جامعة الأهرام الكندية
AHRAM CANADIAN UNIVERSITY
Faculty of Computer Science and Information Technology

Pharmacy Management Software

Phase 1: Software Engineering Project

Submitted To

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1. Introduction

Introducing our pharmacy management software, a comprehensive tool meticulously crafted to enhance every facet of your pharmacy's operations. Seamlessly integrating inventory control, prescription management, and customer service, our software empowers your team to deliver exceptional care efficiently. Experience streamlined workflows, ensuring accuracy and compliance with industry standards. Our user-friendly interface simplifies complex tasks, providing a hassle-free experience for your staff. Real-time data insights enable informed decision-making, fostering business growth and optimizing patient care. With stringent security measures in place, your sensitive data remains protected. Embrace a new era of efficiency and precision in pharmacy management with our innovative software solution.

Purpose

The pharmacy management software aims to streamline and optimize the workflow of pharmacies, facilitating efficient medication inventory management, prescription processing, patient information handling, and overall operational efficiency. The software serves as a comprehensive solution to enhance the daily tasks within a pharmacy setting, ensuring accuracy, speed, and compliance with healthcare regulations.

1.1 Scope

- Medication Inventory Management System
- Prescription Processing and Tracking
- Patient Information and Medical History Management
- Order Fulfillment and Inventory Control
- Billing and Invoicing
- Reporting and Analytics for Business Insights
- Security and Access Control Measures
- Integration Capabilities with Other Healthcare Systems

1.2 Definitions, acronyms, and abbreviations

Term	Definition
EHR	Electronic Health Record
HIPAA	Health Insurance Portability and Accountability Act
API	Application Programming Interface
UI	User Interface
SQL	Structured Query Language

2. Requirements

2.1 Functional Requirements

1. Medication Inventory Management: Track inventory, manage stock levels, and generate alerts for low stock items.
2. add medicine: Allow entry, storage, and retrieval of prescription information, including patient details, prescribed medications, and dosage instructions.
3. Order Management: Enable the creation, tracking, and fulfillment of orders for medications and supplies.
4. Patient Management: Maintain a database of patient information, including medical history, allergies, and contact details.
5. Billing and Invoicing: Generate invoices for prescriptions, manage payment records, and integrate with accounting systems.
6. view products: Provide reports on inventory levels, sales trends, prescription fulfillment rates, and other key metrics.
7. Integration: Allow integration with other healthcare systems, such as Electronic Health Records (EHR) or insurance databases, for seamless information exchange.
8. User Login: This feature is used by the user/admin to login into system.

9. Register New User: A new user will have to register in the system.
10. manage database: control database such as insert data, update, delete.
11. search product: user can search for product in the system.
12. log out: user and admin log out from the system.

2.2 Non Functional Requirements

1. Performance: Ensure the system can handle concurrent users and manage data efficiently, providing quick response times.

2. Scalability: Allow for easy expansion to accommodate increased data, users, or functionalities without compromising performance.

3. Reliability: Maintain high availability and reliability to minimize downtime or data loss.

4. Usability: Offer an intuitive user interface for easy navigation and quick learning for pharmacy staff.

5. Security: Implement robust data encryption, compliance with healthcare regulations (like HIPAA), and regular security updates to protect sensitive patient information.

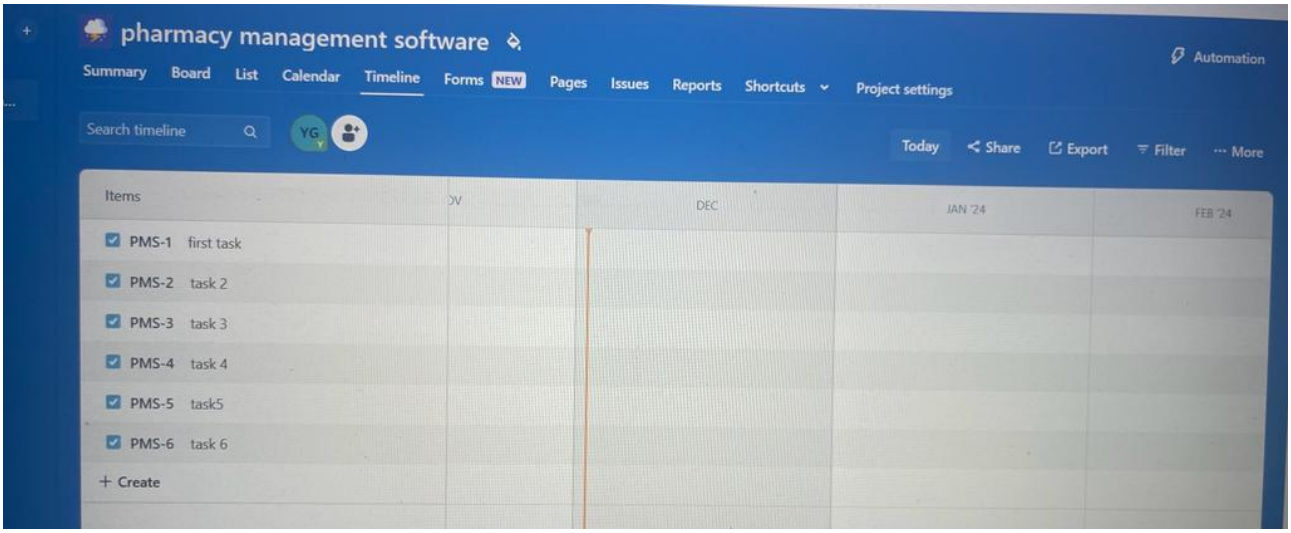
6. Compatibility: Ensure compatibility with various devices, operating systems, and browsers for accessibility.

7. Maintainability: Facilitate easy updates, bug fixes, and system enhancements to keep the software up-to-date and functional.

8. Compliance: Adhere to regulatory standards and industry best practices in pharmaceutical management and healthcare IT.

3. Used Technologies

- **Jira**: Is a website to make a board, put all tasks on it and assign each task to each member. We used it to manage our project and tasks upon the team members by organizing the tasks, creating sprints, and keeping track of our progress.



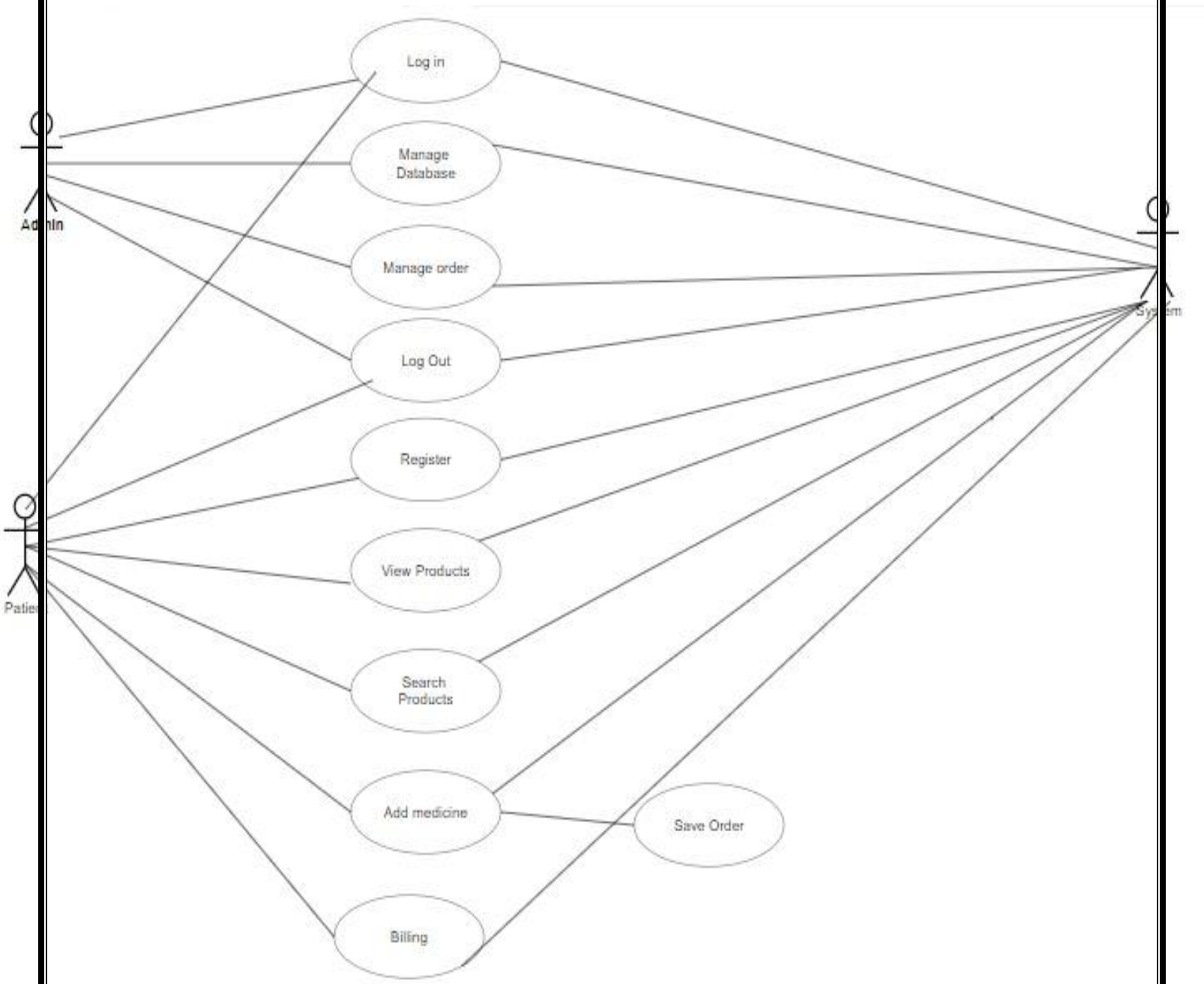
- **GitHub repository link**: This repository is made to make it easy for our team to communicate with each other. Every member will upload his copy of code with his modification to the code, so every member will always know the updates. This repository will help avoiding and reducing the reasons of errors.

  Provide your repository public link

- **Frontend technology:** (**Web application**) html ,css
- **Backend technology:** php ,framework laravel , mysql server

4. System Models

4.1 Use Case Model



- **Use Case Description Tables**

Use Case Number:	1	
Use Case Name:	Log in	
Actors:	Admin, patient, system	
Overview:	This feature is used by the user/admin to login into system.	
Related use cases:	None	
Event(Stimulus):	**User Action**	**System Action**
	user or admin can log in system	System Verify user data
Exceptions:	None	
Comments:	None	

Use Case Number:	2	
Use Case Name:	Mange database	
Actors:	Admin ,system	
Overview:	control database such as insert data, update, delete.	
Related use cases:	None	
Event(Stimulus):	**User Action**	**System Action**
	Open database and view products	Give authority to admin to control
Exceptions:	None	

Comments:	None

Use Case Number:	3	
Use Case Name:	Mange order	
Actors:	Admin ,system	
Overview:	Enable the creation, tracking, and fulfillment of orders for medications and supplies.	
Related use cases:	None	
Event(Stimulus):	**User Action**	**System Action**
	Mange request	Accept request
Exceptions:	None	
Comments:	None	

Use Case Number:	4	
Use Case Name:	Log out	
Actors:	Admin ,system, patient	
Overview:	user and admin log out from the system.	
Related use cases:	none	
Event(Stimulus):	**User Action**	**System Action**
	User or admin log out from system	Accept request
Exceptions:	none	
Comments:	none	

Use Case Number:	5

Use Case Name:	register	
Actors:	system, patient	
Overview:	A new user will have to register in the system.	
Related use cases:	none	
Event(Stimulus):	**User Action**	**System Action**
	User register to system	Save user data in database in the system
Exceptions:	none	
Comments:	none	

Use Case Number:	6	
Use Case Name:	view products	
Actors:	patient, system	
Overview:	Provide reports on inventory levels, sales trends, prescription fulfillment rates, and other key metrics.	
Related use cases:	None	
Event(Stimulus):	**User Action**	**System Action**
	User can view medicine	Show all medicine
Exceptions:	None	
Comments:	None	

Use Case Number:	7
Use Case Name:	search product

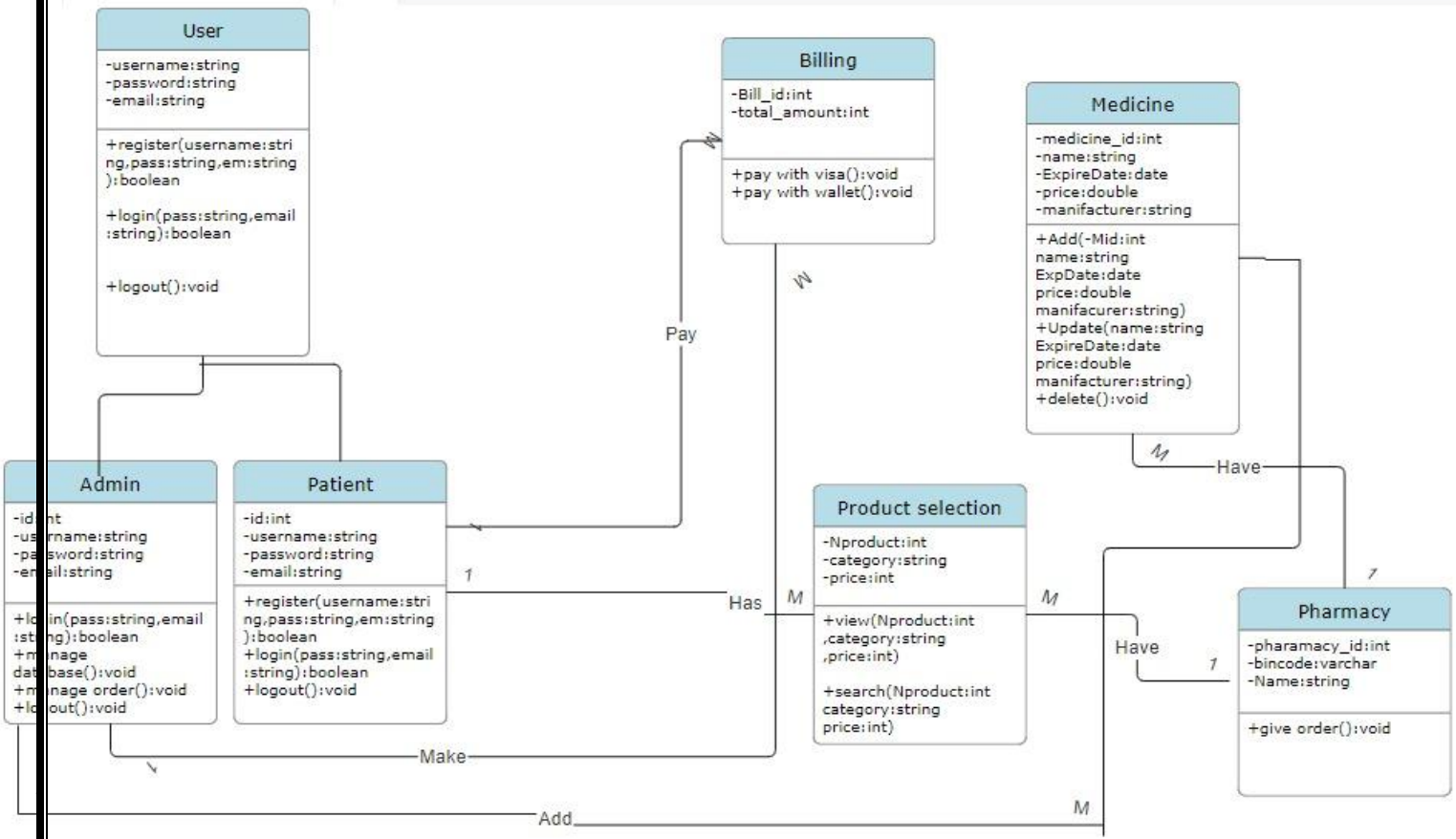
Actors:	patient, system	
Overview:	user can search for product in the system.	
Related use cases:	None	
Event(Stimulus):	**User Action**	**System Action**
	User can search medicine	Return searched product
Exceptions:	None	
Comments:	None	

Use Case Number:	8	
Use Case Name:	Add medicine	
Actors:	patient, system	
Overview:	Allow entry, storage, and retrieval of prescription information, including patient details, prescribed medications, and dosage instructions.	
Related use cases:	None	
Event(Stimulus):	**User Action**	**System Action**
	User can add medicine and save order then request it later	Allow to the user to add products
Exceptions:	None	
Comments:	None	

Use Case Number:	9
Use Case Name:	Billing
Actors:	patient, system

Overview:	Generate invoices for prescriptions, manage payment records, and integrate with accounting systems.	
Related use cases:	None	
Event(Stimulus):	**User Action**	**System Action**
	User can be billed for medications	The system calculates the total cost and prints its invoice
Exceptions:	None	
Comments:	None	

4.2 Class diagrams



- **Use Classes Description Tables**

Class ID	Class Name	Description
1	admin	Can log in ,manage database, add medicine and log out

Class ID	Class Name	Description
2	patient	Can register, log in, log out , bill, search product, view product

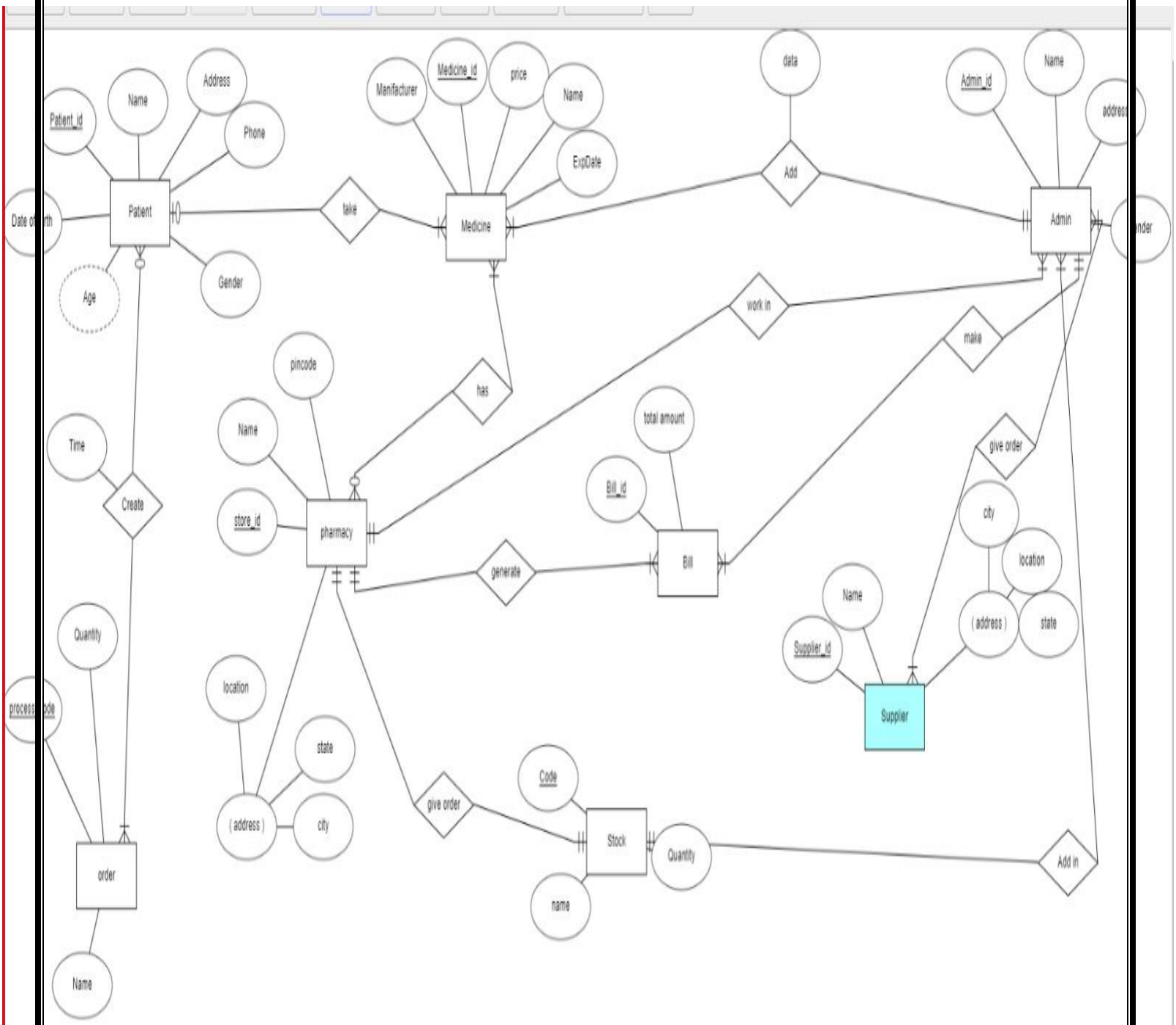
Class ID	Class Name	Description
3	billing	Patient can pay invoice by (visa, wallet)

Class ID	Class Name	Description
4	medicine	Allow entry, storage, and retrieval of prescription information, including patient details, prescribed medications, and dosage instructions.

Class ID	Class Name	Description
5	pharmacy	Add and update medicine

Class ID	Class Name	Description
6	Product selection	Patient can search product, view product

4.4 Physical Entity-Relationship Diagram



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42110461	Mohamed Samy Abd El-Azeem	Intro, functional
42110465	Mostafa Elsayed Mostafa	Erd, use case, functional
42110348	Yassa khalil naguip	Use case, nonfunctional