



FACULTY OF COMPUTER AND ARTIFICIAL INTELLIGENCE
INFORMATION SYSTEM DEPARTMENT

3ALGNY TEAM

Graduation Project 2023

Supervised By

[Dr. Safaa Azzam]

June, 2023



INTEGRATED MEDICAL
SERVICES WEBSITE

3ALGNY

“3ALEGNY” is a medical application that facilitates easy access to healthcare of the patients, easy communication with doctors for their consultation.

Acknowledgment

We begin by thanking Almighty Allah for giving us the strength, determination, and wisdom to complete this work. Without His divine support, this achievement would not have been possible.

We would also like to express our sincerest gratitude to our esteemed supervisor, **Dr. Safaa Azzam**, for her unwavering support and invaluable mentorship throughout our undergraduate studies. Her guidance, motivation, and immense knowledge have been instrumental in the successful completion of this project.

Our heartfelt thanks go out to the distinguished faculty of computer science and artificial intelligence at Helwan University, who provided us with the necessary facilities, resources, and educational opportunities to conduct this research. We would especially like to acknowledge the Information Systems department, whose tools and background knowledge were critical to the success of this project.

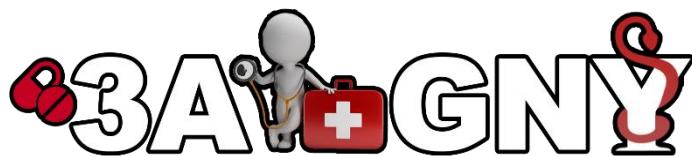
Furthermore, we extend our deepest appreciation to our families, friends, and colleagues for their unwavering encouragement, mental and financial support, and constructive feedback throughout the research and writing process. Their love, patience, and constant belief in us helped us overcome obstacles and achieve success.

It is our sincere hope that this project will make a meaningful contribution to the field of computer science and artificial intelligence.





HELWAN UNIVERSITY
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Submitted in partial fulfilment of the requirements for the degree of Bachelor of Science in
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June 2023

Who Are We ???



Hend Mokhtar

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Full - Stack (Front & Back)



Mostafa Tarek (Technical Leader)

Back - End



Youssef Yousry

Back - End

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Chapter 1: Introduction

1.1 Overview:

“3ALEGNY” is a medical application that facilitates easy access to healthcare of the patients, easy communication with doctors for their consultation.

It also helps you as a patient to find the best clinic that is based on the (Location, patients reviews, appointments, etc.).

It also provides you as a patient with the ease of dealing with the pharmacies and ordering the specific medicine in the prescription that matches the condition of the patient.

It also provides you as a doctor with the ability to manage your own clinic easily and provides you with daily appointments.

It also provides you as a pharmacy to manage your own products and medical suppliers.

1.2 Objectives:

Main activity of the application is time and effort saving for patients, instead of going to the clinic to reserve an appointment the application provides you an online reservation with all available appointments and you choose the one that suits you. And it also provides you with the ability to order your medicine from any pharmacy.

1.3 Purpose:

To develop a medical application that facilitate online functions like reserving appointments, order medicine, browse clinics/pharmacies based on (location/reservation price/appointments/rate/review and ease of communication between the patient and the doctor for his consultation of any side effects. Saving time and effort based on the patient's choice of the appropriate clinic in terms of rates/reviews or distance. The ability to order medicine from nearby pharmacies that meets the patient's prescription, through some modules suitable for a patient's role like visitor, clinic/doctor, pharmacy.

1.4 Scope: scope is categorized into two definitions.

1- Product Scope:

For a patient: it provides you with an easy way to reserve an appointment at the clinic and it also provides you with free search for any medical product you want to buy or know about it.

For a clinic: it provides you with a modern way to introduce your clinic to the visual world with an organized way to present your available appointments online and receive the daily reserved appointments.

For a pharmacy: it provides you with the opportunity to publish your medical products through the internet.

2- Project Scope: it's supposed to finish the project at the first of June included the testing and discussion

1.5 General Constraints:

There was a deadline to deliver the project also collecting the pharmacy and clinic data wasn't easy.

Finding a way to sign up as a clinic or pharmacy was not that easy because you need your tax number and commercial register to be added in the database to ensure that you are reliable.

Chapter 2: Project “Planning and Analysis”

2.1.1- Feasibility Study.

-Technical feasibility:

- It's a medical application divided into two technologies front-end using Flutter and back-end using .NET core API and SQL server.
- Will utilize existing technology which lowers project risk.
- Once in place this technology is simple to operate and maintain.

-Operational feasibility

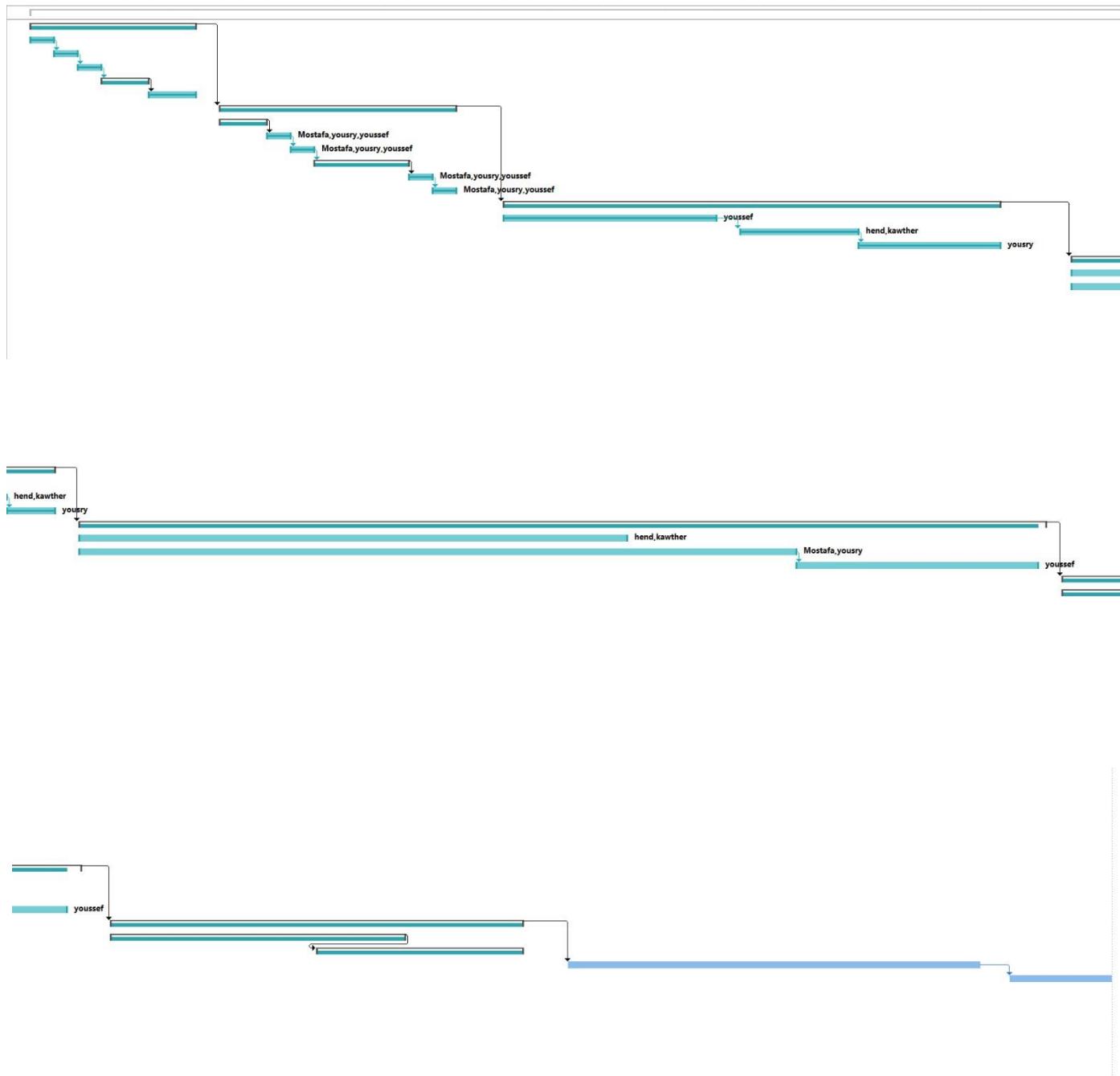
- No new facilities or capital investments are required.

		Task Modt ▾	Task Name ▾	Duration ▾	Start ▾	Finish ▾	Resource Names ▾
0			▫ 3ALGNY	233 days	Sat 10/1/22	Sun 5/21/23	
1	✓		▫ Introduction	7 days	Sat 10/1/22	Fri 10/7/22	Mostafa,yousry,youssef
2	✓		Overview	1 day	Sat 10/1/22	Sat 10/1/22	
3	✓		Objectives	1 day	Sun 10/2/22	Sun 10/2/22	
4	✓		Purpose	1 day	Mon 10/3/22	Mon 10/3/22	
5	✓		▫ Scope	2 days	Tue 10/4/22	Wed 10/5/22	
6	✓		Product Scope	1 day	Tue 10/4/22	Tue 10/4/22	
7	✓		Project Scope	1 day	Wed 10/5/22	Wed 10/5/22	
8	✓		General Constraints	2 days	Thu 10/6/22	Fri 10/7/22	
9	✓		▫ planning & Analysis	10 days	Sun 10/9/22	Tue 10/18/22	
10	✓		▫ Feasibility Study	2 days	Sun 10/9/22	Mon 10/10/22	hend,kawther
11	✓		Technical Feasibility	1 day	Sun 10/9/22	Sun 10/9/22	
12	✓		Operational Feasibility	1 day	Sun 10/9/22	Sun 10/9/22	
13	✓		Gantt Chart	1 day	Mon 10/10/22	Mon 10/10/22	
14	✓		Limitations	1 day	Tue 10/11/22	Tue 10/11/22	Mostafa,yousry,youssef
15	✓		Need for new system	1 day	Wed 10/12/22	Wed 10/12/22	Mostafa,yousry,youssef
16	✓		▫ Requirements	4 days	Thu 10/13/22	Sun 10/16/22	
17	✓		▫ User Requirements	1 day	Thu 10/13/22	Thu 10/13/22	hesham
18	✓		Patient	1 day	Thu 10/13/22	Thu 10/13/22	
19	✓		Clinic/Doctor	1 day	Thu 10/13/22	Thu 10/13/22	
20	✓		Pharmacy	1 day	Thu 10/13/22	Thu 10/13/22	
21	✓		System Requirements	1 day	Fri 10/14/22	Fri 10/14/22	youssef
22	✓		Domain Requirements	1 day	Fri 10/14/22	Fri 10/14/22	Mostafa,yousry
23	✓		▫ Functional	1 day	Sat 10/15/22	Sat 10/15/22	hend,kawther

GANTT CHART

		Task Mode	Task Name	Duration	Start	Finish	Resource Names
23			▫ Functional Requirements	1 day	Sat 10/15/22	Sat 10/15/22	hend,kawther
24			Patient	1 day	Sat 10/15/22	Sat 10/15/22	
25			Clinic	1 day	Sat 10/15/22	Sat 10/15/22	
26			Pharmacy	1 day	Sat 10/15/22	Sat 10/15/22	
27			Non-Functional Requirements	1 day	Sun 10/16/22	Sun 10/16/22	hend,kawther
28			Advantages	1 day	Mon 10/17/22	Mon 10/17/22	Mostafa,yousry,youssef
29			Risk	1 day	Tue 10/18/22	Tue 10/18/22	Mostafa,yousry,youssef
30			▫ Software Design	21 days	Fri 10/21/22	Thu 11/10/22	
31			Use Case	9 days	Fri 10/21/22	Sat 10/29/22	youssef
32			Sequence Diagram	5 days	Mon 10/31/22	Fri 11/4/22	hend,kawther
33			Activity Diagram	6 days	Sat 11/5/22	Thu 11/10/22	yousry
34			▫ Implementation	120 days	Mon 11/14/22	Mon 3/13/23	
35			Front End	68 days	Mon 11/14/22	Fri 1/20/23	hend,kawther
36			Back End	89 days	Mon 11/14/22	Fri 2/10/23	Mostafa,yousry
37			Integration	30 days	Sun 2/12/23	Mon 3/13/23	youssef
38			▫ Testing	28 days	Wed 3/15/23	Tue 4/11/23	Mostafa,yousry
39			▫ Functional Testing	20 days	Wed 3/15/23	Mon 4/3/23	
40			Unit Testing	5 days	Wed 3/15/23	Sun 3/19/23	
41			Integration Testing	5 days	Mon 3/20/23	Fri 3/24/23	
42			System Testing	5 days	Sat 3/25/23	Wed 3/29/23	
43			Acceptance Testing	5 days	Thu 3/30/23	Mon 4/3/23	
44			▫ Non-Functional Testing	14 days	Wed 3/29/23	Tue 4/11/23	
45			Performance Testing	4 days	Wed 3/29/23	Sat 4/1/23	
46			Security Testing	3 days	Sun 4/2/23	Tue 4/4/23	
47			Usability Testing	2 days	Wed 4/5/23	Thu 4/6/23	
48			Compatibility Testing	5 days	Fri 4/7/23	Tue 4/11/23	
49			Result & Discussion	28 days	Sat 4/15/23	Fri 5/12/23	
50			Conclusion	7 days	Mon 5/15/23	Sun 5/21/23	

2.1.2- Gantt Chart.



2.1.2- Gantt Chart.



2.2 The main limitations of the application are:

- system can't detect offensive words in reviews/comments.
- system can't locate the nearest clinic/pharmacy.
- system doesn't provide an online payment method only reservation.

2.3 Need for new system

- The existing system lacks adaptability when interacting with users, causing difficulties in usability. Furthermore, there is a need to enhance the site with robust and dependable features.
- Add the possibility for patient to reserve appointments, order meds, and the feature of chatting with doctors in addition to having the ability to rate the clinics, all these newly introduced features contribute to the improved reliability and usability of the site.

2.4 1- User Requirements

Patient:

- Enable user to register with basic registration details.
- Enable user to login into the system to access the system.
- Once user is logged into the, he/she may view all his reserved appointments.
- User can browse various clinics of his choice based on (nearest location or lowest price or patient's reviews/rating)
- User can browse various pharmacies of his choice based on availability of meds or the nearest pharmacy.
- User can reserve many appointments of various clinics based on his condition.
- Users can order the meds.
- User can communicate with his doctor for his consultation of any side effects.
- All the purchased medicine history of user will be displayed with details.

Clinic/Doctor:

- Enable users to register with basic registration details that include the clinic Tax number and commercial register.
- Enable user to login into the system to access the system.
- Once the user is logged into the, he/she receives all the daily appointments and confirms it.
- Doctor can reply and communicate with his patients.
- Clinic generates a specific diagnostic for each patient.
- Clinic saves the medical history of each patient.

Pharmacy:

- Enable user to register with basic registration details that include the pharmacy Tax number and commercial register.
- Enable user to login into the system to access the system.
- Once the user is logged into the, he/she receives all the ordered meds and confirms it.
- Pharmacy can manage its products.

2.4 2- System Requirements:

- **1. Programming Languages and Frameworks:**
 - Backend (ASP.NET Core 7.0).
 - Frontend: (React.JS).
- **2. Database:**
 - A relational database management system (RDBMS) (Microsoft SQL Server)
- **3. User Authentication and Authorization:**
 - Implement a user authentication system to handle user registration, login, and password management securely. ASP.NET provides a User Identity library and JWT Bearer which provides valid token and Role management.
- **4. Clinic Management:**
 - Design a database schema to store clinic information, including clinic description, days and times, address, ratings, and doctor details.
 - Implement functionalities for patients to browse, search, and view clinics.
 - Provide options for patients to rate clinics, chat with doctors, and reserve appointments.
 - Chat with patients and add reports to each appointment.
 - Include features for doctors to edit their clinic days and times and disable their accounts if necessary.
- **5. Pharmacy Management:**
 - Create a database schema to store pharmacy details and products.
 - Enable patients to browse pharmacies, view product listings, and place orders.
 - Implement functionality for pharmacies to manage their product inventory and process orders.
- **6. Pharmacy and Doctor Accounts:**
 - Implement an account management system for pharmacies and doctors, allowing them to enable/disable their accounts.
- **7. User Interfaces:**
 - Design intuitive and user-friendly interfaces for patients, doctors, and pharmacies, ensuring easy navigation and accessibility across different devices.
- **8. Security Measures:**
 - Implement security measures such as secure communication (HTTPS), input validation, and protection against common web vulnerabilities (e.g., SQL injection, cross-site scripting).
- **9. Testing and Maintenance:**
 - Perform thorough testing to identify and fix bugs or vulnerabilities.
 - Plan for regular maintenance and updates to keep the website secure and functional.

2.4 3- Domain Requirements:

- Patients should be able to see all the clinics with all available appointments and pharmacies.
- Pharmacy should be able to manage its products.
- The clinic should be able to see all the reserved appointments for each individual day.
- The application should have a suitable throughput rather than falling and should be robust and highly secured to prevent fake reservation/registration.
- All dates in the application should be accurate.

2.4 4- Functional Requirements

Patient

- Login: if the password corrects the operation succeeded
- Else login error
- Register: when you don't have an account
- Chat patient: communication between patient and his doctor
- Review clinic: the patient says his opinion to the clinic.
- Reserve appointment: the patient books a suitable appointment for him.
- Search: View all clinic and choose the suitable clinic
- View all pharmacy and choose the pharmacy according to the required medication.
- Order medicine: the patient needs medicine, so he orders it
- view all appointments: the patient sees all available appointments.
- Logout: when he finishes

Clinic

- Login: if the password corrects the operation succeeded
- Else login error
- Register: when you don't have an account
- Chat doctor: System must
- allow doctor to
- answer the question.
- Reserve appointment: the doctor receives the appointment.
- Diagnosing: the doctor explains the patient's condition
- View daily appointments: the doctor sees a list of appointments.
- Logout: when he finishes

Pharmacy

- Login: if the password corrects the operation succeeded
- Else login error
- Register: when you don't have an account
- Order medicine: the pharmacy receives the request.
- Logout: when he finishes

2.4 5- Non-Functional Requirements

- **Appearance:** Simple look and good feeling to use.
- **Availability:** The System must be available 99 % time of the Year.
- **Response:** The System must be response to user in less than 10 seconds
- **Security:** Users info should be secure by using GUID
- **Maintainability:** is easy to change and adapt to new requirements
- **Reliability:** does not fail or crash
- **Capability:** does all that is required
- **Performance:** is fast and small enough
- **Portability:** the adaptation of a software system to other environments
- **Reusability:** deal with the use of software modules originally designed for one project in a new software project currently being developed
- **Usability:** is sufficiently convenient for the intended users and ease of use
- **Flexibility:** The capabilities and efforts required to support adaptive maintenance activities
- are covered by the flexibility requirements.

2.5 Advantages for the new system

- clinic makes a report for each patient that includes (meds, diagnosing, labs)
- System provides you with an online chat between the patient and his doctor.
- System allows you to order your meds from the pharmacy you choose.
- System provides you to search for any medical product from any pharmacy.
- Make the system easier and more efficient with features.
- Artificial intelligence will make the system more dynamic.
- The user can easily find out if the car malfunctions.
- He can buy or display the product on the site, which makes the site stronger to use.

2.6 Risk and Risk Managements

Risk

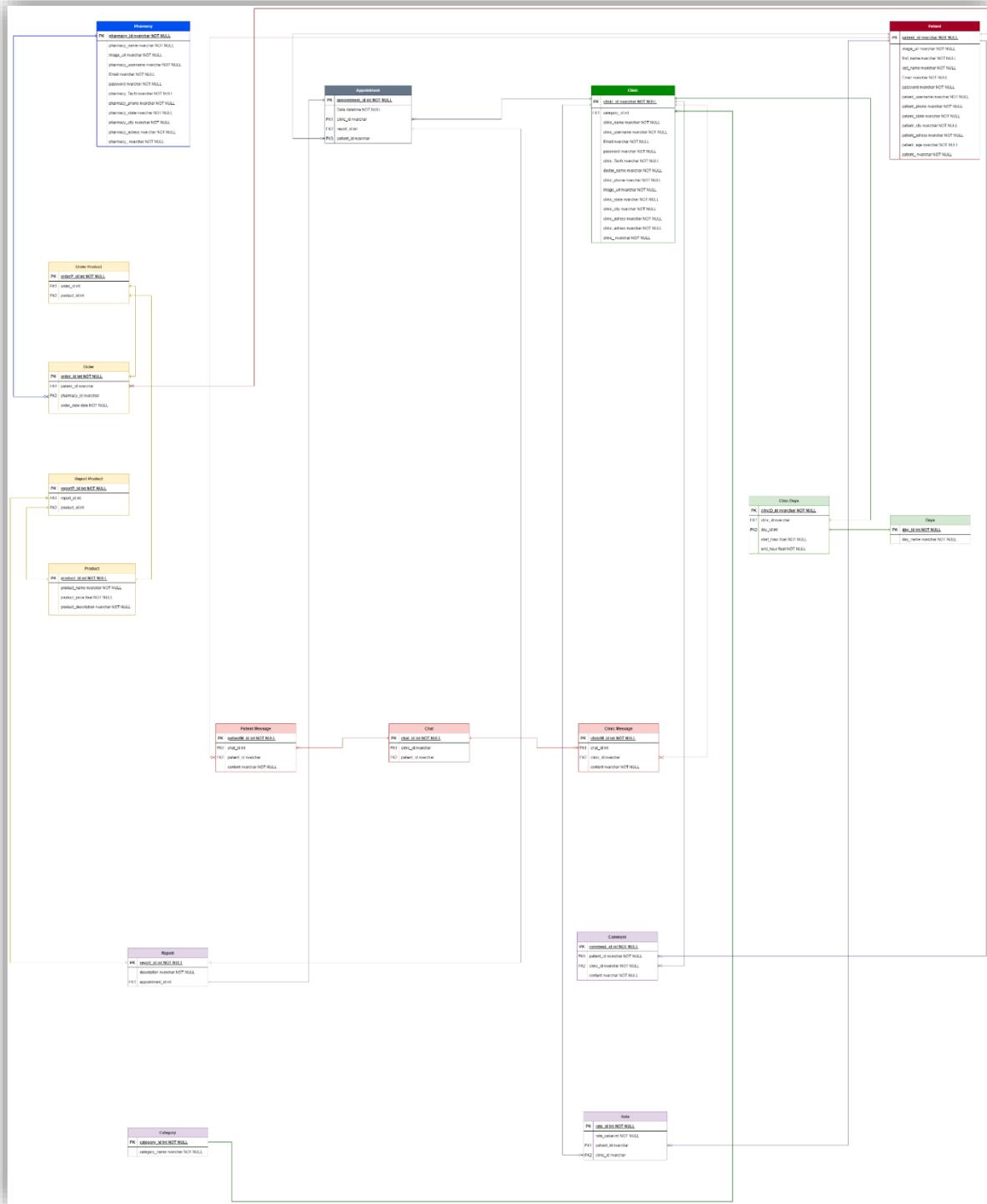
- The development software has been corrupted.
- Project files have been corrupted/lost.
- Part of the project can't be done or have a complex function that is out of developing team scope.
- Project objectives and purpose are not well defined.
- No control over priorities functions, and diagrams, ...etc.)
- New features added (unplanned Revising the project plan with the work were added) Unclear communication.
- Wrong SRS have been provided (project have been analyzed wrongly)
- Team members have some difficulties or are unable to do some tasks.
- Some team members drop out of the team and integrate the new work.

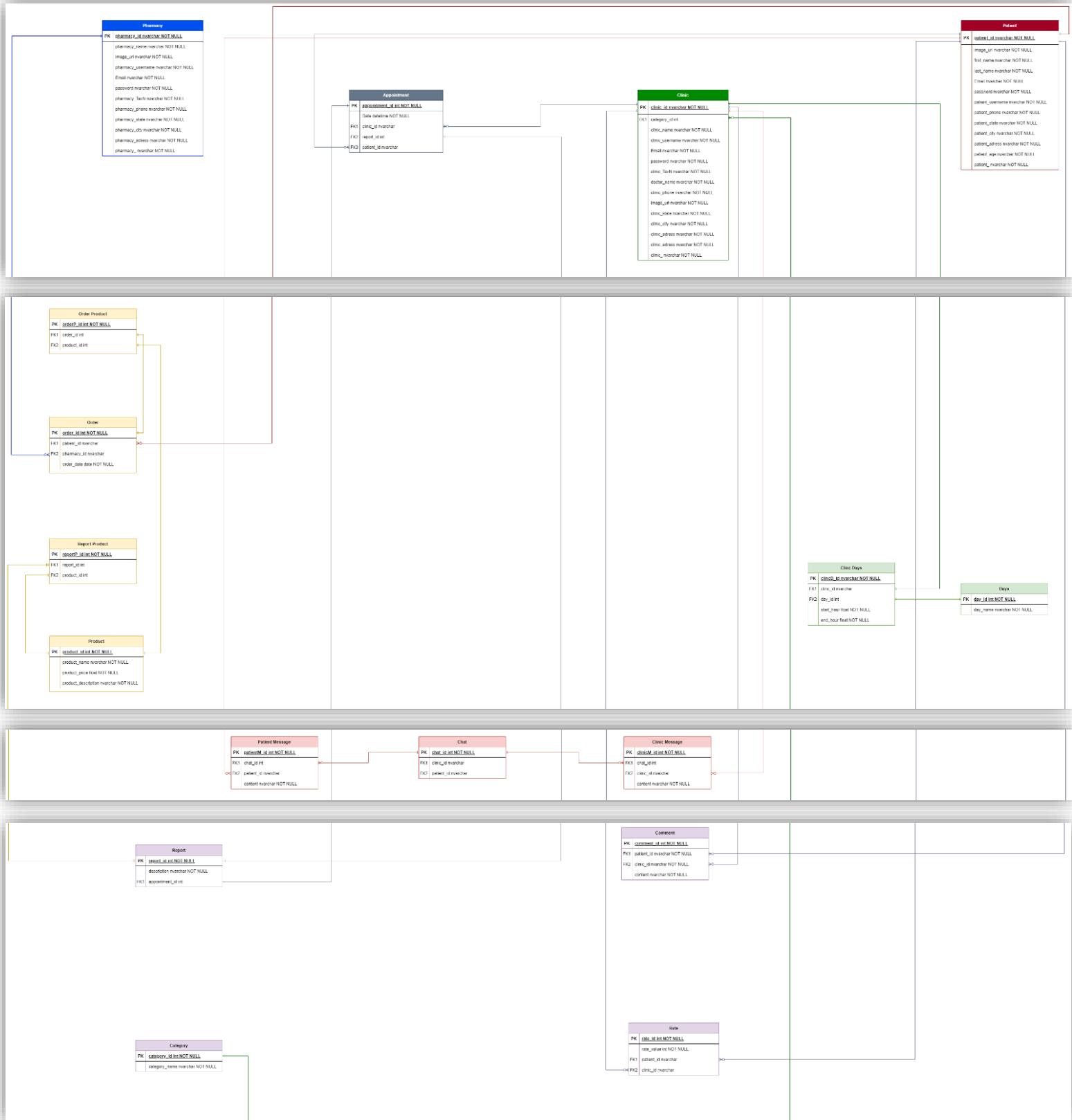
Risk Management

- Try to find a proper replacement as soon as possible.
- Put in our minds to have a pack up to solve this problem and to save data constantly.
- Consulting the supervisor, the team leader or project manager
- Providing the SRS (the document the define the design, plan, functions, and diagrams, etc...)
- Project manager will provide instructions to specify priorities.
- Providing a good technique to communicate
- Project manager will try to get the right analysis (making the system analyst create a new one)
- Provide a team sprite to make seniors help juniors.
- Find a proper replacement, if unable, make other team members cover the work.

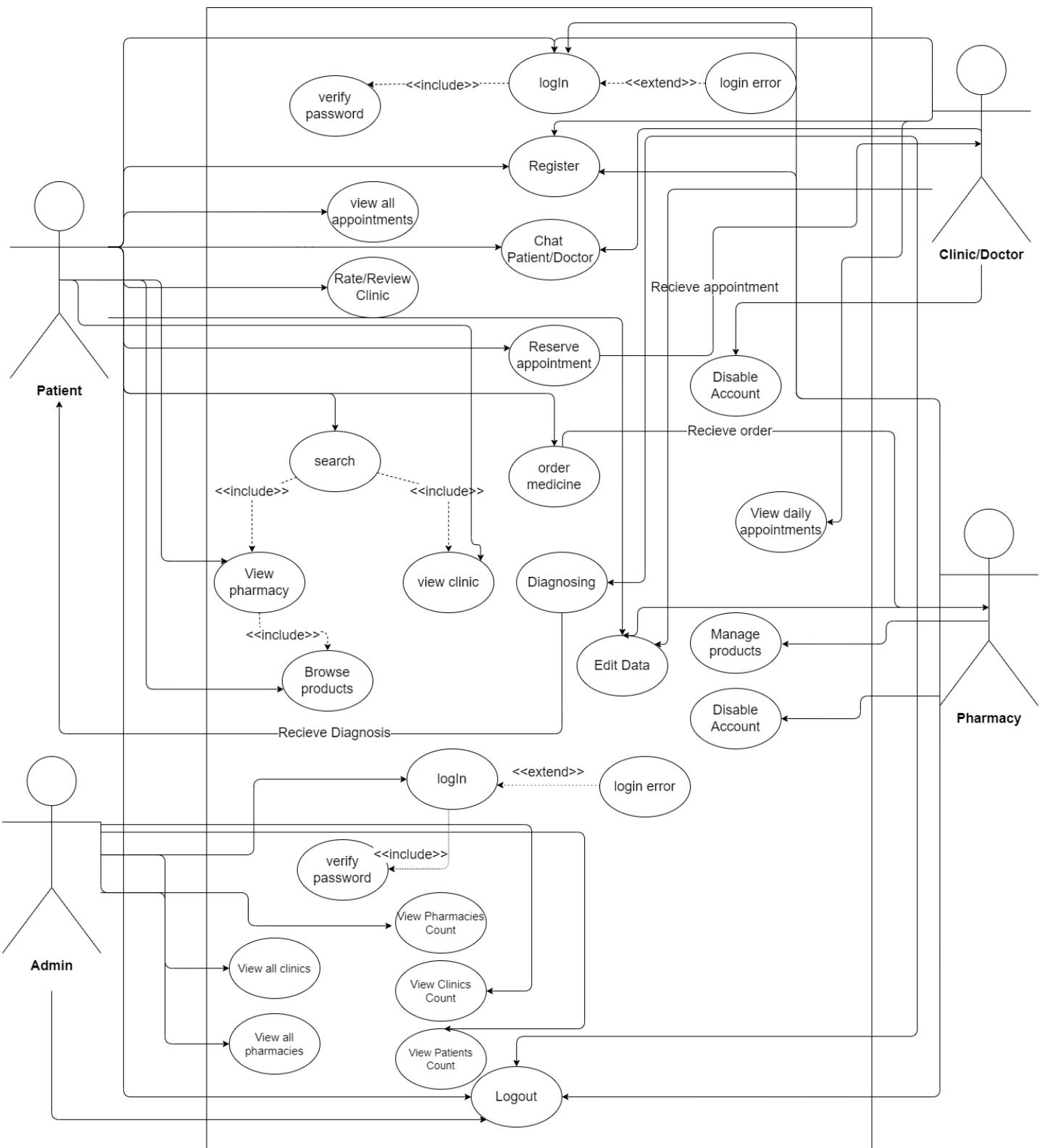
Chapter 3: Software Design

3.1 Design of database (ERD) Diagram:





3.2 USE-CASE DIAGRAM



3.2.1 USE-CASE DESCRIPTION

1) Register

Purpose	If the user doesn't have an account, then he will be asked to register
Actor	Patient / Clinic / Pharmacy
Input	<p>: The user will enter details in the registration form according to the required fields. The fields include:</p> <ul style="list-style-type: none"> 1-E-mail 2-First Name 3-Last Name 4-Password 5-Confirm password 6-Username 7-Address 8-Phone number 9-Date of birth 10- Tax number (Clinic/Pharmacy) 11-Commercial register (Clinic/Pharmacy)
Output	After registration the user will be directed to the main home page

2) Login

Purpose	If the user wants to get access to all the functionalities of medical application, he should login using his username/e-mail and password.
Actor	Patient/Clinic/Pharmacy/Admin
Input	The user will enter his username/e-mail and password
Output	If it is a successful login the user will be directed to the main home page. Else if the user enters invalid information, he will be asked to login again

3) Login Error

Purpose	If there are any problem in logging return massage
Actor	Patient/Clinic/Pharmacy/Admin
Input	Username/E-mail and password
Output	Incorrect username or password

4) Reserve Appointment

Purpose	Enable the user to reserve an appointment from the clinic he chooses
Actor	Patient
Input	User clicks on Reserve Appointment button
Output	User gets a message that he has reserved an appointment and it is added on view all appointments tab and clinic receives the appointment and confirms it

5) Rate/Review Clinic

Purpose	Knowing Patient's opinions of specific clinic by writing a review and rating
Actor	Patient
Input	User chooses to rate from (1 to 5 stars) how satisfied he was, and leave a comment as a review
Output	Rate/review is added to other reviews

6) View all appointments

Purpose	Display all patient's appointments
Actor	Patient
Input	User clicks on display all appointments tab
Output	All appointments are displayed to the user

7) Search

Purpose	Enable User to search for specific clinic/pharmacy
Actor	Patient
Input	User writes the name of the clinic/pharmacy
Output	Display the matched input

8) View clinic

Purpose	Display the clinic the user searched for
Actor	Patient
Input	User writes the name of the clinic he is searching for
Output	All details about the clinic will be displayed to the user

9) View pharmacy

Purpose	Display the pharmacy the user searched for
Actor	Patient
Input	User writes the name of the pharmacy he is searching for
Output	All details about the pharmacy will be displayed to the user

10) Browse products

Purpose	Enable the user to browse products in the pharmacy
Actor	Patient
Input	User clicks on view all products / search for specific product
Output	Display specific/all product(s) to the user

11) Chat Patient & Doctor

Purpose	Make a conversation between the patient and his doctor for his consultation
Actor	Patient & Doctor
Input	Click on the chat button
Output	A conversation is started between patient/doctor

12) Order medicine

Purpose	Enable the user to order his medicine
Actor	Patient
Input	User clicks on order button
Output	User receives a message that his order is done, and the pharmacy receives the order and confirms it

13) View all daily appointments

Purpose	Have the clinic keep track of daily appointments
Actor	Clinic/Doctor
Input	Clinic clicks on view all daily appointments tab
Output	Displayed all the daily reserved appointments

14) Diagnosing

Purpose	Doctors diagnose the patient according to his condition
Actor	Clinic/Doctor
Input	Patient tells the doctor his symptoms
Output	Patient receives the prescription for the doctor

15) Manage products

Purpose	Enable the pharmacy to manage its products
Actor	Pharmacy
Input	Pharmacy clicks on manage products tab
Output	All pharmacy's products are displayed to be managed (CRUD)

16) Disable Account

Purpose	Disable Account temporarily
Actor	Pharmacy/Clinic
Input	Pharmacy/Clinic clicks on edit profile then clicks on 'disable account' button
Output	Patient cannot temporarily view this clinic/pharmacy

17) View All Clinics

Purpose	Display all Clinics To admin
Actor	Admin
Input	Admin login successfully and directed to admin dashboard.
Output	All clinics in the system are displayed to the admin

18) View All Pharmacies

Purpose	Display all Pharmacies To admin
Actor	Admin
Input	Admin login successfully and directed to admin dashboard.
Output	All pharmacies in the system are displayed to the admin

19) View Users' total number in the system

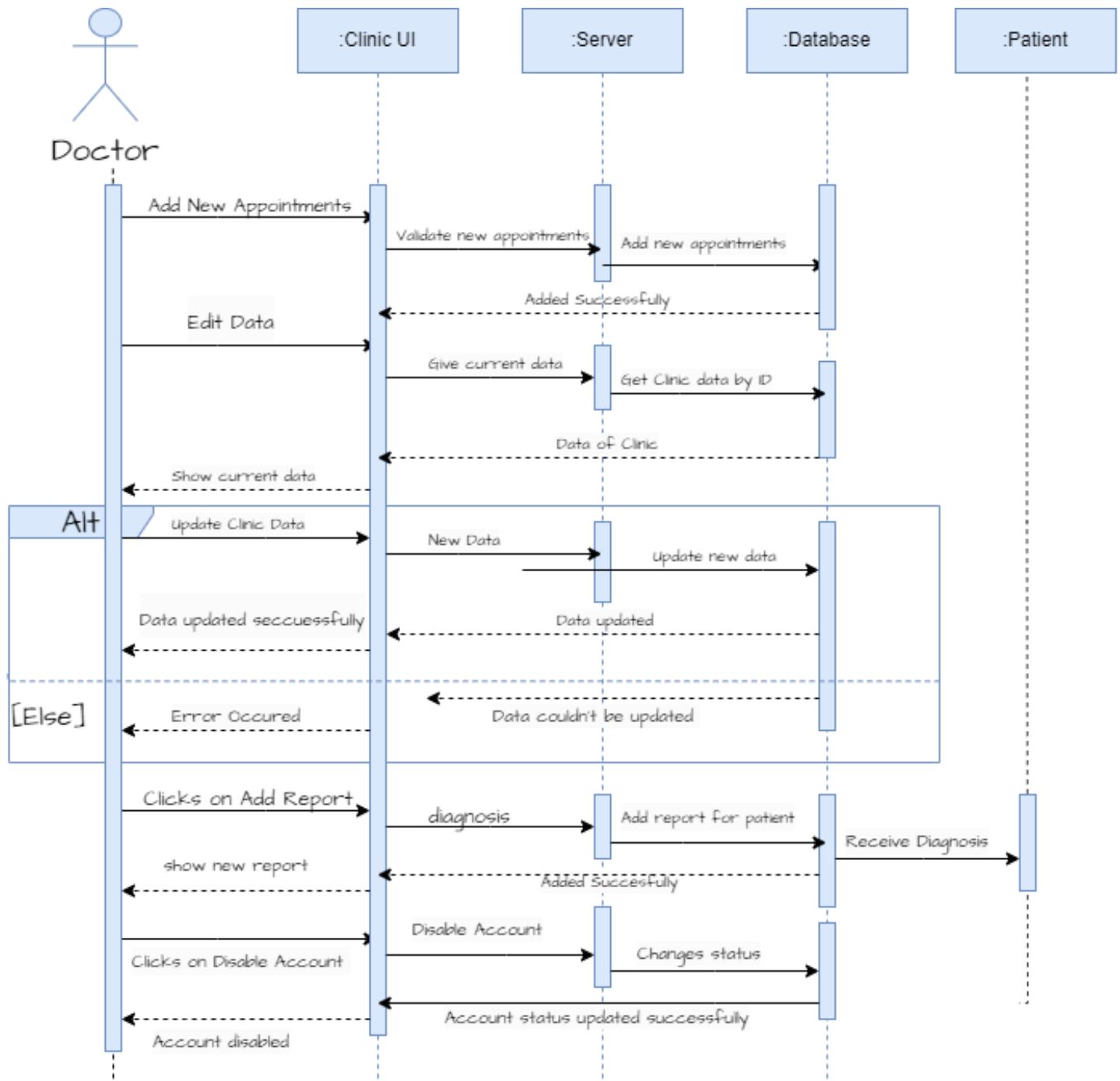
Purpose	Display users' total number
Actor	Admin
Input	Admin login successfully and directed to admin dashboard.
Output	All Users' number in the system are displayed to the admin

20) Logout

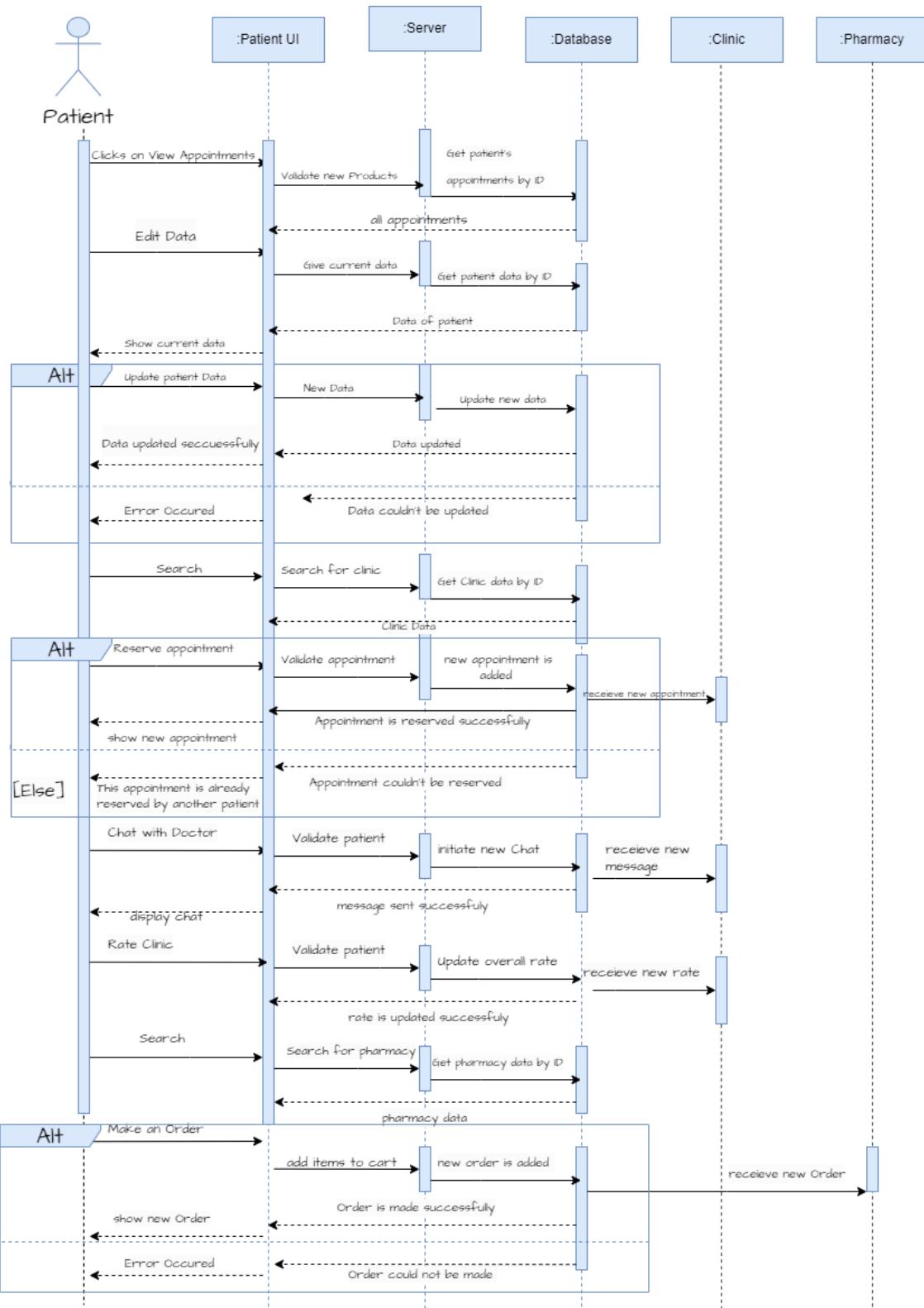
Purpose	Logout
Actor	Patient/Clinic/Pharmacy
Input	User clicks on logout button
Output	User redirected to the Login page

3.3 SEQUENCE-DIAGRAMS:

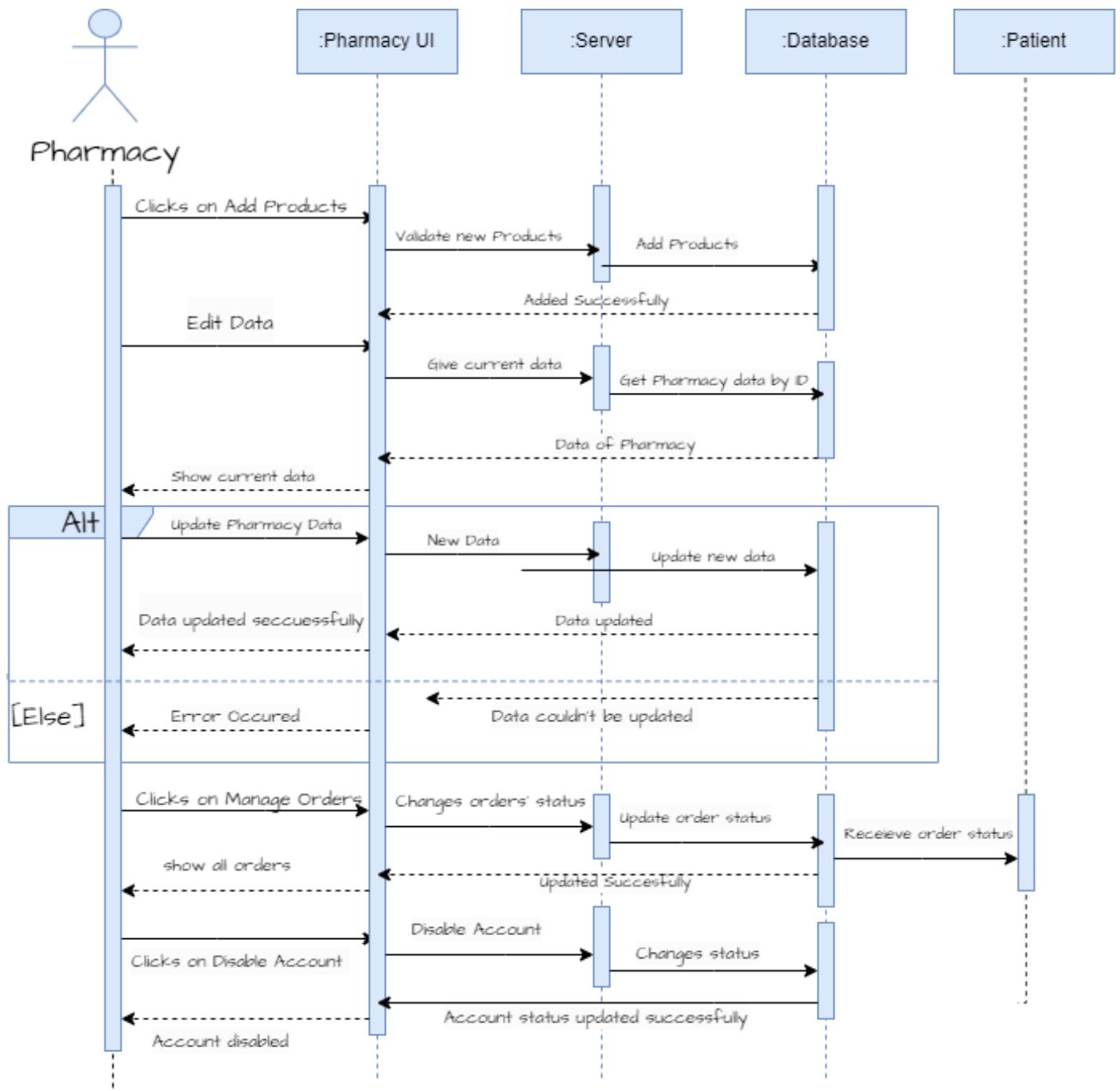
1- Doctor Sequence Diagram



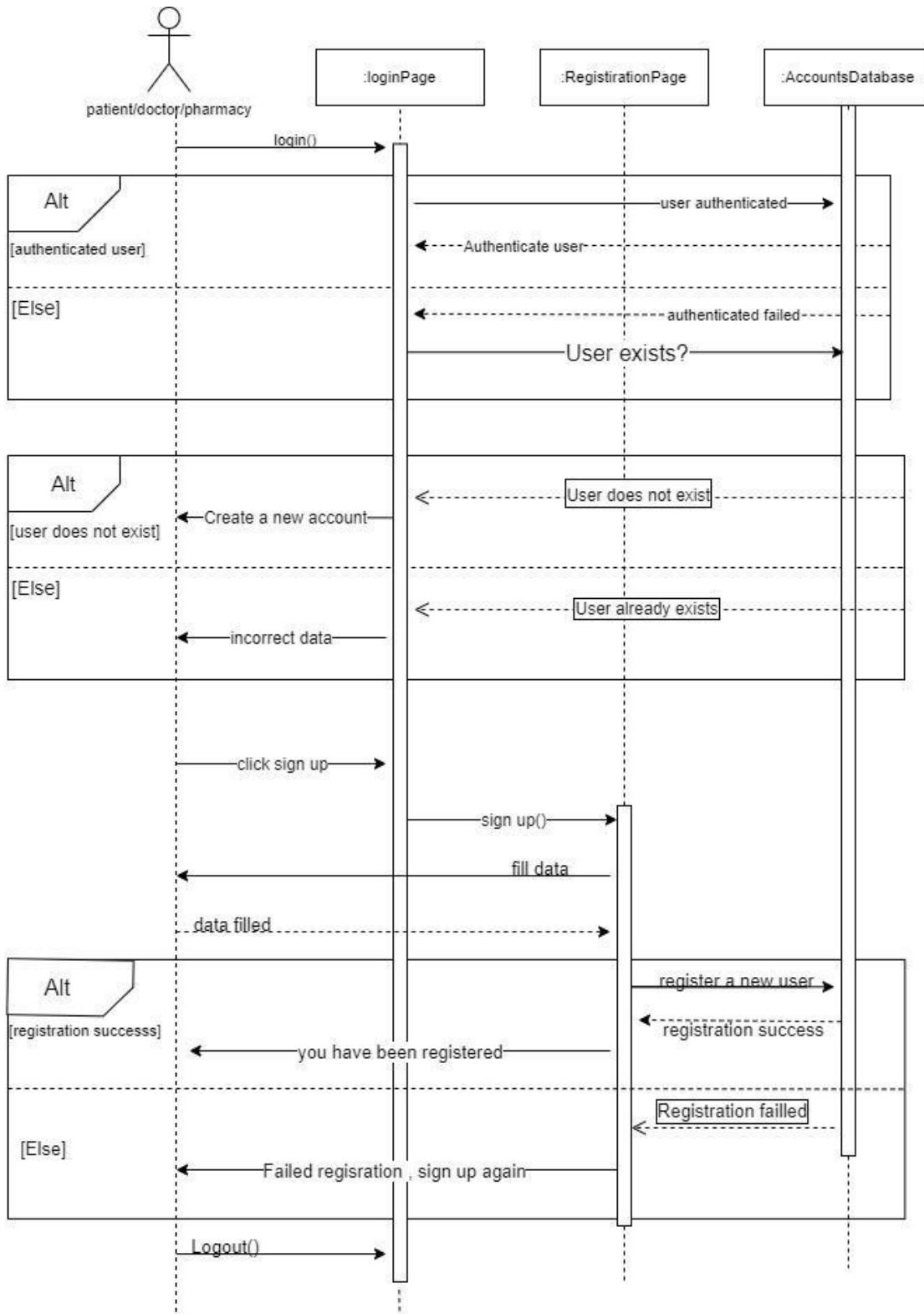
2- Patient Sequence Diagram.



3- Pharmacy Sequence Diagram

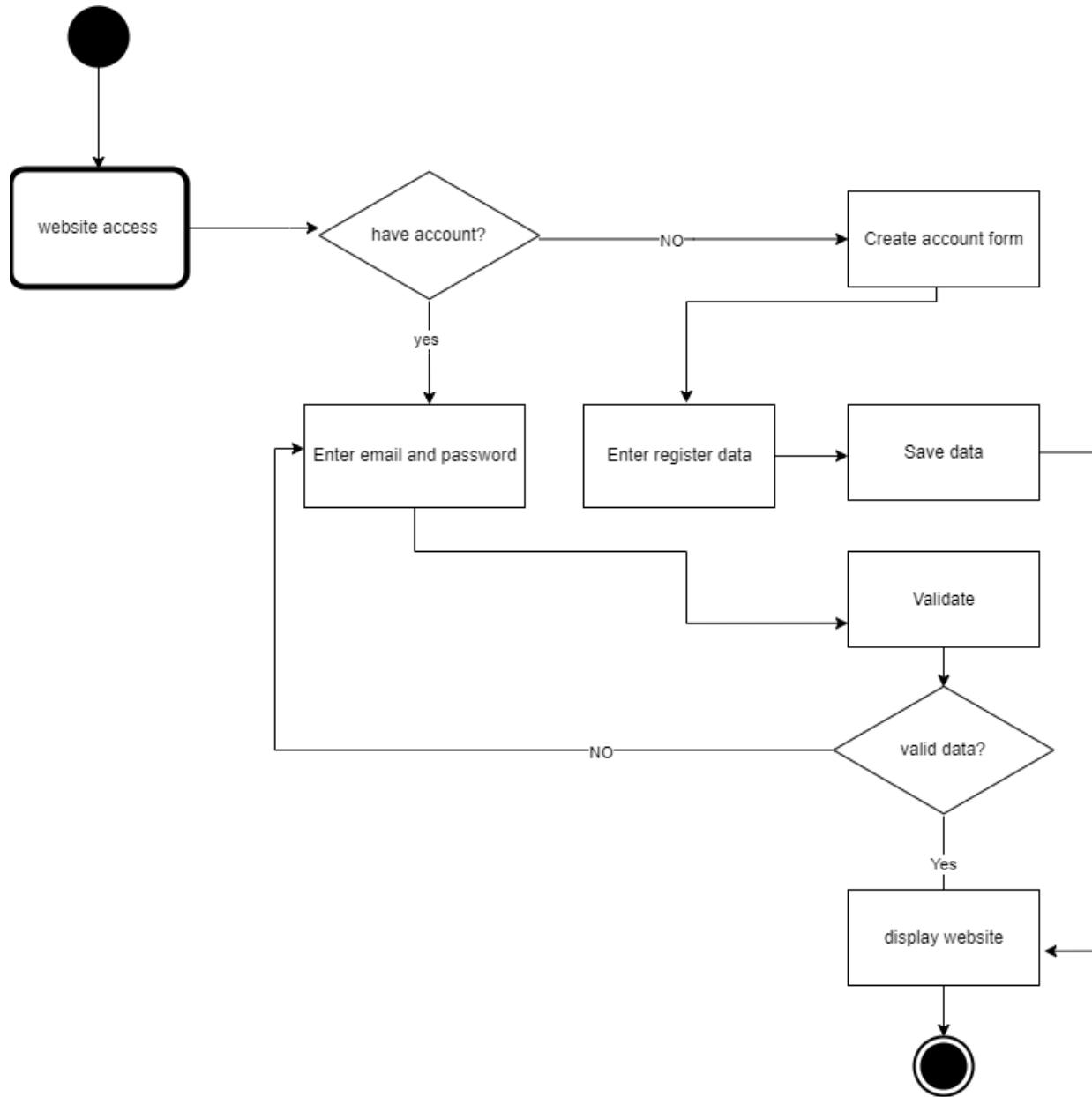


4- Login Sequence Diagram.

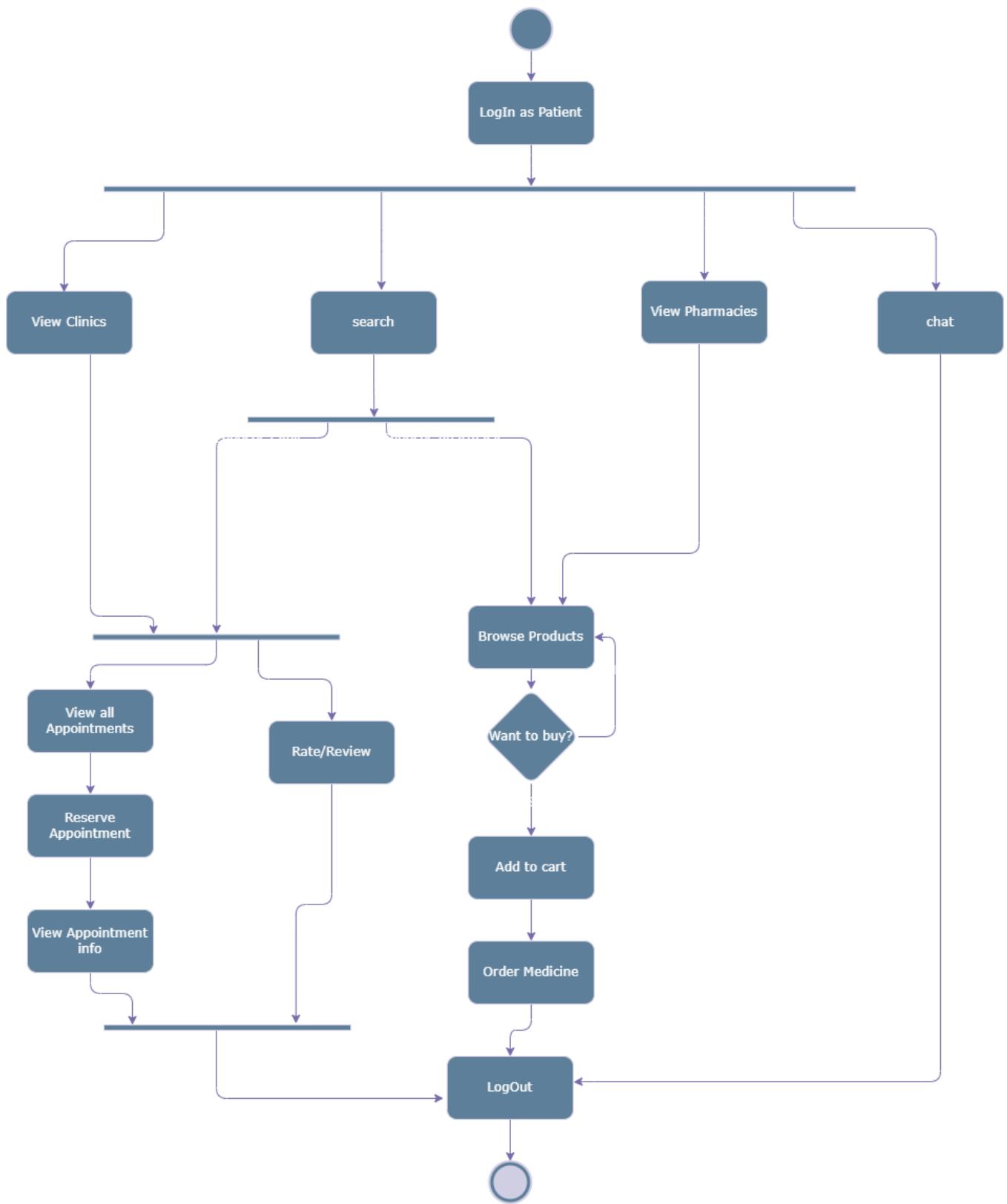


3.4 ACTIVITY-DIAGRAMS:

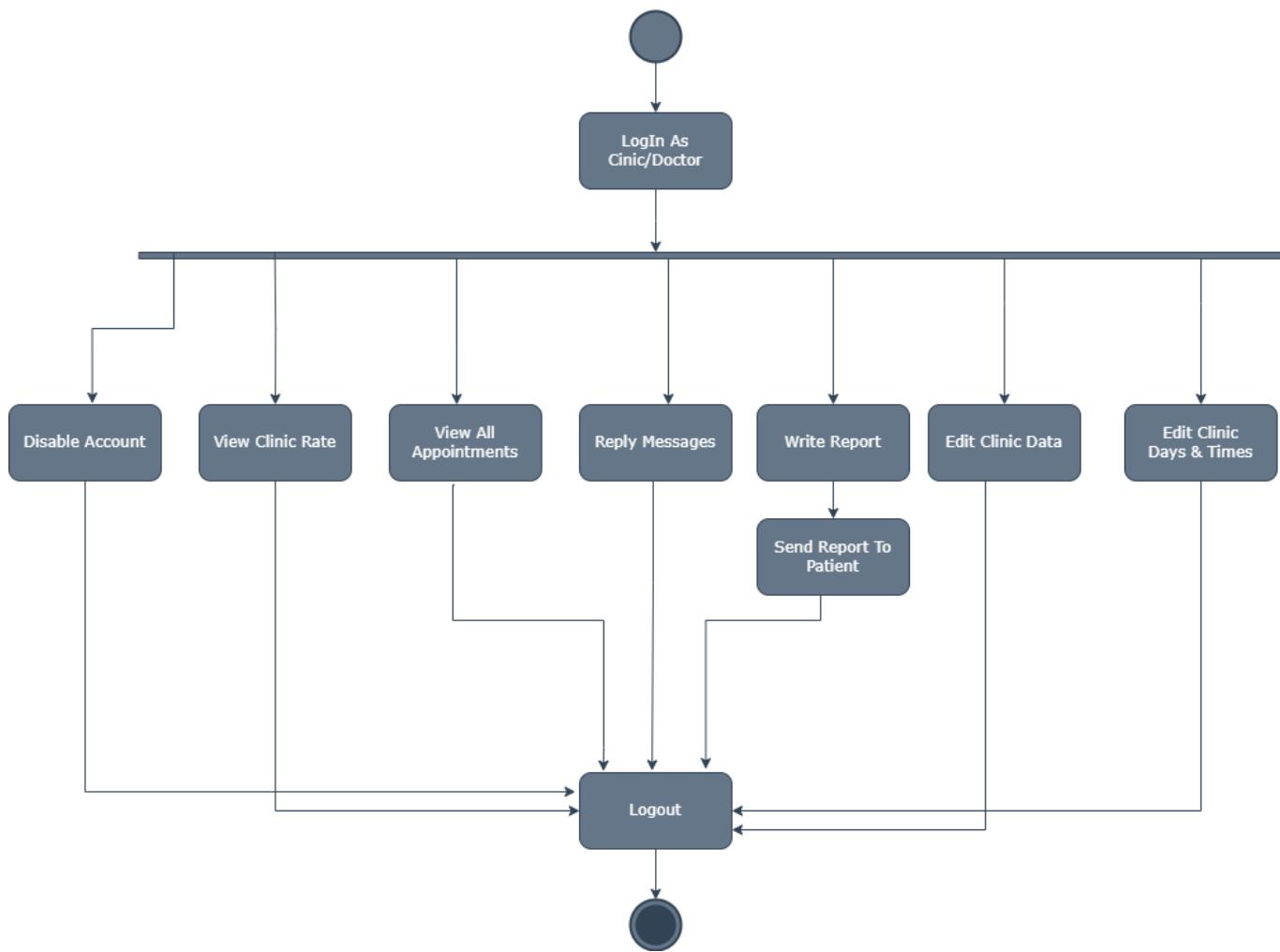
1. Login Activity Diagram



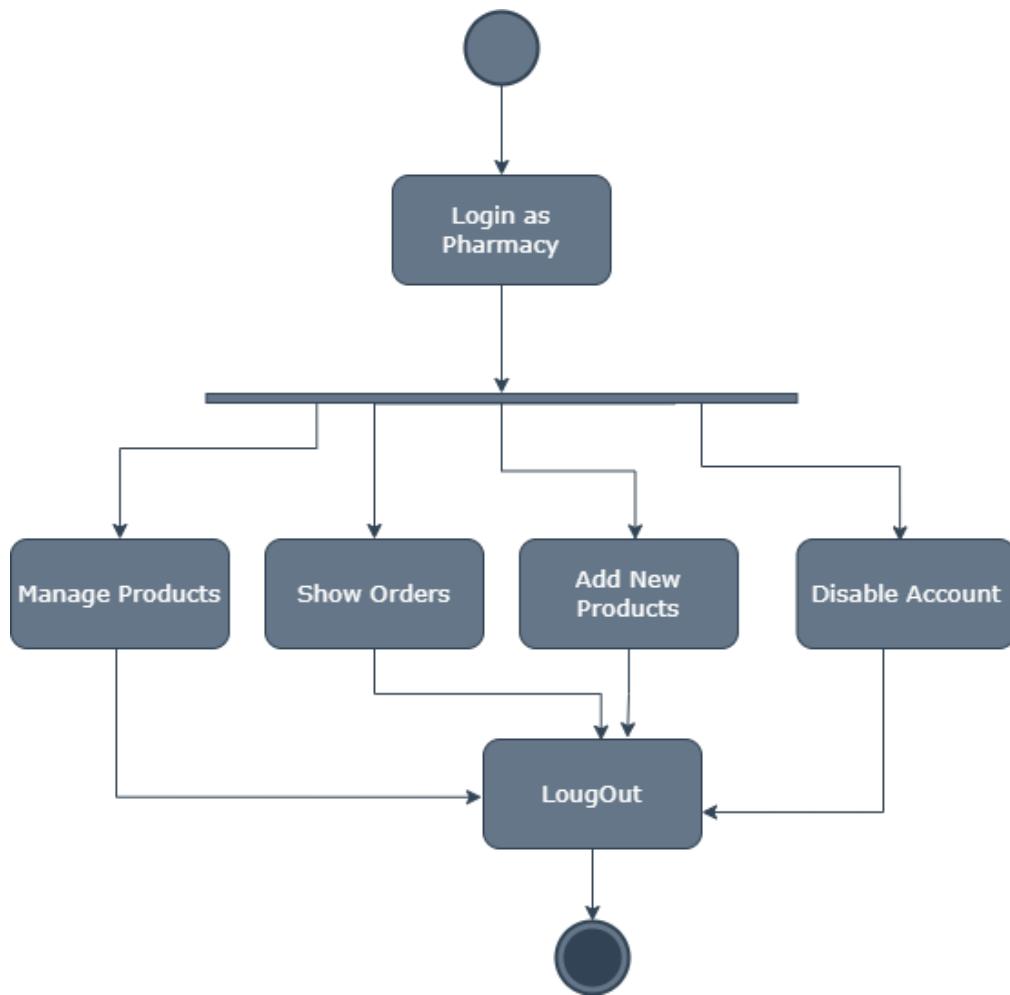
2. Patient Activity Diagram



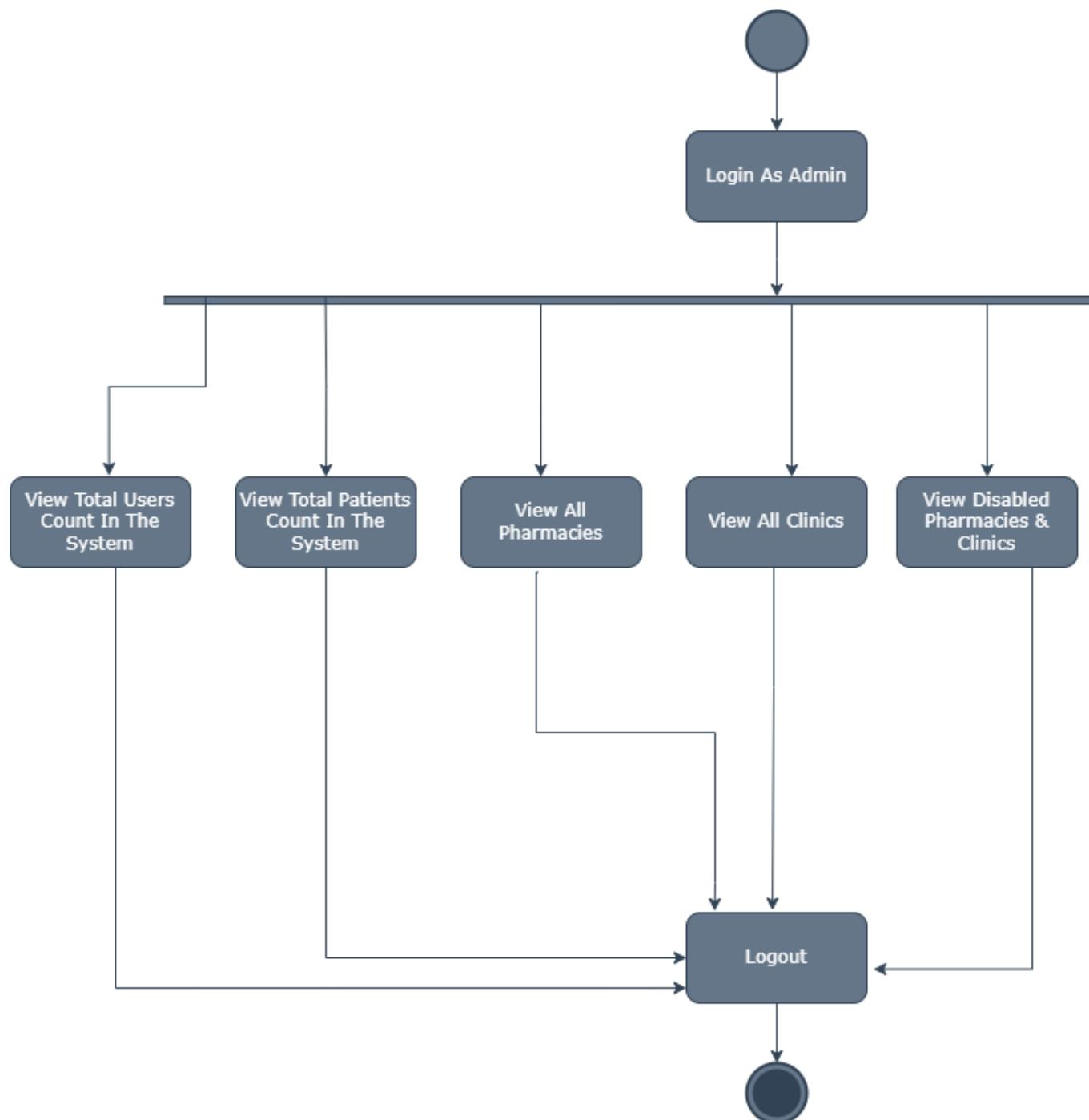
3. Clinic Activity Diagram.



4. Pharmacy Activity Diagram.

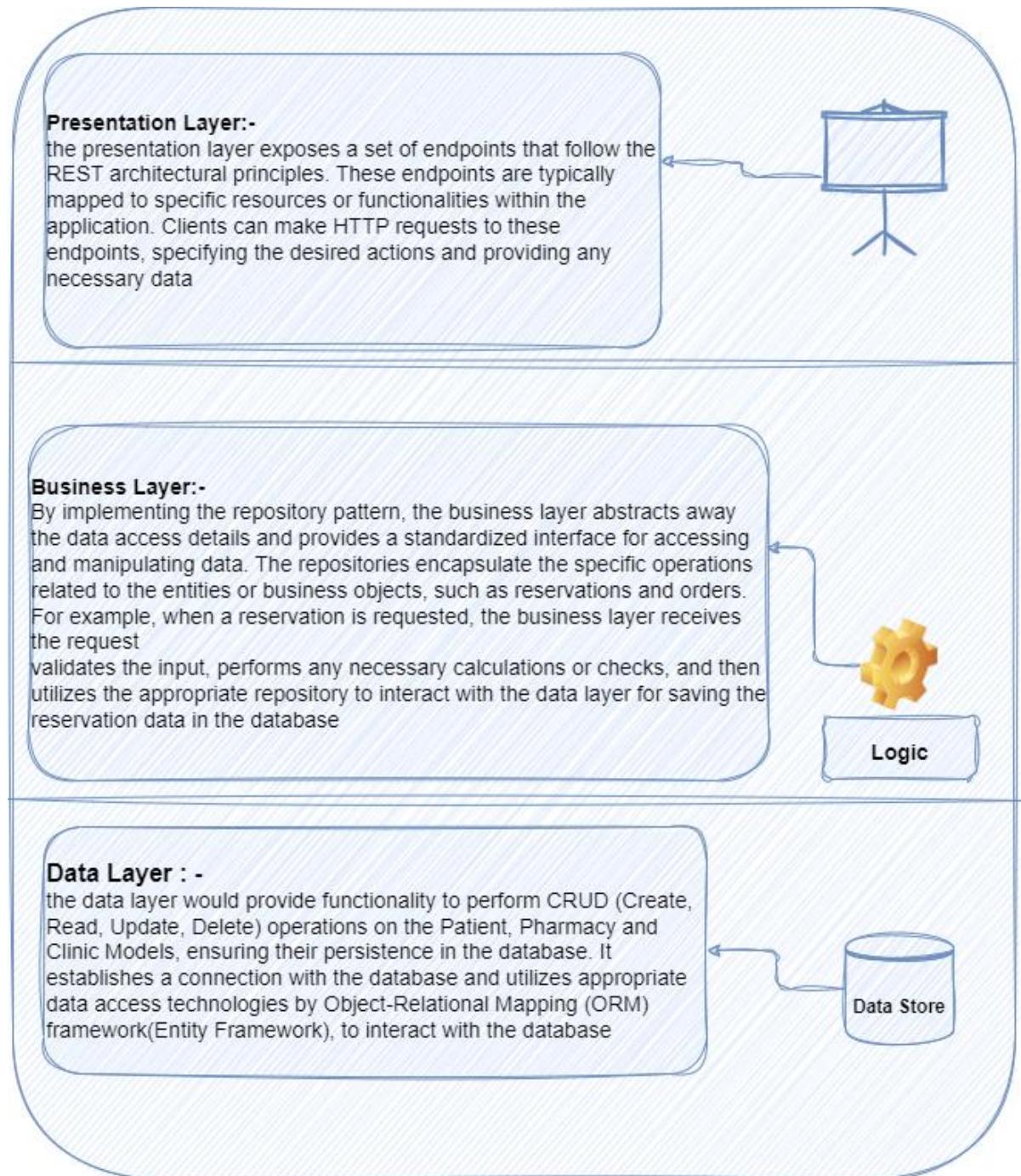


5. Pharmacy Activity Diagram.



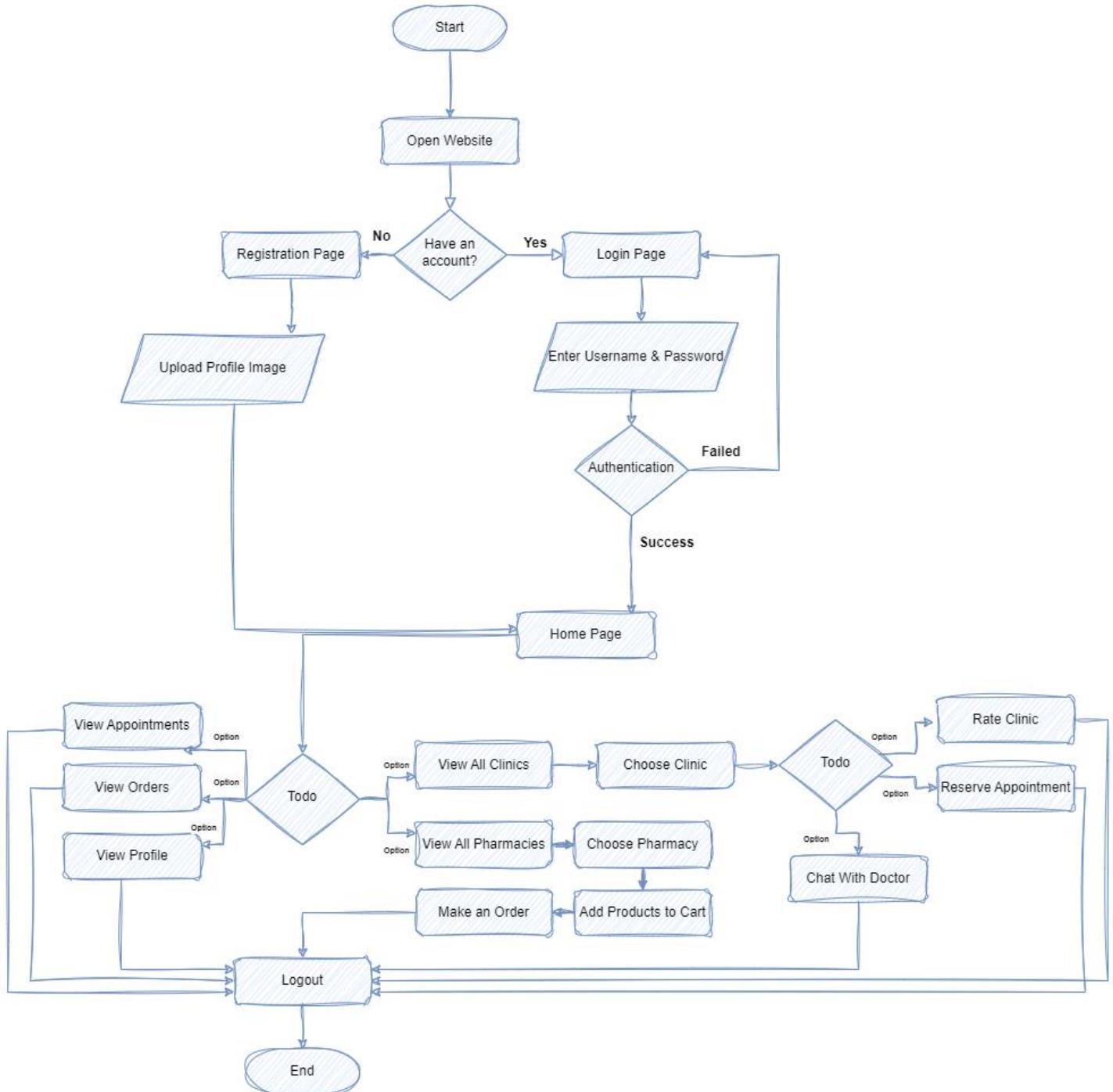
Chapter 4: Implementation

4.1 software architecture:

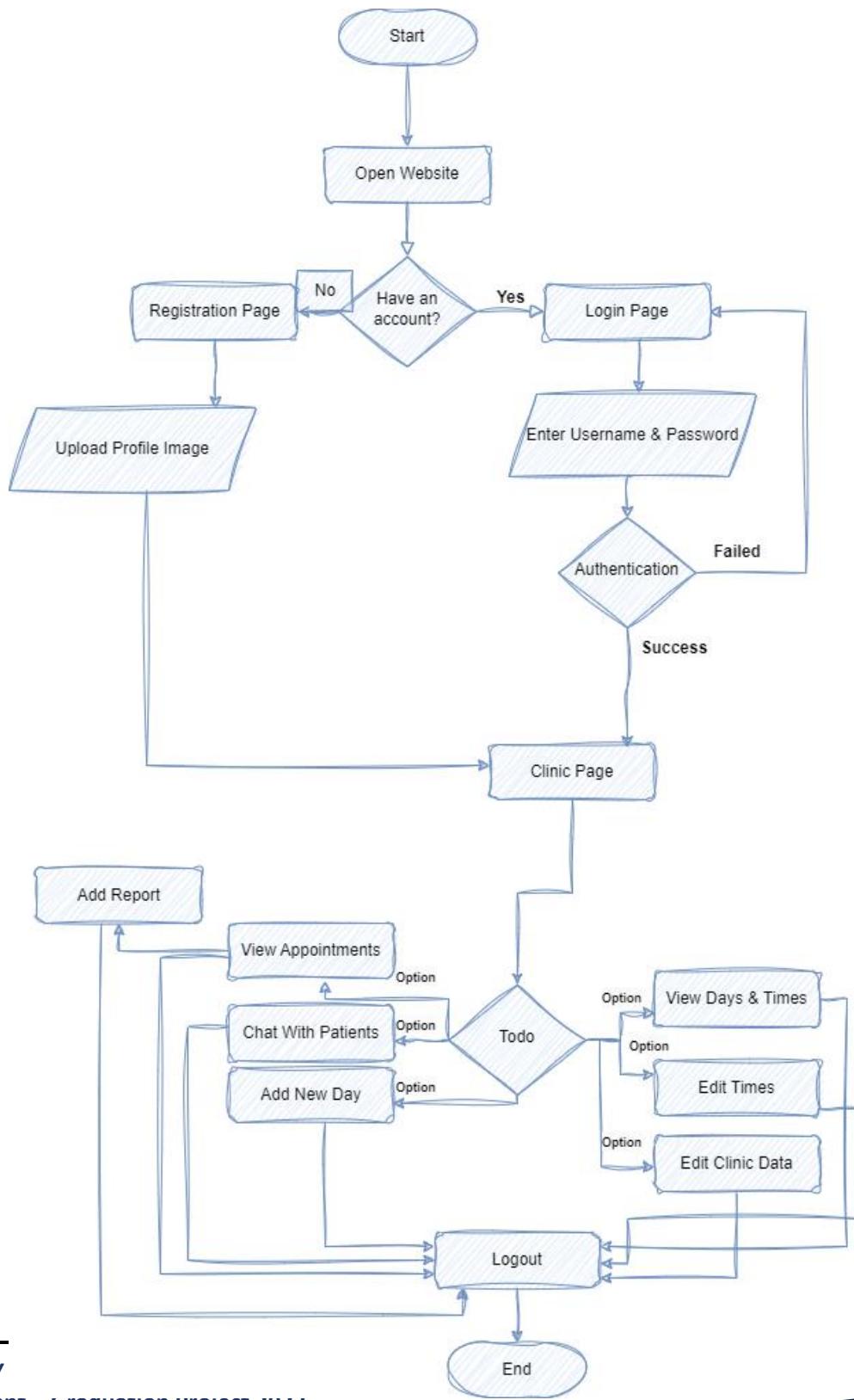


4.2 Flowchart & workflow:

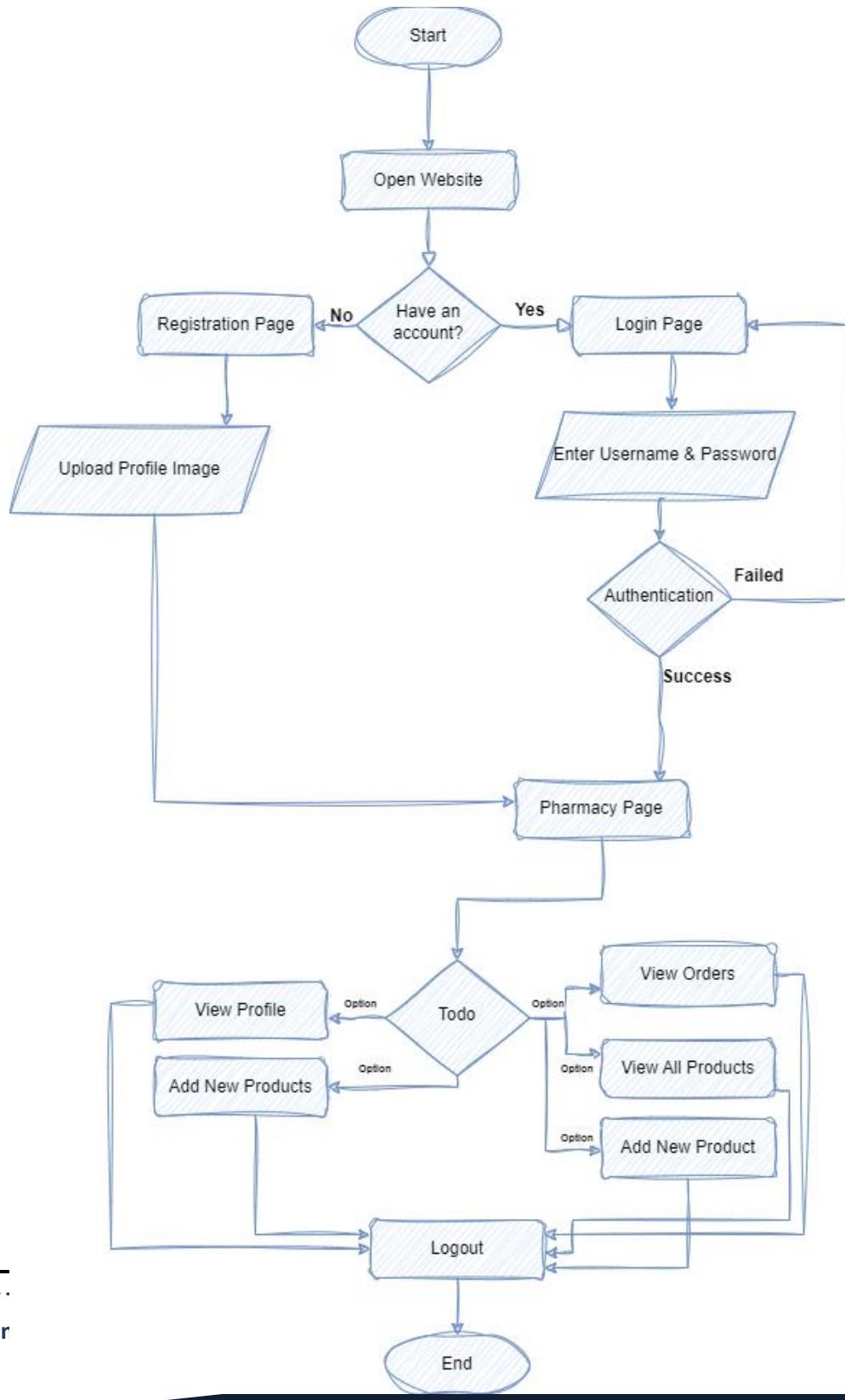
1. Patient Flowchart.



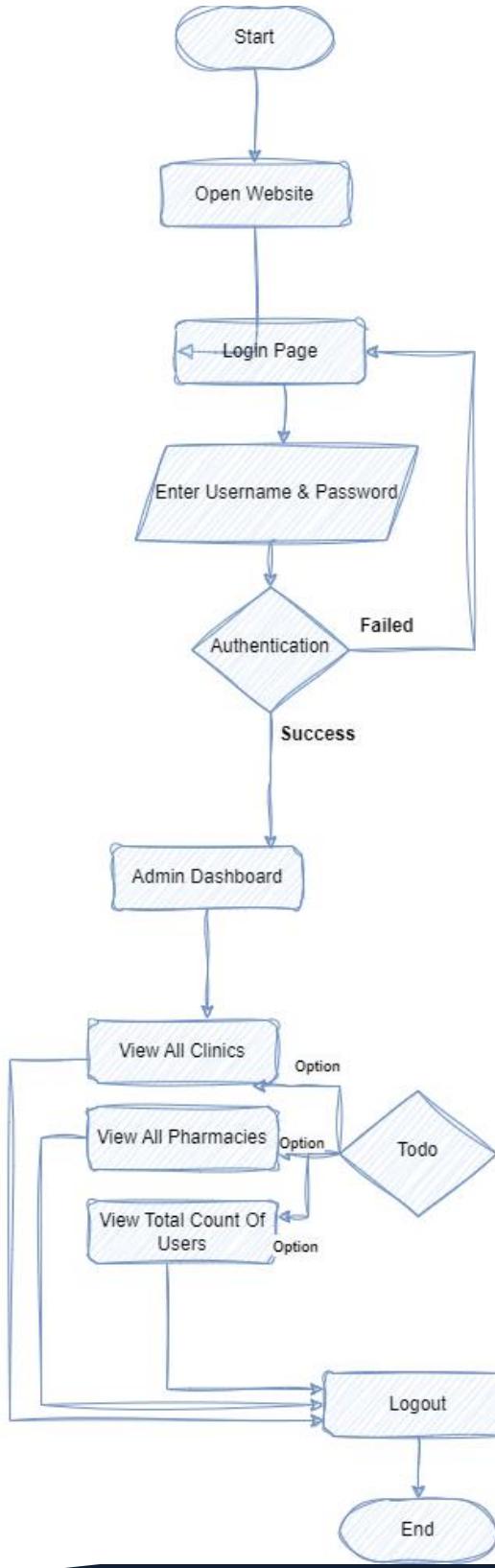
2. Clinic Flowchart.



3. Pharmacy Flowchart.



4. Admin Flowchart.



4.3 UI Screens (UI/UX Design)

The collage displays the following UI screens:

- Home Page:** Shows a doctor profile, service categories (Cardiology, Dentist), and latest case studies.
- Doctor Profile:** Displays a doctor's photo, name (Doctor Youssef Mohamed), and contact information.
- Booking Information:** Shows a booking form for a clinic visit, including time slots and payment details.
- Chat Interface:** A messaging window between a patient (Emma) and a doctor (Youssef).
- Delivery Service:** Features a delivery person holding a box, with sections for reliable on-time home delivery and most popular products.
- Medicine Catalog:** Lists various pharmaceutical products with their names, prices, and descriptions.
- Login and Registration:** Two forms for user authentication and account creation.
- Wellness Page:** Promotes "WELLNESS IS YOU" and lists top nearest pharmacies.
- Account Type:** Allows users to choose their account type (Patient, Pharmacy, Clinic/Center).
- Pharmacy Listings:** Shows a grid of top nearest and popular pharmacies with their logos and names.
- Doctors & Clinics:** Lists top doctors and clinics with their profiles and ratings.
- Check-up Form:** A form for applying for a free medical check-up.
- Frequently Asked Questions:** A section with common questions and answers.
- Sign Up:** Another registration form for new users.

3ALGNY Website Main Idea

Lore ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th century who is thought to have scrambled parts of Cicero's De Finibus Bonorum et Malorum for use in a type specimen book. It usually begins with.

Explore

Hello
Emma Mark 



We Believe everyone deserve to live a healthy Life ,,

Lore ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th century who is thought to have scrambled parts of Cicero's De Finibus Bonorum et Malorum for use in a type ...

Read More

We give the perfect smile you wanted

Lore ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th

- ✓ Lore ipsum, or lipsum as it is sometimes known,
- ✓ Lore ipsum, or lipsum as it is sometimes known,
- ✓ Lore ipsum, or lipsum as it is sometimes known,



Explore Your Main Services



Cardiology



Dentist

Explore More

Our Latest Case Studies

All

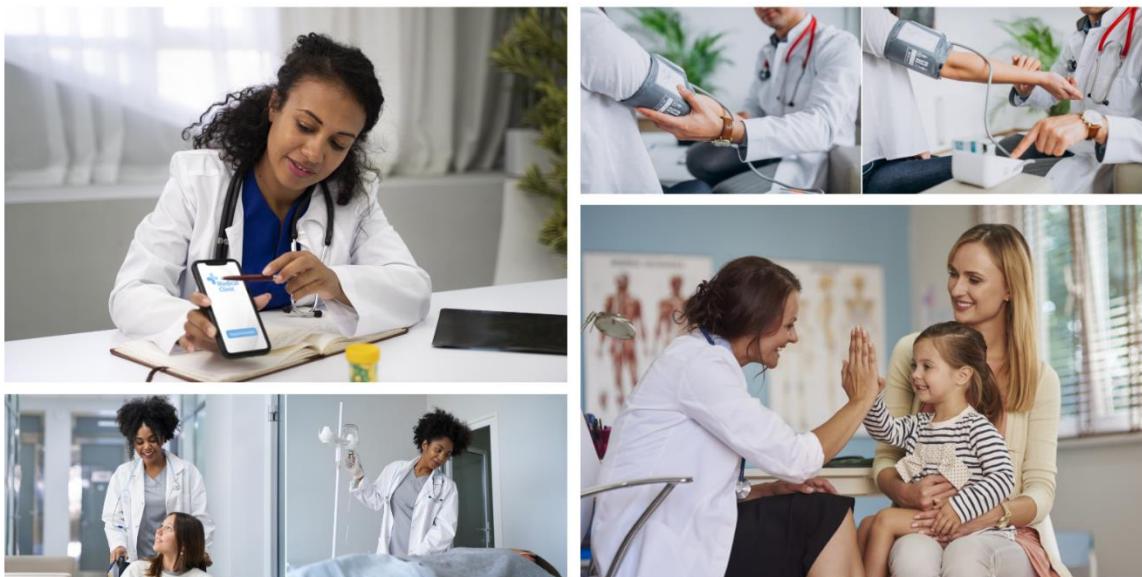
Clinic

Pharmacy

Doctor

Hospital

Patient



Meet Our Doctors Team

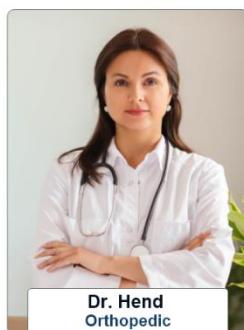
Lorem ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs



Dr. Kawther
Neurologist



Dr. Hisham
Gastrologist



Dr. Hend
Orthopedic



Dr. Youssef
Cardiologist

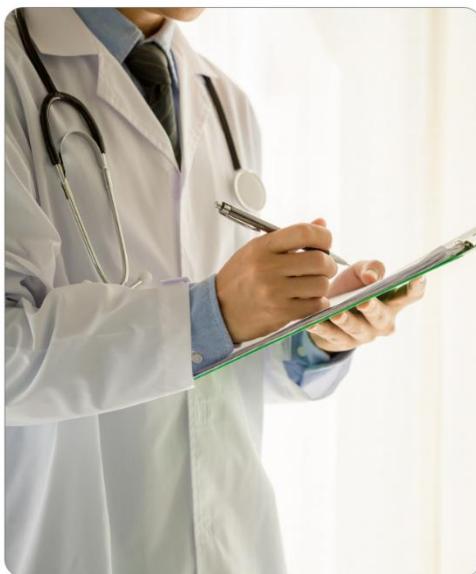


Our Testimonials

Here's What Our Patients are saying !!



Lore ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th century who is thought to have scrambled parts of Cicero's De Finibus Bonorum et Malorum for use in a type ...

**Mostafa Tarek****05/02/23**

Apply For Free Medical Check up

FULL NAME	Required Field	GENDER	Select an option
EMAIL	error@mail.com	PHONE	Required Field
Something is wrong			
MESSAGE	 		

Send Message

Frequently Asked Questions

FAQs

What is the Performance Of 3ALGNY ?

What is the Vision Of 3ALGNY ?

What is the Cons. Of 3ALGNY ?

What is the Pros. Of 3ALGNY ?

What is the Achievement Of 3ALGNY ?

What is the Performance Of 3ALGNY ?



FAQs

What is the Performance Of 3ALGNY ?

What is the Vision Of 3ALGNY ?

What is the Cons. Of 3ALGNY ?

What is the Pros. Of 3ALGNY ?

What is the Achievement Of 3ALGNY ?

What is the Vision Of 3ALGNY ?



What is the Cons. Of 3ALGNY ?



What is the Pros. Of 3ALGNY ?



What is the Achievement Of 3ALGNY ?



If You Have Another Questions ?

FAQs

What is the Performance Of 3ALGNY ?

What is the Vision Of 3ALGNY ?

What is the Cons. Of 3ALGNY ?

What is the Pros. Of 3ALGNY ?

What is the Achievement Of 3ALGNY ?

Ask Us

3ALGNY.com

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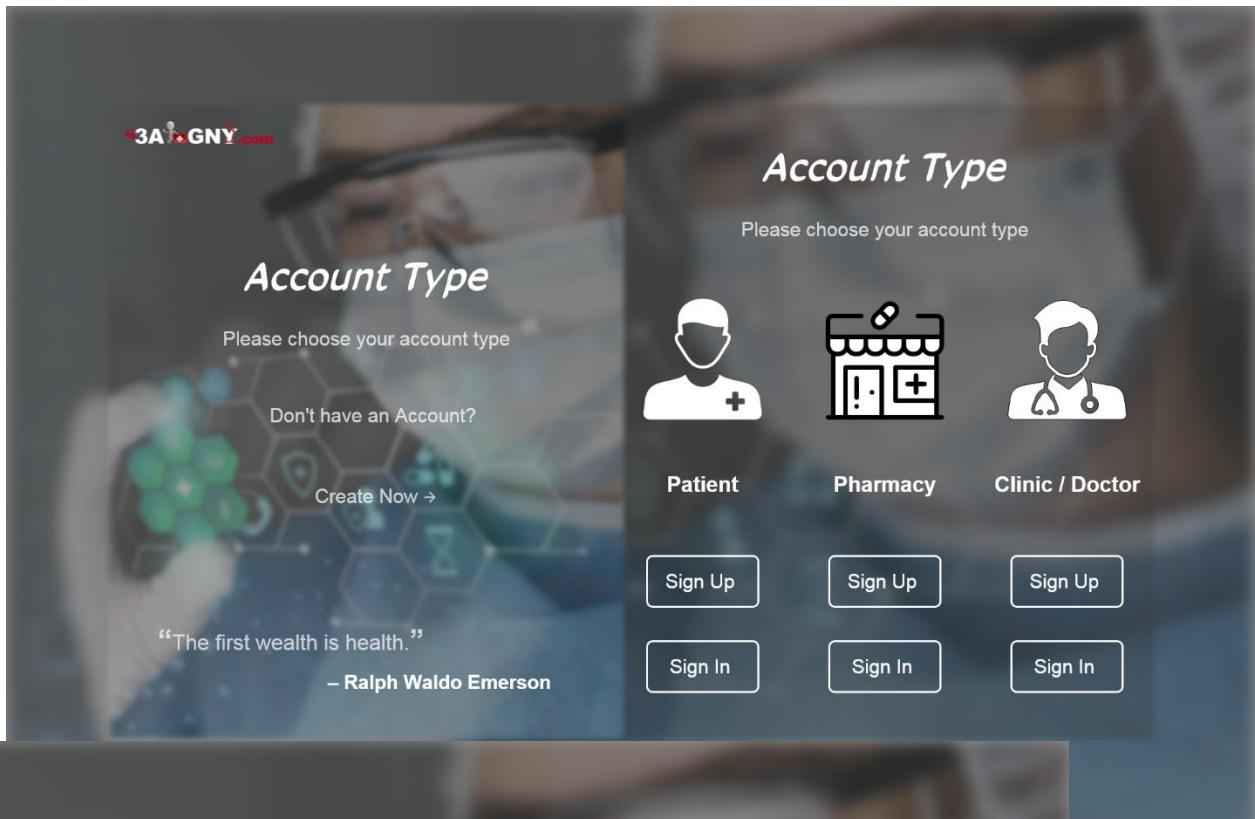
[About Us](#)
[Contact](#)
[Terms & Conditions](#)
[Privacy Policy](#)

[Facebook](#)
[Twitter](#)
[Instagram](#)

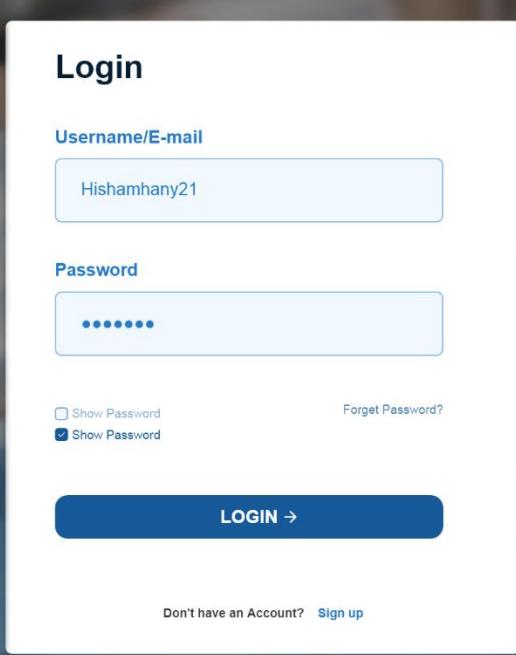
Subscribe to our website

Email Address

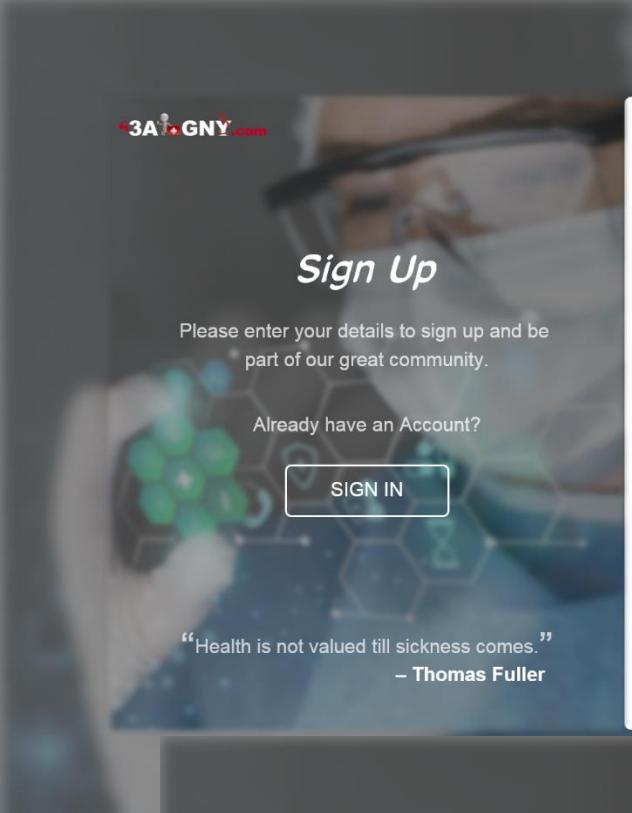
497 Evergreen Rd, Roseville, CA 95673
+44 345 678 903
adobexd@mail.com



The Account Type selection screen features a background image of a medical professional wearing a mask. At the top left is the 3ALGNY logo. The main title "Account Type" is centered above a sub-instruction "Please choose your account type". Below this is a hexagonal grid graphic with a green cluster of dots and icons for a shield, a heart, and a clock. Text on the grid includes "Don't have an Account?", "Create Now →", and a quote by Ralph Waldo Emerson: "The first wealth is health." A small "3ALGNY.com" watermark is in the bottom right corner of the grid area. To the right, there are three categories: "Patient" (user icon with a plus sign), "Pharmacy" (store icon with a prescription bottle), and "Clinic / Doctor" (doctor icon with a stethoscope). Each category has a "Sign Up" button above a "Sign In" button.



The Login screen is overlaid on the same medical professional background as the previous screen. It features a large white input field for "Username/E-mail" containing "Hishamhany21". Below it is a password input field showing six asterisks. To the left of the fields are the "SIGN UP" and "Sign IN" buttons. To the right are "Show Password" checkboxes and links for "Forget Password?" and "Don't have an Account? Sign up". A quote by Abhijit Naskar is visible at the bottom left: "Helping those in need is not charity, it's humanity." A small "3ALGNY.com" watermark is in the bottom right corner of the login area.



Sign Up

Please enter your details to sign up and be part of our great community.

Already have an Account?

[SIGN IN](#)

“Health is not valued till sickness comes.”
– Thomas Fuller

Registration

First Name

Last Name

Username

Age

Gender

E-mail

Phone

Password

X

Sorry, wrong password

Confirm Password

X

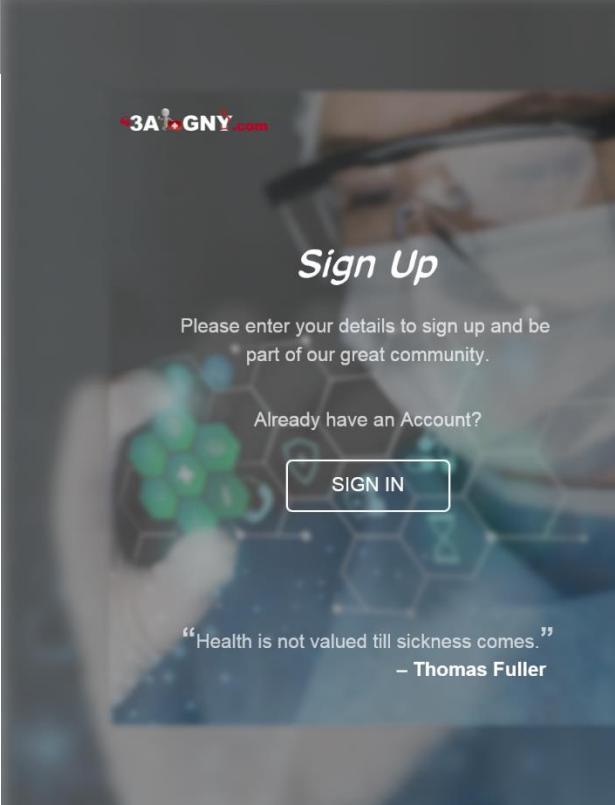
Sorry, wrong password

Country

City

Address

[Next Step →](#)



Sign Up

Please enter your details to sign up and be part of our great community.

Already have an Account?

[SIGN IN](#)

“Health is not valued till sickness comes.”
– Thomas Fuller

Registration

[Skip](#)

Upload profile photo

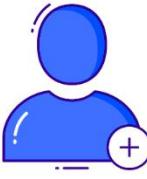


Photo guidelines and requirements

Format: JPG, GIF, or PNG - Maximum size: 2MB - Ideal size: at least 200 x 200 pixels
 Do not edit pictures in a way that is misleading or obstructs your face - Do not wear sunglasses
 Do not use:
 blurry or unclear pictures - busy background that detracts from you - pictures that contain other people too close to or far away from the camera - too bright or dark - commercial logos or personal contact information

Upload

Click to Upload or Drag and Drop a file Here

[Next Step →](#)

This image shows a mobile device displaying the 3ALNY web application. The top navigation bar includes links for Home, Doctors, Pharmacy, Contact Us, About Us, and APPOINTMENTS+. On the left, there's a vertical sidebar with icons for Home, Search, Email, Chat, and Profile. The main content area shows a doctor profile for "Doctor Youssef Mohamed" (Nutritionist & Dietitian Consultant) located in Giza, with a 5-star rating. Below this is a messaging interface between the user and Doctor Youssef Mohamed. The user has sent a message saying "Hi, Doctor Youssef" (yesterday at 3:43 pm) and "Can you tell me about" (just now). Doctor Youssef has responded with "Hello, Emma" (seen at 11:05 am) and "typing....". At the bottom, there's a text input field with placeholder "Type your message here ..." and a send button.

This image shows a desktop browser displaying the 3ALNY web application. The top navigation bar is identical to the mobile version. The main content area features a doctor profile for "Doctor Youssef Mohamed" (Nutritionist & Dietitian Consultant) located in Giza, with a 5-star rating. To the right is a "Booking Information" section. It shows a "Book Examination" button, fees of 300 EGP, and a phone number 01123456789. Below this is a "Choose your Appointment" section with a grid of time slots from 10:00 AM to 03:00 PM for "Mon 20/02". A red "Book" button is highlighted for the 11:00 AM slot. At the bottom, there's a note about reservations and a "Book online, Pay at the clinic!" button.

WELLNESS IS YOU

3ALGNY Pharmacies Are More Than 200 Pharmacy Across Egypt Ready To Serve You Anytime And Anywhere

Top Nearest Pharmacies

- Medical Life
- Medical Care
- Medical Health
- Medical Cure

Top Popular Pharmacies

- Misr Pharmacies
- EL Ezaby Pharmacy
- Fouda Pharmacy
- Pharco Pharmacy
- Roshdy Pharmacies
- Zikry Pharmacy
- Care Pharmacy
- Self Pharmacy

Reliable On Time Home Delivery

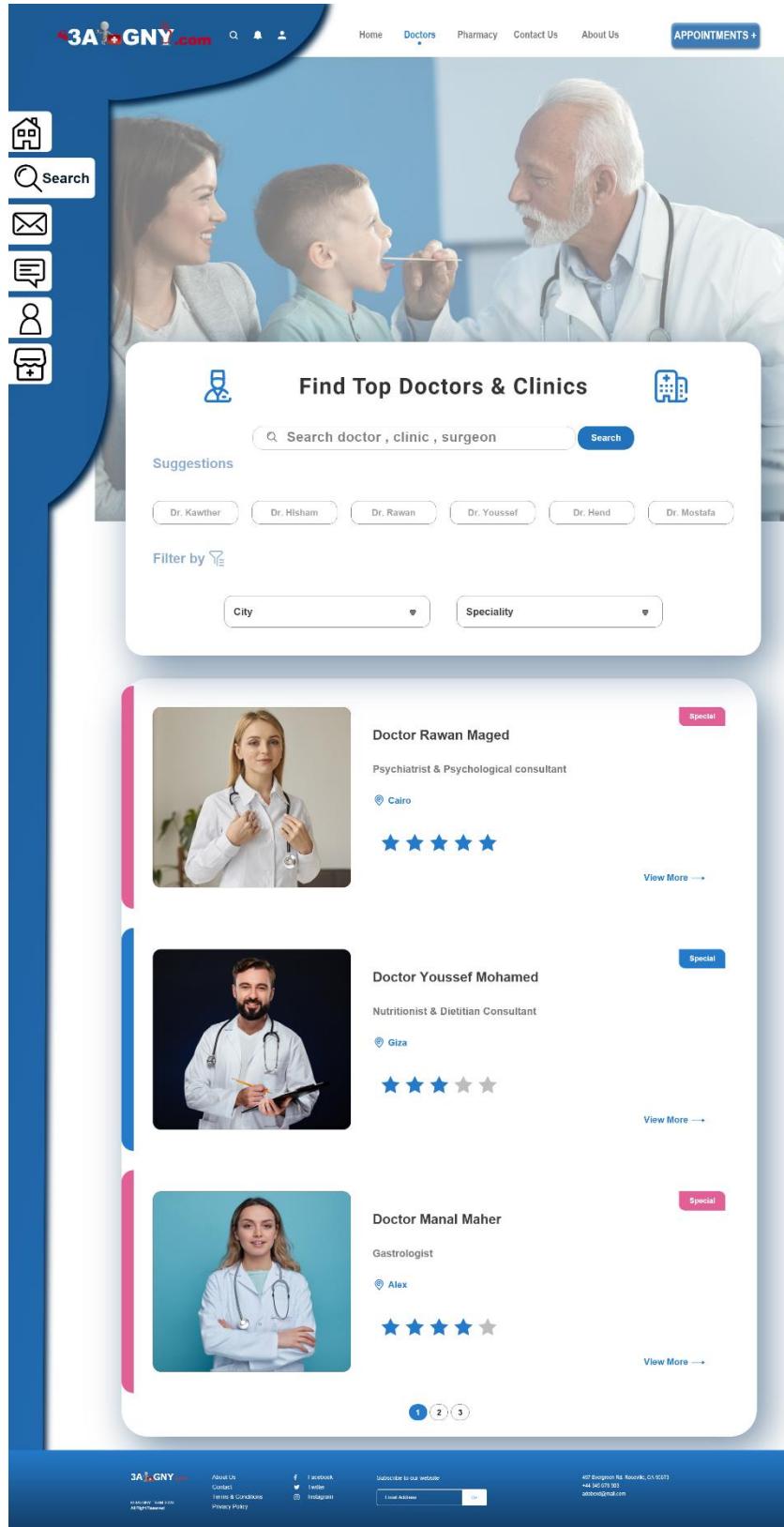
Our in-house Pharmacist ensure your medicine reach you when you need

Most Popular Products

Product	Price	Add to cart
Milga	56 EGP	Add to cart
Panadol	13.5 EGP	Add to cart
C-Retard	22.25 EGP	Add to cart
Voltaren	44.75 EGP	Add to cart

Browse medicines & Health products

Category	Product	Price	Add to cart
All	Milga	56 EGP	Add to cart
Baby Care	Panadol	13.5 EGP	Add to cart
Family Care	C-Retard	22.25 EGP	Add to cart
Alternate	Voltaren	44.75 EGP	Add to cart
Fitness	(None)	-	-
Women's Care	(None)	-	-
Devices	(None)	-	-



The screenshot displays the 3ALNY web application's user interface. At the top, there is a navigation bar with links to Home, Doctors, Pharmacy, Contact Us, About Us, and an Appointments section. On the left, a vertical sidebar features icons for Home, Search, Messages, Profile, and Calendar. The main content area has a header "Find Top Doctors & Clinics" with a search bar and a "Search" button. Below the search bar are "Suggestions" for doctors like Dr. Kawther, Dr. Hisham, Dr. Rawan, Dr. Youssef, Dr. Hend, and Dr. Mostafa. There are also dropdown menus for "Filter by" City and Speciality. The main content area shows three doctor profiles:

- Doctor Rawan Maged**: Psychiatrist & Psychological consultant, based in Cairo, with a 5-star rating. View More →
- Doctor Youssef Mohamed**: Nutritionist & Dietitian Consultant, based in Giza, with a 5-star rating. View More →
- Doctor Manal Maher**: Gastrologist, based in Alex, with a 5-star rating. View More →

At the bottom, there are links for About Us, Contact, Terms & Conditions, Privacy Policy, and social media icons for Facebook, Twitter, and Instagram. A newsletter sign-up form is also present.

3ALNY.com

Admin Panel Logout

Number Of Patients In System: 8

Number Of All Users In System: 18

Clinics In System: 5

 DR. Andrew Youssef
Glosante Healthcare
@ Cairo

Pharmacies In System: 5

 Aster Orange Pharmacy
0109311521
dokki
This Account Is Disabled

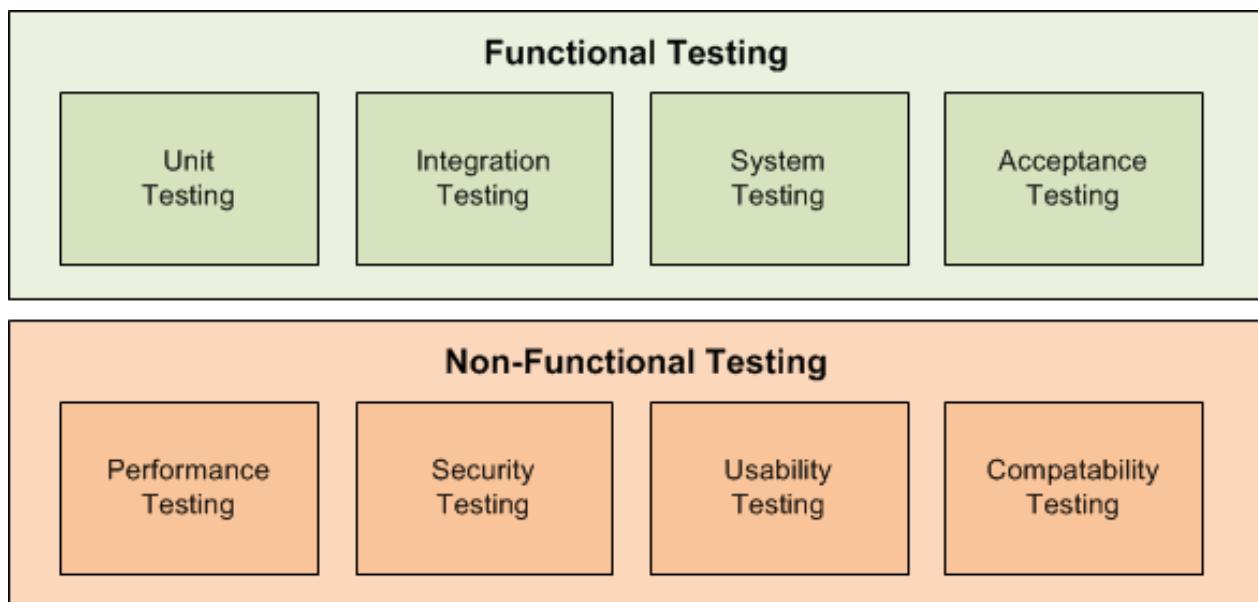
 Lloyds Pharmacy
Your Health. Our Expertise.
012324343438990
smooha

Chapter 5: Testing

First, there are two fundamental purposes of testing:

- First, **testing is about verifying that what was specified is what was delivered:** it verifies that the product (system) meets the functional, performance, design, and implementation requirements identified in the procurement specifications.
- Second, **testing is about managing risk.** The testing program is used to identify when the work has been “completed” so that the contract can be closed, the vendor paid, and the system shifted by the agency into the warranty and maintenance phase of the project.

There are 2 types of testing (Functional and non-Functional testing)



1) Functional testing:

5.1 Unit Testing

Unit Testing: It is functional testing of individual items (modules, programs, objects, classes, ...) Usually as part of the coding phase, this type of testing is done to see if the parts that are tested & determine whether they are fit for use.

5.2 Integrated testing

Integration testing: It is functional testing the interfaces between major (systems level application modules) and minor (individual programs or components) items within an application which must interact with each other.

5.3 Additional Testing

System testing: Testing a system behavior when development is finished, and the system can be tested as a complete entity.

Regression testing: to check older functionality after integrating new functionality.

Acceptance testing: Testing to ensure that a development is ready to be deployed into the business, operational or production environment. Accomplished a designated function regarding processing time and throughput rate.

Load Testing: Measuring the behavior of within increasing load which can be handled by the component or system.

Stress Testing: Evaluate a system or component at or beyond the limits of its specified requirements.

Security Testing: Testing how well the system protects against unauthorized internal or external access.

2) Non-Functional testing:

Performance Testing: Accomplished a designated function regarding processing time and throughput rate.

Usability testing: is a technique used in user-centered interaction design to evaluate a product by testing it on users.

Compatibility testing: is a part of non-functional testing conducted on application software to ensure the application's compatibility with different computing environments.

Security Testing: Testing how well the system protects against unauthorized internal or external access.

5.1 Unit Testing

Patient Registration Test case:

DEFECTS	EXPECTED RESULTS
Entered an empty value in First Name Field	Error Message appeared as first name is a required field
Entered an empty value in Last Name Field	Error Message appeared as last name is a required field
Entered an existing Username	Error Message appeared as username is already taken, please enter a unique username
Entered an existing E-mail	Error Message appeared as e-mail is already taken, please enter a unique username
Entered an E-mail without "@"	Error Message appeared as e-mail should contains a "@" symbol
Entered an E-mail without ".com" at the end	Error Message appeared as e-mail should ends with ".com"
Entered a Password with length less than 10	Error Message appeared as password's length should at least 10
Entered a Password without an uppercase letter	Error Message appeared as password should contain uppercase letter
Entered a Password without a lowercase letter	Error Message appeared as password should contain lowercase letter
Entered a Password without a special character (@, _, -, #, *, &, ~, etc..)	Error Message appeared as password should contain a special character
Entered a Password without digit numbers	Error Message appeared as password should contain a digit number

Note: By entering valid values, the registration process will be done. And the patient will be added to the database.

Clinic Registration Test case:

DEFECTS	EXPECTED RESULTS
Entered an empty value in Doctor Name Field	Error Message appeared as doctor name is a required field
Not selected Category field	Error Message appeared as category is a required field
Not selected City field	Error Message appeared as city is a required field
Entered an existing Tax Number	Error Message appeared as username is already taken, please enter a unique tax number
Entered an existing Username	Error Message appeared as username is already taken, please enter a unique username
Entered an existing E-mail	Error Message appeared as e-mail is already taken, please enter a unique username
Entered an E-mail without "@"	Error Message appeared as e-mail should contains a "@" symbol
Entered an E-mail without ".com" at the end	Error Message appeared as e-mail should ends with ".com"
Entered a Password with length less than 10	Error Message appeared as password's length should at least 10
Entered a Password without an uppercase letter	Error Message appeared as password should contain uppercase letter
Entered a Password without a lowercase letter	Error Message appeared as password should contain lowercase letter
Entered a Password without a special character (@, _, -, #, *, &, ~, etc..)	Error Message appeared as password should contain a special character
Entered a Password without digit numbers	Error Message appeared as password should contain a digit number

Note: By entering valid values, the registration process will be done. And the Clinic will be added to the database.

Pharmacy Registration Test case:

DEFECTS	EXPECTED RESULTS
Entered an empty value in Pharmacy Name Field	Error Message appeared as pharmacy name is a required field
Not selected City field	Error Message appeared as city is a required field
Entered an existing Tax Number	Error Message appeared as username is already taken, please enter a unique tax number
Entered an existing Username	Error Message appeared as username is already taken, please enter a unique username
Entered an existing E-mail	Error Message appeared as e-mail is already taken, please enter a unique username
Entered an E-mail without "@"	Error Message appeared as e-mail should contains a "@" symbol
Entered an E-mail without ".com" at the end	Error Message appeared as e-mail should ends with ".com"
Entered a Password with length less than 10	Error Message appeared as password's length should at least 10
Entered a Password without an uppercase letter	Error Message appeared as password should contain uppercase letter
Entered a Password without a lowercase letter	Error Message appeared as password should contain lowercase letter
Entered a Password without a special character (@, _, -, #, *, &, ~, etc..)	Error Message appeared as password should contain a special character
Entered a Password without digit numbers	Error Message appeared as password should contain a digit number

Note: By entering valid values, the registration process will be done. And the pharmacy will be added to the database.

Login Test cases (Patient, Clinic, Pharmacy, Admin):

DEFECTS	EXPECTED RESULTS
Entered an invalid Username	Error Message appeared as username or password is incorrect
Entered an invalid Password	Error Message appeared as username or password is incorrect

Note: By entering valid values, the login process will be done. And the user will be directed to the home page.

Clinic (Add Appointments) Test case:

DEFECTS	EXPECTED RESULTS
Not selected Day	Error Message appeared as Day is a required field
Not selected Start Time or End Time	Error Message appeared as start time and end time are required fields
Selecting End Time less than Start Time	Error Message appeared as end time shouldn't be less than start time

Note: By entering valid values, the add appointments process will be done.

Clinic (Add Report) Test case:

DEFECTS	EXPECTED RESULTS
Entered an empty Description	Error Message appeared as description is a required field

Note: By entering valid values, the add report will be done.

Patient (Reserve Appointment) Test case:

DEFECTS	EXPECTED RESULTS
Not selected Appointment	Error Message appeared as appointment is a required field
Selecting a Reserved Appointment	Error Message appeared this appointment is already reserved by another patient
Selecting an appointment with a time slot identical to another appointment scheduled at a different clinic.	Error Message appeared as you already reserved this time slot in another clinic

Note: By entering valid values, the reserve appointment process will be done.

Patient (Order) Test case:

DEFECTS	EXPECTED RESULTS
Not selected Products	Error Message appeared as you should at least select one product
Selecting a quantity for a product that is either zero or exceeds the maximum allowed (5).	Error Message appeared product quantity should not be zero or more than five

Note: By entering valid values, the order process will be done.

Patient/Clinic (Chat) Test case:

DEFECTS	EXPECTED RESULTS
Start Chat without reservation	Error Message appeared as you cannot start a chat without reservation to the clinic
Entered an Empty Message	Error Message appeared as cannot send an empty message

Note: By entering valid values, the chat process will be done.

5.2 Integration Testing

(Patient / Clinic Chat initiation)

```
[HttpPost("Chat")]
0 references
public async Task<IActionResult> PostChat(ChatForCreateDto chatDto)
{
    if (!ModelState.IsValid)
    {
        _logger.LogInfo("message not available because : " + ModelState.ToString());
        return BadRequest(ModelState);
    }
    var chatEntity = await _repository.Chat.GetChatToPatientAndClinic(chatDto.PatientId!, chatDto.ClinicId!);
    if (chatEntity is not null)
    {
        return BadRequest("Chat already created");
    }
    var chat = _mapper.Map<Chat>(chatDto);
    _repository.Chat.CreateChat(chat);
    await _repository.SaveChanges();

    return NoContent();
}
```

(Patient / Clinic Get Chat Messages)

```
[HttpGet("PatientMessages")]
0 references
public async Task<IActionResult> GetPatientMessages(Guid chatId)
{
    if (string.IsNullOrEmpty(chatId.ToString()))
    {
        _logger.LogInfo("ChatId Is Null");
        return BadRequest();
    }
    var chat = await _repository.Chat.GetChatByIdAsync(chatId);
    if(chat == null)
    {
        _logger.LogInfo($"Chat with id {chatId} Not Found");
        return NotFound();
    }
    var patientMessages = await _repository.PatientMessage.GetPatientMessages(chatId);
    var patientMessageDto = _mapper.Map<IEnumerable<MessageDto>>(patientMessages);
    return Ok(patientMessageDto);
}
[HttpGet("ClinicMessages")]
0 references
public async Task<IActionResult> GetClinicMessages(Guid chatId)
{
    if (string.IsNullOrEmpty(chatId.ToString()))
    {
        _logger.LogInfo("ChatId Is Null");
        return BadRequest();
    }
    var chat = await _repository.Chat.GetChatByIdAsync(chatId);
    if(chat == null)
    {
        _logger.LogInfo($"Chat with id {chatId} Not Found");
        return NotFound();
    }
    var ClinicMessages = await _repository.ClinicMessage.GetClinicMessages(chatId);
    var ClinicMessagesDto = _mapper.Map<IEnumerable<MessageDto>>(ClinicMessages);
    return Ok(ClinicMessagesDto);
}
```

(Patient / Clinic Appointment Reservation)

```
[HttpPost("Reserve")]
0 references
public async Task<IActionResult> CreateAppointment([FromBody] AppointmentForCreateDto appointmentDto)
{
    var patient = await _repository.Patient.GetPatientByIdAsync(appointmentDto.PatientId!, trackChanges: false);
    if (patient is null)
    {
        _logger.LogInfo($"Patient with id: {appointmentDto.PatientId} doesn't exist in the database.");
        return NotFound();
    }
    var clinic = await _repository.Clinic.GetClinicById(appointmentDto.ClinicId!, trackChanges: false);
    if (clinic is null)
    {
        _logger.LogInfo($"Clinic with id: {appointmentDto.ClinicId} doesn't exist in the database.");
        return NotFound();
    }

    var appointment = _mapper.Map<Appointment>(appointmentDto);
    _repository.Appointment.CreateAppointment(appointment);
    await _repository.SaveChangesAsync();
    var appointmentToReturn = _mapper.Map<AppointmentDto>(appointment);
    return Ok(appointmentToReturn);
}
```

```
[HttpGet("AppointmentCheck")]
0 references
public async Task<IActionResult> CheckAppointment([FromQuery] AppointmentParamters paramters)
{
    var patient = await _repository.Patient.GetPatientByIdAsync(paramters.PatientId!, trackChanges: false);
    if (patient is null)
    {
        _logger.LogInfo($"Patient with id: {paramters.PatientId} doesn't exist in the database.");
        return NotFound();
    }
    var clinic = await _repository.Clinic.GetClinicById(paramters.ClinicId!, trackChanges: false);
    if (clinic is null)
    {
        _logger.LogInfo($"Clinic with id: {paramters.ClinicId} doesn't exist in the database.");
        return NotFound();
    }
    try
    {
        TimeSpan.Parse(paramters.Time!);
    }
    catch (FormatException ex)
    {
        return BadRequest(ex);
    }
    var isavailable = await _repository.Appointment
        .CheckAppointmentAvailability(paramters);

    return Ok(
        new
        {
            IsAvailable = isavailable
        });
}
```

5.3 Automation Testing

(Validate Tax Number for Clinics/Pharmacies)

```
4 references
public class UniqueTxnNumberAttribute : ValidationAttribute
{
    0 references
    protected override ValidationResult IsValid(object value, ValidationContext validationContext)
    {
        var dbContext = (AppDbContext)validationContext.GetService(typeof(AppDbContext))!;
        if (dbContext.Clinics.Any(x => x.TxnNumber == (string)value))
        {
            return new ValidationResult(ErrorMessage);
        }
        if (dbContext.Pharmacies.Any(x => x.TxnNumber == (string)value))
        {
            return new ValidationResult(ErrorMessage);
        }

        return ValidationResult.Success;
    }
}
```

(Authentication for patient/clinic/pharmacy)

```
[HttpPost("login")]
1 reference
public async Task<IActionResult> Authenticate([FromBody] UserForLoginDto user)
{
    if (!await _authManager.ValidateUser(user))
    {
        _logger.LogWarning($"{nameof(Authenticate)}: Authentication failed. Wrong user name or password.");
        return Unauthorized();
    }
    var patient = await _userPatientManager.FindByNameAsync(user.UserName!);
    return Ok(
        new
    {
        Token = await _authManager.CreateToken(),
        UserId = await _userPatientManager.GetUserIdAsync(patient!)
    });
}
```

```
[HttpPost("login")]

1 reference
public async Task<IActionResult> Authenticate([FromBody] UserForLoginDto user)
{
    if (!await _authManager.ValidateUser(user))
    {
        _logger.LogWarning($"{nameof(Authenticate)}: Authentication failed. Clinic user name or password.");
        return Unauthorized();
    }
    var clinic = await _userClinicManager.FindByNameAsync(user.UserName!);
    return Ok(
        new
    {
        Token = await _authManager.CreateToken(),
        UserId = await _userClinicManager.GetUserIdAsync(clinic!)
    });
}
```

```
[HttpPost("login")]

1 reference
public async Task<IActionResult> Authenticate([FromBody] UserForLoginDto user)
{
    if (!await _authManager.ValidateUser(user))
    {
        _logger.LogWarning($"{nameof(Authenticate)}: Authentication failed. Wrong user name or password.");
        return Unauthorized();
    }
    var pharmacy = await _userPharmacyManager.FindByNameAsync(user.UserName!);
    return Ok(
        new
    {
        Token = await _authManager.CreateToken(),
        UserId = await _userPharmacyManager.GetUserIdAsync(pharmacy!)
    });
}
```

Chapter 6: Results and Discussion

6.1 Result:

During the initial analysis and planning stage, we conducted thorough research to identify the key requirements and desired features for our website. Our objective was to develop a comprehensive platform that caters to the needs of patients, doctors, and pharmacies. The website aims to provide an intuitive interface where patients can easily browse and search for clinics, view detailed clinic information, including descriptions, operating days and times, ratings, and addresses. Additionally, patients can rate clinics, chat with doctors, reserve appointments, and browse and order products from pharmacies. For doctors, the website offers features such as appointment management, communication with patients, clinic rating visibility, and the option to add reports to each appointment. Pharmacies can showcase their products, manage orders, and have control over their account visibility.

6.1.1 Expected Result:

- The user can login and sign up to the website.
- The user can edit his profile data and image.
- the admin can view the total count of all users in the system.
- The admin can view the total count of patients accounts in the system.
- the admin can see which accounts are disabled and which are not.
- The admin can view all clinics and pharmacies in the system.
- The patient can browse all clinics.
- The patient can search for any clinic.
- the patient can rate the clinics.
- The patient can reserve an appointment with any clinic.
- The patient can view all his appointments and read his reports.
- The patient can chat with any doctor.
- The patient can browse all pharmacies.
- The patient can search for specific medicine in any pharmacy.
- The patient can order medicine from any pharmacy.
- The patient can view all his orders with details.
- The doctor can view his clinic rate.
- The doctor can chat with the patient.
- The doctor can view all his reserved appointments.
- The doctor can write or delete a report for each appointment.
- The doctor can edit his workdays & hours.
- The doctor can disable his account so no patients can see it.
- The pharmacy can add new products to its account.

- The pharmacy can delete any product from its account.
- The pharmacy can view all orders with patients' names and details.
- The pharmacy can disable its account so no patients can see it.

6.1.2 Actual Result:

- The user can login and sign up to the website.
- The user can edit his profile data and image.
- the admin can view the total count of all users in the system.
- The admin can view the total count of patients accounts in the system.
- the admin can see which accounts are disabled and which are not.
- The admin can view all clinics and pharmacies in the system.
- The patient can browse all clinics.
- The patient can search for any clinic.
- the patient can rate the clinics.
- The patient can reserve an appointment with any clinic.
- The patient can view all his appointments and read his reports.
- The patient can chat with any doctor.
- The patient can browse all pharmacies.
- The patient can search for specific medicine in any pharmacy.
- The patient can order medicine from any pharmacy.
- The patient can view all his orders with details.
- The doctor can view his clinic rate.
- The doctor can chat with the patient.
- The doctor can view all his reserved appointments.
- The doctor can write or delete a report for each appointment.
- The doctor can edit his workdays & hours.
- The doctor can disable his account so no patients can see it.
- The pharmacy can add new products to its account.
- The pharmacy can delete any product from its account.
- The pharmacy can view all orders with patients' names and details.
- The pharmacy can disable its account so no patients can see it.

6.2 Discussion:

Our team has put in extensive effort to develop a comprehensive system, ensuring that there are no discrepancies between the anticipated outcome and the actual result. We have meticulously worked on all aspects to create a robust and flawless solution, leaving no room for any variances or deviations from our expectations.

Chapter 7: Conclusion

In conclusion, the website we have created provides a comprehensive platform that caters to the needs of patients, doctors, and pharmacies. It offers a user-friendly interface that allows patients to register and log in, granting them access to a range of features and functionalities.

For patients, the website enables them to easily browse and search for clinics based on their preferences. They can view detailed information about each clinic, including descriptions, operating days and times, ratings, and addresses. This empowers patients to make informed decisions when selecting a clinic. Additionally, patients can rate clinics, chat with doctors, and reserve appointments, enhancing their overall healthcare experience.

Moreover, patients can explore various pharmacies, view their products, and place orders for items they require. They can conveniently access a history of their orders from different pharmacies, ensuring a seamless ordering process.

For doctors, the website provides a centralized platform to manage their appointments, communicate with patients through chat features, and view their clinic ratings. This streamlines the workflow for doctors, allowing them to efficiently serve their patients. They also have the flexibility to add reports to each appointment and edit their clinic's operating days and times. The option to disable their account ensures privacy and control over their availability.

Pharmacies benefit from the website by being able to showcase their products and easily add or remove items from their page. They can view all their orders, along with patients' names, which facilitates efficient order management. Similarly, to doctors, pharmacies have the option to disable their account when needed.

Overall, our website provides a convenient and user-friendly platform that bridges the gap between patients, doctors, and pharmacies. It enhances the patient's experience by offering comprehensive information, communication channels, and easy access to healthcare services. The website promotes efficiency and convenience for doctors and pharmacies, empowering them to manage their appointments and orders effectively.

Finally, in our relentless pursuit to contribute to the progress of the technological community, we have dedicated ourselves to providing support and assistance. Our primary focus has been on developing solutions that benefit society at large, addressing their needs effectively. Despite having limited resources, we have strived to optimize cost-efficiency while concurrently enhancing the quality of our services. Our unwavering commitment to excellence drives us to continuously explore innovative approaches that maximize the value we deliver within our resource constraints.

Chapter 8: Future Work

As for future work on this website, there are several areas that could be considered for further development and improvement:

- Prescription Management: Develop a system for doctors to digitally generate and manage prescriptions. This would streamline the process for patients to receive their prescriptions, eliminating the need for physical copies. Additionally, implementing features for patients to easily access and reorder their prescriptions would be beneficial.
- Integration with Health Records: Explore integration with existing health record systems to provide doctors with easy access to patients' medical history. This would enable doctors to provide more personalized and informed care, as well as improve the overall continuity of care.
- Mobile Application: Consider developing a mobile application for the website, allowing patients, doctors, and pharmacies to access the platform on their smartphones or tablets. A mobile app would provide a more seamless and convenient user experience, especially for on-the-go access to healthcare services.
- Data Analytics and Reporting: Implement robust analytics and reporting capabilities to track and analyze user behavior, clinic ratings, product popularity, and other relevant metrics. This data can provide valuable insights for improving the website's performance, identifying trends, and making informed business decisions.
- Integration with Payment Gateways: Enable secure online payment options for patients when reserving appointments or placing orders. Integrating popular and trusted payment gateways would enhance the overall user experience and facilitate seamless transactions.
- Multi-language Support: Consider incorporating multi-language support to make the website more accessible to a wider range of users. This would involve providing translations of the interface, clinic descriptions, and product information, ensuring that language barriers do not hinder users' ability to navigate and engage with the website.

- Feedback and Review System: Implement a robust feedback and review system to allow patients to provide feedback on clinics, doctors, and pharmacies. This would help improve transparency, build trust, and assist future patients in making informed decisions based on real user experiences.
- Security and Privacy Enhancements: Continuously prioritize and enhance the website's security measures to protect user data and ensure the privacy of sensitive information. Regular security audits, implementing secure protocols, and adhering to data protection regulations would be essential in maintaining user trust.

By considering these potential future improvements, the website can continue to evolve and provide an even better experience for patients, doctors, and pharmacies, ultimately contributing to the advancement of healthcare accessibility and efficiency.

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