HEALTH CARE PHARMACY

Pharmacy system

Egyptian Russian University

Faculty of Management, Economics and Business Technology

Business Technology Department

IST 206 Project

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Under the Supervision Of:

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Pharmacy system

- *Introduction:*
  - In today's dynamic technological landscape, there is a growing need for innovative solutions to address Traditional pharmacies face limitations like physical distance, limited operating hours, and lack of readily available medication information. This project aims to address these challenges by creating a user-friendly online platform. To meet this demand, we are embarking on a project titled pharmacy system, a comprehensive convenience and accessibility are essential. This is especially true for healthcare, where access to medication can be crucial. Online pharmacies have emerged as a powerful solution, offering ease of ordering, medication information, and potentially improved healthcare outcomes. This project explores the design of a comprehensive online pharmacy platform, focusing on user experience, functionality, and security.
- *Scope:*

Online Ordering and Prescription Management:
Allow users to upload prescriptions and order medications online.
Provide a secure and user-friendly interface for prescription management.

1. **Product Catalog:**
   Maintain an extensive and up-to-date catalog of pharmaceutical products.
   Include information about medications, dosage, side effects, and interactions.

2. **User Accounts and Profiles:**
   Enable users to create accounts for personalized experiences.

3. **Secure Transactions:**
   Implement secure payment gateways for online transactions.
   Ensure compliance with data protection and privacy regulations.

4. **Verification of Prescription:**
   Integrate systems for verifying the authenticity of prescriptions.
   Ensure compliance with legal and regulatory requirements for dispensing medications.

5. **Delivery:**
   Coordinate and optimize the delivery process of medications.
   Provide real-time tracking and notifications for users.

6. **Inventory Management:**
   Efficiently manage and update the inventory of pharmaceutical products.
   Implement alerts for low stock levels and expiring medications.

7. **Health Information and Education:**
   Offer educational resources on medications, health conditions, and wellness.
   Provide information on potential side effects and interactions.

8. **Mobile Applications:**
   Develop mobile apps for convenient access to pharmacy services on smartphones.
   Ensure a responsive design for various devices.

9. **Regulatory Compliance:**
   Adhere to local and international regulations governing the pharmaceutical industry.
   Implement measures to prevent the sale of counterfeit drugs.

10. **Customer Support:**
    Offer responsive customer support through various channels (chat, email, phone).
    Address user queries, concerns, and issues promptly.

11. **Integration with Healthcare Providers:**
    Collaborate with healthcare professionals for prescription verification and consultation services.
    Facilitate communication between pharmacists and healthcare providers.

12. **Data Security and Privacy:**
    Implement robust security measures to protect user data and sensitive health information.
    Comply with regulations such as the Health Insurance Portability and Accountability Act (HIPAA).

- *Objectives*

1. Increase Online Orders and Revenue:

Explanation: Implement features like convenient prescription uploads, user-friendly product search, and competitive pricing to attract customers and encourage online orders.

Metrics: Track online order volume, conversion rates, and revenue generated through the website.

2. Improve Customer Convenience and Satisfaction:

Explanation: Offer features like online medication refills, medication reminders, order tracking, and easy access to pharmacist consultations to streamline the ordering process and improve customer satisfaction.

Metrics: Track customer feedback, repeat order rates, and engagement with convenience features.

3. Enhance Brand Visibility and Recognition:

Explanation: Utilize search engine optimization (SEO) best practices, attractive website design, and engaging content to increase website traffic and brand awareness.
Metrics: Monitor website traffic, search engine ranking, and brand mentions on social media.

4. Streamline Pharmacy Operations and Inventory Management:

Explanation: Integrate the website with the pharmacy's internal systems to automate order processing, manage inventory levels, and optimize delivery logistics.
Metrics: Track order processing time, inventory accuracy, and delivery efficiency.

5. Ensure Data Security and User Privacy:

Explanation: Implement robust security measures to protect sensitive customer data, including medication history and payment information.
Metrics: Monitor security logs for potential breaches and adherence to data privacy regulations.

System Vision Document pharmacy system

Problem Description:

The current pharmacy system faces several challenges that decreases its ability to provide efficient workflow processes, and medication safety. These challenges include.

Manual and Paper-Based Processes: The existing pharmacy system heavily relies on manual and paper-based processes, leading to errors, and delays in prescription processing.
Medication Errors: The current system lacks robust medication error prevention mechanisms, resulting in potential drug interactions, incorrect dosages, and dispensing errors that can adversely affect patient health and safety.
Inefficient Inventory Management: Inadequate inventory management practices can lead to medication stockouts, excessive expiration of medications, and inefficient use of resources, impacting patient care and profitability.
Limited Data Analysis: The current system lacks advanced analytics and reporting capabilities, making it difficult to identify medication utilization patterns, track trends, and optimize pharmacy operations for cost-effective resource allocation.
Addressing these challenges is critical to improving the efficiency, accuracy, and safety of pharmacy operations. By implementing a new pharmacy system, we can overcome these limitations and transform the pharmacy industry into a more patient-centered and technology-driven environment.

System Capabilities:

The system capabilities of an online pharmacy system typically include:

1. User Registration and Account Management: Allowing users to create accounts, manage their profiles, and update personal information.

2. Product Catalogue and Inventory Management: Displaying a comprehensive list of available medications, supplements, and products, along with their descriptions, prices, and availability. Managing product stock and automatically updating inventory.

3. Online Ordering and Prescription Management: Enabling users to place orders for medications, upload prescriptions, and request refills. Validating prescriptions and notifying users about the status of their orders.

4. Secure Payment Processing: Integrating secure payment gateways to facilitate online transactions and accept different payment methods, such as credit cards, PayPal, or bank transfers.

5. Delivery and Tracking: Supporting efficient order shipping and providing users with tracking information to monitor the progress of their deliveries.

6. Prescription Reminder and Refill Notifications: Sending reminders to users when it's time to refill their medications or submit new prescriptions.

7. User Support and Messaging: Offering customer support through various channels, such as chatbots, emails, or phone calls. Allowing users to ask questions, seek assistance, and receive prompt responses.

Business Benefits:

1. Patient-Centric Care: The pharmacy system will prioritize patient well-being, providing comprehensive medication profiles, medication adherence support, and tailored medication counselling to improve patient outcomes and medication management.
2. Integrated Workflow: The system will seamlessly integrate with healthcare providers, electronic health records, and insurance companies to facilitate efficient prescription processing, medication verification, and billing procedures, reducing errors and administrative burdens.

3. Analytics and Reporting: Advanced analytics and reporting capabilities will facilitate data-driven decision-making, allowing for trend analysis, identification of medication utilization patterns, and optimization of inventory management for cost-effective resource allocation.
4. Compliance and Regulation: The pharmacy system will adhere to all applicable regulatory requirements, including HIPAA and FDA regulations, ensuring patient privacy and safety, proper dispensing practices, and accurate record-keeping.
Overall, the pharmacy system aims to provide a technologically advanced platform that empowers pharmacists, enhances patient care, and drives efficiency, ultimately improving the quality of pharmacy services and making a positive impact on the healthcare industry.

Work Breakdown Structure (WBS) pharmacy system

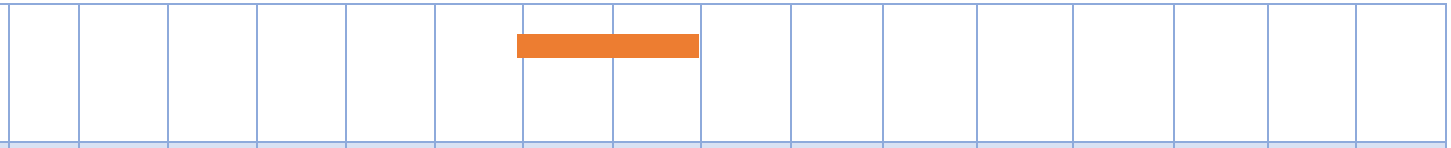
I. Discover and understand the details of all aspects of the pharmacy.
   1- Information and data gathering from the pharmacy owner 1~2 days.
   2- Identify and define the use cases 1~2 days.
   3- Identify and define information requirements 0.5~1 day.
   4- Develop workflows and descriptions for use cases 0.5~1 day.

II. Design the components of the solution to the pharmacy.
   1- Design system interface, user interface, and output reports 1~2 days.
   2- Design and build database. 1~2 days.
   3- Design overall architecture. 0.5~1 day.
   4- Design program details 1~2 day.

III. Perform all system-level tests and then deploy the solution.
   1- Perform system functionality tests 2~4 days.
   2- Perform user acceptance tests 1~2 days.

Project Schedule pharmacy system

Task Name	Duration	10 Dec	11 Dec	12 Dec	13 Dec	14 Dec	15 Dec	16 Dec	17 Dec	18 Dec	19 Dec	20 Dec	21 Dec.	22 Dec.	23 Dec	24 Dec	25 Dec
Information and data gathering from the pharmacy owner	2																
Identify and define the use cases	2																
Identify and define information requirements	1																
Develop workflows and descriptions for use cases	1																
Design system interface, user interface, and output reports	2																
Design and build database	2																
Design overall architecture.	1																

Design program details	2	
Perform system functionality tests	4	
Perform user acceptance tests	2	
Review project		

SYSTEM REQUEST

Project sponsor	• Manager
Business needs	• Getting information about the medicine online • Reducing time and effort • Easier way to find drugs.
Business requirements	• System must allow registration. • Provide different payment methods. • Allow customer to view all available drugs
Business value	• Increase profits and reduce cost
Special issues	• Staffing shortage • Slow financial recovery

SWOT Analysis

	Positive	Negative
Internal	Strength • Technology. • Accessible health care professional. • Promotion of rational drug use, tele-pharmacy, and health service.	Weakness • Scarcity of resources, and structural mismanagement. • Lack of agreement between organization and the pharmacy.
External	Opportunities • Can cover from natural disasters and unexpected increase of demand in healthcare.	Threats • Increase market competitors. • Government taxes • Pricing pressure. • Unpredictability of consumer purchasing.

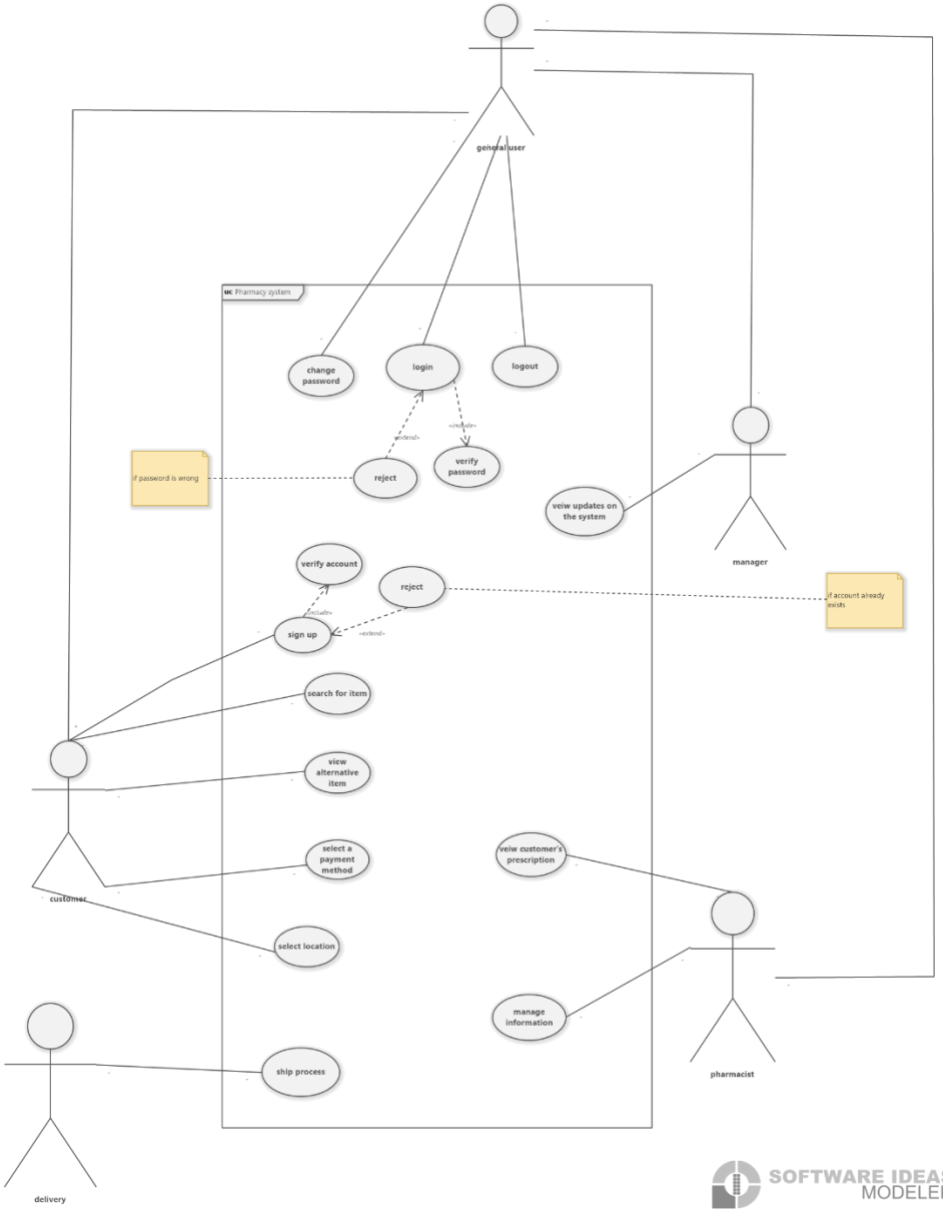
Functional requirements:

1. general user can login
2. general user can logout
3. general user can change password
4. customer should be able to sign up
5. customer can pick up a location to get the medicine delivered to or the location of the pharmacy to pick it up
6. customer can search for any medicine
7. customer can view alternative medicine
8. customer can select a payment method
9. The pharmacist can view the customer's prescription
10. The pharmacist can manage pharmacy information
11. Manager can view the updates the pharmacist does
12. Delivery picks up the medicine from the pharmacy and delivers it to the customer according to the location the customer selected

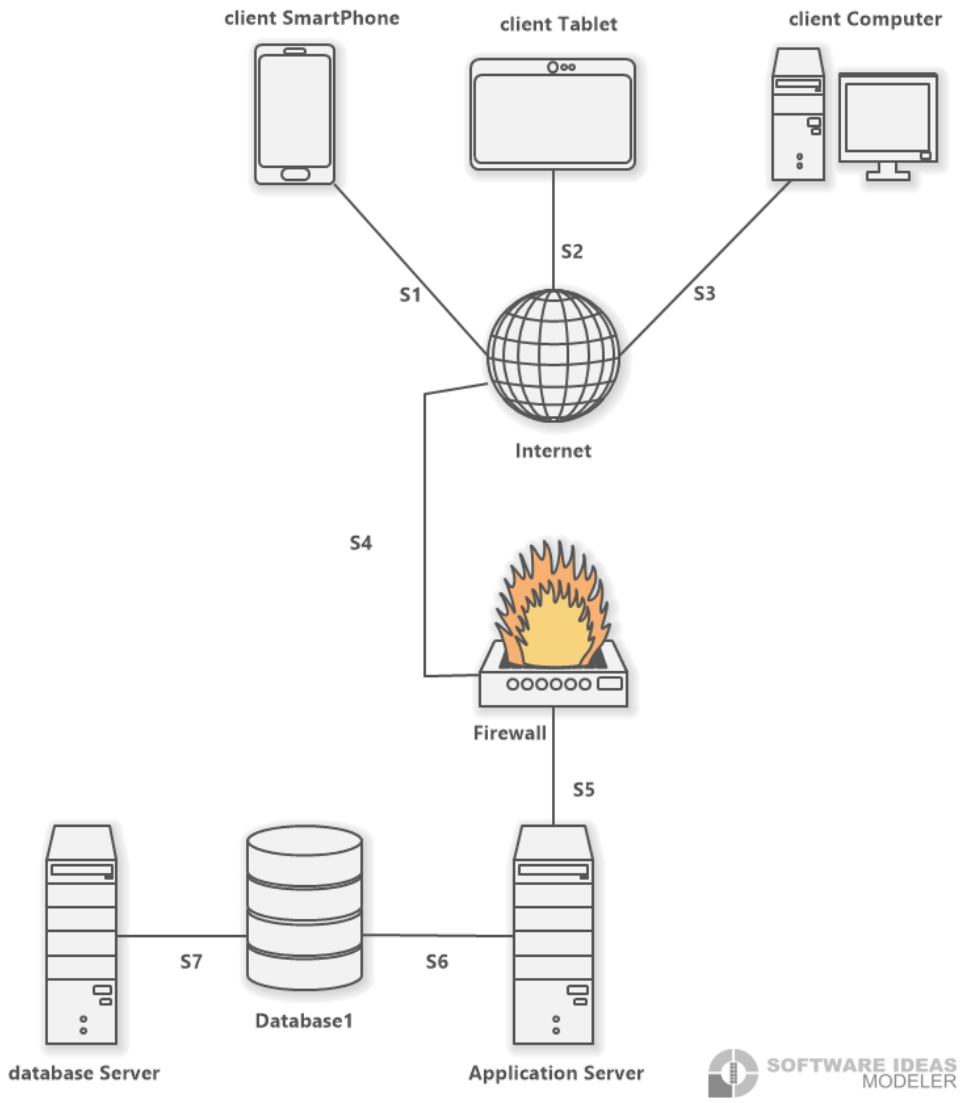
- ***Non-functional requirements:***

1. Speed	By checking the ram usage
2. Reliability	To verify if the system gives the expected output over a period
3. Instability	To check the smoothness and correctness of software installation and uninstallation processes
4. usability	Check with the end user if the system is easy to use
5. disaster recovery	To verify the success rate of recovery in the event of a critical failure
6. cultural and political	Cultural, political, and legal factors affecting the system including best-practice standards, government regulations, professional standards, location specific policies and practices
7. database security	Unauthorized person cannot access the panel and database

Use case diagram.



ENVIROMENTAL DESIGN:

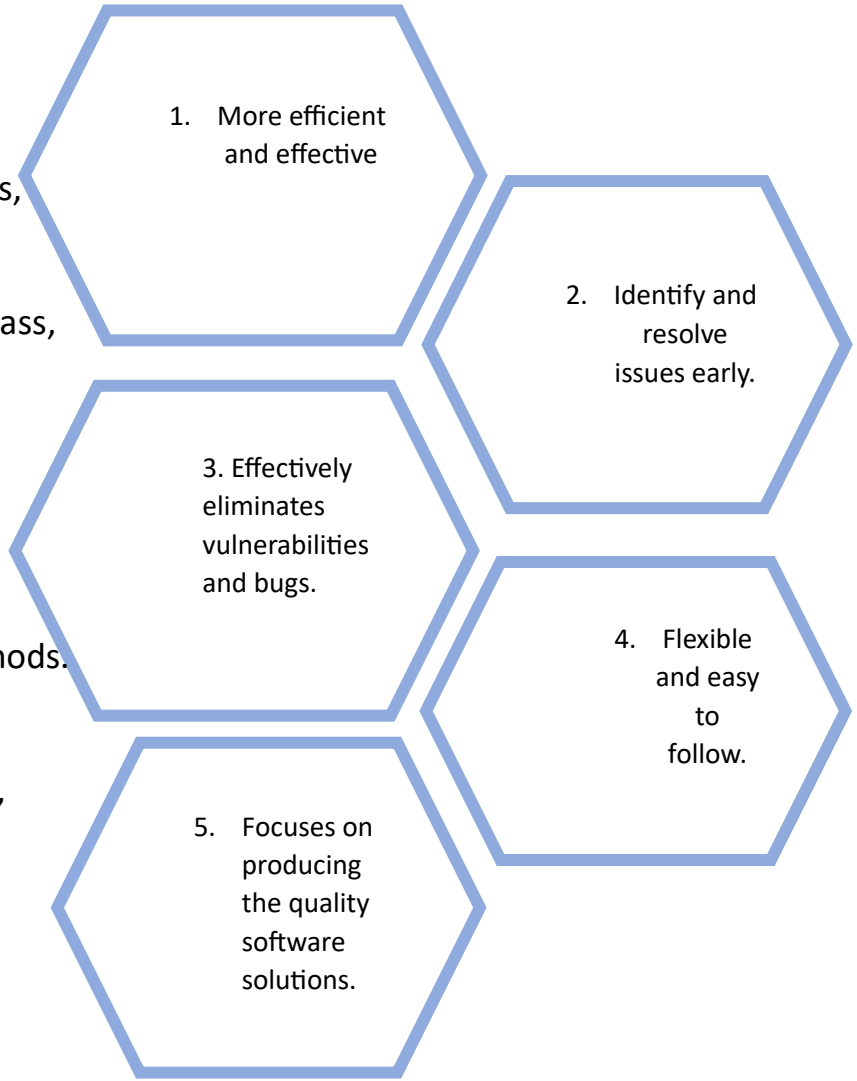


SDLC type and approach

1. OO Analysis:

Identifying Objects: Analyze the system requirements and real-world. entities involved, such as customers, medications, orders, prescriptions, carts, and payments. Each entity becomes a potential object class.
Defining Attributes: Determine the data associated with each object class, like customer name and address, medication name and dosage, order details, etc. These become object attributes.
Describing Behaviors: Specify the actions each object can perform, such as customer login, medication search, order placement, payment processing, and delivery tracking. These become object methods.
Building Relationships: Identify relationships between objects.
For example, a customer can place orders, orders contain medications, and payments are associated with orders.

Why the adaptive approach:



2. OO Design:

Refining Classes: Based on the analysis, refine object classes by grouping similar attributes and behaviors. Create inheritance hierarchies to avoid code duplication and promote reusability.

Defining Interfaces: If necessary, define interfaces to specify standard behaviors expected by certain object types, promoting modularity and flexibility.

3. OO Programming:

Coding Classes: Implement the identified classes in your chosen programming language, defining attributes, methods, and relationships as per the design Testing and Debugging: Thoroughly test individual objects and their interactions to ensure proper functionality and identify potential bugs.

Documentation: Document your design decisions, class structures, and code behavior for easier maintenance and future reference

Phases	**Purpose**
Planning phase:	Define objectives Identify scope allocate resources
analysis phase:	gather requirments conduct feasibility study define system specifications
desing phase:	create system architecture design database schema user interface design
implementation phase:	write code develop database integrate components
testing phase:	unit testing integration testing system testing
deployment phase:	release to production monitor performance user training
maintenance phase:	bug fixes updates and enhancements continous monitoring

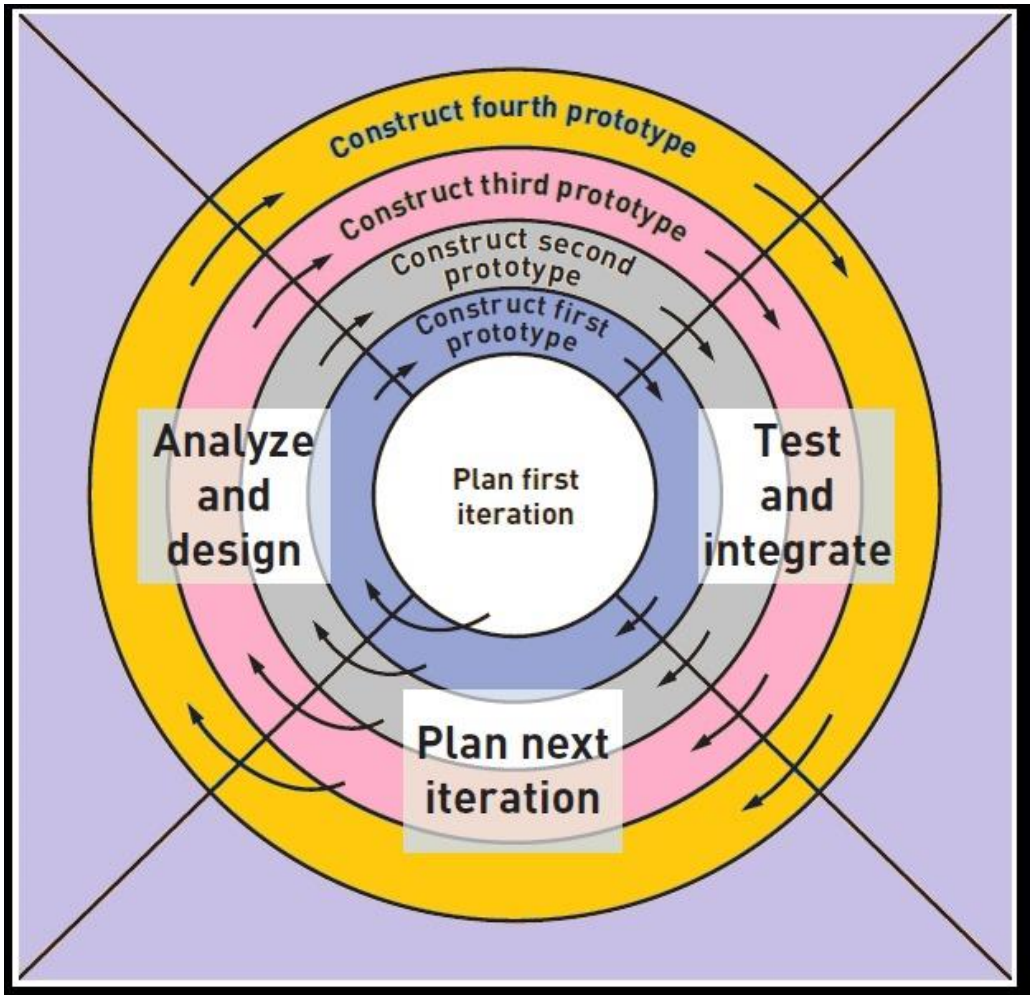
SDLC approach

Spiral Model:

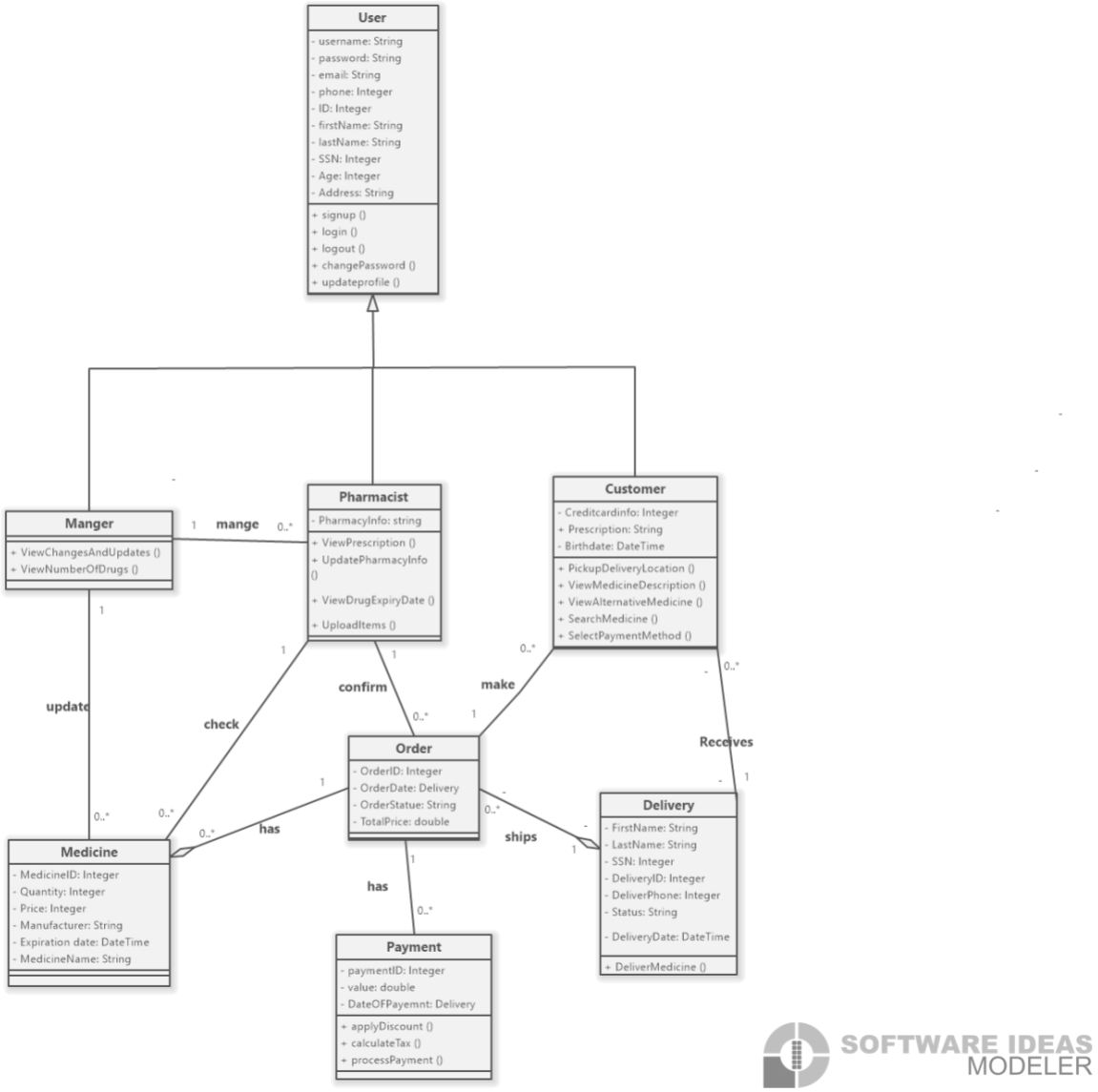
Risk-Driven Approach: Focuses on identifying and managing risks early in the development process.

Iterative Cycles of Planning, Risk Analysis, Engineering, and Evaluation

Suitable for: Large, complex projects with high levels of uncertainty

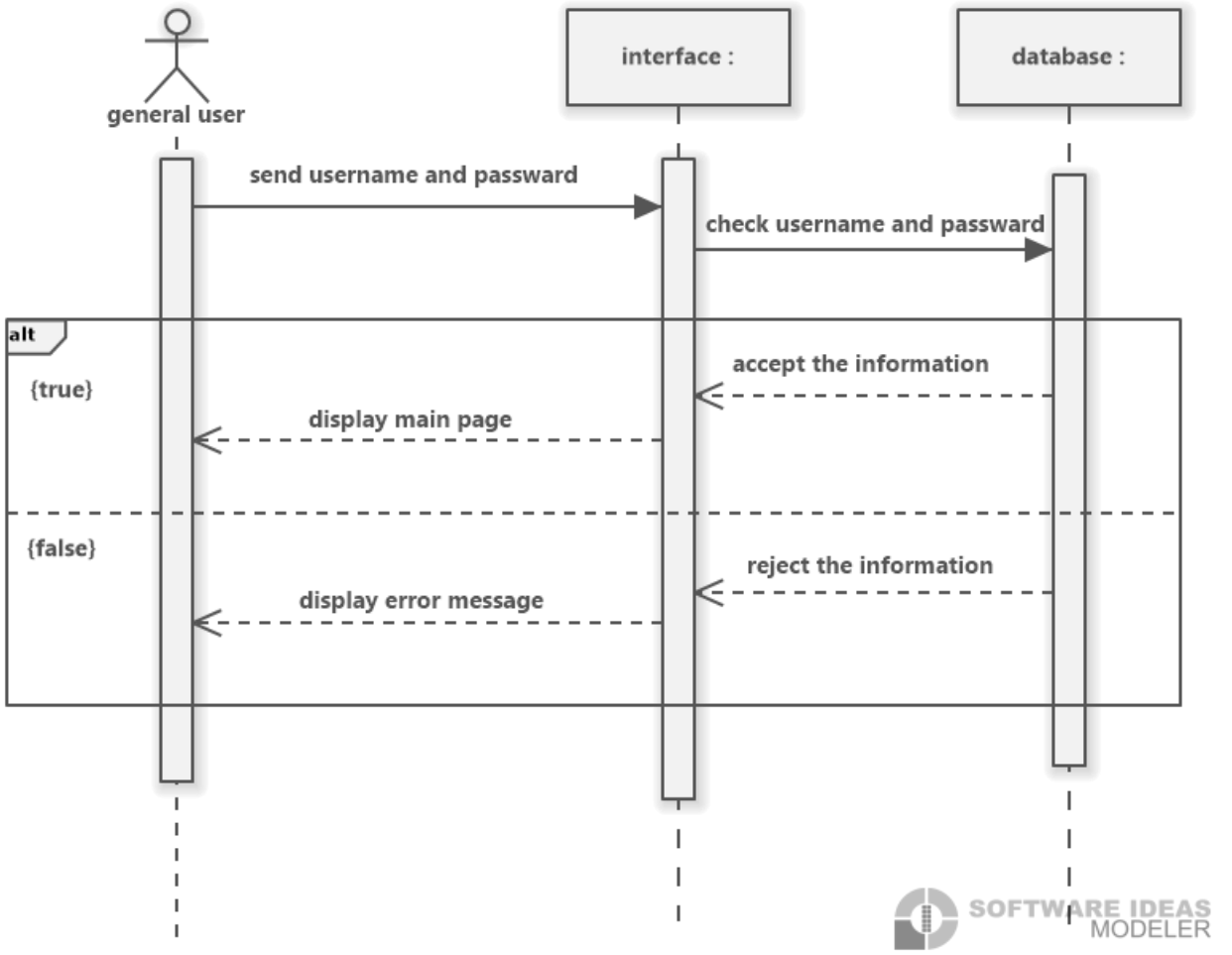


Detailed design: Class diagram

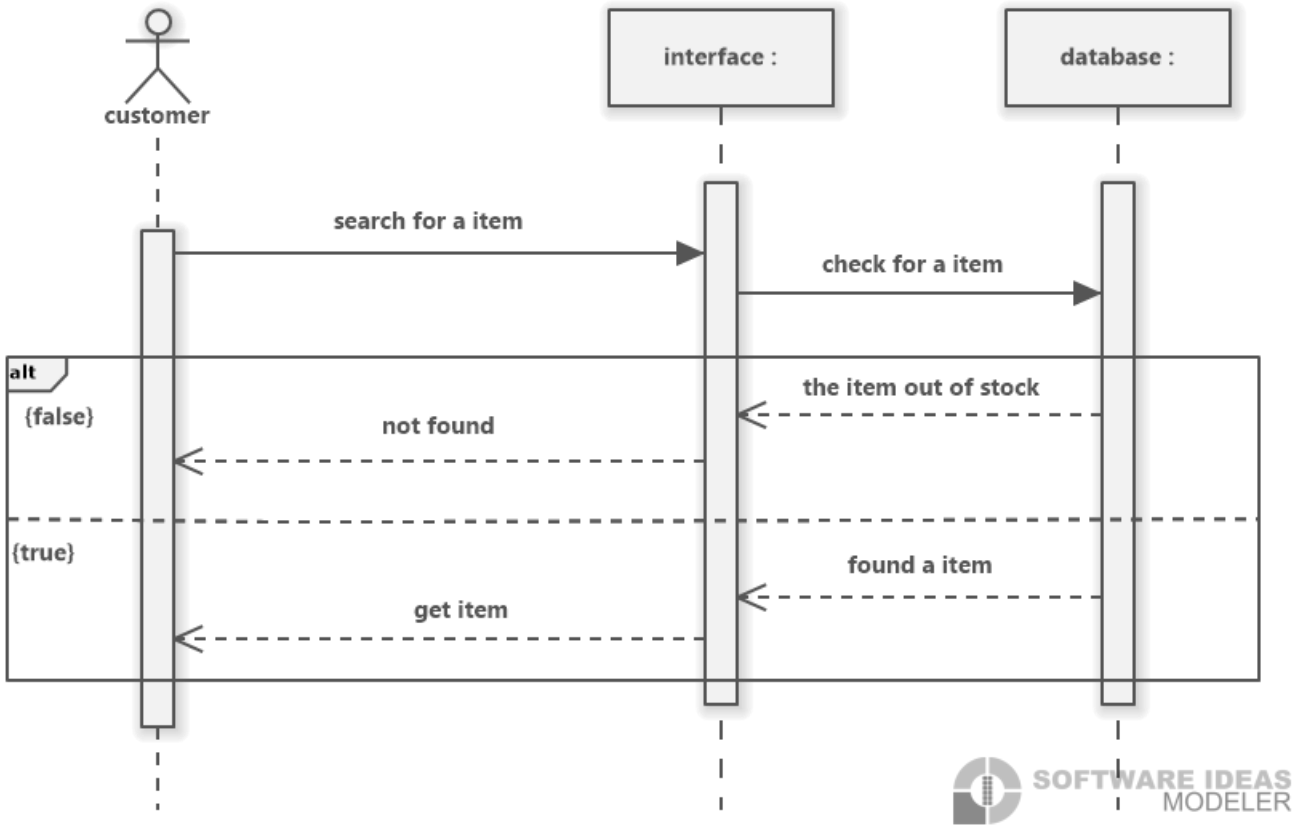


sequence diagram

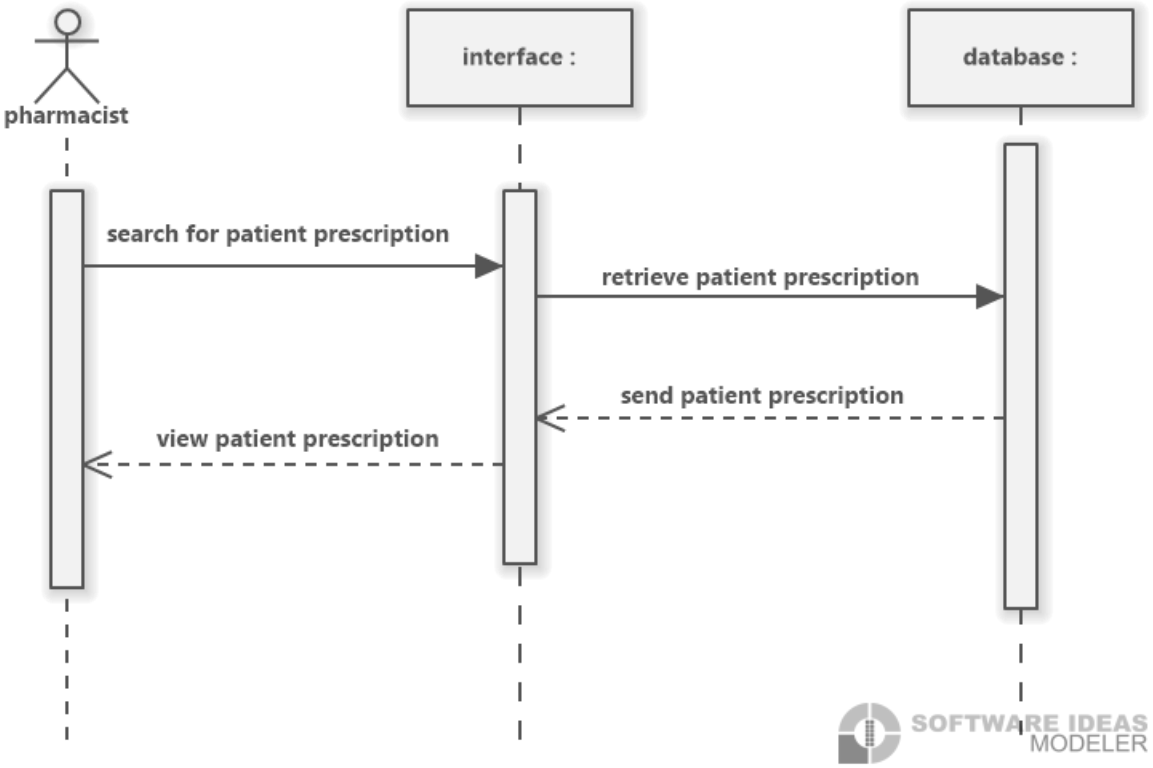
login:



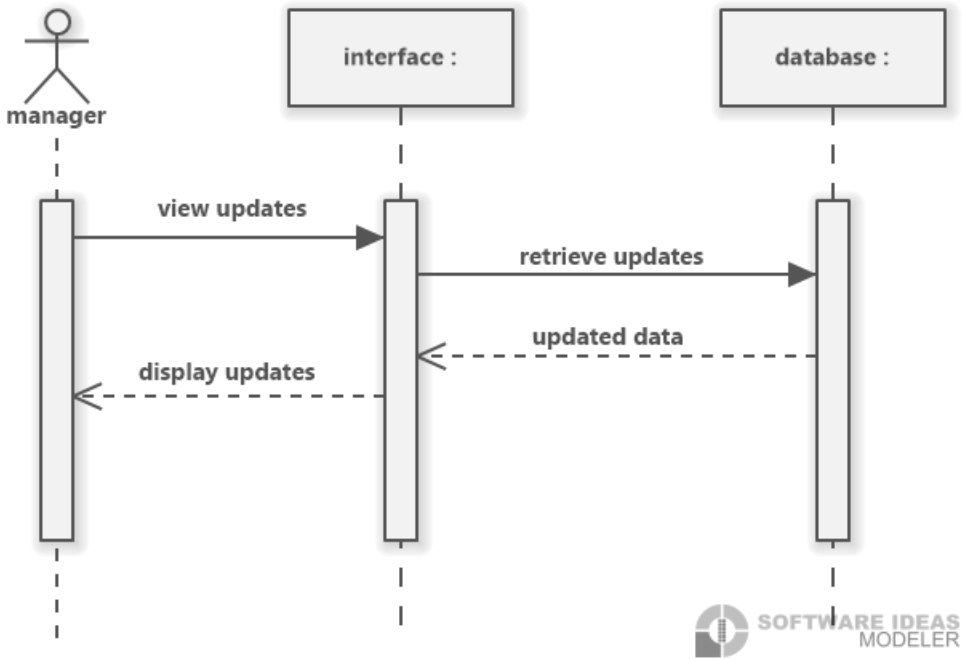
search for item:



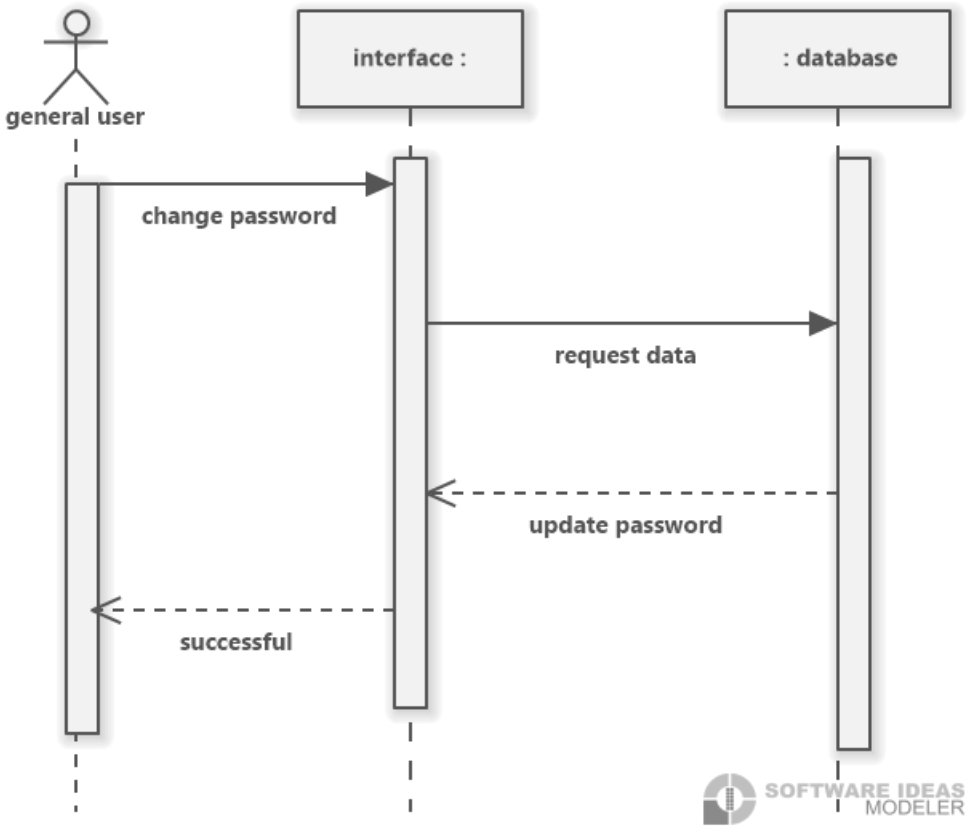
View customer's prescription:



view updates on the system:

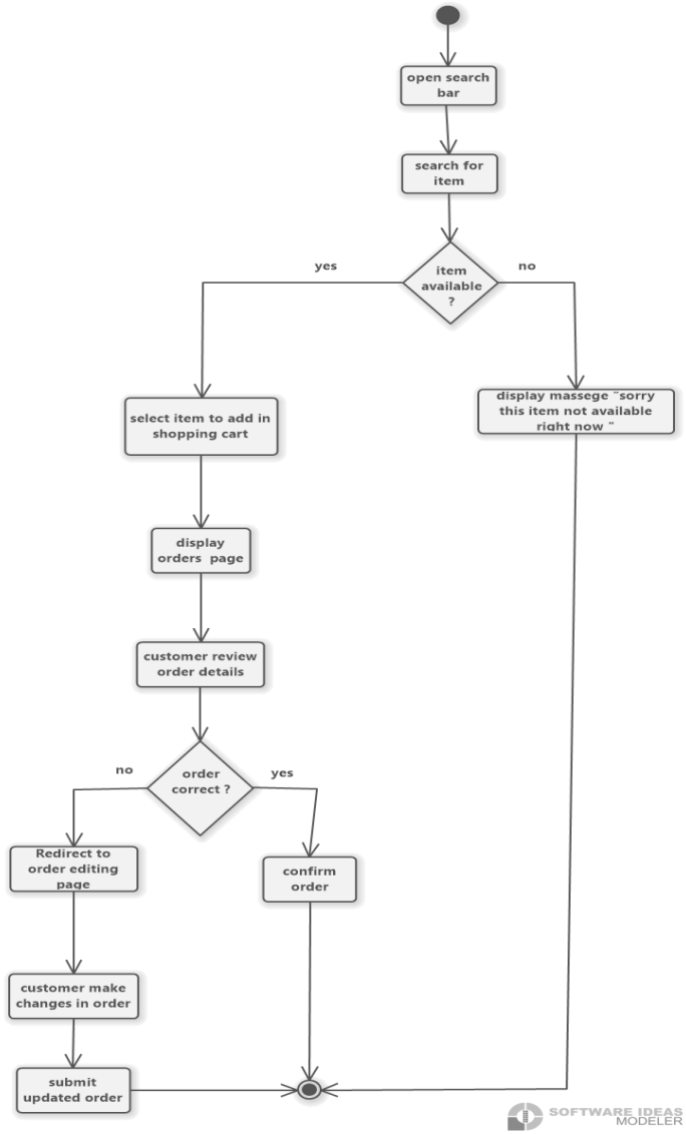


Change password:

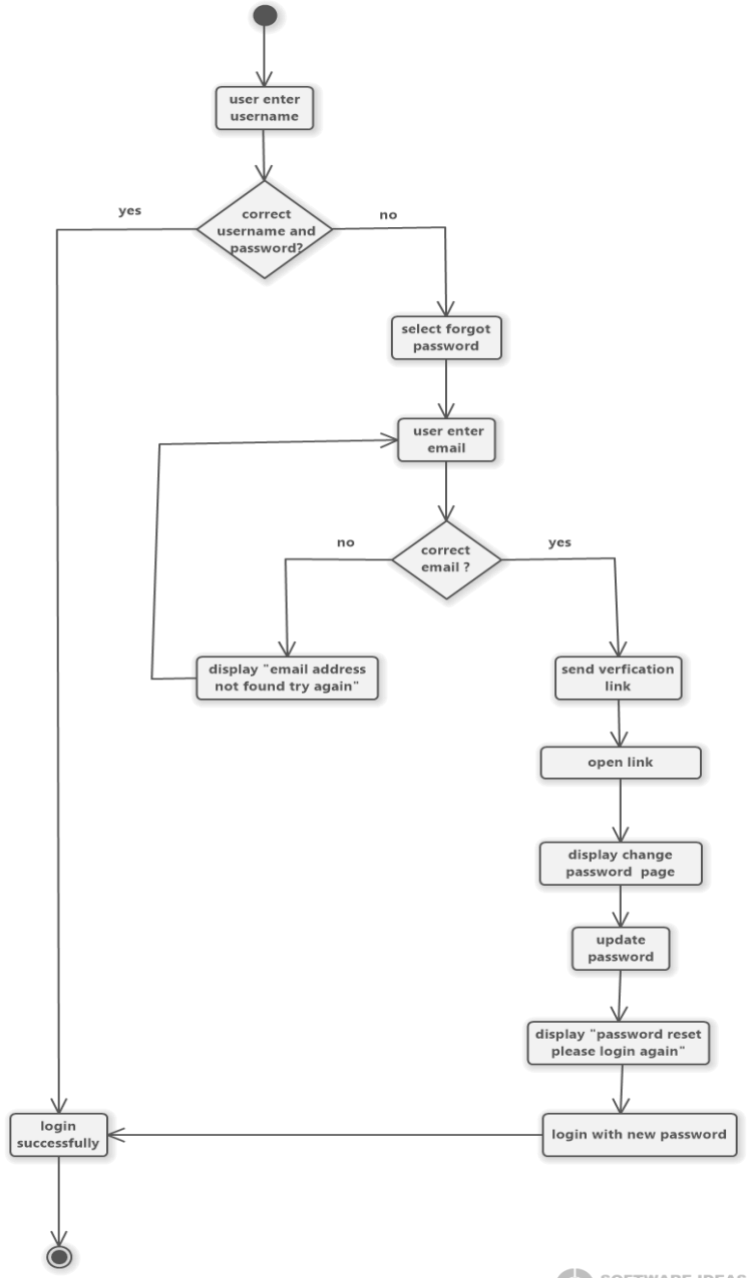


Activity diagram

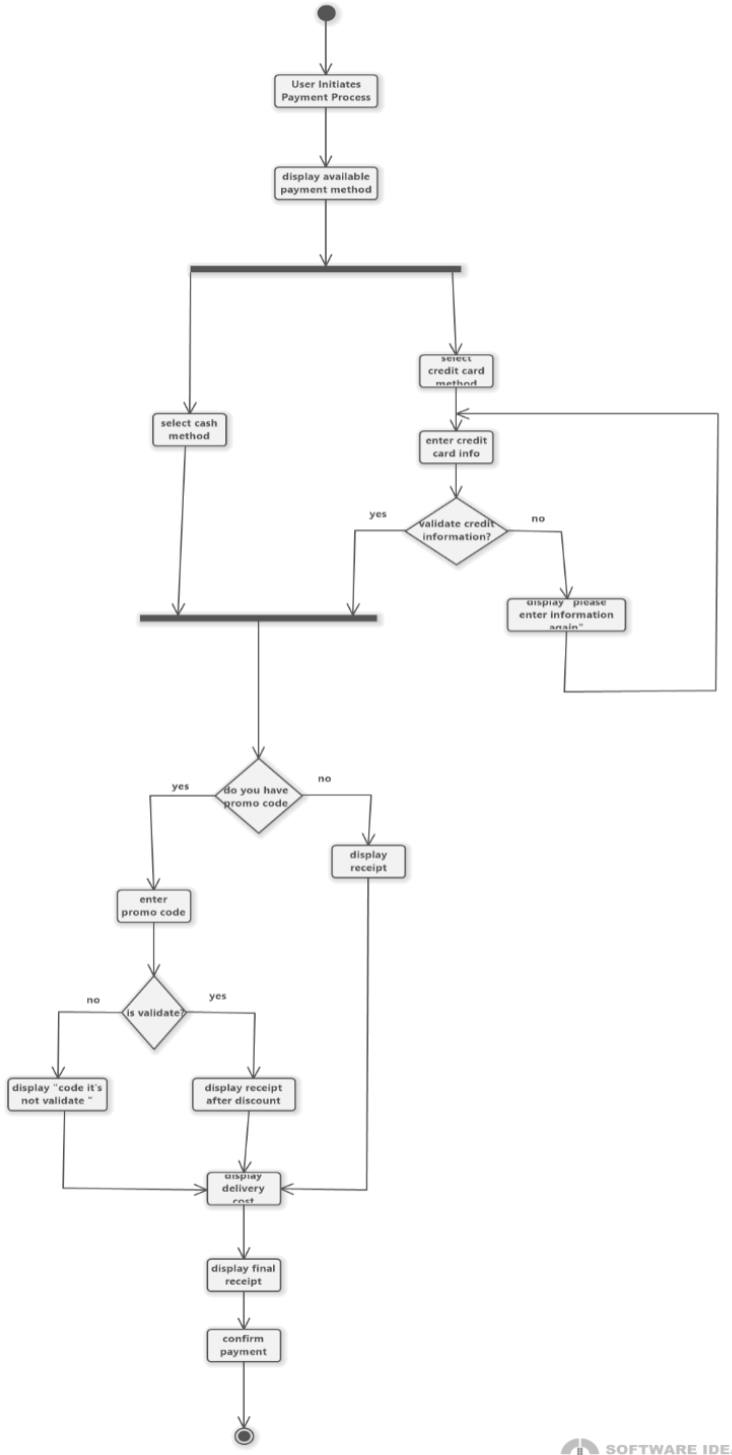
Search for item



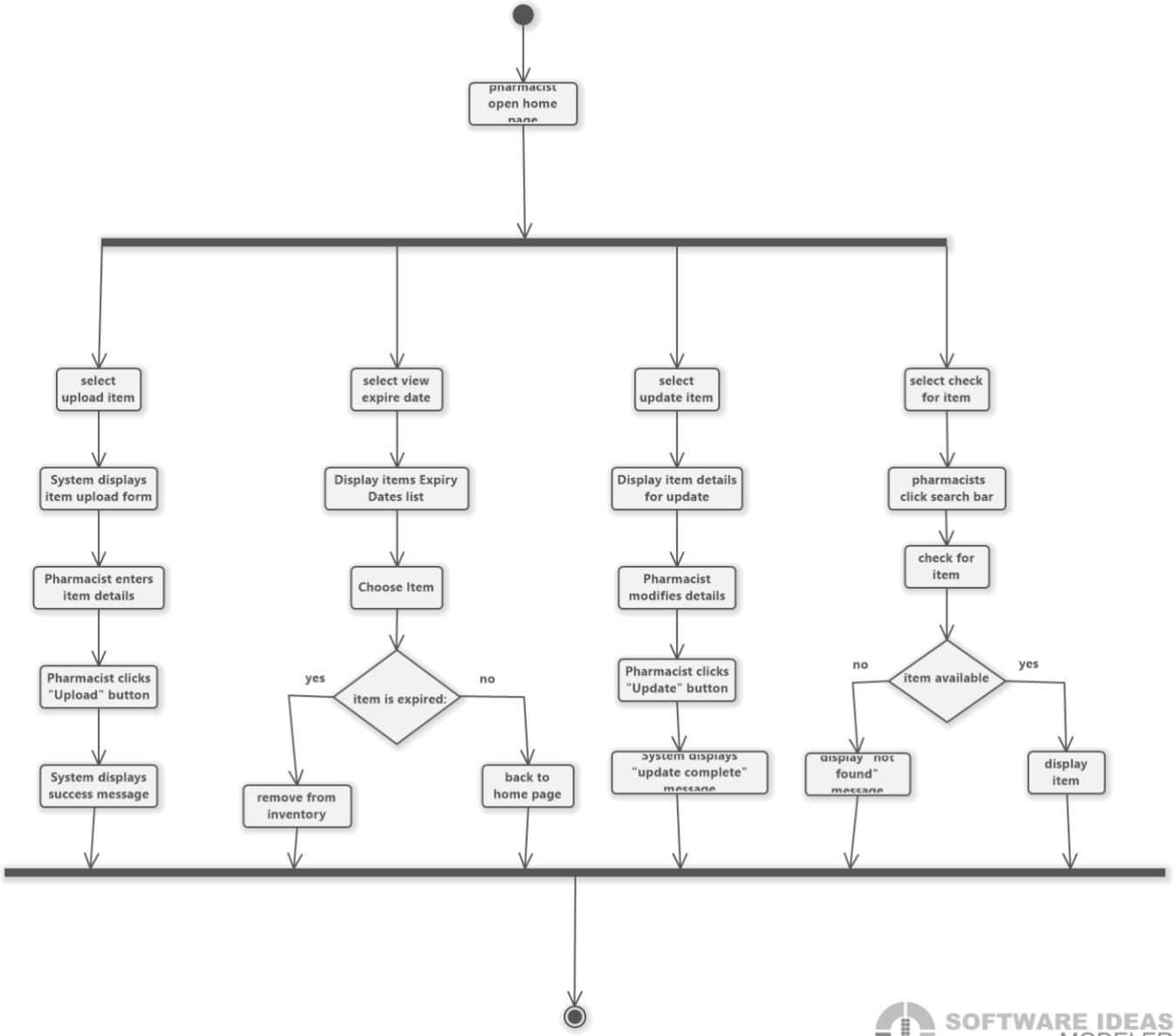
Login:


user enter username
correct username and password?
yes
no
select forgot password
user enter email
correct email ?
no
yes
display "email address not found try again"
send verfication link
open link
display change password page
update password
display "password reset please login again"
login with new password
login successfully
SOFTWARE IDEAS MODELER

payment method:



Manage pharmacy information.



Use case description.

Use Case Name **: payment method**	**ID** **:** 1	**Importance Level** **:** high
Primary Actor: customer	**Use case type:** Essential	
Stakeholder and Interest: Customer want to pay		
Brief Description: This use case describes how a involves the customer initiating and completing the payment process for a purchase on the system		
Pre-condition: • customer has items selected to purchase		
Post-condition: - payment is successfully processed and confirmed		
Trigger: Customer clicks on the "Proceed to Payment" button. Type: external		
Relationships: Association: customer Include: Extend: Generalization:		
Normal Flow of EVENTS: 1-The customer initiates the payment process by clicking on the "Proceed to Payment" button. 2-The system displays available payment methods. 3-Customer chooses either the cash or credit card method. 4-If credit card method is selected, customer enters credit card information. 5-System validates the credit card information. 6-If validation fails, the system prompts the customer to enter information again. 7-If cash method is selected or after successful credit card validation, the system checks for promo codes. 8-If a promo code is available, customer enters the code. 9-System validates the promo code. 10-If the promo code is not valid, a message is displayed; otherwise, a discount is applied to the receipt.		

11-System displays the final receipt, including the delivery cost. 12-Customer confirms the payment
Sub flow:
Alternate / Exceptional Flow: 1- Invalid credit card information 2- Invalid promo code

Use Case Name : Manage information	**ID** : 2	**Importance Level** : high
Primary Actor: pharmacist	**Use case type:** essential	
Stakeholder and Interest: Pharmacist**:** Manages inventory, updates item details, and checks for item availability		
Brief Description: this use case describes Pharmacist performs various inventory management tasks, including uploading new items, viewing expiry dates, updating item details, and checking item availability		
Pre-condition: • Pharmacist is logged into the pharmacy system		
Post-condition: - The inventory is updated based on the pharmacist actions		
Trigger: Pharmacist accesses the inventory management Type: external		
Relationships: Association: pharmacist Include: Extend: Generalization:		
Normal Flow of EVENTS: 1. Pharmacist opens the home page. 2. Pharmacist selects the "Upload Item" option. 3. System displays the item upload form. 4. Pharmacist enters item details.		

5. Pharmacist clicks the "Upload" button.
6. System displays a success message.
7. Pharmacist selects "View Expiry Dates."
8. System displays the list of items with expiry dates.
9. Pharmacist chooses an item.
10. Decision: Is the item expired?
    . If yes, the item is removed from the inventory.
    a. If no, the pharmacist goes back to the home page.
11. Pharmacist clicks the search bar.
12. Pharmacist selects "Check for Item."
13. Decision: Is the item available?
    . If yes, the system displays the item.
    a. If no, the system displays a "not found" message.
14. If the item is available, the system displays the item details.
15. Pharmacist selects "Update Item."
16. System displays the item details for update.
17. Pharmacist modifies the item details.
18. Pharmacist clicks the "Update" button.
19. System displays an "upload complete" message.
20. System displays a success message.

Sub flow:

Alternate / Exceptional Flow:
Invalid item data entered during upload or update

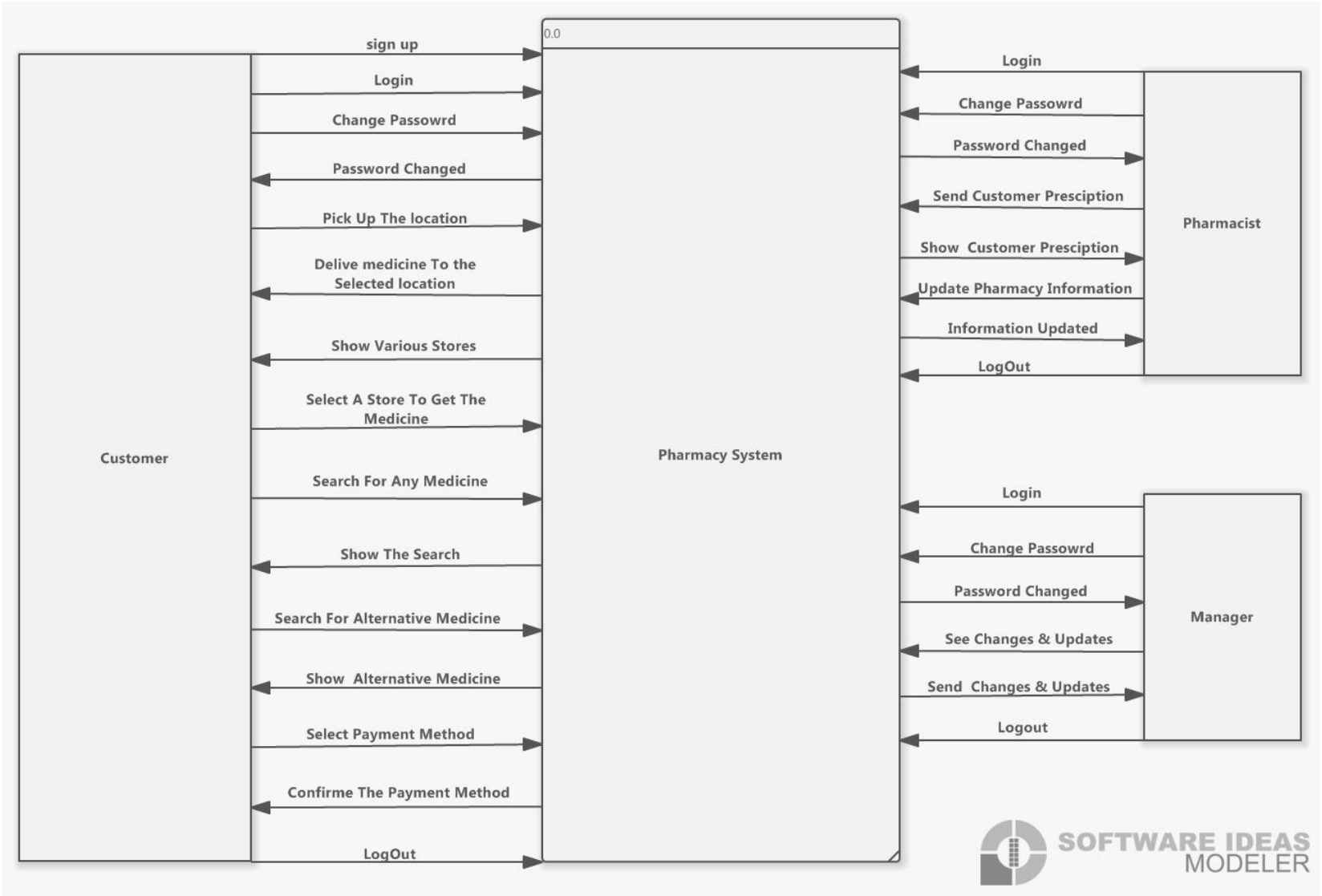
Use Case Name : login	**ID** : 3	**Importance Level** : high
Primary Actor: user (customer ,pharmacist ,manger)	**Use case type:** essential	
Stakeholder and Interest: User want to log in		
Brief Description: this use case describes how user logs into the system using their data or resets their password if forgotten.		
Pre-condition: • User has a registered account in the system		
Post-condition: - user is successfully logged in or has reset their password.		
Trigger: User enters user name and password Type: external		
Relationships: Association: user Include: verify password Extend: reject Generalization: customer, pharmacist, manager		
Normal Flow of EVENTS: 1. User enters the username. 2. Decision: Is the username and password correct? a. If yes, the user logs in successfully. b. If no, the user can choose the "Forgot Password" option. 3. If the user selects "Forgot Password," the system prompts the user to enter their email. 4. Decision: Is the entered email correct? a. If yes, the system sends a verification link to the user's email. b. If no, the system displays a message to try again and prompts the user to re-enter their email. 5. If the email is correct, the user receives a verification link. 6. The user opens the verification link. 7. The system displays the "Change Password" page.		

8. The user updates their password. 9. The system displays a message indicating successful password reset. 10. The user logs in using the new password.
Sub flow:
Alternate / Exceptional Flow: • Invalid email address entered • Password reset link expired • System errors during password reset

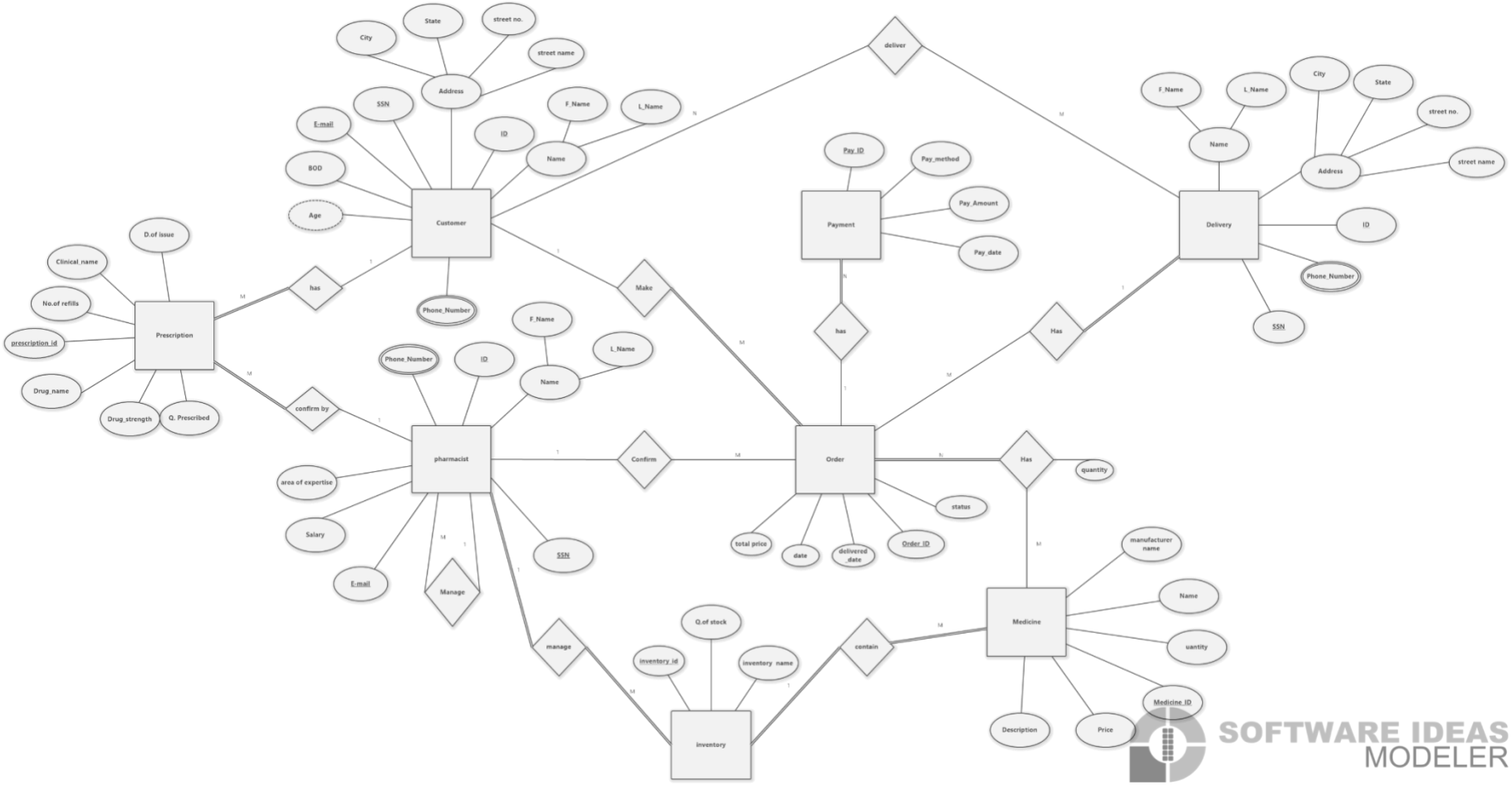
Use Case Name : search for item	**ID** **:** 4	**Importance Level** **:** high
Primary Actor: customer	**Use case type:** essential	
Stakeholder and Interest: Customer make order		
Brief Description: this use case describe a customer searching for item, viewing details, adding them to the shopping cart, reviewing and editing the order, and confirming the final order		
Pre-condition: • Customer is searched for item		
Post-condition: - Order is placed successfully and ready for processing.		
Trigger: Customer initiates the item ordering process. Type:		
Relationships: Association: customer Include: Extend: Generalization:		

Normal Flow of EVENTS: 1. Customer opens the search bar. 2. Customer searches for the item. 3. System checks for item availability. 4. If item is available: a. Customer selects the item to add to their shopping cart. b. System displays the orders page. 5. Customer reviews order details. 6. If order is correct, customer confirms the order. 7. If order needs changes, customer is redirected to the order editing page. a. Customer makes necessary changes to the order. b. Customer submits the updated order. 8. System processes the order.
Sub flow:
Alternate / Exceptional Flow: • item not available • Order editing errors

Context diagram



ERD (Entity Relationship Diagram)



Design of the database

Customer:

ID **(1)**	E-mail	SSN	F_name	L_name	city	Street_no.	Street_name	state	BOD

Phone_customer

Customer_id**(1)**	phone

Payment:

Pay_ID **(2)**	Pay_Method	Pay_amount	Pay_date	Order_id **(3)**

Delivery:

ID(4)	SSN	F_name	L_name	S_name	S_no.	state	City

Phone_ Delivery

Delivery_id(4)	phone

Deliver

Customer_id**(1)**	Delivery_id(4)

Order:

Order_ID(3)	status	delivered_date	date	Total_price	Customer_id **(1)**	Delivery_id (4)	Pharmacist_id (5)

Pharmacist:

ID(5)	F_Name	L_Name	SSN	E-mail	Salary	Area_of_expertise	Manger_id

Phone_pharmacist

Pharmacist_id(5)	Phone

Prescription:

Id(6)	Q._Prescribed	Drug_strength	Drug_name	No._of_refills	Clinical_name	D._of_issue
Pharmacist_id(5)	Customer_id**(1)**					

Medicine:

ID(7)	Name	Price	Description	Q.of_Stock	Manufacturer_name	inventory_id(8)

Order_ Medicine:

Medicine_ID(7)	quantity	Order_ID(3)

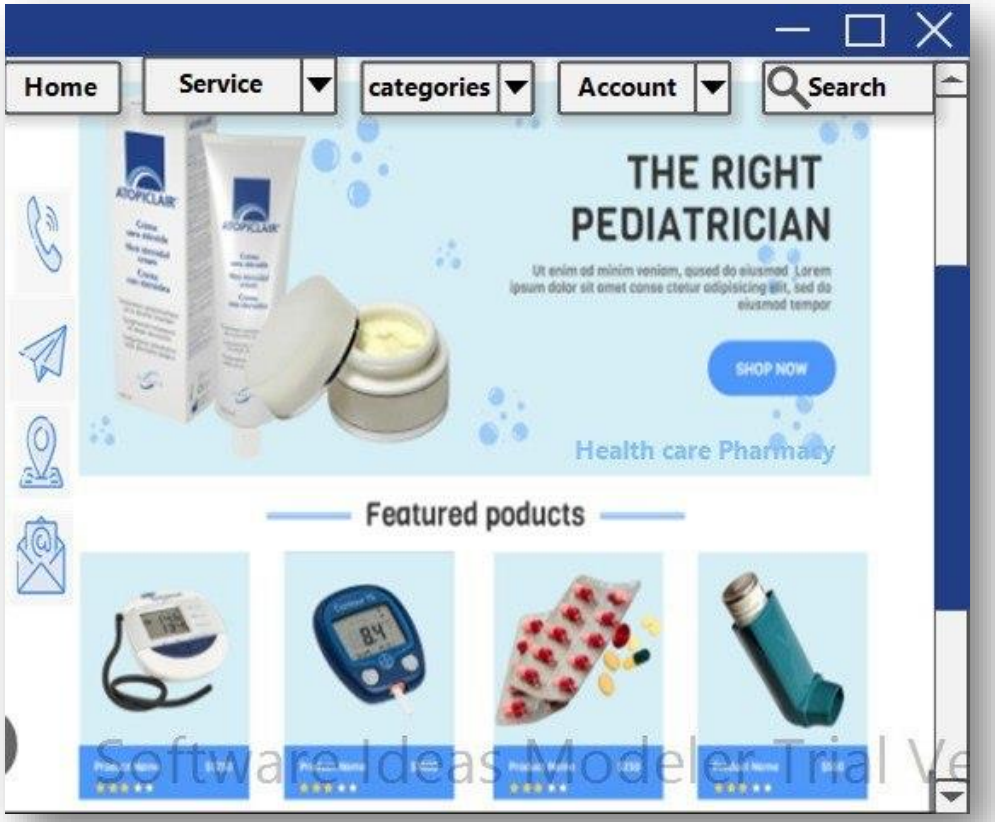
Inventory:

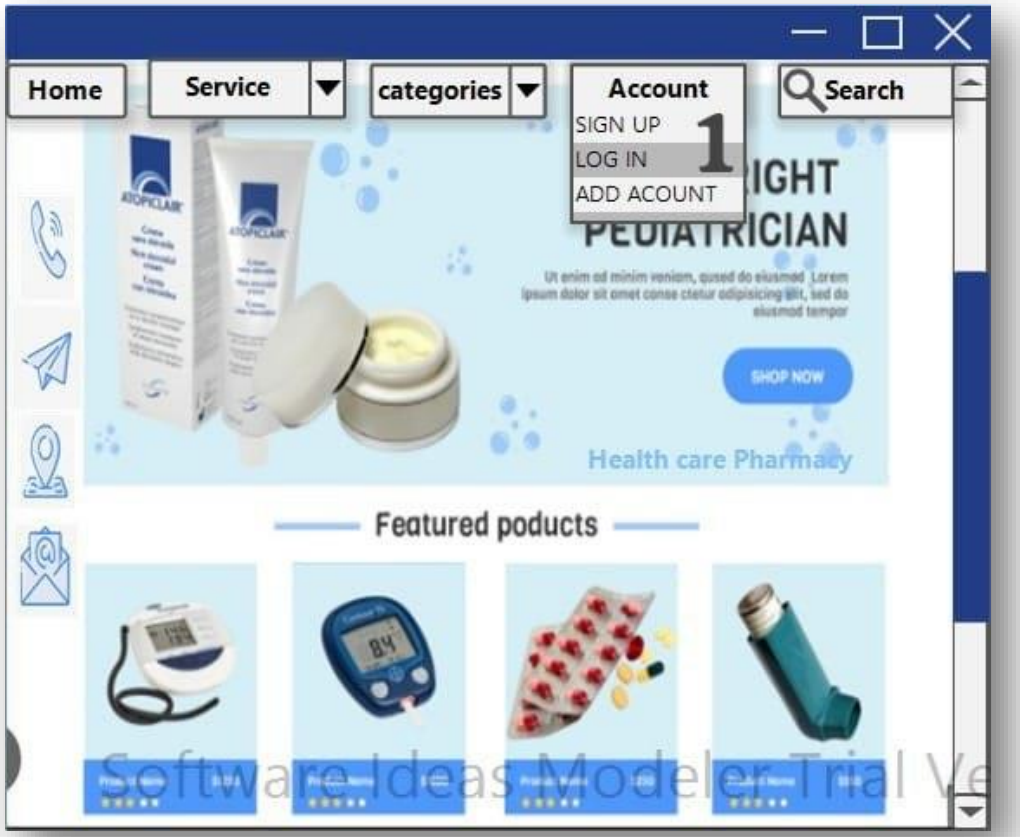
inventory_id (8)	inventory name	Q.of stock	Pharmacist_id(5)

Desing of user and system interface

Customer interface:

Login:

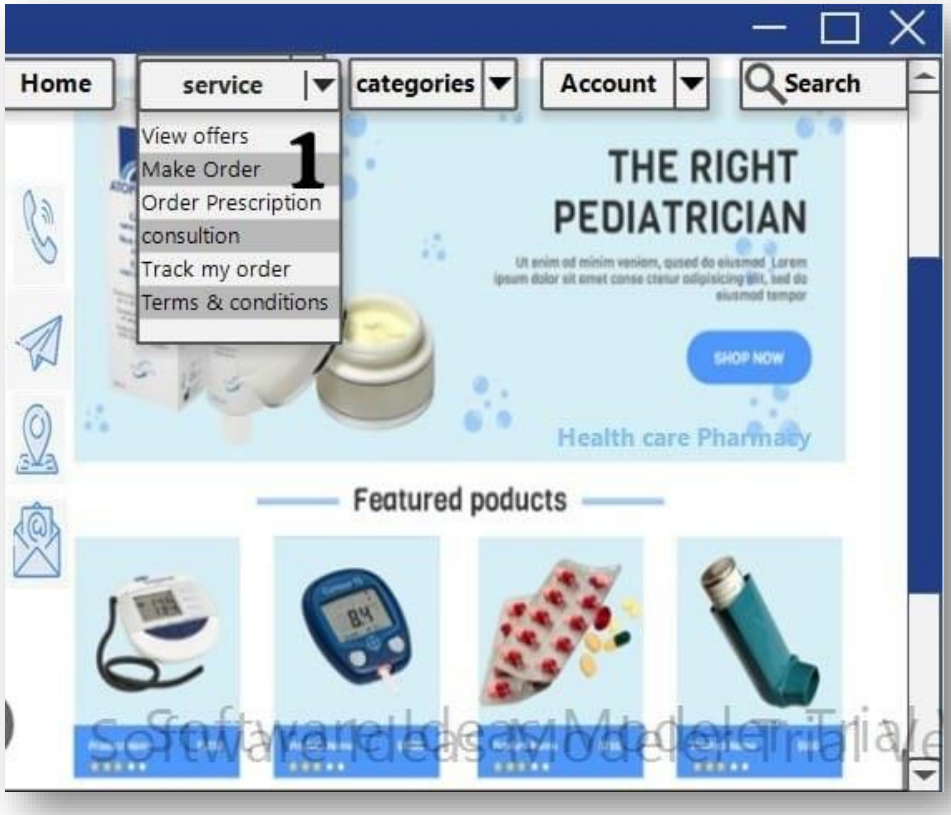


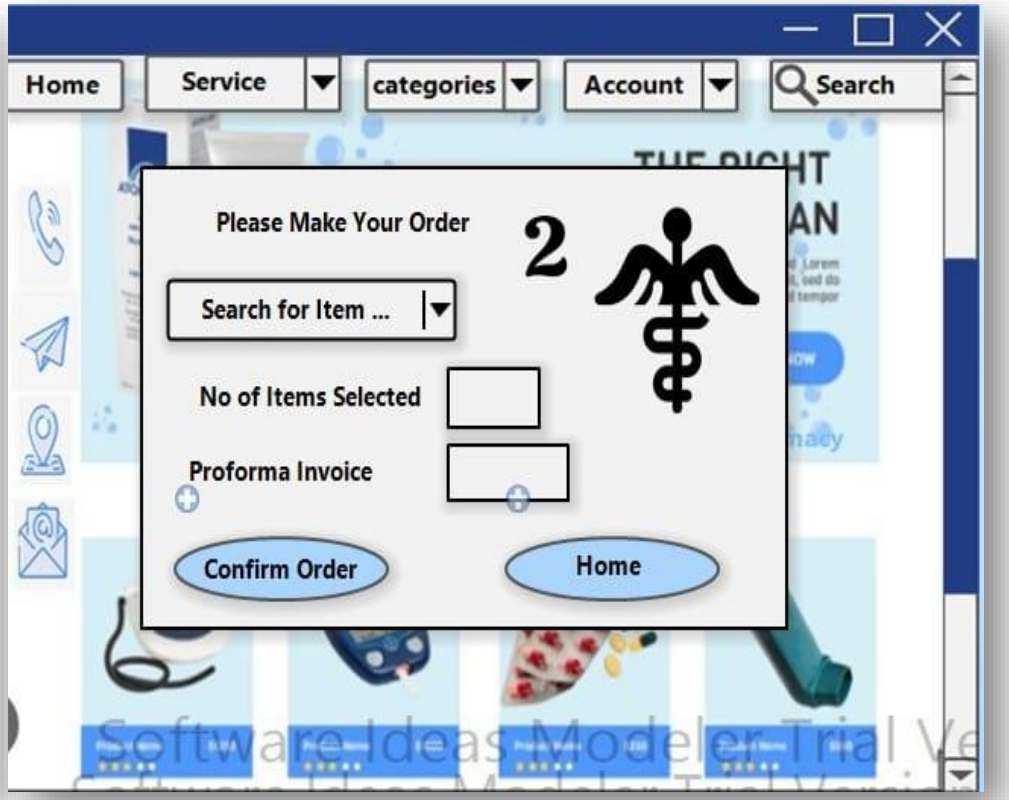



Home
Service
categories
Account
Search
2
Please Enter Your E_Mail & Password
E_Mail
Password :
Log_In
Forget Password
Remember Me

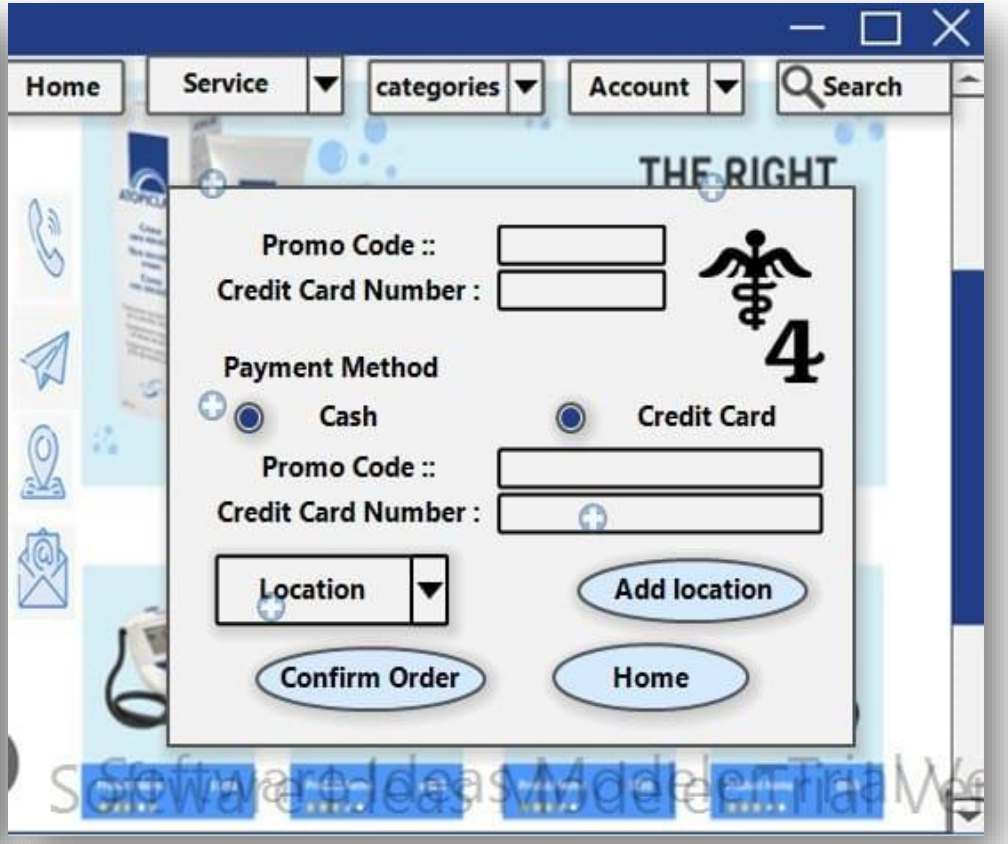

Home
Service
categories
Account
Search
THE RIGHT
3
You Have logged In successfuly !

Make order:


Home
service
categories
Account
Search
View offers
Make Order
Order Prescription
consultion
Track my order
Terms & conditions
1
THE RIGHT
PEDIATRICIAN
SHOP NOW
Health care Pharmacy
Featured poducts


Home
Service
categories
Account
Search
Please Make Your Order
2
Search for Item ...
No of Items Selected
Proforma Invoice
Confirm Order
Home


Home
Service
categories
Account
Search
THE RIGHT
DIATRICIAN
SHOP NOW
3
Sorry this item is not avaliable right now !
You can buy it's alternative :
Alternatives
Alternative 1
Alternative 2
Alternative 3
Continue My order
Home
Software Ideas Modeler Trial


Home
Service
categories
Account
Search
THE RIGHT
Promo Code ::
Credit Card Number :
4
Payment Method
Cash
Credit Card
Promo Code ::
Credit Card Number :
Location
Add location
Confirm Order
Home
Software Ideas Modeler Trial


Home
Service
categories
Account
Search
5
compassionate · caring · dedicated
Pharmacist
warm · reliable · loyal · kind · loving
Thank You For dealing with Health Care
Pharmacy ,your order will arrive due 24 Hours
In case of any Delay please contact us on 011***
*****
Software Ideas Modeler Trial V

pharmacist interface:

System output:

Health Care Pharmacy
Phone :010***

Invoice No:****
Invoice Date:*****
Cust/patient:***
Cashier:****

Name	QT	pric	Total
***	1	75	75
***	3	20	60

Sub Total:	135
Discount:	19.5
Grant Total:	115.5
Paid Amount:	115.5
change:	0.00

Thanks For visiting

Customers Contacts & Information

Id	Cust_name	Cust _phone	Cust _email	Date of payment
1	samy	011****	***@gmail	*/**/****
2	Ali	012****	***@gmail	*/**/****
3	Laila	011**	**@gmail	*/**/**
4	Nada	012***	**@gmail	*/**/****
5	Ola	011**	***@gmail	*/*/****
6	Zein	010**	**@gmail	*/**/****

Date :

Manager signature :

Pharmacist signature :

Health Care Pharmacy

Inventory Report

Date :

Manager signature :

Pharmacist signature :

Name	Price	Q.in stock	Q.sold	Q. Delivered	Monthly Consumption	Expire Date
Panadol	30.00	30	10	20	30	***
Aspocid	24.50	23	23	34	4	**
Flagel	15.00	45	23	20	13	***
Feroglobin	50.00	2	23	3	34	***
Hyloronic Acid	10.00	34	1	5	4	**
*****	***	***	***	**	**	***
****	**	**	**	**	**	**
***	**	***	**	**	**	***
**	**	**	***	**	**	**
******	***	*****	***	**	**	****

Health Care Pharmacy .

Design of control and security:

User-Interface (UI):

- Input validation to prevent injection attacks.
- Secure error handling to avoid exposing sensitive information.
- Strong password policies and regular updates.
- Session management with timeouts and automatic logouts.
- TLS/SSL for secure communication.
- Data masking for sensitive information.

System-Interface (SI):

- API authentication and authorization with valid credentials.
- Input validation and sanitization at API endpoints.
- Rate limiting to prevent brute-force attacks.
- Logging and auditing of API calls for security monitoring.
- Regular vulnerability scanning of API endpoints.

Application:

- Secure session management and use of secure tokens.
- Role-based access control (RBAC) for access management.
- Data encryption for sensitive data at rest and in transit.
- Input validation to prevent injection attacks.
- Regular security updates to patch vulnerabilities.

Database:

- Encryption of sensitive data using strong algorithms.
- Access controls restrict database access.
- Audit logging to track database activities.
- Regular vulnerability assessments for the database.
- Robust data backups and recovery procedures.

Network:

- Firewalls to filter and block unauthorized network traffic.
- Intrusion detection/prevention systems (IDS/IPS) for security.
- Network segmentation to isolate sensitive systems and data.
- Strong password policies for network devices and accounts.
- Regular security updates for network devices and software.

Traceability matrix pharmacy system

ID	Requirement	Related Use Case	Fulfilled By	Related Design Components	Test	Description
1	general user can login	Login	General user	User interface for login	Verify successful login with valid information	Allow user to enter email and password to login
2	general user can logout	Logout	General user	User interface for logout	Verify if logout is successful	Give the user the option to logout
3	general user can change password	Change Password	General user	User interface for changing password	Verify if the password got changed	Enables users to change their passwords
4	customer should be able to sign up	Sign up	Customer	User interface for sign up	Verify account creation	Let user enter data and check the validation of these data
5	customer can pick up a location to get the medicine delivered to or the location of the pharmacy to pick it up	Select location	customer	Location search	Test location services	customer can pick up a location to get the medicine delivered to or the location of the pharmacy to pick it up
6	customer can search for any item	Search for item	customer	Search bar	Test the accuracy of the search bar	customer can search for any medicine and view details of the medicine and in case if the medicine isn't in stock the customer can view other alternative medicine

7	customer can view alternative item	View alternative item	customer	Search bar	Test the accuracy of the search bar	customer can search for an alternative medicine
8	customer can select a payment method	Payment method	customer	User interface Payment options, payment gateway	Verify successful payment	customer can select a payment method
9	The pharmacist can view the customer's prescription	Prescription Review	Pharmacist	Pharmacist interface, Encryption	N/A	The pharmacist can view the customer's prescription by letting the pharmacist contact the customer through the system
10	The pharmacist can manage pharmacy information	Manage information	pharmacist	Pharmacy settings, inventory management Pharmacist interface, Audit logging	Verify successful updates to pharmacy information	The pharmacist should be able to upload items on the system to maintain the organization of the drugs
11	Manager can view the updates the pharmacist does	View updates on the system	manager	Manager interface, permission, Audit logging	Notification of the changes	The manager gets a notification of the changes of the system
12	Delivery picks up the medicine from the pharmacy and delivers it to the customer according to the location the customer selected	Ship process	delivery	Delivery interface	Notification of the orders	The delivery gets a notification of the order and picks it up from the pharmacy and deliver it to the location the customer selected