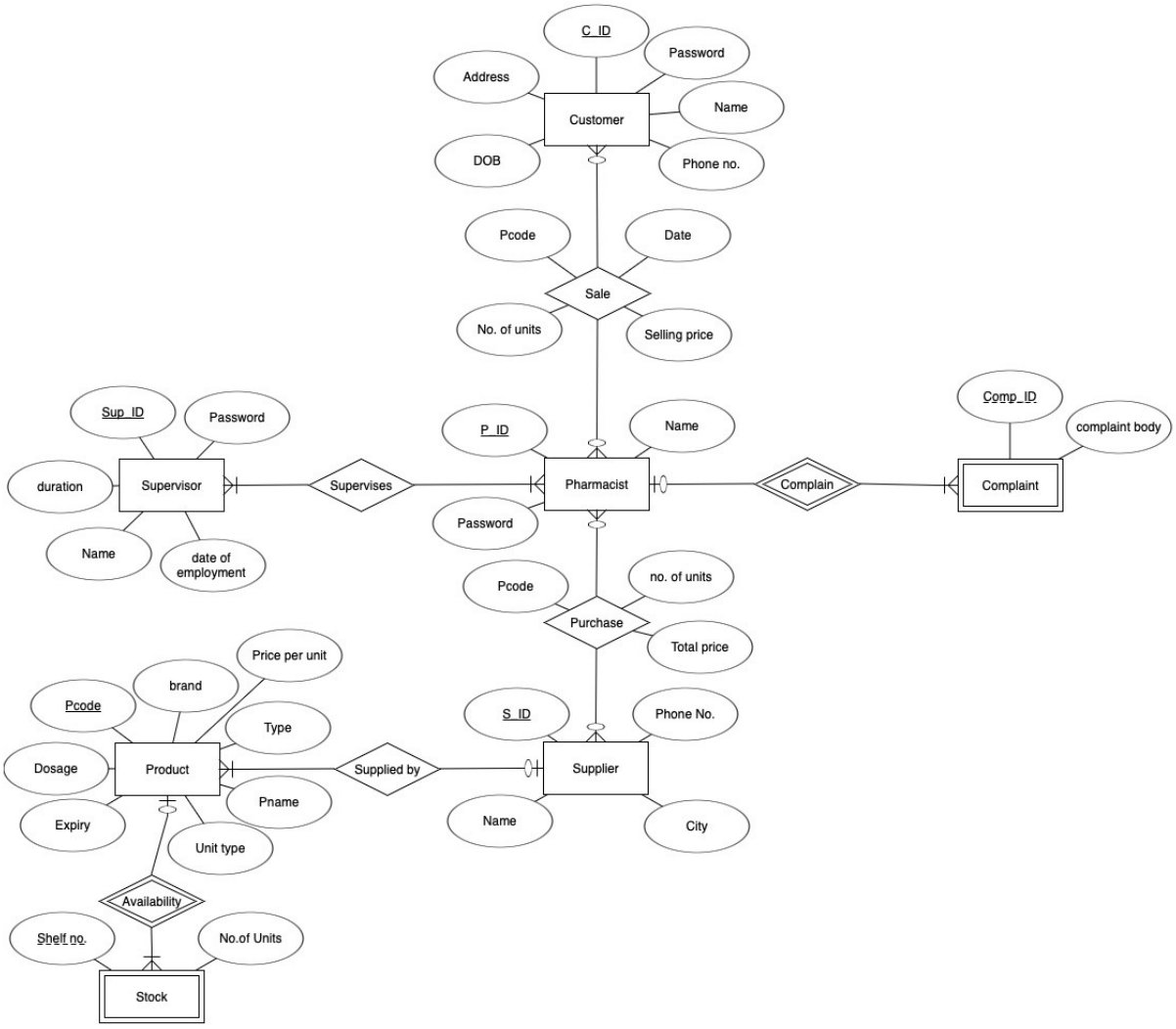


Figure 1.1: Three Tier Architecture

Chapter 4

Data Design

4.1 Entity-Relational Model:



4.2 Relational Schema:

Supplier(S_ID, SName, SPhone, Scity)

Product(PName, PCode, S_ID, Type, Unit, Price per unit, brand, expiry, dosage)

Pharmacist(P_ID, PhName, PhPassword)

Customer(C_ID, Cname, Cphone, CAddress, CDOB, Cpassword)

Stock(Pcode, Shelf no, P_units) Purchase(Pcode, S_ID, P_ID, no of units, total price)

Sale(SDate, C_ID, P_ID, PCode, units_num, Selling price)

Complaint(P_ID, Comp_ID, complaint)

Supervisor(Sup_ID, SupName, SupPassword, EmployDate, SupDuration)

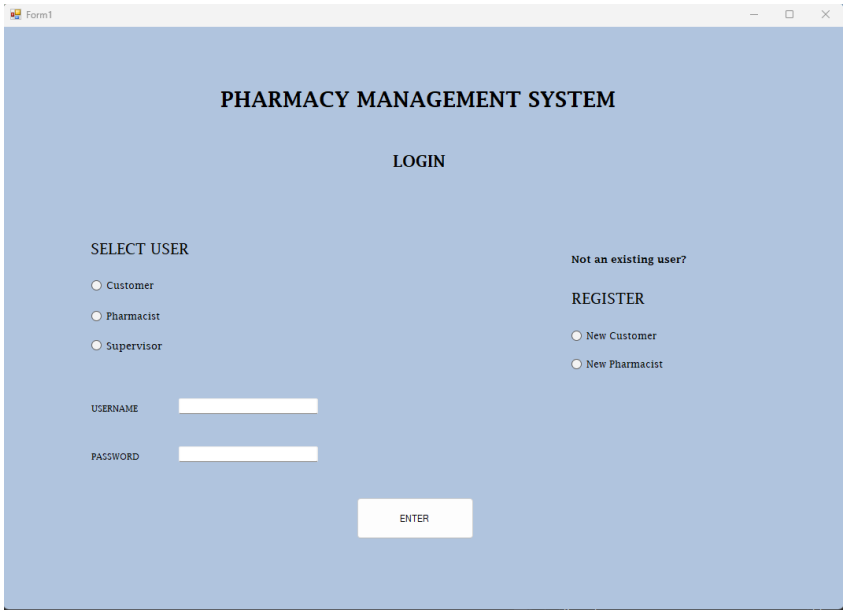
Chapter 5

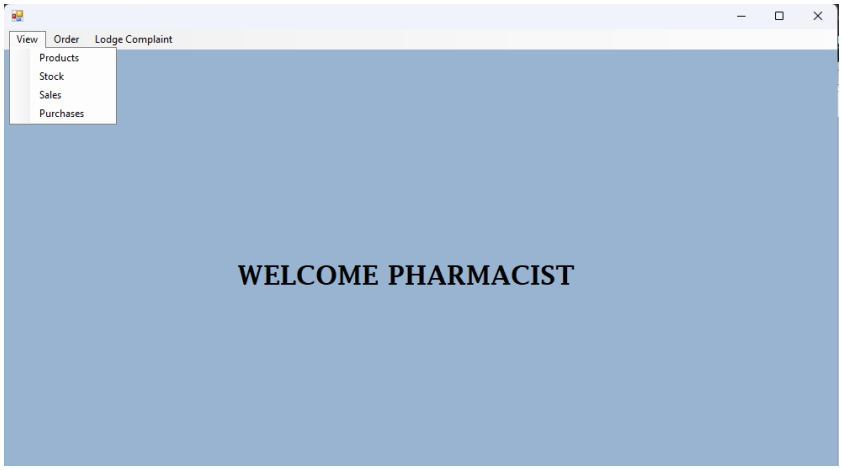
The Methodology

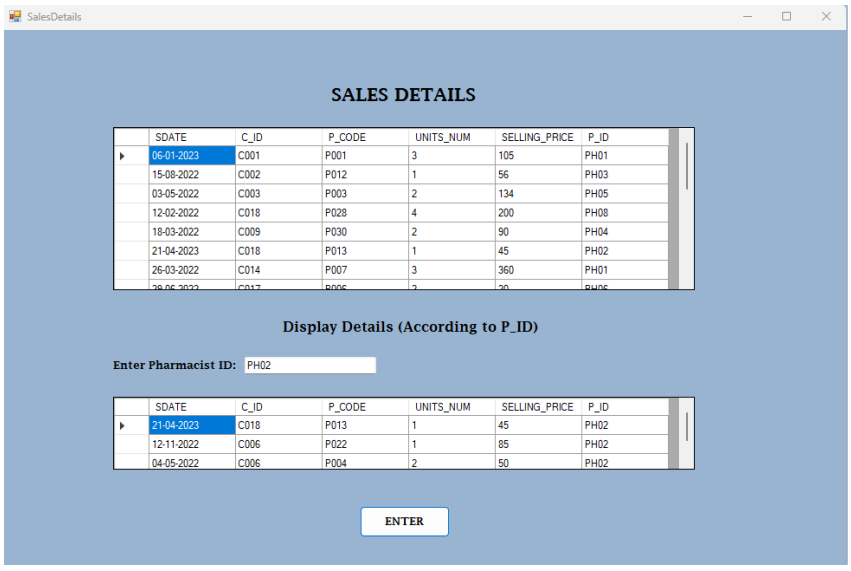
5.1 Implementation Process

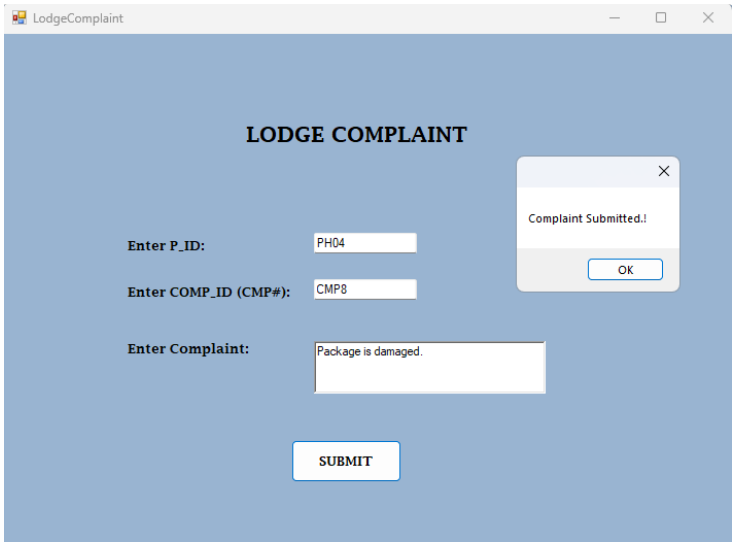
1. The first step was to enable any of the three module's users to access their respective interfaces via logging into the portal, by using their viable credentials.
2. As a pharmacist, they have access to all their customers' orders, which they can fulfill in their orders section. Additionally, they can order a new shipment of their stocks if they see that its current level is low.
3. As a customer, they can place orders for drugs either prescribed to them, or if they have any common ailments, they can order over the counter (OTC) medicines. Additionally, if they have any cosmetic needs to fulfill, they can shop at the pharmacy's skincare, haircare and beauty section.
4. As a supervisor, their job is to overlook the activities of the pharmacists under them. Additionally, they can replenish their stocks and resolve any complaints sent by the pharmacists.

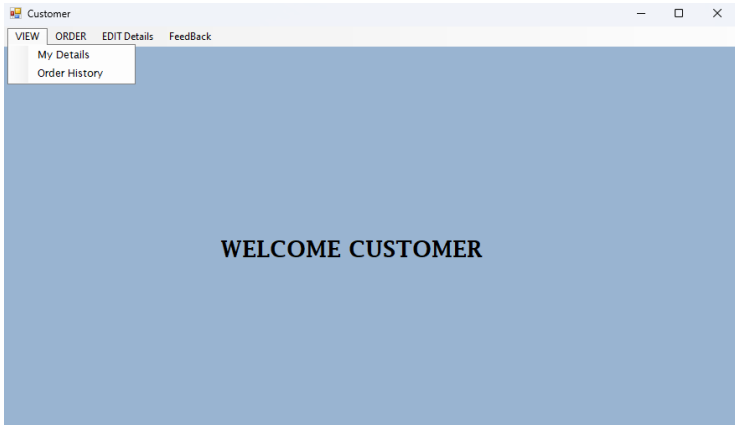
The following three pages consist of some screenshots of our User Interface of the Pharmacy Management System.

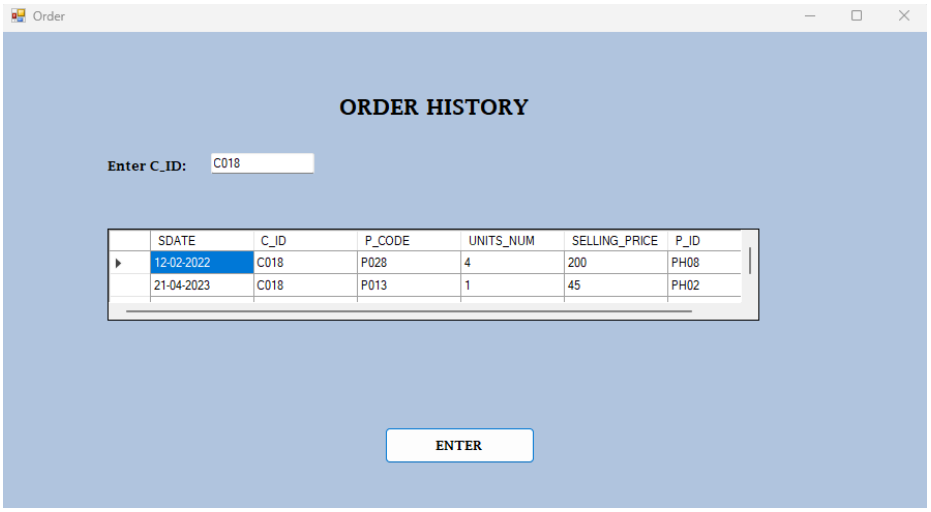

Form1
PHARMACY MANAGEMENT SYSTEM
LOGIN
SELECT USER
Customer
Pharmacist
Supervisor
Not an existing user?
REGISTER
New Customer
New Pharmacist
USERNAME
PASSWORD
ENTER

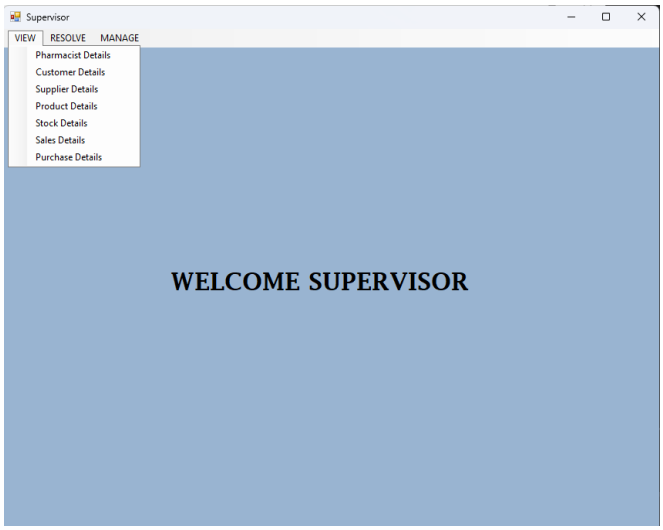

View
Order
Lodge Complaint
Products
Stock
Sales
Purchases
WELCOME PHARMACIST

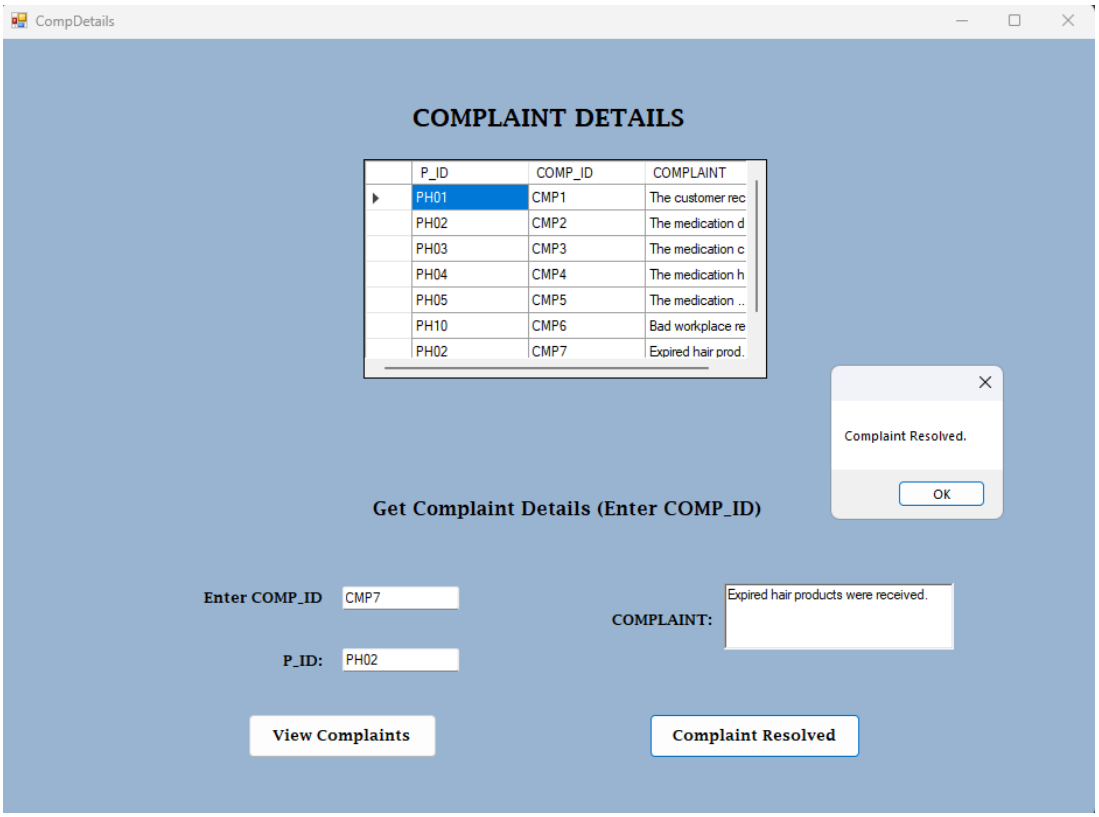

SalesDetails
SALES DETAILS
SDATE C_ID P_CODE UNITS_NUM SELLING_PRICE P_ID
06-01-2023 C001 P001 3 105 PH01
15-08-2022 C002 P012 1 56 PH03
03-05-2022 C003 P003 2 134 PH05
12-02-2022 C018 P028 4 200 PH08
18-03-2022 C009 P030 2 90 PH04
21-04-2023 C018 P013 1 45 PH02
26-03-2022 C014 P007 3 360 PH01
Display Details (According to P_ID)
Enter Pharmacist ID: PH02
SDATE C_ID P_CODE UNITS_NUM SELLING_PRICE P_ID
21-04-2023 C018 P013 1 45 PH02
12-11-2022 C006 P022 1 85 PH02
04-05-2022 C006 P004 2 50 PH02
ENTER


LodgeComplaint
LODGE COMPLAINT
Complaint Submitted.!
OK
Enter P_ID:
PH04
Enter COMP_ID (CMP#):
CMP8
Enter Complaint:
Package is damaged.
SUBMIT


Customer
VIEW
ORDER
EDIT Details
FeedBack
My Details
Order History
WELCOME CUSTOMER


Order
ORDER HISTORY
Enter C_ID:
C018
SDATE
C_ID
P_CODE
UNITS_NUM
SELLING_PRICE
P_ID
12-02-2022
C018
P028
4
200
PH08
21-04-2023
C018
P013
1
45
PH02
ENTER


Supervisor
VIEW
RESOLVE
MANAGE
Pharmacist Details
Customer Details
Supplier Details
Product Details
Stock Details
Sales Details
Purchase Details
WELCOME SUPERVISOR


CompDetails
COMPLAINT DETAILS
P_ID
COMP_ID
COMPLAINT
PH01
CMP1
The customer rec
PH02
CMP2
The medication d
PH03
CMP3
The medication c
PH04
CMP4
The medication h
PH05
CMP5
The medication ..
PH10
CMP6
Bad workplace re
PH02
CMP7
Expired hair prod.
Complaint Resolved.
OK
Get Complaint Details (Enter COMP_ID)
Enter COMP_ID
CMP7
P_ID:
PH02
COMPLAINT:
Expired hair products were received.
View Complaints
Complaint Resolved

Chapter 6

Result and Conclusion

-The project requires a manager/supervisor to keep track of all the happenings inside the online pharmacy management portal. This project fulfills just that.

-Additionally, the customers can get a quality shopping experience, because not only does the portal provide medicines and other drugs, but also other supplementary care products. We have seen the implementation of this platform to do just that.

-The pharmacists have a consolidated view of all their work inside the pharmacist interface, which allows them to carry out their job seamlessly. We have seen the platform do exactly that.

CONCLUSION:

The Pharmacy Management System simulation as created by the people mentioned on this project have fulfilled all requirements of such, barring actual financial transactions.

References

[1] Database Systems Lab Manual

[2] Database Systems Concepts, 6th Edition, A. Silberchatz, Henry F. Korth and Sudarshan

[1] https://www.niti.gov.in/verticals/sustainable-dev-goals