Software Development Plan

TITLE PAGE CONTENT

Quack Pharmacy System

March 11, 2023

Version 1.0

Presented To:

The chain of Quack pharmacies

Submitted By: Quack Team

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REVISION HISTORY

Date	Author	Distributed to	Version	Description
11\ 03\2023	The chain	Quack Team	Version 1.0	Initial Version

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1. PRODUCT DESCRIPTION

Product Description:

A pharmacy website project is a web development project that involves creating a website for a pharmacy or drug store. The website should provide customers with information about the pharmacy's products and services, as well as allow customers to purchase products online. The website should also provide customers with access to helpful resources such as drug information, health tips, and other related information

What problems do we solve?:

1. Limited Accessibility: Traditional pharmacies are limited to their physical location, meaning customers must travel to the store to purchase their medications. The website allows customers to access medications from anywhere, at any time.

2. Limited Selection: Traditional pharmacies are limited in the selection of medications they can offer due to space constraints. The website offers a much larger selection of medications, allowing customers to find the medication they need.

3. Long Wait Times: Traditional pharmacies often have long wait times due to the limited number of staff and resources. The website allows customers to order their medications online, eliminating the need to wait in line.

4. High Prices: Traditional pharmacies often have higher prices due to overhead costs. The website offers competitive prices, allowing customers to save money.

Audience and Goals:

The potential audience for an online pharmacy is broad and includes individuals of all ages and backgrounds who require prescription medication or other health-related products. Some specific segments of the population that may be particularly interested in using online pharmacies include:

Busy individuals who do not have the time to visit a traditional pharmacy or who prefer the convenience of having their medications delivered directly to their home.

Elderly individuals who may have mobility issues or find it difficult to visit a physical pharmacy.

Patients with chronic illnesses who require ongoing medication and may find it easier to order refills online.

Individuals who live in rural or remote areas with limited access to traditional pharmacies.

Individuals who are hesitant to visit physical pharmacies due to concerns about privacy or stigma associated with their condition.

People who require medications that are not readily available in their local area and must be ordered from a specialty pharmacy.

Patients who require medications that may be difficult to find or purchase due to supply shortages or backorders.

Functionality and features:

Online prescription ordering: Customers can easily upload their prescriptions online and have their medications delivered directly to their home.

Secure online transactions: Online pharmacies should provide secure transactions to protect customer information and financial data.

Comprehensive product catalog: Online pharmacies can offer a wide range of healthcare products, including prescription medications, over-the-counter medications, vitamins, supplements, and personal care items.

Fast and reliable shipping: Online pharmacies should offer fast and reliable shipping options to ensure that customers receive their medications in a timely manner.

Convenience: The main advantage of using an online pharmacy is convenience. Customers should be able to order their medication from the comfort of their own home without having to physically visit a pharmacy.

Accessibility: Online pharmacies should be accessible to everyone, including those with disabilities or those who live in remote areas where traditional pharmacies may not be available.

Safety and security: Customers should be able to trust that the online pharmacy they are using is safe and secure. This includes ensuring that the pharmacy is licensed and regulated, that the medication is legitimate, and that customer data is kept confidential.

Competitive pricing: Customers should be able to find competitive prices on medications at online pharmacies. Some online pharmacies may also offer discounts or promotions to help make their products more affordable.

Timely delivery: Customers should receive their medications in a timely manner, with clear communication about the delivery process and any potential delays.

Quality customer service: Online pharmacies should provide quality customer service, including the ability to speak with a pharmacist if needed, answer questions promptly, and provide assistance with any issues that may arise.

2. TEAM DESCRIPTION

What skills does the project need?

1- Soft- Skills and problem solving
2- Requirement gathering
3- Business analysis
4- Front – end(Html , CSS, JavaScript, React, angular)
5- Database (MySql)

6- Back-end (Laravel)
7- Content Management System(CMS)
8- RESTful Services and API
9- UI Testing
10- Interpersonal skills
11- Responsive design skills

What skills does the team have?

Skills/ Team	Hesham Qutb	Fatma Mohammed	Dalia Mostafa	Reem Ashraf	Ahmed Mahmoud
Soft- Skills and problem solving	√	√	√	√	√
Requirement gathering	√	√	√	√	√
Business analysis	√	√	√	√	√
Front - end	√	✖	✖	√	✖
Database	✖	√	✖	√	✖
Back – end	✖	✖	√	√	√
Content Management System(CMS)	√	✖	√	✖	✖
RESTful Services & API	✖	✖	✖	✖	√
UI Testing	√	✖	√	✖	√
Responsive Design Skills	√	√	√	√	√

Is there a need for a Subject Matter Expert (SME)?

Subject matter experts are especially useful in identifying potential challenges in complicated areas and creating unique solutions. They can apply specific knowledge and experience in a subject that other employees may not possess.

So we asked for help from Dr. **Mohammad Bushary** (graduated from the Faculty of Pharmacy in 2022, Assiut Uni.)

He can help us in the medical and pharmaceutical part and how to deal with the patients in the case of required medications

What expertise is missing?

Medical information and laws.

3. SOFTWARE PROCESS MODEL DESCRIPTION

Used methodology:

Incremental.

Why

1- Requirements understanding and deliver

Requirements of the system are clearly understood

When demand for an early release of core functions of the system

2- Risk

When high-risk features and goals are involved

3- Expected life-time

The project is not done until deliver all requirements to customer

4- Develop team

Not require high expert team but require very good communication between them

5- Customer evolvement

The customer is part of the team, he participate in choice with requirement will be in next release and give us a feedback about the previous one.

4. PRODUCT DEFINITION

Describe the users and user environment.

Context Diagram

Defines the scope of your system - what is inside the system and what is outside the system. High level information flow between the system and the outside users or other systems (personas)

Personas

Below is a brief description of those people outside the system that the system interfaces with.

User Stories

1- I am a pharmacist

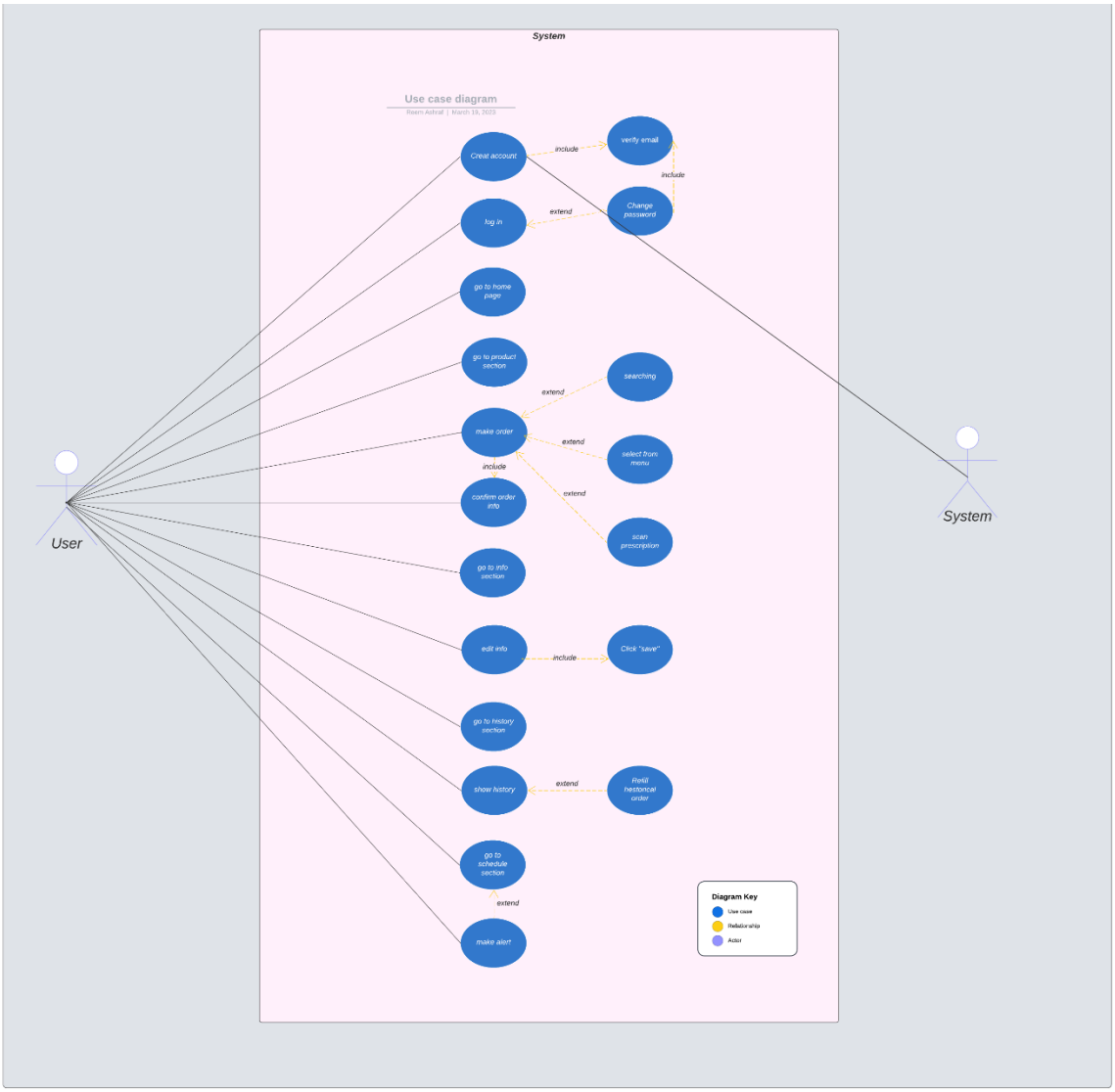
I need to expand my business with a marketing website and at the same time serve the community. I want it to include many functions that help me manage the pharmacy, including data and commercial transactions

I also want to see some of the customer data, such as the medications they take, by making it possible to see the old orders of the customer

2- I am a Patient

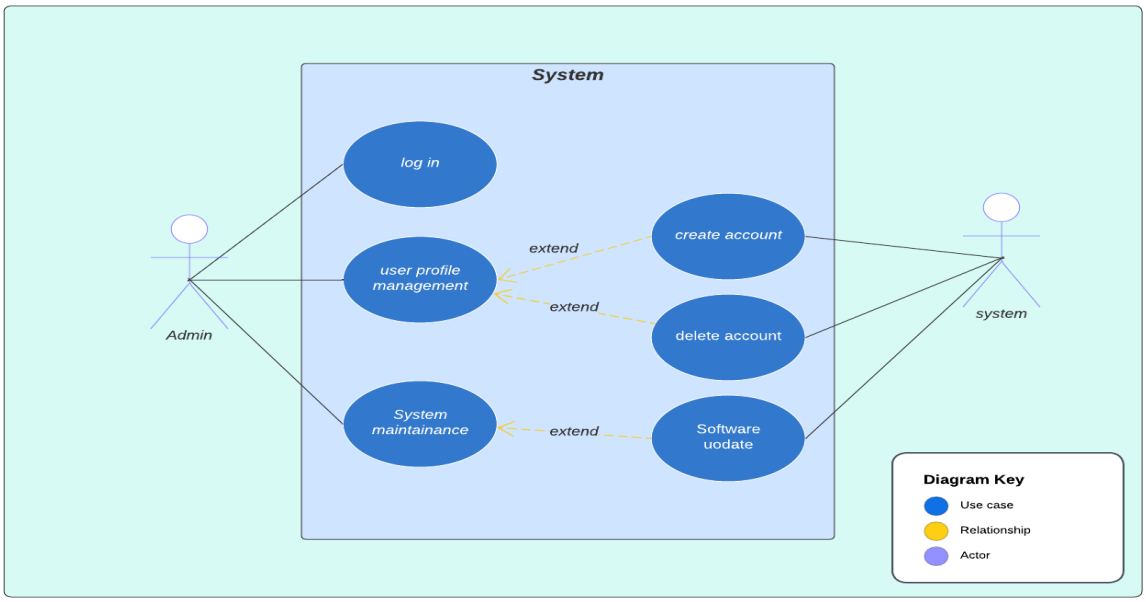
I can't find my medicine in regular pharmacies, so I search for it and can't find it. I also want the task of buying my medicine to be as easy as possible, and to be able to communicate with the pharmacy at any time. I also need an alert for my medication appointments. I need a health assistant on my tablet

High Level Use Cases



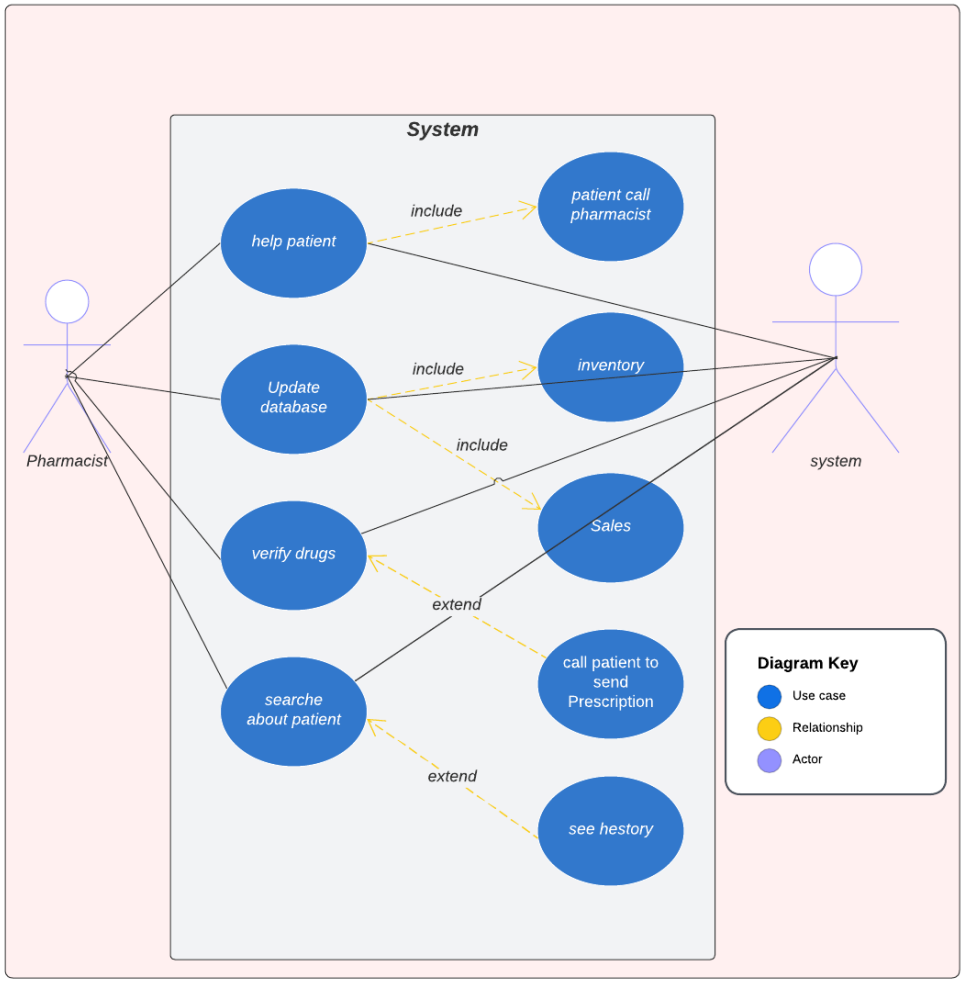
Admin usecase

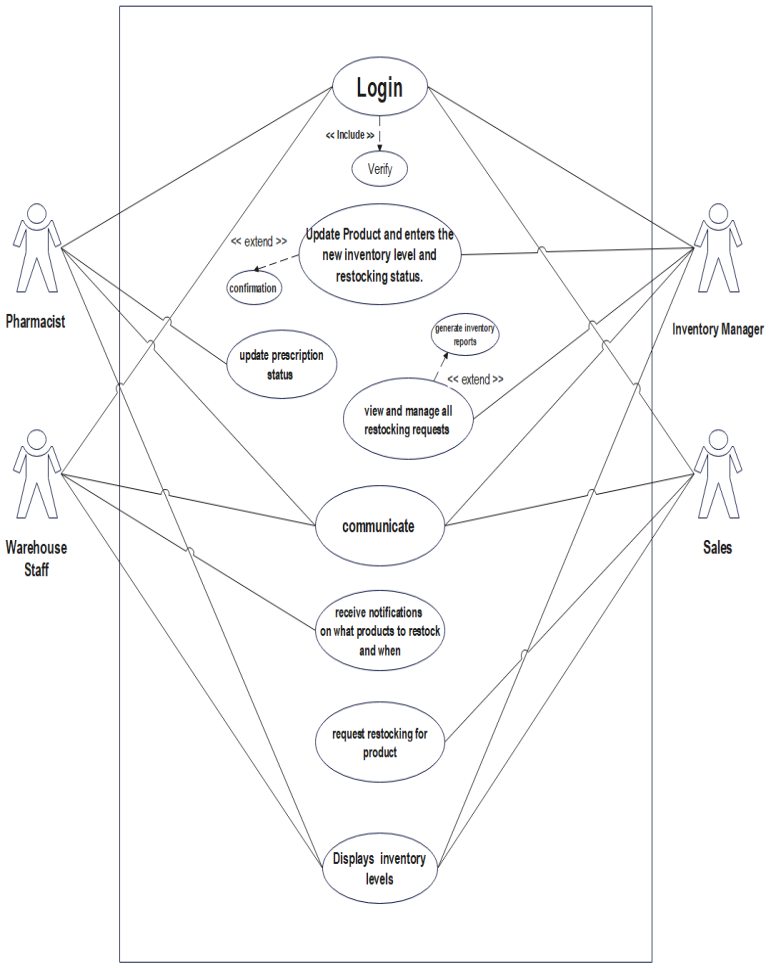
Reem Ashraf | March 19, 2023

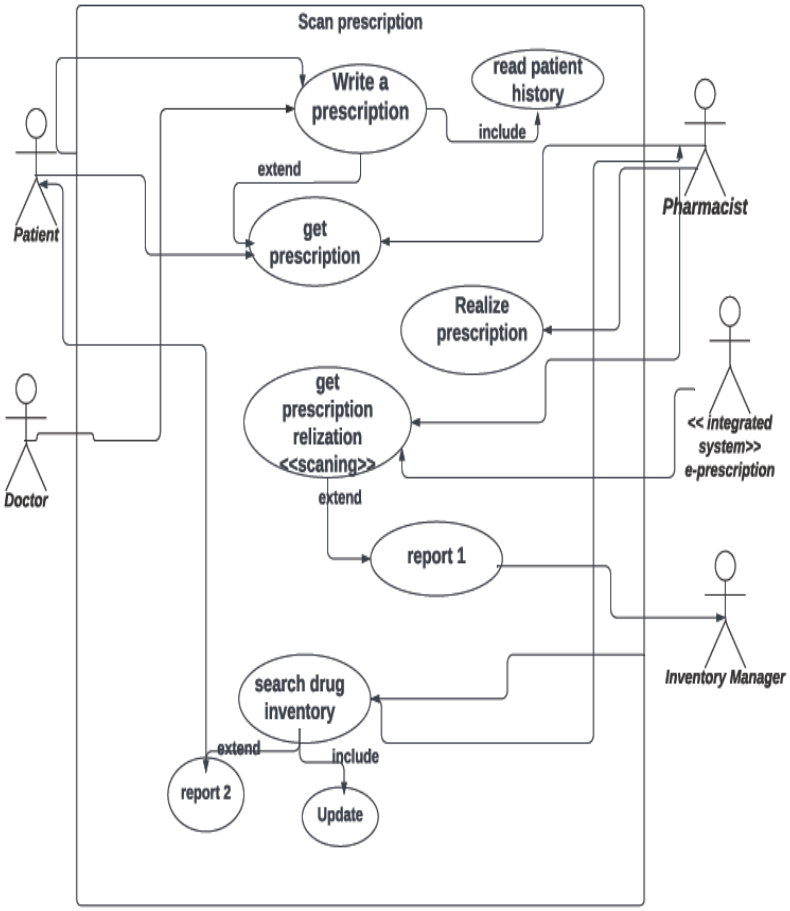


Pharmacist diagram

Reem Ashraf | March 19, 2023




Login
<< Include >>
Verify
<< extend >>
Update Product and enters the new inventory level and restocking status.
confirmation
update prescription status
generate inventory reports
<< extend >>
view and manage all restocking requests
communicate
receive notifications on what products to restock and when
request restocking for product
Displays inventory levels
Pharmacist
Inventory Manager
Warehouse Staff
Sales



Use Case Descriptions

Create account

Use case name	**Create account**
Unique ID	SPI_100
Area	Application
Actor(s)	User
Description	User creates account(name, address, ID, number of card, E-mail)
Triggering Event	User click “CRAET ACCOUNT” button in the application
	- Emeil, number phone

Preconditions	- The user needs to have internet access
Postconditions	- User has successfully created account
Assumptions	- Have a device connected to the internet to go to the website - A valid data

Steps Performed	**Information for Steps**
1- website **2- Go to the sin up page** 3- User enters his data 4- Click on “Create Account” button 5- Validation of entered data by application	Steps: Name, address, ID, number of card, E-mail

Extensions (Alternative Flows)	- doesn’t log in without verify email - If user entered a non-valid data, a warning message should appear to him

VERIFY EMAIL

Use case name	**Verivy email**
Unique ID	VE_100
Area	Application
Actor(s)	User,system
Description	User chek email (message of verification)
Triggering Event	User click “VERIFY EMAIL” button in the application
Preconditions	−Internet is available −Create account and open the website
Postconditions	- User has successfully verify email
Assumptions	- A valid data

Steps Performed	**Information for Steps**
1- After creating the account, a confirmation email message appears, so the user must be verified **2- Refer to the email** **3-Click the Verify Email button** **4- Go back to the website page** **5- log in**	Steps: Log in(E_mail ,password)

Extensions (Alternative Flows)	- If user entered a non-valid data, a warning message should appear to him

Show history and reorder

Use case name	Show history
Unique ID	SHH-122
Area	Application
Actor(s)	User,system
Description	User can show his history and can do another order
Triggering Event	User click “show history” button in the application
Preconditions	−has account and I have previous orders −connect with internet and open the website
Postconditions	- User has successfully preorder
Assumptions	- A valid data

Steps Performed	**Information for Steps**
1- Open the website	Steps:

2-Login 3- Enter the history page and click on the old order 4- Submit order 4- Go back to the website page	Log in(E_mail ,password)
Extensions (Alternative Flows)	- If user entered a non-valid data, a warning message should appear to him

Help Patient

Use Case Name	- Help patient
Unique ID	- HP-001
Area	- Application
Actor(s)	- Pharmacist
Description	- Pharmacist Helps Patient
Triggering Event	- Patient Call the Pharmacy to take Medical consultation
Preconditions	- The Patient doesn't need to have an account on the website to get the hot number - The Patient must have a smart phone, Pc or laptop Connected to the internet to get into the website
Postconditions	- Patient has successfully communicated with pharmacist
Assumptions	- A device connected to the internet - A phone to call

Steps Performed	Information for steps
1- Open the website, home page 2- Go to the contact section in it 3- Call the hot number that described in it or email	Accessing to contact info does not need to have an account on our website

Dangerous drugs

Use Case Name	- Dangerous drugs

Unique ID	- DD-001
Area	- Application
Actor(s)	- Pharmacist - User
Description	- An Order have a Dangerous drugs or conflicting drugs without Prescription
Triggering Event	- Pharmacist Call the Patient to Send the prescription if not, the order will be rejected.
Preconditions	- The Patient must have a smart phone, Pc or laptop Connected to the internet to get into the website - Patient have an account to Order
Postconditions	- Pharmacist Call the Patient to Send the prescription if not, the order will be rejected.
Assumptions	- A device connected to the internet - An account

Steps Performed	**Information for steps**
1- Open the website, home page 2- Log in and make Order **3-** Pharmacist Call the Patient to Send the prescription **4-** if not, the order will be rejected and notify the user about it	Step 2: Email, Password

Extensions (Alternative Flows)	- If user entered a non-valid data, a warning message should appear to him

Update Info

Use Case Name	- **Update Info**
Unique ID	- UI-101
Area	- Application
Actor(s)	- User (Patient)
Description	- User Wants to update his/her personal info in Profile
Triggering Event	- Go to the info that user want in update it and Click “Edit” then save

Preconditions	- The Patient must have a smart phone, Pc or laptop Connected to the internet to get into the website - Patient have an account
Postconditions	- Patient Successfully update his/her own info
Assumptions	- A device connected to the internet - An account

Steps Performed	**Information for steps**
1- Open the website, home page 2- Log in and go to profile info 3- Click on the wanted info to be updated 4- Choose edit 5- Allowing typing and editing **6-** Click on save after finishing editing	Step 2: Email, Password

Extensions (Alternative Flows)	- If user entered a non-valid data, a warning message should appear to him

Change Password

Use Case Name	- **Change Password**
Unique ID	- CP-101
Area	- Application
Actor(s)	- User (Patient)
Description	- User can change his\her profile password at any time
Triggering Event	- User click on “Forget Password” in log in page
Preconditions	- The Patient must have a smart phone, Pc or laptop Connected to the internet to get into the website - Patient have an account
Postconditions	- Patient Successfully Change his/her own Password
Assumptions	- A device connected to the internet - An account

Steps Performed	**Information for steps**

1- Open the website, home page 2- Go to log in page 3- Click on “forget Password” 4- Typing the email 5- Open verify message in email 6- Type the wanted Password 2 times cause of correctness 7- Log in again with the new Password	Step 7: Email, Password

Extensions (Alternative Flows)	- If user entered a non-valid data, a warning message should appear to him

Log in

Use Case Name	- **Log in**
Unique ID	- SPI - 200
Area	- Application
Actor(s)	- User (Patient)
Description	- User Logs in after creating account by his/her email & Password
Triggering Event	- User click on “Log In” Button
Preconditions	- The Patient must have a smart phone, Pc or laptop Connected to the internet to get into the website - Patient have an account
Postconditions	- Patient Successfully Logs in
Assumptions	- A device connected to the internet - Patient have an account

Steps Performed	**Information for steps**
1- Open the website, home page 2- Go to log in page 3- Typing the email 4- Typing the Password 5- Click on “log in” button	None

Extensions (Alternative Flows)	- If user entered a non-valid data, a warning message should appear to him

Remind Medicine Time

Use Case Name	- **Remind Medicine Time**
Unique ID	- RMT - 010
Area	- Application
Actor(s)	- User (Patient)
Description	- User goes to the schedule and alert his/her Medicine time
Triggering Event	- User click on “Schedule It!” Button
Preconditions	- The Patient must have a smart phone, Pc or laptop Connected to the internet to get into the website - Patient have an account
Postconditions	- Patient Successfully did the alert
Assumptions	- A device connected to the internet - Patient have an account

Steps Performed	**Information for steps**
1- Open the website, home page 2- Log in 3- Go to the schedule 4- Click on New alert 5- Type Alert Info 6- Click on save alert 7- Click to save Schedule	Step 2: Email, Password Step 5: Medicine name, hours between every potion(جرعة دواء) , choose every day or custom days

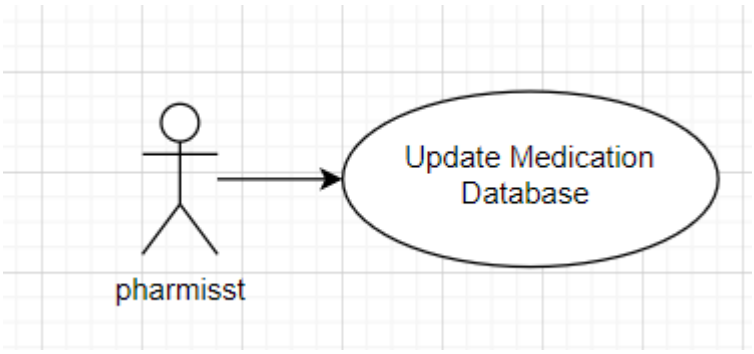
Extensions (Alternative Flows)	- If user entered a non-valid data, a warning message should appear to him

Make an Order

Use Case Name	- **Make an Order**
Unique ID	- MO - 100
Area	- Application
Actor(s)	- User (Patient)
Description	- User makes order by searching about it or scan the prescription
Triggering Event	- User click on “Submit Order” Button
Preconditions	- The Patient must have a smart phone, Pc or laptop Connected to the internet to get into the website - Patient have an account - It’s good to have a credit card
Postconditions	- Patient Successfully made the order
Assumptions	- A device connected to the internet - Patient have an account - It’s good to have a credit card

Steps Performed	**Information for steps**
1- Open the website, home page 2- Log in 3- Go to product page 4- Use search space to get product or medicine, choose it from list or favorite 5- Or use the camera to scan the prescription 6- Confirm the products by click on “correct” or delete it by reject it 7- After confirm click on “Order!” 8- In order page, Check the quantity and types you want and also check if you want to add something else 9- Click “Submit Order!” to confirm the Order	Step 2: Email, Password

Extensions (Alternative Flows)	- If user entered a non-valid data, a warning message should appear to him - Every order

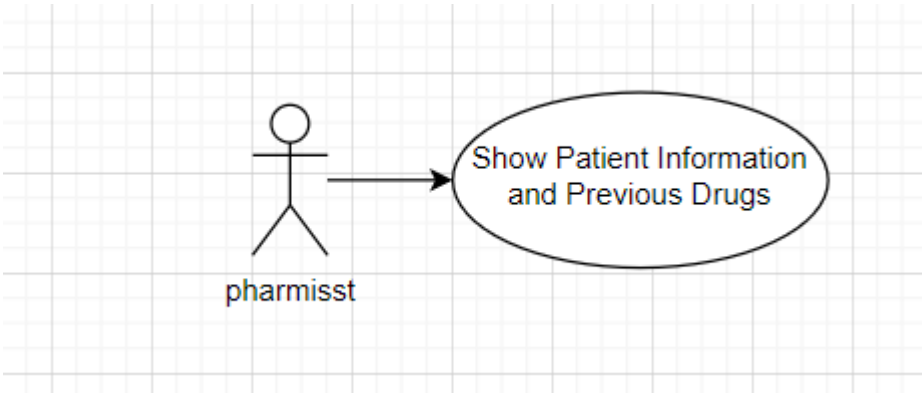


Update Medication Database

Use Case Name:	**Update Medication Database**
Unique ID	UMD-001
Area	Pharmacy Management System - application
Actor	Pharmacist
Description	This use case describes the process of updating the pharmacy's medication database.
Trigger Event	Pharmacist identifies a medication that needs to be added, modified, or removed from the database.
Precondition	Pharmacist is logged into the pharmacy management system and has the necessary permissions to update the medication database.
Postcondition:	The medication database has been successfully updated with the new information with a message.
Assumptions	The pharmacist has the necessary information and authorization to make changes to the medication database.

Steps Performed	**Information for Steps done**
1- The pharmacist navigates to the medication database section of the pharmacy management system. 2- The pharmacist selects the medication that needs to be updated. 3- The pharmacist reviews the current information for the medication.	Step 2: The pharmacist uses the search function or navigates through the medication list to locate the medication that needs to be updated.

4- The pharmacist updates the information as necessary 5- The pharmacist saves the changes to the medication database. 6- The pharmacist reviews the updated information to ensure it is accurate and complete. 7- If the medication is being removed from the database, the pharmacist enters a reason for the removal. 8- The pharmacist logs out of the pharmacy management system.	Step 4: The pharmacist updates the relevant fields using the form provided in the medication profile. Step 5: The pharmacist clicks the "Save" button to apply the changes to the medication database

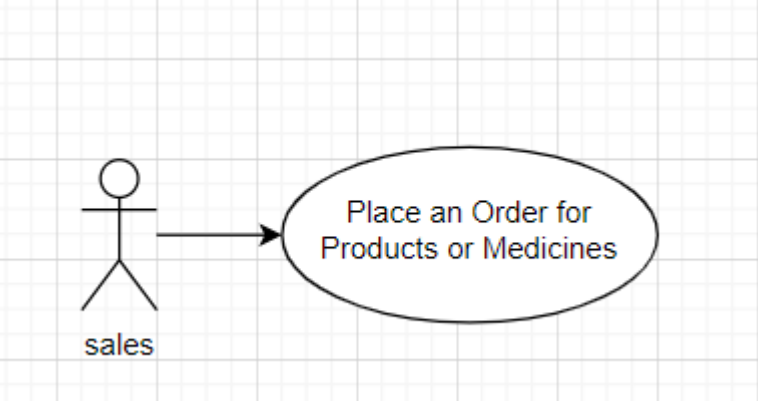


Show Patient Information and Previous Drugs

Use Case Name:	**Show Patient Information and Previous Drugs**
Unique ID	SPID-007
Area	Pharmacy Management System
Actor	Pharmacist /staff
Description	This use case describes the scenario when a staff or a pharmacist needs to access the patient information and their previous drugs information.
Trigger Event	- The patient order new products - The staff or the pharmacist needs to access the patient information and their previous drugs information.
Precondition	- The user is logged in and has the necessary access rights. - The patient had a profile in our database

Postcondition:	The patient information and their previous drugs information is displayed to the user.
Assumptions	The patient information and their previous drugs information is stored in the database and is up to date.

Steps Performed	Information for Steps done
1- The sales staff or the pharmacist opens the pharmacy management system. 2- The user selects the "Patient Information" option from the main menu. 3- The system presents the user with a search field to enter the patient's name, ID number, or any other relevant information. 4- The user enters the search criteria and clicks on the "Search" button. 5- The system searches the database for the patient's information and displays the search results. 6- The user selects the patient from the search results. 7- The system displays the patient's basic information, including their name, address, contact details, and any other relevant information. 8- The user selects the "Previous Drugs" option from the patient information page. 9- The system retrieves and displays the patient's previous drugs information, including the name of the drugs, the dosage, the frequency, and the duration. 10- The user can print or save the patient's information and previous drugs information.	Step 3: The user can enter the patient's name, ID number, or any other relevant information to search for the patient's information. Step 5: The system can display a list of search results if multiple patients match the search criteria. Step 7: The user cannot edit the patient's information without patient agreed. Step 9: The system can display a warning message if the patient has any allergies to the drugs



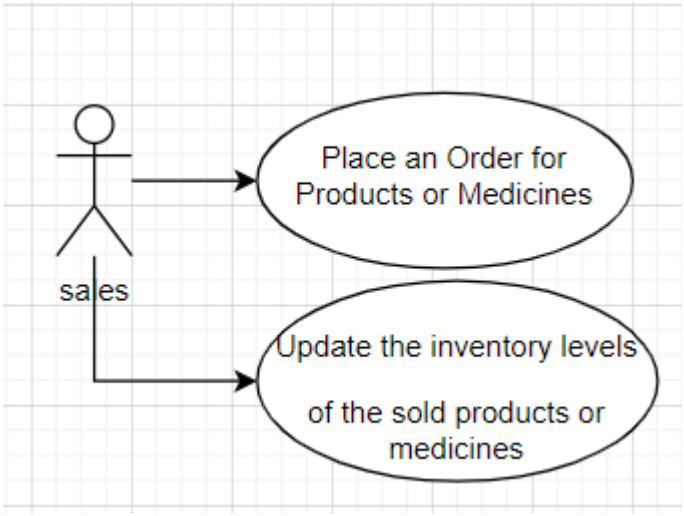
Place an Order for Products or Medicines

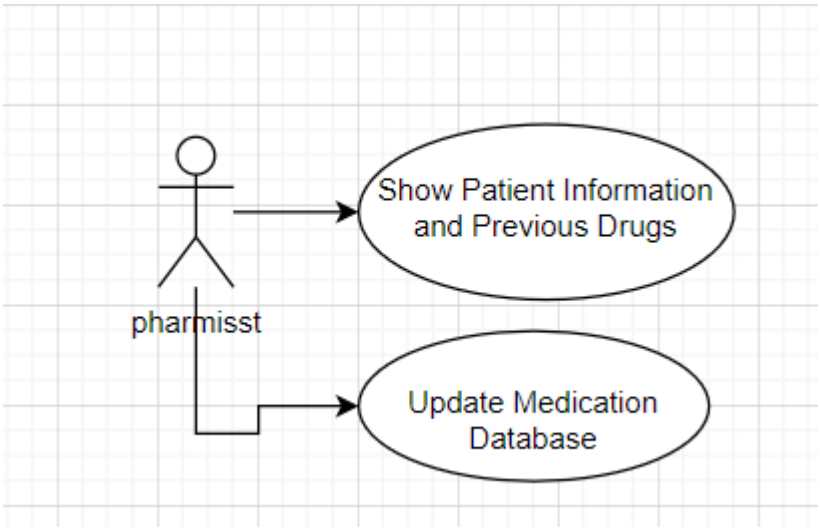
Use Case Name:	**Place an Order for Products or Medicines**
Unique ID:	POPM-004
Area:	Pharmacy Management System – sales management
Actor:	Sales staff
Description:	This use case describes the steps a sales staff takes to place an order for products or medicines when the stock is low.
Trigger Event:	The stock level of a product or medicine is below the minimum required level.
Precondition:	The sales staff is logged into the system and has access to the order placement feature.
Post condition:	The order is placed and recorded in the system.
Assumptions:	The staff member has the authority to place orders and the necessary information about the product or medicine is available.

Steps Performed:	Information for Steps:
1- The system notifies the staff of a low stock level for a specific product or medicine.	Step 1: The system may use a notification or alert system to notify the pharmacist and staff of a low stock level.

2- The staff accesses the order placement feature of the system. 3- The system displays the order placement form. 4- The staff communicate with pharmacist to enter necessary detail. 5- The pharmacist enters the necessary details of the order, including the product or medicine name, quantity, and supplier information. 6- The system validates the order details and confirms the availability of the ordered product or medicine. 7- If the ordered product or medicine is available, the system generates a purchase order. 8- The pharmacist reviews the purchase order and makes any necessary changes. 9- The staff submits the purchase order to the supplier. 10- The system records the purchase order in the system and updates the stock level of the product or medicine. 11- The supplier delivers the ordered product or medicine to the pharmacy. 12- The pharmacist receives the delivery and checks the order for accuracy.	Step 3: The order placement form may include fields for product or medicine name, quantity, supplier information, delivery date, and cost. Step 5: The system may check the availability of the ordered product or medicine by accessing the supplier's inventory system. Step 6: The purchase order may include the order details, delivery date, and cost. Step 8: The purchase order may be submitted electronically or by mail. Step 10: The delivery may include a packing slip or delivery note. Step 11: The pharmacist may use a barcode scanner or manual entry to check the accuracy of the delivery Step 13: The invoice may include the order details, delivery date, and cost. Step 15: The invoice may be submitted electronically or by mail. The payment method may be specified in the invoice

13- The staff updates the stock level of the product or medicine in the system. 14- The system generates an invoice for the order. 15- The pharmacist and staff reviews the invoice and makes any necessary changes. 16- The staff submits the invoice for payment. 17- The system records the invoice and updates the financial records.	





Manage Inventory

Unique Name	Manage Inventory
Actors:	Inventory Manager, Sales Team, Warehouse Staff, Pharmacist
Entry Conditions:	The Inventory Manager, Sales Team, Warehouse Staff, and Pharmacist have access to the online pharmacy's inventory
Exit Conditions	The inventory levels and restocking status of all products are accurately updated in the system, and all relevant stakeholders are notified of any updates or inventory issues.
Flow of Events:	1- All relevant stakeholders log into the inventory. 2- The system displays the current inventory levels and restocking needs for products. 3- The Inventory Manager selects a product to update and enters the new inventory level and restocking status. 4- The system sends a confirmation message to the Inventory Manager that the update was successful. 5- The Sales Team can request restocking for products they sell and communicate inventory needs with the Inventory Manager. 6- The Pharmacist can update prescription status and communicate prescription needs with the Inventory Manager. 7- Warehouse Staff receive notifications on what products to restock and when. 8- The Inventory Manager can view and manage all restocking requests and generate inventory reports.
Special Requirements	The system should be able to handle multiple inventory updates to be processed simultaneously, and should have security measures in place to prevent unauthorized access

	to inventory data. The system should be able to generate reports on inventory levels, restocking needs, product demand, and prescription status to help the Inventory Manager, Sales Team, and Warehouse Staff make informed decisions about future inventory management. The system should allow for communication between the Inventory Manager, Sales Team, Pharmacist, and Warehouse Staff to discuss inventory needs and potential restocking strategies

Scan Prescription

Unique Name	Scan Prescription
Actors:	Patient: Requests prescription scan from the doctor. Doctor: Write Prescription. Pharmacist: Receives the prescription and verifies its authenticity. Inventory Manager: Updates inventory levels based on prescription demands. Sales: Generates sales reports based on prescription demands.
Entry Conditions:	The doctor has prescribed medication for the patient and has access to the prescription scanning functionality in the application. The patient has requested the prescription to be scanned and sent to the pharmacist.
Exit Conditions	The prescription is successfully scanned and transmitted to the pharmacist, and inventory levels are updated accordingly
Flow of Events:	1- The patient requests the doctor to write prescription . 2- The patient sends the prescription to the pharmacist through the application. 3- The pharmacist receives the prescription and verifies its authenticity. 4- The pharmacist updates the inventory levels based on the prescription demands.

	5- The system generates a sales report based on the prescription demands.
Special Requirements	The application should have a secure communication channel between the doctor, patient, pharmacist, and inventory manager. The application should have a database of all prescriptions and their corresponding inventory levels to enable real-time updates. The application should have the ability to generate sales reports based on prescription demands. The application should have the ability to notify the patient when the prescription is ready for pickup.