



## **BIS Graduation project**

### **InCare**

**Project No. (71)**

**Prepared By**

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## **Abstract**

A lot of people face difficulty finding a bed in the intensive care units in the hospitals.

Many conditions aren't eligible for long wait and need urgent care. The traditional searching takes time, effort, and money, and the most importantly it puts people's life in danger.

Through InCare web application, patients can search for the nearest hospital with an ICU that suits their budget, and medical case. Thus, they can reserve a bed, and also request an ambulance to take them to the intended hospital they reserved in. Both patients and hospitals are allowed to inquire, complain, provide feedback to help us provide better services, measure users' satisfaction, and solve any issues. People may view their previous bookings or cancel it whenever they need.

Reservations only last for a specified period of time before it's automatically cancelled if the patient doesn't arrive in time.

Hospital administrators can manage the requests they get from the patients and respond based on their capabilities and the patient's condition. They can also display if there's no longer spare beds in the hospital or return to accept patients' requests once again if a bed became available. which reduces congestion, saves people's time and makes the reservation process easier and effortless.

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# **Chapter One**

## **Introduction**

### **1.1 Introduction (system overview/background)**

Overcrowding in hospitals, especially governmental ones, is a problem that is constantly increasing. Despite the huge efforts of the government to solve it, sick people still struggle to find spare beds in hospitals quickly, and the search process may take several days which puts their lives on the line.

According to research seen by the Guardian, Dr Chris Moulton and Dr Cliff Mann say they found that 960 out of 79,228 patients who had to wait about six hours died as a direct result of the delay.

This means that one in every 83 people who have to wait that long to be admitted will die as a result of the delay in them starting specialist care for their condition.

Almost 5,500 patients have died over the (2016-2019) years because they have spent so long time waiting for a bed in overcrowded hospitals.

They concluded that the deaths are entirely and solely caused by the length of wait and not by the patient's condition. It's the first research worldwide to calibrate the risk of death for patients by the number of hours waited.

Delay in receiving necessary medical care might cost thousands of people their lives, which makes quickly connecting them with hospitals that can take their condition a must.

Our website connects Patients who are in need to be taken to the ICU with hospitals which can provide them with it.

## **1.2 Problem statement**

Many people struggle with finding a spare bed in a nearby intensive care unit as the process consumes so much time and effort, especially in the urgent cases who need emergency help.

Global crises such as the Covid-19 epidemic exacerbate the problem, as finding a bed quickly became very hard that put many people's lives at realized risk.

## **1.3 Project objectives**

### **General objectives:**

- Help the government with the 2030 vision.
- Solve hospitals overcrowding problem.

### **Patients' objectives:**

- Make searching for ICU and reservation easier and effortless.
- Save people's time and decrease the risk of making the urgent cases worse by reducing the delay.

### **Hospitals' objectives:**

- Help hospitals (especially private ones) gain recognition and reach more people.
- Connect hospitals which have spare beds with patients in need for intensive care in nearby places.

## **1.4 Literature review (existing systems& problems)**

### **Existing systems:**

**Hospital Update:** is a mobile application that updates real-time data of hospital beds, ICU, and other emergency facilities like oxygen, ambulance service all over Bangladesh.

### **System features:**

- ICU and other beds availability info based on real-time data from government domain.
- Location based search system with filters.
- Nationwide ambulance and oxygen providers info.

**India Hospital finder:** application provides you the listing of hospitals around you and shows you all details about the hospital (e.g., address, website, specialty, type, etc.)

#### **System features:**

- Find hospitals in all major cities all over India.
- Easy to use interface which makes findings of hospital easier.
- Hospital info with contact details.
- Emergency contact details of clinics and other services.

**Saudi Hospitals:** is a directory of 600+ hospitals and doctors located in Saudi Arabia and find out the best service in your city for better health treatment.

#### **System features:**

- Find nearest hospitals and directions.
- Hospital or clinic details
- Search for a hospital in your city
- Add hospital.
- Add doctors.

System name	Features	Disadvantages	Our system advantages
Update Hospital	<ul style="list-style-type: none"> <li>– ICU and other beds availability info based on real-time data from government domain.</li> <li>– Location based search system with filters.</li> <li>– Nationwide ambulance and oxygen providers info.</li> </ul>	<ul style="list-style-type: none"> <li>– Working just in Bangladesh</li> <li>– Does not have access to have reservation on hospitals before users go to it.</li> </ul>	<ul style="list-style-type: none"> <li>– Our website working in Egypt.</li> <li>– Users can reserve a bed in hospital.</li> </ul>
India Hospital Finder	<ul style="list-style-type: none"> <li>– Find hospitals in all major cities all over India.</li> <li>– Easy to use interface which makes findings of hospital easier.</li> <li>– Hospital info with contact details.</li> <li>– Emergency contact details of clinics and other services.</li> </ul>	<ul style="list-style-type: none"> <li>– Working just on India</li> <li>– Users cannot reserve on this app.</li> <li>– This app does not have an update in ICU hospital.</li> </ul>	<ul style="list-style-type: none"> <li>– Can get an ambulance car on this website.</li> <li>– Our website is responsive (can work in</li> </ul>

Saudi Hospital	<ul style="list-style-type: none"> <li>- Find the nearest hospitals and directions.</li> <li>- Hospital or clinic details.</li> <li>- Search for a hospital in your city.</li> <li>- Add hospital.</li> <li>- Add doctors.</li> </ul>	<ul style="list-style-type: none"> <li>- Working on Saudi Arabia</li> <li>- Users cannot reserve on this app.</li> </ul>	computers, laptop, iPad, phones).
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## **1.5 Project functionality/features: -**

### **As an end user (patients):**

- Sign up.
- Sign in.
- Reset password.
- Edit profile.
- Log out.
- Search for specific hospital.
- Advanced search by location.
- Sort hospitals by price.
- Categorize hospitals (governmental/private).
- Geolocation API.
- Compare between hospitals.
- Online reservation.
- Cancel reservation.
- Feedback (review, ask questions, report a problem).
- Request an ambulance.
- History of old transactions.
- Availability filters (only available hospitals can be reserved).
- Accessibility.
- Responsive design (mobile friendly).

### **As a hospital:**

- Request to subscribe (Sign up).
- Log in.

- Reset password.
- Edit profile
- Manage pending requests from patients.
- Display whether there's available beds or not.
- Send complaints.

### **As a system administrator:**

- Log in.
- Manage hospitals' requests.
- Add accepted hospitals' data to the website.
- Send appointment information to the accepted hospitals.
- Block hospital account.
- Block user.
- Follow all system transactions.
- Manage patients' and hospitals' complaints.
- Log out.

### **1.6 System users**

- People who need to find a bed in a near intensive care unit of a hospital.
- Hospitals providing intensive care.
- System admins.

### **1.7 System requirements: -**

#### **Hardware:**

- PC or Smart Phone connected to the internet.
- RAM: Minimum 4 GB.
- Hard Disk: Minimum 256GB.
- Processor: Intel or AMD Ryzen.
- Global Positioning System (GPS).

#### **Software:**

- Operating system: Windows, Mac, Linux, etc.
- Browser: Chrome, Firefox, Opera, safari, Microsoft Edge, etc.
- Apache Server.
- MySQL.
- XAMPP (PHP).
- Composer

## **1.8 Project resources (tools& languages):-**

### **Front End:**

#### **-Visual studio code**

VS Code is a source-code editor made by Microsoft with the Electron Framework, for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.

#### **-HTML**

Hyper Text Markup Language is the standard markup language for documents designed to be displayed in a web browser. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

#### **-CSS**

Cascading Style Sheets is a style sheet language used for describing the presentation of a document. CSS is designed to enable the separation of content and presentation, including layout, colors, and fonts. This separation can improve content accessibility; provide more flexibility and control in the specification of presentation characteristics.

#### **-JavaScript**

JS is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. 98% of websites use JavaScript on the client side for webpage behavior, often incorporating third-party libraries.

All major web browsers have a dedicated JavaScript engine to execute the code on users' devices.

JavaScript is a high-level, often just-in-time compiled language that conforms to the ECMAScript standard. It has dynamic typing, prototype-based object-orientation, and first-class functions. It is multi-paradigm, supporting event-driven, functional, and imperative programming styles. It has application programming interfaces (APIs) for working with text, dates, regular expressions, standard data structures, and the Document Object Model (DOM).

## **Back End:**

### **-PHP**

*Hypertext Preprocessor* is a general-purpose scripting language geared toward web development.

PHP code is usually processed on a web server by a PHP interpreter implemented as a module, a daemon or as a Common Gateway Interface (CGI) executable. On a web server, the result of the interpreted and executed PHP code – which may be any type of data, such as generated HTML or binary image data – would form the whole or part of an HTTP response. Various web template systems, web content management systems, and web frameworks exist which can be employed to orchestrate or facilitate the generation of that response.

### **-XAMPP**

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

### **-PhpMyAdmin**

phpMyAdmin is a free and open-source administration tool for MySQL and MariaDB. As a portable web application written primarily in PHP, it has become one of the most popular MySQL administration tools, especially for web hosting services.

### **- MySQL**

MySQL is an open-source relational database management system (RDBMS) which organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL(Structured Query Language) is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access, and facilitates testing database integrity and creation of backups.

MySQL is free and open-source software under the terms of the GNU General Public License and is also available under a variety of proprietary licenses.

### -Laravel

Laravel is a free and open-source PHP web framework intended for the development of web applications following the model–view–controller (MVC) architectural pattern and based on Symfony. Some of the features of Laravel are a modular packaging system with a dedicated dependency manager, different ways for accessing relational databases, utilities that aid in application deployment and maintenance, and its orientation toward syntactic sugar.

The source code of Laravel is hosted on GitHub and licensed under the terms of MIT License.<sup>[1]</sup>

### Design:

#### -Wondershare EdrawMax

a 2D business technical diagramming software which helps create flowcharts, organizational charts, mind map, network diagrams, floor plans, workflow diagrams, business charts, and engineering diagrams. The current version, Edraw Max 11.5.0 was released in November 2021 for Microsoft Windows, macOS, and Linux. Edraw Max is a Visio-like diagramming tool.

#### -Lucidchart

a web-based diagramming application that allows users to visually collaborate on drawing, revising, and sharing charts and diagrams, and improve processes, systems, and organizational structures. It is produced by Lucid Software Inc.

#### -Diagrams.net (Draw.io)

a free and open-source cross-platform graph drawing software developed in HTML5 and JavaScript. Its interface can be used to create diagrams such as flowcharts, wireframes, UML diagrams, organizational charts, and network diagrams. diagrams.net is available as online as cross-browser web app, and as offline desktop

application for Linux, macOS, and Windows. Its offline application is built using the Electron framework. The web app does not require online login or registration and can open from and save to the local hard drive. Supported storage and export formats to download include PNG, JPEG, SVG, and PDF.

### **-DrawSQL**

DrawSQL software is a platform used to create, visualize and collaborate on your database entity relationship diagrams. Collaborate with your team and share your schema diagrams up to date.

### **-Adobe Photoshop**

A raster graphics editor developed and published by Adobe Inc. for Windows and macOS. It was originally created in 1987 by Thomas and John Knoll. Since then, the software has become the most used tool for professional digital art, especially in raster graphics editing. Photoshop can edit and compose raster images in multiple layers and supports masks, alpha compositing, and several color models. Photoshop uses its own PSD and PSB file formats to support these features.

### **Documentation:**

#### **-Microsoft word**

a word processing software developed by Microsoft.

### **Presentation:**

#### **-Microsoft power point**

a presentation software program, created by Robert Gaskins and Dennis Austin at a software company named Forethought, Inc. It was released on April 20, 1987, initially for Macintosh computers only. Microsoft then acquired PowerPoint for about \$14 million three months after it appeared.

## 1.9 Project schedule

Weeks	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Preliminary requirement gathering												
Introductory chapter												
Business plan												
Business model												
SWOT analysis												
Marketing plan												
Financial plan												
Use case diagram												
Sequence diagram												
Activity diagram												
ERD diagram												
Class diagram												
Site map												
Front-end												
Back-end												
Database												
Implementation												
Testing												

# **Chapter Two**

## **Business Plan**

### **2.1 Executive summary**

#### **2.1.1 Brief description of the business idea**

“InCare” is a website that provides service to help people in emergency cases first to find and reserve a bed in the nearest intensive care. Through our website people can search for the nearest and affordable hospital without the need to search for a place in the hospitals physically and without wasting of time as every moment in these cases is very sensitive. Second also they can request an ambulance to take them to the intended hospital they reserved in.

Incare is providing a service needed in the community since there is nearly no website providing the same service here in Egypt so there are no competitors.

### **2.2 Name of the business “InCare “**

#### **2.3 Legal form**

The type of business is: General partnership.

#### **2.3.1 What is a general partnership?**

- General partnership is a basic form of partnership and one of the most common legal entities to form a business in which two or more persons “in our project we are 6” engaged in a business for profit and agree to share in all assets, profits, and liabilities of a business.
- General partnership doesn’t need to register the business with a state to function legally, so a general partnership is ideal for a small new business with a trusted partner.

#### **2.3.2 Some of the advantages of a general partnership:**

1. Easy Business Formation: General partnerships require very little paperwork.
2. Simple Operating Structure: Each partner should have a clearly defined role and business decisions should be handled accordingly.
3. Pass Through Profits and Taxation: Each partner must include their business income on their personal tax return and can deduct business losses on her individual tax return as well.
4. Ease of Dissolution: A partnership can be dissolved at any time and partners have full liability for their business.

5. The Potential to Participate in Larger Deals: When you form a general partnership, you're pooling the cash you have available to invest with a trusted partner or partners.
6. Management Responsibilities Are Shared: With a general partnership, the workload is shared because you're a team of two or more.

## **2.4 Contact**

**Address:** Maddi, Cairo, Egypt.

**Telephone:** +2 01001156236

**E-mail:** [incareCo23@gmail.com](mailto:incareCo23@gmail.com)

## **2.5 System owners**

<b>Names</b>	<b>Address</b>	<b>Functions</b>	<b>Qualifications</b>
Marwan Mohamed	6 October, Giza.	Back-end developer.	Undergraduate Of Business Information System – Helwan University
Nourhan Magdy	Ain Shams, Cairo.	Full-stack developer	Undergraduate Of Business Information System – Helwan University
Mariam Hussein	Mokattam, Cairo.	front-end developer.	Undergraduate Of Business Information System – Helwan University
Hamsa Essam Eldin	Haram, Giza.	front-end developer.	Undergraduate Of Business Information System – Helwan University
Mayar Mostafa	Faisal, Giza.	Business developer.	Undergraduate Of Business Information System – Helwan University
Nouran Medhat	Faisal, Giza.	Business developer.	Undergraduate Of Business Information System – Helwan University

## **2.6 Vision**

### **2.6.1 Short-term vision**

- make deals with a large number of hospitals in a short time.
- make agreement with all hospitals and pharmacies in Cairo to put our QR code to be easy for people to know our website and find us easily.
- create a trustworthy link between the website and people who use the service.

### **2.6.2 Long-term vision**

- reduce the number of people who die because they can't find a bed in the intensive care as fast as possible.
- expand in this field and target all hospitals in Egypt.
- put the QR code in all hospitals and pharmacies allover Egypt not only in Cairo.

## **2.7 Mission**

We provide an easy-to-use web application to connect people in need for urgent intensive care with hospitals and find a spare bed there.

## **2.8 Organization and staff**

Name	Position	Responsibility	Salary
Marwan Mohamed	Back-end developer	<ul style="list-style-type: none"><li>- Provides technical/engineering support for new and existing applications.</li><li>- Monitor quality assurance and required up-times of supported systems and their data sources.</li><li>- Maintain conversions and implementation of third-party products used in the development process.</li></ul>	6000
Nourhan Magdy	Full-stack developer	<ul style="list-style-type: none"><li>- is a developer or engineer who can build both the front end and the back end of a website.</li></ul>	6000

<b>Mariam Hussein</b>	Front-end developer	<ul style="list-style-type: none"> <li>- A Front-End Developer is responsible for developing new user-facing features, determining the structure and design of web pages, building reusable codes, optimizing page loading times, and using a variety of markup languages to create the web pages.</li> </ul>	6000
<b>Hamsa EssamEldin</b>	Front-end developer	<ul style="list-style-type: none"> <li>- A Front-End Developer is responsible for developing new user-facing features, determining the structure and design of web pages, building reusable codes, optimizing page loading times, and using a variety of markup languages to create the web pages.</li> </ul>	6000
<b>Mayar Mostafa</b>	Operation manager	<ul style="list-style-type: none"> <li>- oversee operational activities at every level of an organization.</li> <li>- Their duties include hiring and training employees and managing quality assurance programs.</li> <li>- An operations manager also strategizes process improvements to ensure everyone completes their tasks on schedule.</li> <li>- responsible for ensuring the quality of their company's products and services meet or exceed customer expectations. They do this by running various processes, like hiring new employees, training them in specific skill sets and procedures, and monitoring existing workers, so nothing falls through the cracks</li> </ul>	6000

<b>Nouran Medhat</b>	Account manager	<ul style="list-style-type: none"> <li>- Operating as the lead point of contact for any and all matters specific to your accounts.</li> <li>- Building and maintaining strong, long-lasting customer relationships</li> <li>- Overseeing customer account management, including negotiating contracts and agreements to maximize profit.</li> </ul>	6000
<b>Total</b>		<b>36,000</b>	

## **2.9 Objectives**

- 1- A booking service of 24/7
- 2- Employment in the headquarters of more than 20 employees.
- 3- By the end of the first year:
  - cover all hospitals in Cairo, Giza, and Alex.
  - create an easy strong and secured website by focusing more on security.
  - improve the customer experience by allowing them to give feedback.

### **2.9.1 Marketing objectives:**

- 1- Contract with more than 200 hospitals.
- 2- Build our Brand.
- 3- introduce a new technology to medical field.
- 4- Reaching the largest number of people in need for our services in every area of Egypt.
- 5- increase the brand awareness.
- 6- increase customer satisfaction.

### **2.9.2 Financial objectives:**

- 1- To generate revenue by 2024.
- 2- get a profit.
- 3- Sustainable growth.

## **2.10 Branding**

Our slogan is: “Anytime anywhere, get intensive and instant care “.

## **2.11 Market research**

### **2.11.1 Market need**

Many people in emergencies can't find a bed in intensive care units which may lead to a dangerous situation for the patient, so we decided to help them find it faster.

### **2.11.2 Opportunity in the market**

After research we found that nearly there is no website provide the same service in Egypt and all other medical website and applications provide different services so our opportunity in the market is great. there are some applications that provide same service but not in our country and not providing exactly the same features.

### **2.11.3 market and customer segmentation**

#### **2.11.3.1 customer segmentation**

- **Geographic Segmentation** Allover Egypt
- **Demographics Segmentation**

<b>Gender</b>	male and female
<b>Location</b>	All Egypt
<b>Education</b>	Students, workers, unemployment
<b>Income</b>	Any range
<b>Marital status</b>	All status

#### **2.11.3.2 Market segmentation**

Cover all the hospitals and every patient allover Egypt.

## **2.12 Size of total market**

We target all hospitals that have intensive care unit almost +1800

## **2.13 SWOT analysis**

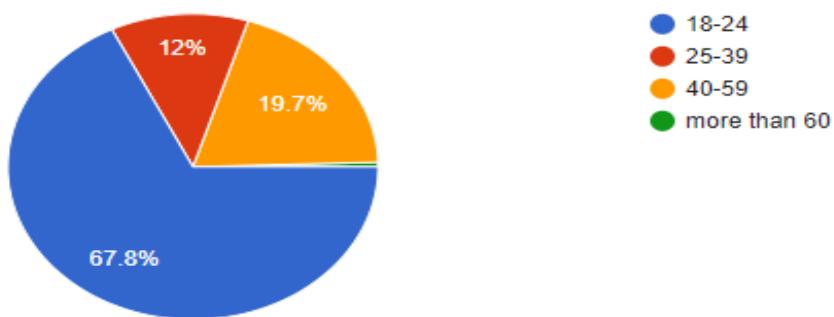
<b>Strength</b>	<b>Weakness</b>
<ul style="list-style-type: none"><li>- No competitors in Egypt</li><li>- Save the precious time of the patient.</li><li>- Improve the website quality by allowing the people to give feedback.</li><li>- Provide appropriate bed for the critically ill patient.</li><li>- Providing ambulance.</li><li>- Staff members are qualified enough to manage the project well</li></ul>	<ul style="list-style-type: none"><li>- There are some people who don't use technology.</li><li>- The website is still a new way to provide these services.</li><li>- The website needs time to be trustworthy.</li></ul>
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"><li>- “Incare” is the first website to provide this service.</li><li>- Expand to cover all Egypt hospitals.</li><li>- Penetrating the market first gives us the experience in the future in case of other competitors.</li></ul>	<ul style="list-style-type: none"><li>- Any new competitors</li><li>- Any external factors that can't be controlled “as covid-19.”</li><li>- Ambulance may arrive late to the patient.</li><li>- Mindset to use technology in emergency cases.</li><li>- Attempting to hack the website (may shutdown, steal the database, get information of the users) so the data security is too important.</li></ul>

## 2.14 Survey

We made an online survey to collect information from people and understand the customers need well, we got more than 200 responses.

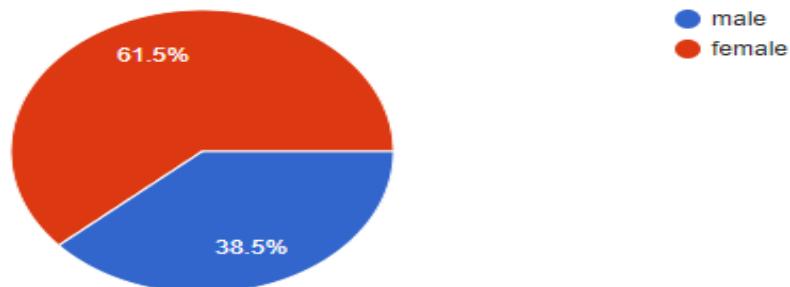
your age

208 responses



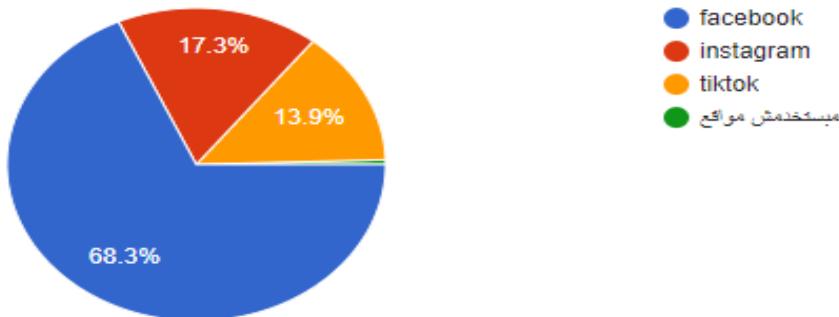
Gender

208 responses



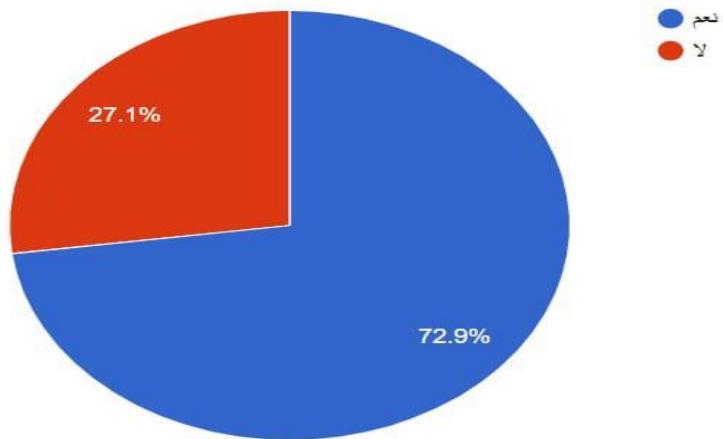
پختخدمه social media platform ایه اکثر

208 responses



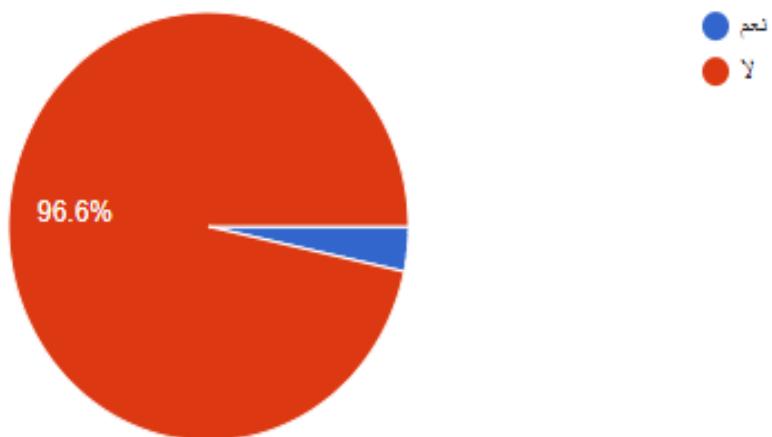
بتواجهوا صعوبه علشان تلاقو مكان فاضي في عنایة مركزه قریبه منکوا؟

208 responses



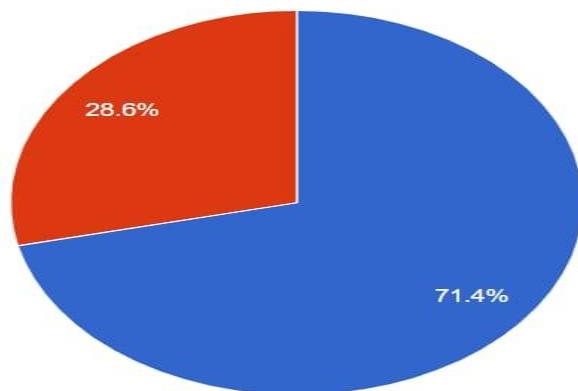
هل اتعاملت مع موقع له صله بالعدايات المركزه قبل كدا؟

208 responses



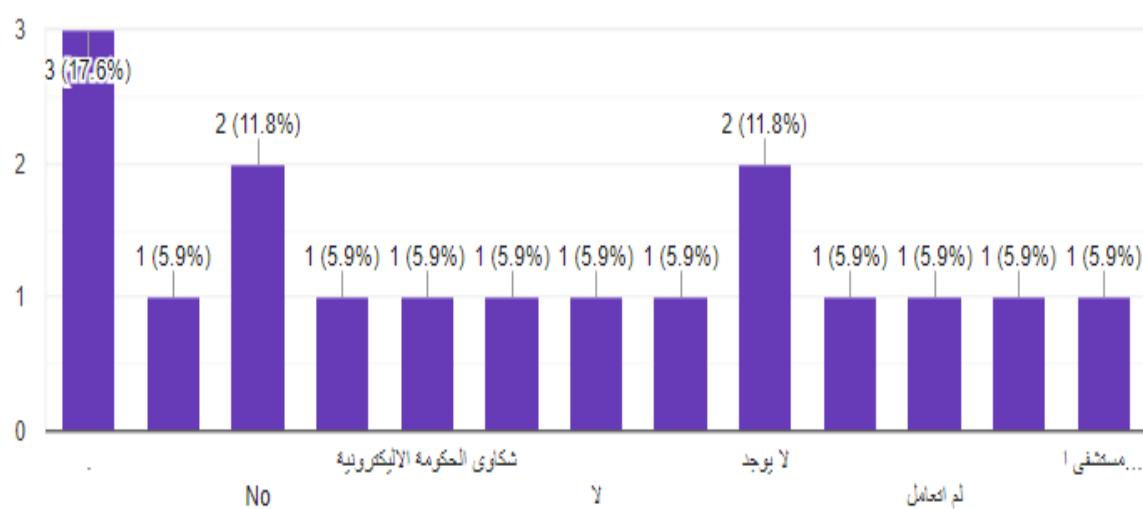
لو عندك حد تحتاج عناته مركزه هتفضل تحجز عن طريق  
website /application  
ولا تنزل تدور بنفسك ؟  
208 responses

احجز اونلاين  
انزل انور بنفسي



لو اتعاملت.. ايه اسم الموقع ؟

17 responses



## **2.15 Start-up capital**

<b>Investment</b>	396,250 EGP
Working capital	1,139,700 EGP
<b>Total</b>	<b>1,535,950 EGP</b>

## **2.16 Sources of capital**

<b>Partners</b>	900,000 EGP
<b>Bank loan</b>	750,000 EGP
<b>Total</b>	<b>1,650,000 EGP</b>

## **2.17 Marketing plan**

- Marketing plan is a part of an overall business plan, and it is an operational document that shows how an organization is planning to use advertising and outreach to target a specific market.
- The marketing plan help determine who the target market is, how best to reach them, at what price point the product or service should be sold, and how the company will measure its efforts.
- A marketing plan is a report that outlines your marketing strategy for your products or services, which could be applicable for the coming year, quarter or month.

### **2.17.1 Marketing mix:**

- "Marketing mix" comprised of four key elements **product, price, place, and promotion** used when marketing a product or service.
- Businesses consider the four Ps when creating marketing plans and strategies to effectively market to their target audience.
- "Set of marketing tools that the firm uses to pursue its marketing objectives in the target market".



## 1.product

- Product is the first P in the marketing mix and is defined as physical goods or services sold to make a profit for the business.
- The product must deliver a minimum level of performance; otherwise even the best work on the other elements of the marketing mix won't do any good.
- Our website provides a service to solve a real problem that anyone can face. We help people to save their time and find a bed in the nearest intensive care easily for their patient, and we allow them to reserve an ambulance.

## 2.price

- Price in marketing mix refers to the value we pay in exchange for the product and services offered by a company. Price is considered a vital element of the marketing mix because it dictates a company's survival and profit.
- Price is important to marketers because it represents marketers' assessment of the value customers see in the product or service and are willing to pay for a product or service.

- **For private hospitals** make partnership contract as follows:

Service	silver	gold	platinum
How much customer are willing to pay	Highest:15,000 Average:20,000 Lowest:25,000	Highest:20,000 Average:25,000 Lowest:30,000	Highest:25,000 Average:30,000 Lowest:35,000
<b>Competitors price</b>	Nearly no competitors		
My price	<b>15,000</b>	<b>20,000</b>	<b>25,000</b>
<b>Reasons for setting my price</b>	We choose these prices because the customer willing to pay will be high as it is the lowest price. And this service is new to the market, so the low price is the right choice.		
<b>Features</b>	subscription on website.	-roll up on our offline campaigns and event. -advertisement for the hospital on our website.	-roll up on our offline campaigns and events. -advertisement for the hospital on our website. -customized feature.
Margin for discount	We offer first 6 months as a free trial		

- each hospital renews their subscription annually with their package value.  
 If they'd like to upgrade /change their package the subscription renews amount is the new package value

- **Economic governmental hospitals** free subscription
- **Users** Free use of the website.

### 3.place

Place refers to where consumers buy your product, or where they discover it. Today's consumers may learn about products and buy them online, through a smartphone app, at retail locations, or through a sales professional.

## Where can you find us?

- **For users** are an online website that provide service through internet.
- **For hospitals “our clients”**

They can contact us online on the website, then come to our office for legal contracts or they can come directly to our office to make agreement and an admin would register them using the dashboard.

## 4.promotion

implies the process of acquainting the target consumers about the brand and convincing them to buy the product, describes a blend of promotional variables chosen by marketers to help a firm reach its goals. It has been identified as a subset of the marketing mix.

### We will use:

- **direct marketing**  
as we leave our QR code in the hospitals and pharmacies.
- **digital marketing**  
ads on social media platforms: Facebook, YouTube.
- **traditional marketing**  
Advertising campaign.

## 2.17.2 Business model

Key partners	Key activity	Value proposition	Customer relationship
-private hospitals -governmental hospitals	-market research. -develop our business plan. -develop website front end. Develop website backend. -partnership contract with hospitals. -establish social media platform. -marketing ads. -launching website. -feedback from hospitals and users.	-our website provides a critical service that is very needed to many people, we try to support the highest quality of life possible for whatever time remains.	-by allowing them to give a feedback and complaints. -improve what make them complain. -through hotlines. -ease of use to the website.

<b>Channels</b>	<b>Customer segments</b>	<b>Cost structure</b>	<b>Revenue stream</b>
<ul style="list-style-type: none"> <li>-website app.</li> <li>-social media marketing.</li> <li>-banners, billboard.</li> <li>-booths and campaigns.</li> </ul>	<p>Anyone who can use technology and open the internet.</p> <ul style="list-style-type: none"> <li>- Gender: male and female.</li> <li>- Location: all Egypt.</li> <li>- Education: Students, workers, unemployed.</li> <li>- Income: any budget.</li> <li>- Marital status: all status.</li> </ul>	<ul style="list-style-type: none"> <li>-office rent.</li> <li>-laptops.</li> <li>-servers.</li> <li>-salaries.</li> </ul> <p>-marketing budget. -electricity bills. -office asset</p>	<p>-by subscription of the hospitals</p>

## **2.18 Features**

### **Some features of our website:**

#### **1- Accessible to All Users**

#### **2- Well Planned Information Architecture:**

How information is organized and presented on your website is vital for good usability.

#### **3- Good Error Handling:**

handling of errors at a code level ensures the website is robust and free from bugs.

#### **4- Functionality:**

All the elements of your site should work seamlessly.

#### **5- Security:**

Internet security is becoming an ever-increasing issue so with Metroid security is an absolute must cause we are storing personal and sensitive information or credit and debit card details.

#### **6- Search options:**

Users can search for specific hospital or specific region.

#### **7- Point of Contact or Feedback form:**

It is considered a good practice for a website to have a Contact Us Form so that user can drop his considerations and queries. It is also considered a good practice for a website to have a Feedback Form too so that user can his valuable observations/feedback about the website

## **2.19 Financial plan**

### **2.19.1 start-up and working capital:**

Estimation of Start-up Capital	Amount
<b>Investment</b>	
Cash	EGP 240,000
Office Disks	EGP 14,400
Computers	EGP 100,000
Printers	EGP 4,250
Routers	EGP 2,530
Furniture	EGP 19,770
Kitchen utilities	EGP 5,000
booth & rollup	EGP 5,300
Telephone	EGP 4,000
Office supplies	EGP 1,000
<b>Total Investment</b>	<b>EGP 396,250</b>
<b>Working Capital</b>	
Rent	EGP 132,000
Salaries	EGP 432,000
Invoices	EGP 12,000
Hosting	EGP 4,200
Loan	EGP 397,500
Internet Fees	EGP 12,000
Marketing	EGP 150,000
<b>Total working Capital</b>	<b>EGP 1,139,700</b>
<b>Total start-up capital</b>	<b>EGP 1,535,950</b>

## **Start-up capital details**

### **1-Office disks:**

Disk =2,400 per unit, we need 6 for the staff

- Brand: Tvilum.
- Item shape: rectangular.
- Item dimension: 48.2\*110.2\*77.4 CM

### **2-laptops:**

Laptop = 16,666.6 per unit, we need 6 for the staff

- Hp 15s-eq2012ne laptop – Ryzen 5 5500u 6-cores ,8GB ram, 512GB SSD, AMD Radeon graphics, 15.6” FHD (1920\*1080) micro-edge anti-glare 250 nits, dos-jet black.
- Brand: hp.
- Screen size: 15.6 Inches.
- Color: black.
- Hard disk size: 512 GB
- CPU model: Ryzen5 5500u
- RAM memory size: 8 GB
- Operating system: DOS

### **3-Printer:**

- Brand: hp
- Printing technology: inkjet
- Color: black.
- Model name :360 MHZ
- Maximum print speed (8 ppm).

### **4-Routers: 2,530 EGP**

- Brand TP-Link.
- Frequency band class: single band.
- Include component: router, adapter, manual.

### **5-Furniture: 19770 EGP**

- Chair 541.67 EGP per unit ( $541.67 \times 6 = 3250$ )
- Table for meeting room 9,990 EGP
- Sofa 1,150EGP
- Television LG 5,470EGP

## **6-Kitchen utilities: 5000 EGP**

- 5,000 include all utilities we may need in office kitchen.

## **7-Booth & rollup: 5,300 EGP**

- Metallic Booth for 5,000EGP
- Roll up with stand 300EGP.

## **8-Telephone: 4000 EGP**

- 571 EGP per unit we need 7 devices.

## **9-Office supplies: 1000 EGP**

## **Working capital details**

### **1-rent:**

Annually we will pay 132,000 EGP each month 11,000 EGP for the apartment that locates on Maadi, Cairo, Egypt.

### **2-salary:**

Annually we will pay 432,000 EGP on the salary of the staff.  
we are 6 partners each one will take 6,000 EGP monthly so the total salary in one month =  $6000 * 6 = 36,000$

### **3-invoices:**

Annually we will spend 12,000 EGP on invoices each month 1,000 EGP.

- Water bill 200 EGP
- Electricity bill 500 EGP
- Gas bill 150 EGP
- Telephone bill 150 EGP

### **4-hosting:**

Annually we will pay 4,200 EGP.

Each month we will pay \$10 ( $10\$ * 35 = 350$  EGP) for rent a server on a webhost.

### **5-loan:**

Our total bank loan = 750,000 EGP on 2 years we will pay 6% interest

Annually 397,500 EGP

### **6-internet fees:**

We will pay 12,000 EGP annually for the internet, monthly we will pay 1,000 EGP for max internet package from we 200 Mbps.

### **7-marketing:**

The total marketing costs annually=150,000 EGP

- social media ads. We will pay 120,000 EGP annually.
- Offline campaigns.

Will cost us 30,000 EGP annually we will do campaigns every two months each campaigns cost us 5,000 EGP.

	<b>Reach</b>	<b>Estimated Cost Per Unit</b>	<b>Total Estimated Cost</b>
<b>Social media platforms</b>	Facebook	500,000	<b>EGP 60,000</b>
	YouTube	200,000	<b>EGP 60,000</b>
<b>Offline Campaigns annually</b>			<b>EGP 30,000</b>
<b>Total Advertising Costs</b>		<b>EGP 150,000</b>	

## **2.19.2 Marketing Budget**

The marketing budget should be a percentage of the revenue.

**Marketing budget calculated as follows:**

- social media ads

We will pay 120,000 EGP annually.

- On Facebook we hope our ads reach 500,000 Estimated Cost Per Unit 0.12 so we will spend 60,000 EGP on Facebook ads annually.
- On YouTube we hope our ads reach 200,000 Estimated Cost Per Unit 0.3 so we will spend 60,000 EGP on YouTube ads annually.

- Offline campaigns

Will cost us 30,000 EGP annually we will make campaigns every two months each campaigns cost us 5,000 EGP.

**so, the total advertising costs = 60,000+30,000+60,000=150,000 EGP.**

### **2.19.3 Source of fund**

Type	Source	Condition (Duration/Interest)	Amount
<b>Equity Capital</b>	Partner	-	<b>EGP 900,000</b>
<b>Loans</b>	Bank Loan	<b>2 Years / 6%</b>	<b>EGP 750,000</b>
<b>Total Funding</b>	<b>EGP 1,650,000</b>		

### **Owners' percentage:**

Owners' investment	Amount	%
Marwan Mohamed	EGP 150,000	16.67%
Nourhan Magdy	EGP 150,000	16.67%
Mariam Hussein	EGP 150,000	16.67%
Hamsa Essam Eldin	EGP 150,000	16.67%
Mayar Mostafa	EGP 150,000	16.67%
Nouran Medhat	EGP 150,000	16.67%
<b>Total</b>	<b>900,000 EGP</b>	<b>100%</b>

### **Source of funds are:**

- We are 6 partners each one will put 100,000 EGP to start the business so the start-up capital =  $150,000 \times 6 = 900,000$ , the percentage of each one of the partners will be 16.67%
- And a bank loan = 750,000

**So, the total source of funds =  $900,000 + 750,000 = 1,650,000$  EGP**

## **2.19.4 Bank Loan:**

Dept services			
Repayment Period	Year1		Year2
Installment	375,000 EGP		375,000 EGP
Interest (semiannually)	11,250	11,250	11,250
Total instalments	397,500 EGP		397,500 EGP
<b>Total</b>	<b>795,000 EGP</b>		

### **Loan details:**

We will take a loan from the National bank of Egypt for financing the small business at the value of 750,000 EGP for 2 years and the interest rate is 6%.

## 2.19.5 Expected revenue

services		1	2	3	4	5	6	7	8	9	10	11	12
Silver	<b>Price</b>	free	free	free	free	free	free	15,000	15,000	15,000	15,000	15,000	15,000
	<b>Quantity</b>	3	3	3	4	4	6	3	2	3	4	2	2
								3	3	3	4	4	6
Gold	<b>Turnover</b>	0	0	0	0	0	0	90,000	75,000	90,000	120,000	90,000	90,000
	<b>Price</b>	free	free	free	free	free	free	20,000	20,000	20,000	20,000	20,000	20,000
	<b>Quantity</b>	1	3	2	3	5	5	6	4	6	7	8	8
								1	3	2	3	5	5
Platinum	<b>Turnover</b>	0	0	0	0	0	0	140,000	140,000	160,000	200,000	260,000	260,000
	<b>Price</b>	free	free	free	free	free	free	25,000	25,000	25,000	25,000	25,000	25,000
	<b>Quantity</b>	-	-	-	-	-	2	3	2	4	4	5	6
													2
All services	<b>Turnover</b>	-	-	-	-	-	0	75,000	50,000	100,000	100,000	125,000	25,000
	<b>Quantity</b>	4	6	5	7	9	13	12	8	13	15	15	16
	<b>Turnover</b>	0	0	0	0	0	0	305,000	265,000	350,000	420,000	475,000	580,000

## **2.19.6 Expected expenses**

service	1	2	3	4	5	6	7	8	9	10	11	12	total
<b>Rent</b>	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	132,000
<b>Salaries</b>	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	432,000
<b>Invoices</b>	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
<b>Web Hosting</b>	350	350	350	350	350	350	350	350	350	350	350	350	4,200
<b>Loan</b>	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	397,500
<b>Internet Fees</b>	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
<b>Marketing</b>	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	150,000
<b>Total expenses</b>	94,975	94,975	94,975	94,975	94,975	94,975	94,975	94,975	94,975	94,975	94,975	94,975	<b>1,139,700</b>

## 2.19.7 Profit margin

Services		1	2	3	4	5	6	7	8	9	10	11	12
<b>1.Total Sales</b>		0	0	0	0	0	0	305,000	265,000	350,000	420,000	475,000	580,000
<b>2. (Total Expenses)</b>		Total costs	94,975	94,975	94,975	94,975	94,975	94,975	94,975	94,975	94,975	94,975	94,975
<b>1-2 Profit before tax</b>		(94,975)	(94,975)	(94,975)	(94,975)	(94,975)	(94,975)	210,025	170,025	255,025	325,025	380,025	485,025
(Income tax%) <b>22.50 %</b>		<b>282,443</b>											
<b>Net Profit (after tax)</b>		<b>972,857</b>											

- Profit before taxes = 1,255,300
- Taxes = 1,255,300 X 22.5% = 282,443
- Net profit after taxes = 1,255,300-282,443 = 972,857

## 2.19.8 cash flow

items	Pre-operations	1	2	3	4	5	6	7	8	9	10	11	12
Partner Equity	900,000												
Cash beginning of the month		1,253,750	1,158,775	1,063,800	968,825	873,850	778,875	683900	893,925	1,063,950	1,318,975	1,644,000	2,024,025
+ loans	750,000	-	-	-	-	-	-	-	-	-	-	-	-
+ sales		0	0	0	0	0	0	305,000	265,000	350,000	420,000	475,000	580,000
Total cash in	<b>1650,000</b>	<b>1,253,750</b>	<b>1,158,775</b>	<b>1,063,800</b>	<b>968,825</b>	<b>873,850</b>	<b>778,875</b>	<b>988.900</b>	<b>1,158,925</b>	<b>1,413,950</b>	<b>1,738,975</b>	<b>2.119,000</b>	<b>2,604,025</b>
Investment	396,250	-	-	-	-	-	-	-	-	-	-	-	-
Rent		11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Salaries		36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000
Invoices		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Web hosting		350	350	350	350	350	350	350	350	350	350	350	350
Loan		33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125	33,125
Internet fees		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Marketing		12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500
Total cash out	<b>396,250</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>	<b>94,975</b>
Total cash of the month	<b>1,253,750</b>	<b>1,158,775</b>	<b>1,063,800</b>	<b>968,825</b>	<b>873,850</b>	<b>778,875</b>	<b>683900</b>	<b>893,925</b>	<b>1,063,950</b>	<b>1,318,975</b>	<b>1,644,000</b>	<b>2,024,025</b>	<b>2,509,050</b>

## 2.19.9 Balance sheet:

**Assets=owner's equity + liabilities**

Assets	Value
<b>Fixed asset</b>	
Office Disks	14,400
Laptops	100,000
Printer	4,250
Router	2,530
Furniture	19,770
Kitchen utilities	5,000
booth & rollup	5,300
Telephone	4,000
Office supplies	1,000
<b>Total fixed assets</b>	<b>156,250</b>
Cash	1,493,750
<b>Total current asset</b>	<b>1,493,750</b>
<b>Total assets</b>	<b>1,650,000</b>

Liabilities & owner's equity	value
<b>Long-term liabilities:</b>	
Loans	750,000
<b>Total long-term liability</b>	<b>750,000</b>
<b>Capital</b>	
<b>Partner's Equity</b>	<b>900,000</b>
<b>Total liabilities &amp; owners' equity</b>	<b>1,650,000</b>

# **Chapter Three**

## **System analysis**

### **3.1 Introduction**

The aim of this chapter is to represent the main functions of “**InCare**” web-based application for the clients and hospitals know the requirement of user, describe the tasks that the users perform, the functional requirement begin to define how the system will support the user in completing a task and the non-functional requirement important properties that the system must have such as performance, and usability. The system requirement focuses on describing how to create the software product that will be produced from the project. A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. The method creates a document that describes all the steps taken by a user to complete an activity. And a sequence diagram or system sequence diagram (SSD) shows process interactions arranged in time sequence in the field of software engineering.

### **3.2 User Requirements**

- User (patient or hospital) must understand the steps and follow the guidelines of the website on making registration.
- User must have a friendly user interface that facilities his movement inside the website.
- User must have an account inside our system to be able to reserve/subscribe.
- All Users must have a background about the policy and procedures of the System to be able to use its Features Wisely.

### **3.3 Functional requirements**

#### **3.3.1 Patients: -**

##### **Register:**

New users must register to be able to use the system features such as reservations, ratings., etc.

##### **Log in.**

##### **Log out:**

users can log out from their registered emails.

##### **Edit their profile information:**

users can change their username, email, password, phone number in their profile

page.

**Reset password:**

If the users forgot their passwords when they sign in, a link is sent to their emails for password reset.

**Search for a hospital:**

People can search for hospitals as guests, but only registered users can make reservations.

**Advanced search:**

They can type a location to view hospitals in that area.

**Filter search for hospitals:**

users can filter search results by choosing whether they look for a government hospital, private hospital, or both. They can also sort the results by price.

**Compare between hospitals.**

**Reserve a bed in a hospital:**

registered users can request a bed in a hospital after filling in a form with a name, age, location, and medical condition of the patient.

**Request an ambulance:**

After their reservation request is accepted, they can request an ambulance to take them from the specified location to the aimed hospital.

**Give feedback.**

**Cancel reservation.**

**View history of old transactions.**

**3.3.2 As a hospital:**

**Request to subscribe:**

hospitals can request to join as an intensive care provider after filling a registration form with the hospital name, email, password, confirm password, address, phone number, type(governmental/private).

**Log in:**

After the request is accepted, they receive a message with an appointment to make an agreement in our office.

Hospitals can log in using their email and password.

**Manage pending reservation requests from patients (view& take action).**

**Manage ambulance requests from patients.**

**Display availability of beds:**

display if there's no longer spare beds in the hospital or return to accept patients' requests once again if a bed became available.

**Send feedback.**

**Log out.**

### **3.3.3 As a system administrator:**

**Log in.**

**Manage hospitals' requests.**

**Send messages to the hospitals with payment date and time.**

**Send an email not rejected hospitals.**

**Add accepted hospitals' data to the website.**

**Block user or hospital account.**

**Follow all system transactions.**

**Manage patients' and hospitals' complaints.**

**Log out.**

## **3.4 Non-functional requirements**

**Performance:** Defines how fast a software system or a particular piece of it responds to certain users' actions under a certain workload. In most cases, this metric explains how long a user must wait before the target operation happens.

The system must be interactive, and the delays involved must be less. response of the system and an interaction between the user and the system should only take a few seconds.

**Scalability:** It is the measurement of a system's ability to increase or decrease in performance and cost in response to changes in application and system processing demands.

Our system is scalable enough to support 50,000 visits at the same time while maintaining optimal performance.

**Portability:** Determines how a system or its element can be launched within one environment or another. It usually includes hardware, software, or other usage platform specifications. Put simply, it establishes how well actions performed via one platform are run on another. Also, it prescribes how well system elements may be accessed and may interact from two different environments.

The system can run on all operating systems' versions and work the same way.

**Reliability:** Users can rely on "InCare" to view hospitals near them, reserve a bed, view their profiles, edit profiles, and complain or rate the service. The hospitals can view subscription packages, request to join, edit profile info, manage patients' requests, and manage the number of available beds.

**Maintainability:** The mean time to restore the system after a system failure must not be greater than 10 minutes. MTTRS includes all corrective maintenance time and delay time.

**Availability:** All the system functionalities are available and accessible for both patient users and hospitals at least 99% of the time.

**Usability:** The system is easy to use, this is achieved by displaying the system UI in a user-friendly way.

**Localization:** All the system elements are suitable to the local market, currency, language, laws, and cultural contexts.

**Security:** The system data protected against malware attacks or unauthorized access. Only the user has access to his/her personal passwords and is able to edit their profile information. The user can't make any reservations unless they're signed in to the website. Hospitals can only log in to the website after their subscription request is accepted.

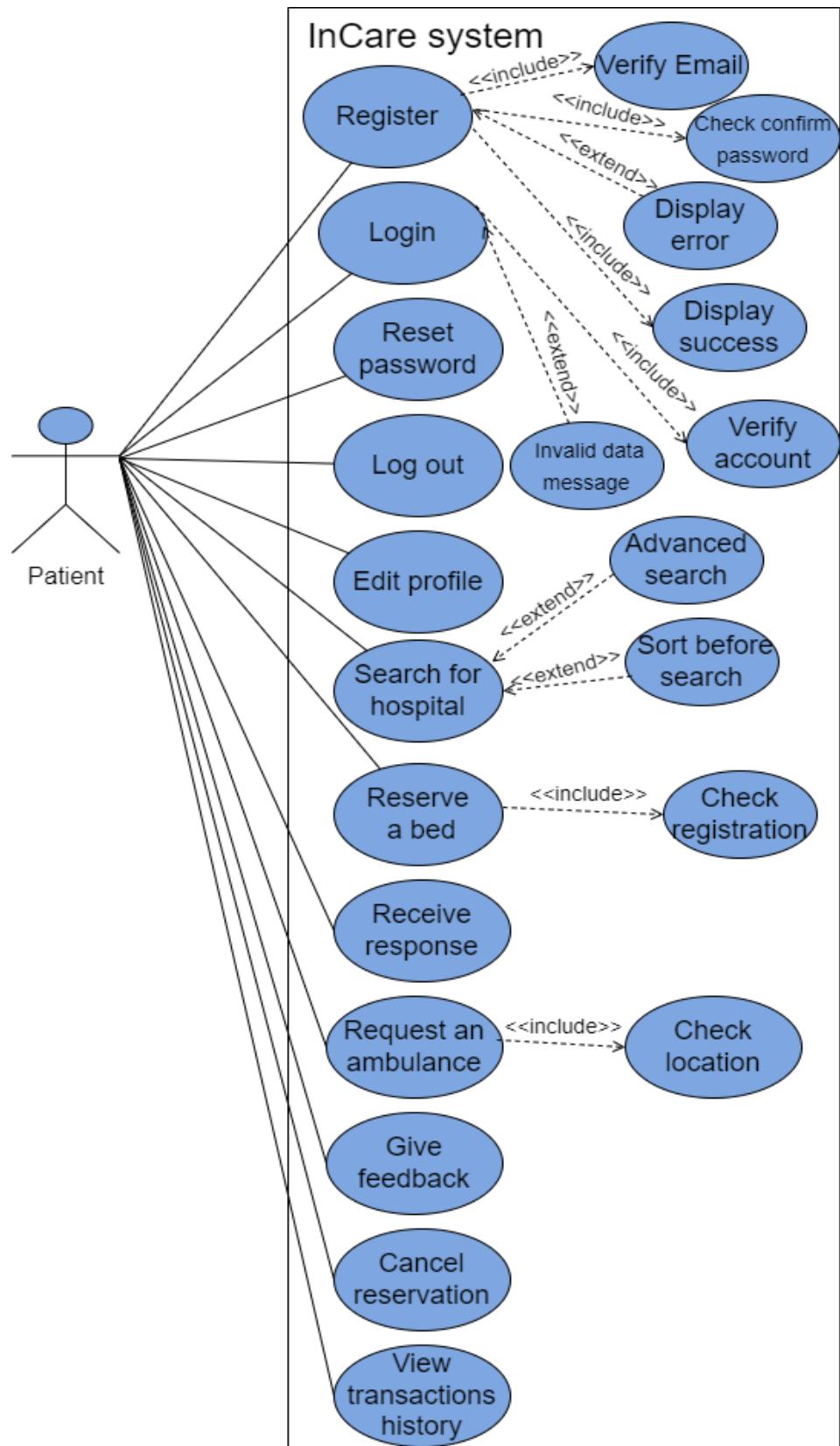
## **3.5 System analysis diagrams**

### **3.5.1 Use case diagrams:**

A Use case diagram is UML behavioral diagram that shows a summarized visual representation of interactions between the system and the system users. Use cases specify the expected behavior (what), and not the exact method of making it happen (how). A key concept of use case modeling is that it helps us design a system from the end user's perspective. It is an effective technique for communicating system behavior in the user's terms by specifying all externally visible system behavior. Use cases represent only the functional requirements of a system and it doesn't show details, it only summarizes some of the relationships between use cases, actors, and systems. It doesn't show the order in which steps are preformed to achieve the goals of each use case.

### **3.5.1.1 Patients use case:**

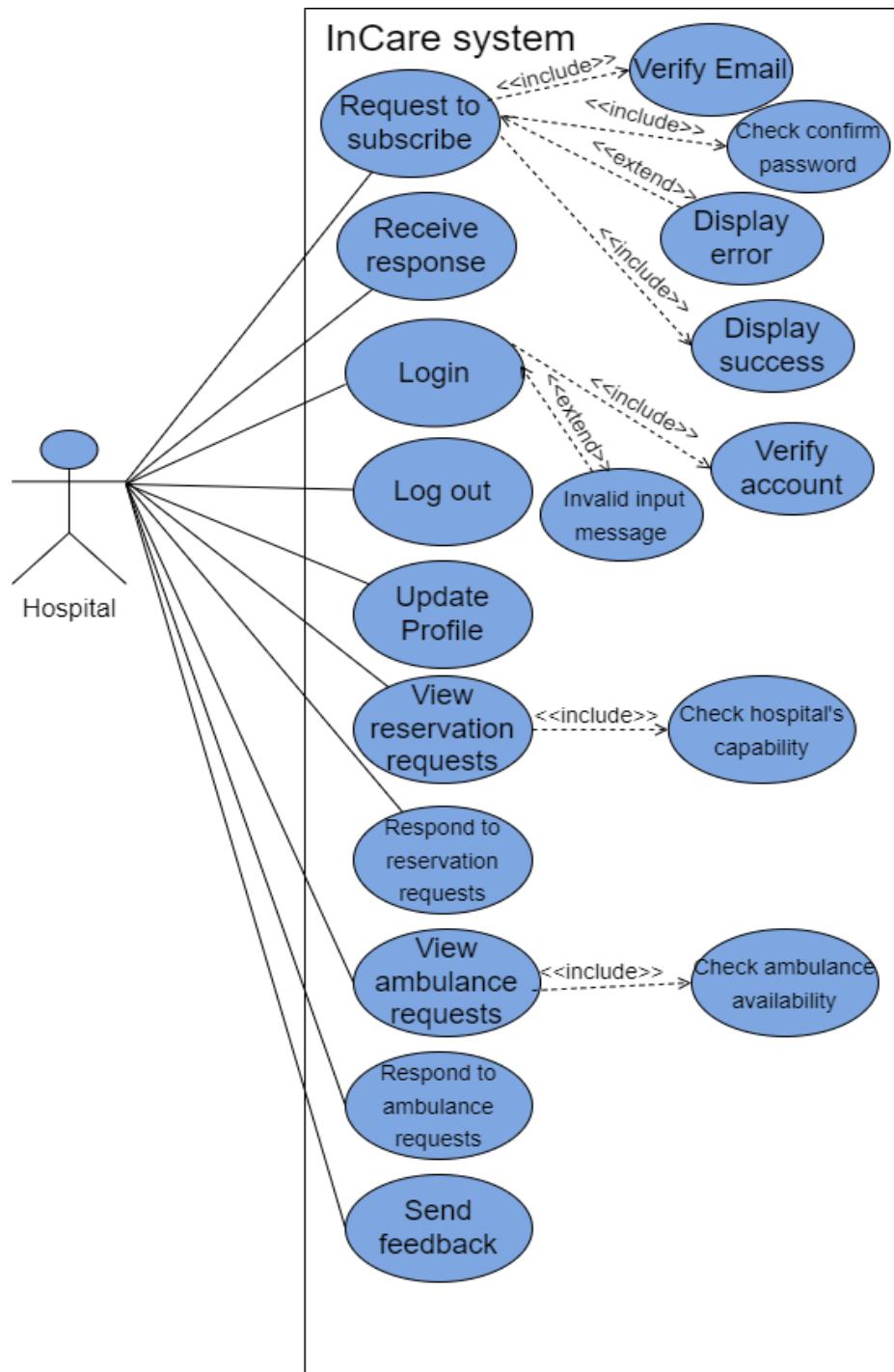
- Register << include>> verify email, check confirm password, display success.
- Register <<extend>>display error.
- Log in << include>>verify account.
- Log in <<extend>>invalid data message.
- Reset Password.
- Log out.
- Edit profile.
- Search for hospital <<extend>>advanced search, sort before search.
- Reserve a bed << include>>check registration.
- Receive response.
- Request an ambulance << include>>check location.
- Give feedback
- Cancel reservation.
- View transactions history.



*Patient Use Case Diagram 3.5.1.1.1*

### **3.5.1.2 Hospital use case:**

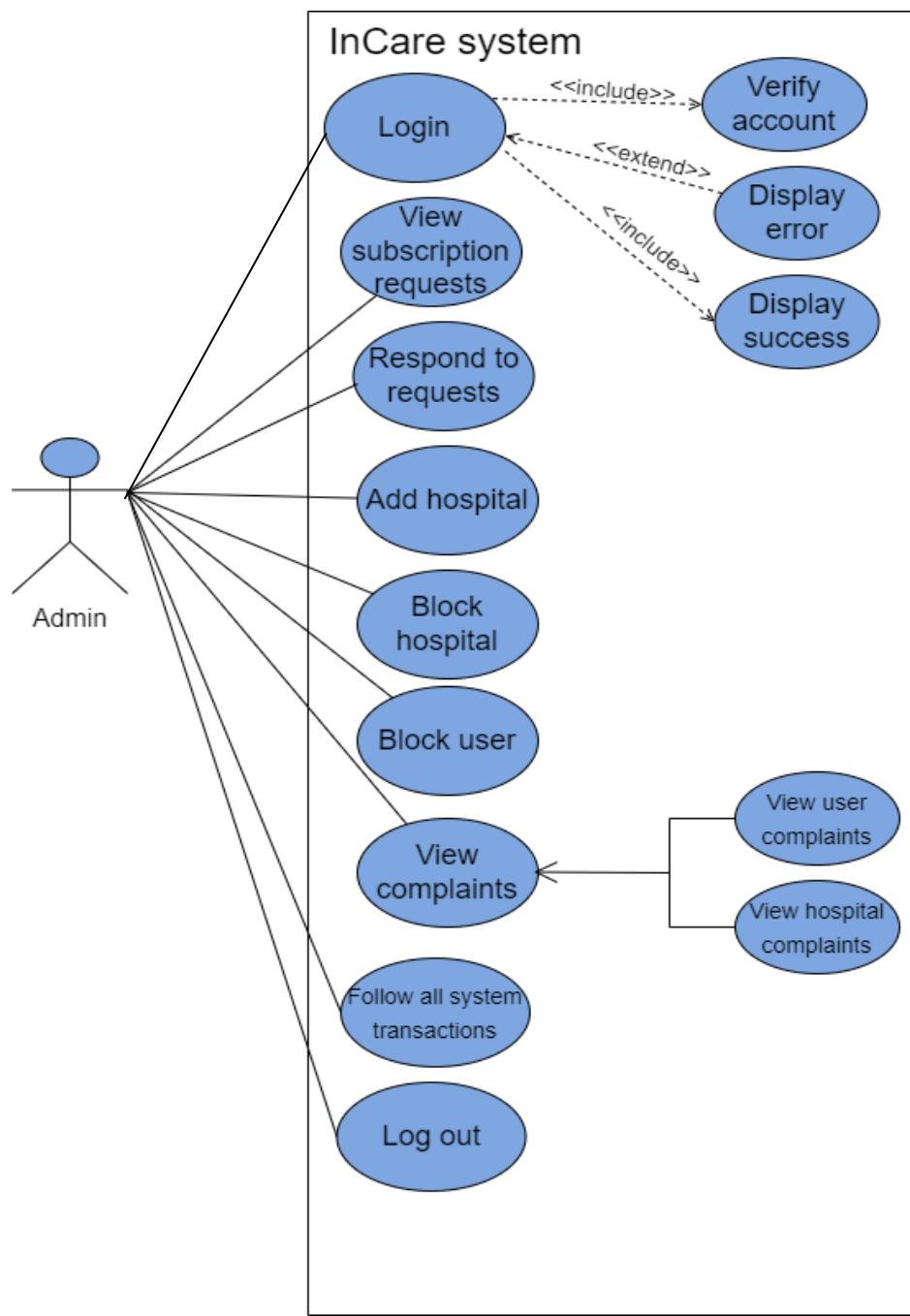
- Request to subscribe <<include>> choose from subscription options, verify email, check confirm password, display success.
- Request to subscribe <<extend>> display error.
- Receive response and payment details.
- Log in <<include>> verify account.
- Log in <<extend>> invalid input message.
- Log out.
- Update Profile.
- View reservation requests <<include>> check hospital's capabilities.
- Respond to reservation requests.
- View ambulance requests <<include>> check ambulance availability
- Respond to ambulance requests.
- Send feedback/complaints.



*Hospital Use Case Diagram 3.5.1.2.1*

### **3.5.1.3 Admin use case:**

- Log In <<include>> verify account, display success message.
- Log In <<extend>> display error message.
- View Subscription requests.
- Respond to requests with payment details.
- Add hospital.
- Block hospital.
- Block user.
- View user complaints.
- View hospital complaints.
- Follow all system transactions.
- Log out.



*Admin Use Case Diagram3.5.1.3.1*

### **3.5.2 Sequence diagrams:**

**Sequence Diagrams** are UML interaction diagrams that detail how operations are carried out. They capture the interaction between objects in the context of a collaboration. Sequence Diagrams are time focus, and they show the order of the interaction visually by using the vertical axis of the diagram to represent time what messages are sent and when. **Sequence Diagrams capture:**

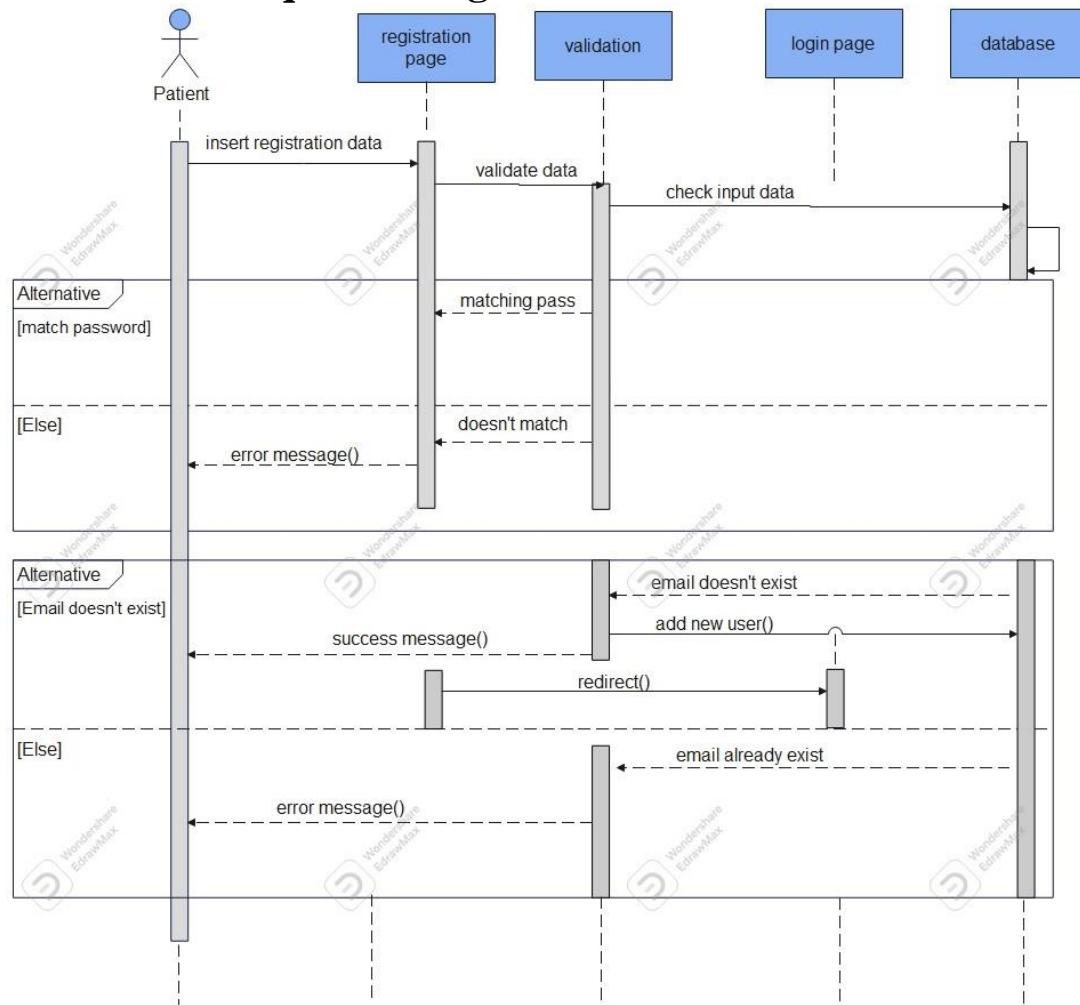
-the interaction that takes place in a collaboration that either realizes a use case or an operation.

-high-level interactions between user of the system and the system, between the system and other systems.

#### **Purpose of Sequence Diagrams:**

- Model high-level interaction between active objects in a system.
- Model the interaction between object instances within a collaboration that realizes a use case.
- Model the interaction between objects within a collaboration that realizes an operation.

### 3.5.2.1 Patients sequence diagrams:



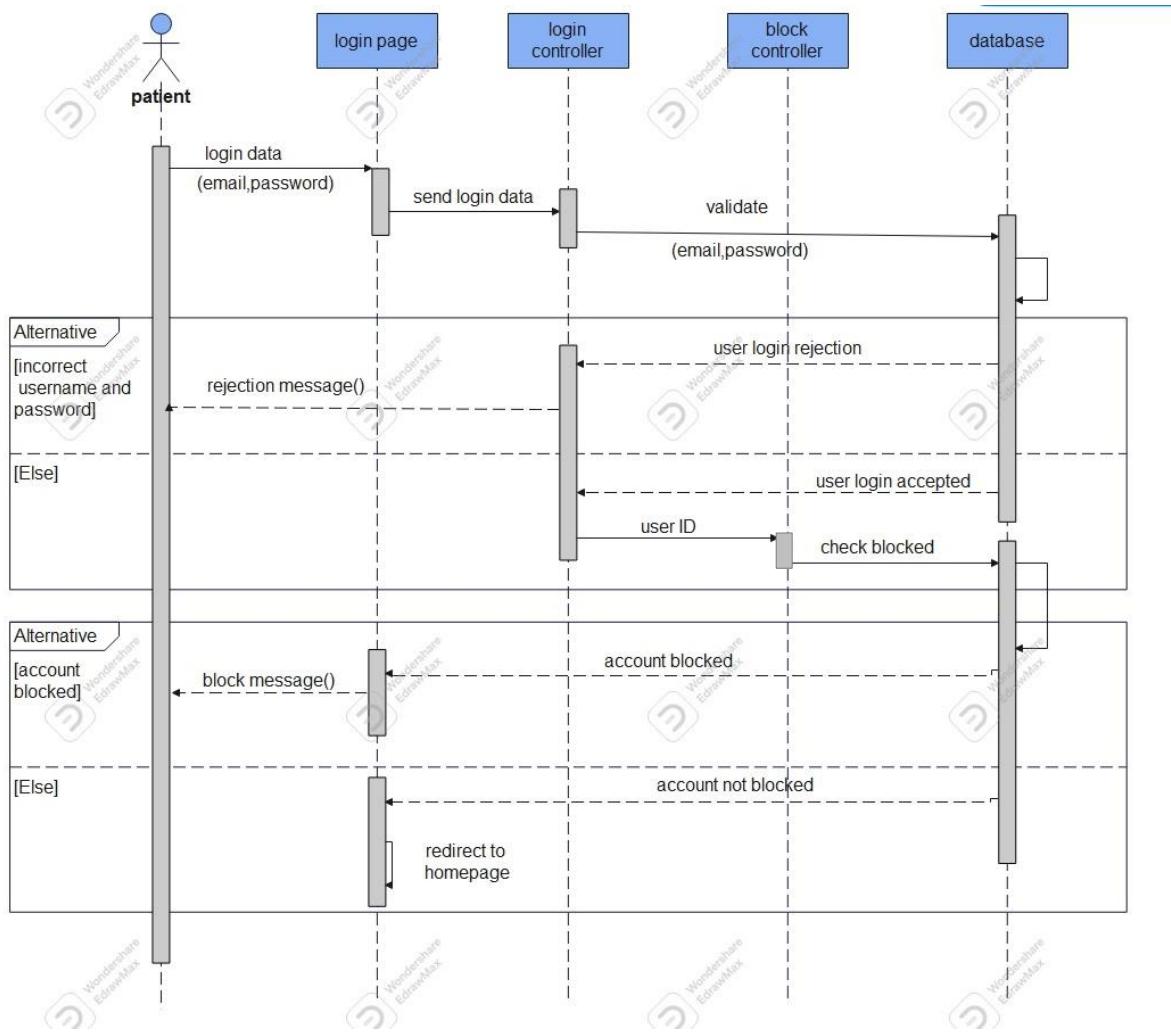
*Figure 3.5.2.1.1 Patients sign up.*

User clicks on sign up button to create an account and enters his/her personal data: Username, email, password, confirm password, and phone number.

The input data format gets validated and making sure the confirm password input matches the password and that the email isn't already used previously.

If there were no validation errors, the user data is added to the database and is able to log in.

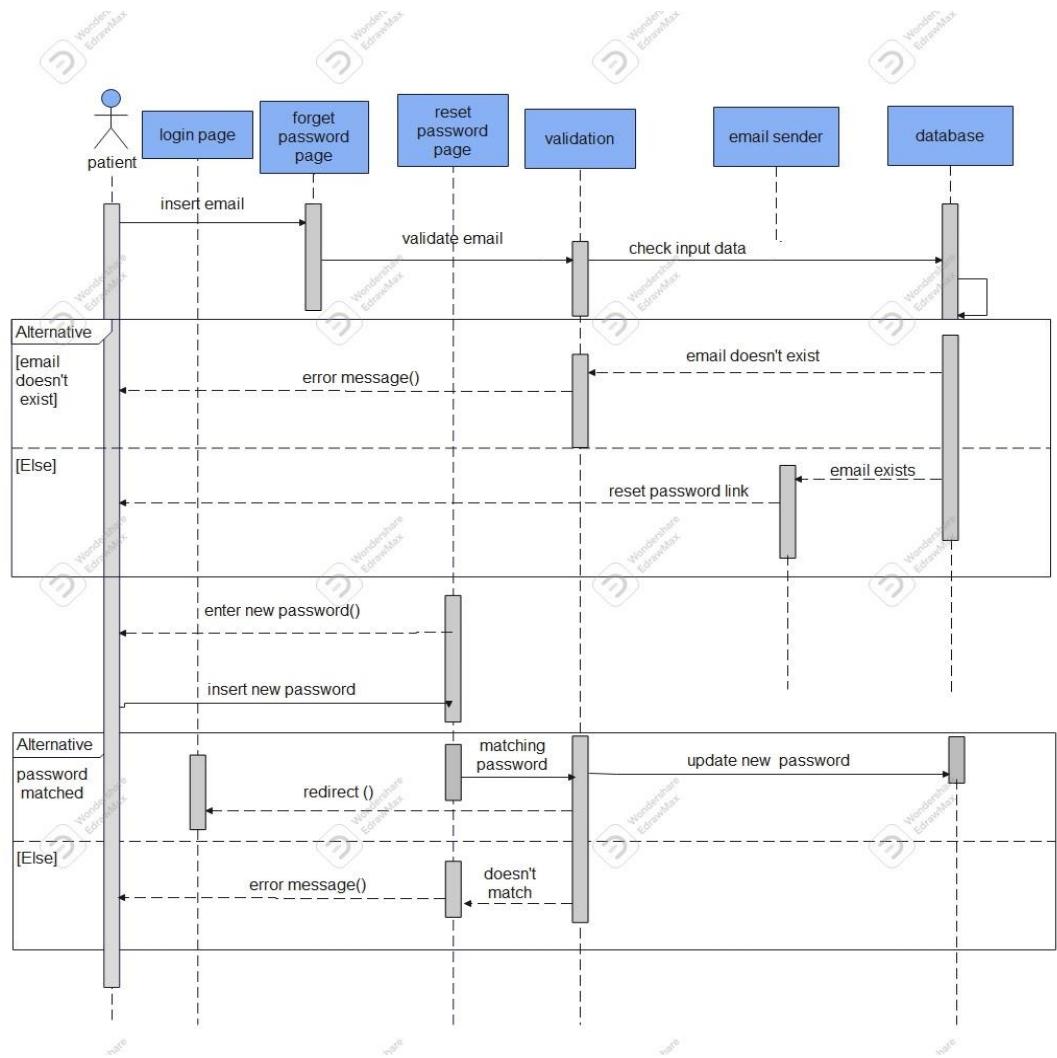
Other than that, an error message is displayed.



*Figure 3.5.2.1.2 Patients log in.*

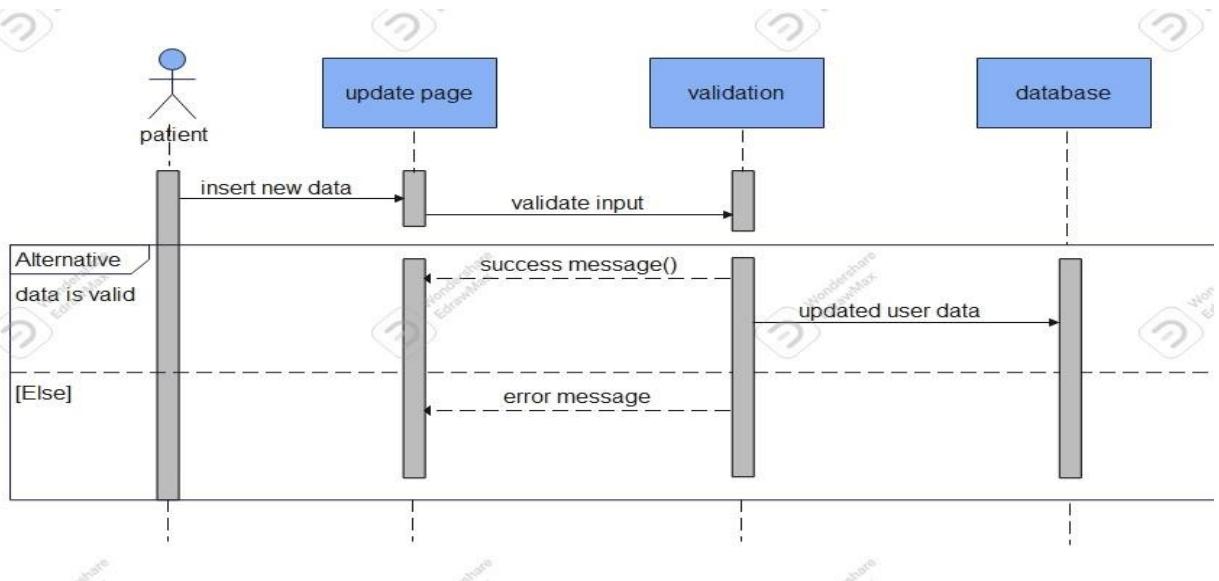
Registered users enter their username, and password to log in. The input data is checked to see if it exists in the database. If so, the block controller checks in the DB whether the user ID is blocked or not.

If the user is registered and not blocked, he or she is allowed to log in to the home page.



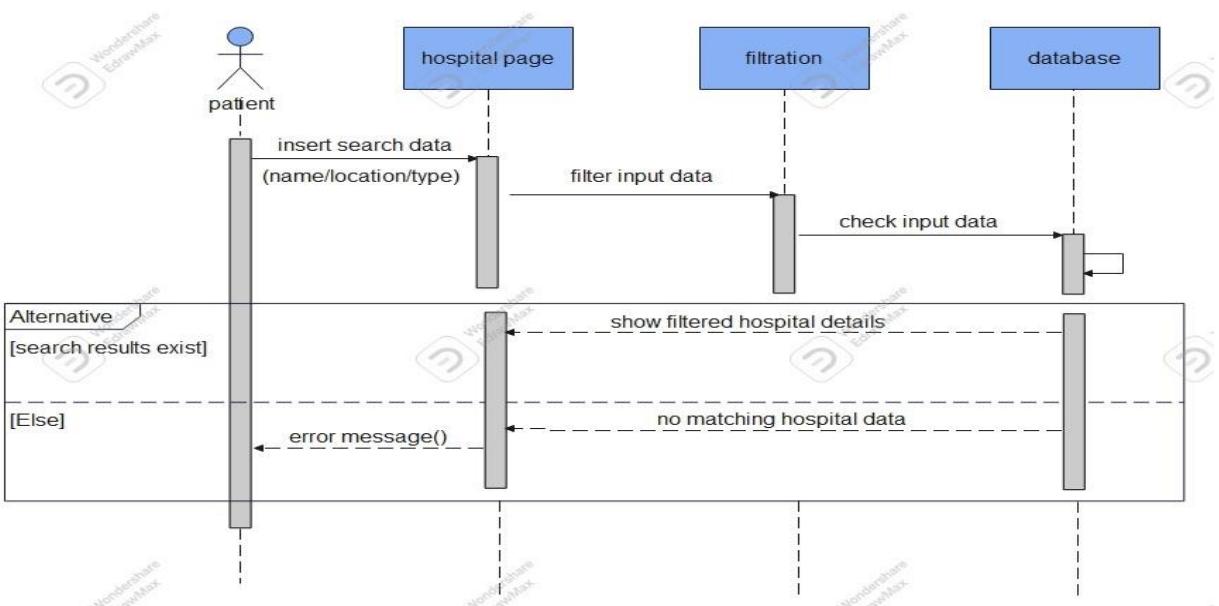
*Figure 3.5.2.1.3 Patients' password reset.*

When the users try to log in while they forgot the password, they can reset the password by receiving a verification code on their email and they're asked to enter it. If their input matches the sent code, they're asked to change the password and their password is updated in the database.



*Figure 3.5.2.1.4 Edit profile.*

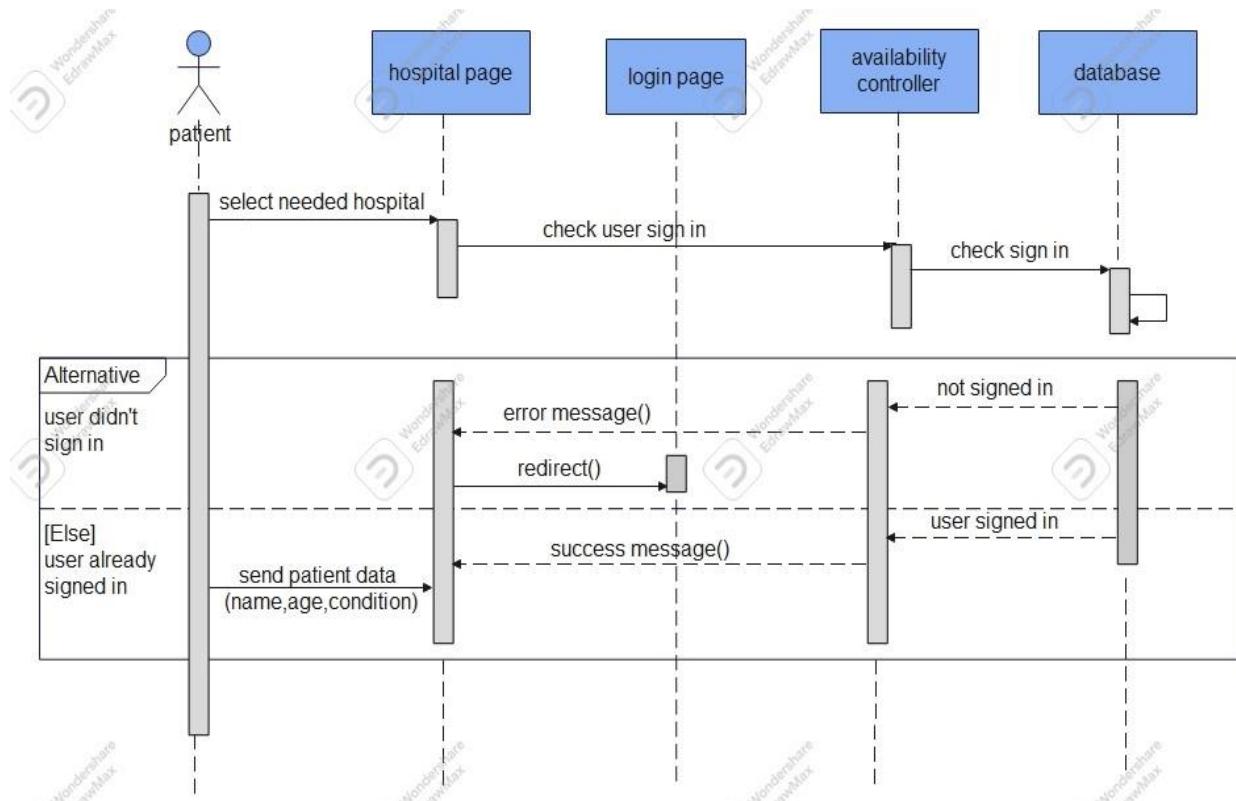
Users can update their profile info and insert new data. If the data is written in a valid format, it gets updated in the database and a success message is displayed. If not, an error message that says that data entered is invalid gets displayed.



*Figure 3.5.2.1.5 Patient search for hospital.*

Details of each hospital appear on the hospitals page in an order based on the user's search input.

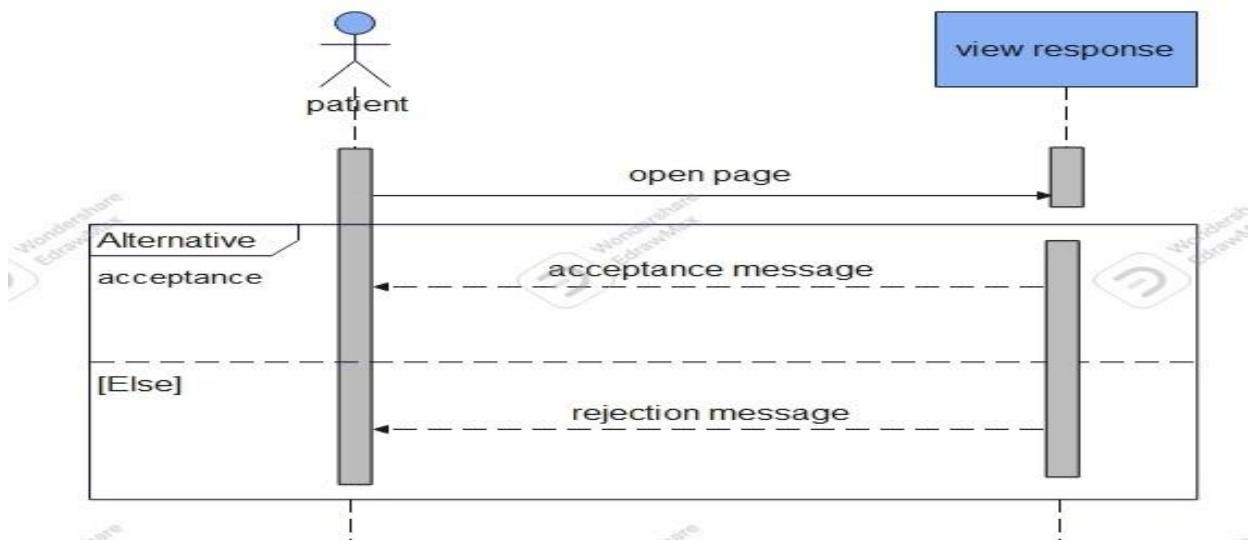
Users can search for a specific hospital, hospitals in a specific location and they can filter the results by hospital type as: governmental/private or both



*Figure 3.5.2.1.6 Patient reservation.*

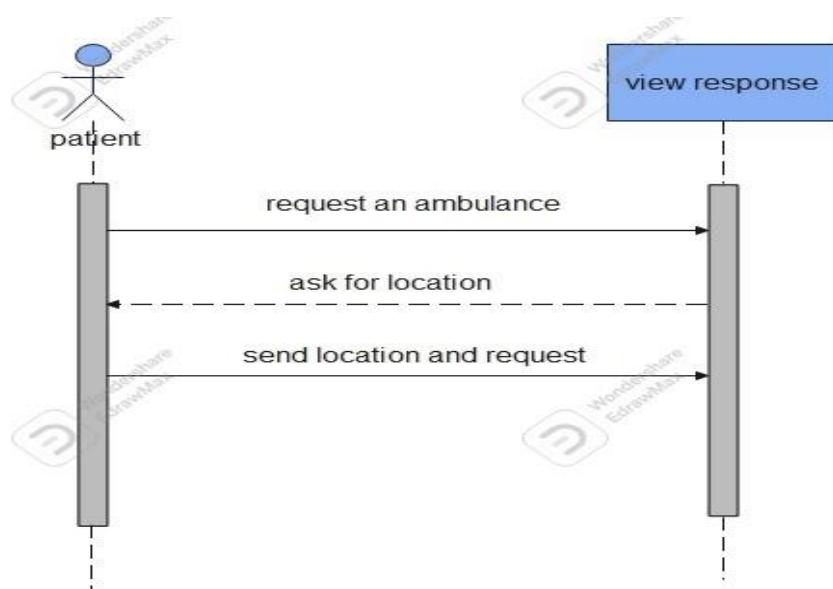
Users can search and view hospitals as guests before registration, but they can't reserve a bed in any hospital before signing in the website.

If a user is registered, he or she can send the patient data to the hospital to request a bed reservation. Other than that, they're redirected to the login page to login first or register in case they were new users.



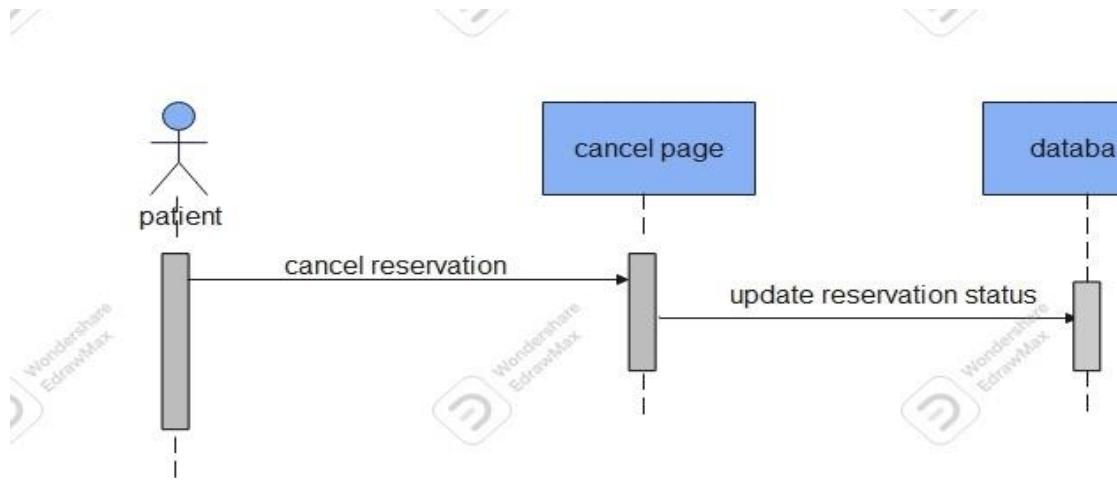
*Figure 3.5.2.1.7 Patients' view response.*

Users open reservation status page to know whether their request is confirmed or not.



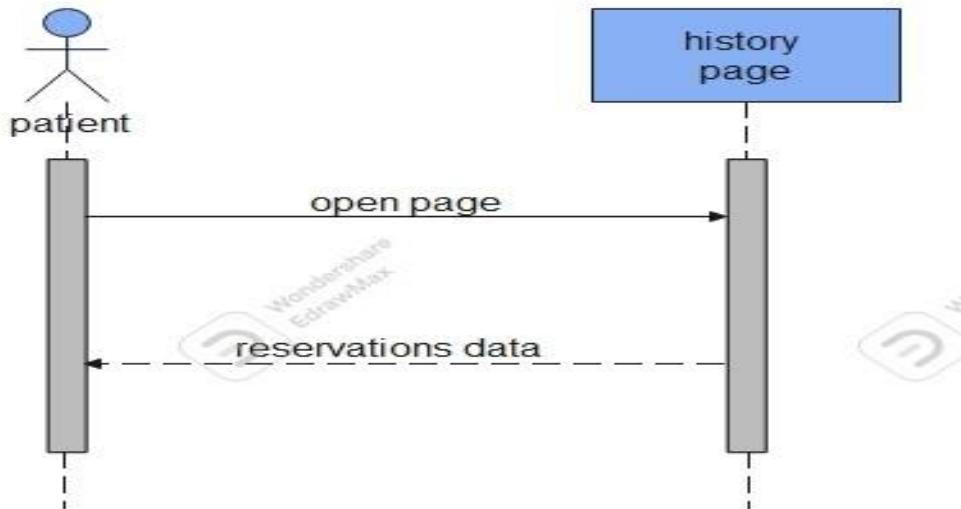
*Figure 3.5.2.1.8 Patients request ambulance.*

If the hospital accepts the patient's request, he/she is enabled to request an ambulance to take him/her from their location to the hospital.



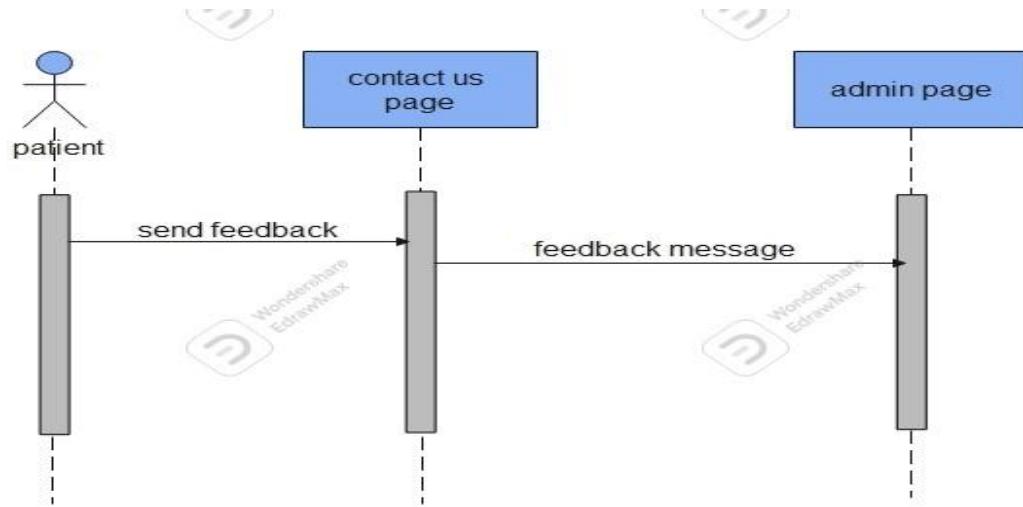
*Figure 3.5.2.1.9 Patients cancel reservation.*

Patients can cancel any reservation then its status is updated in the database to cancelled.



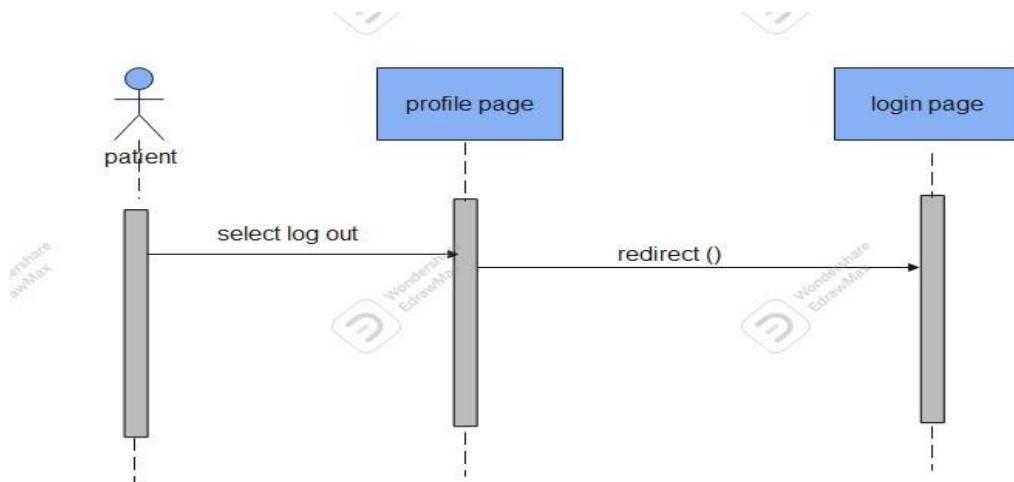
*Figure 3.5.2.1.10 Patients' reservation history.*

Patients can view their previous reservations history on the reservation's history page.



*Figure 3.5.2.1.11 Patients sending feedback.*

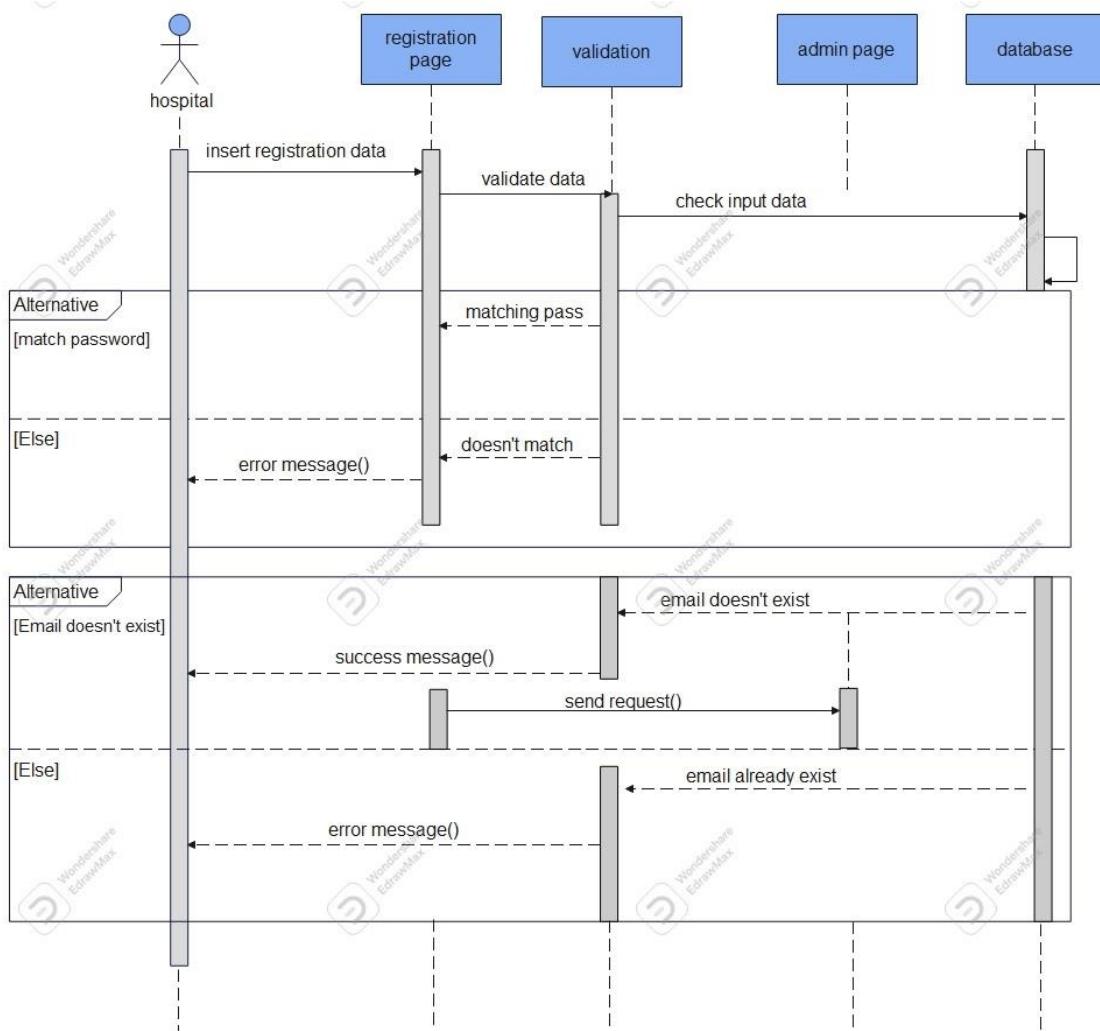
Users can use the contact us page to send their feedback.



*Figure 3.5.2.1.12 Users Log out.*

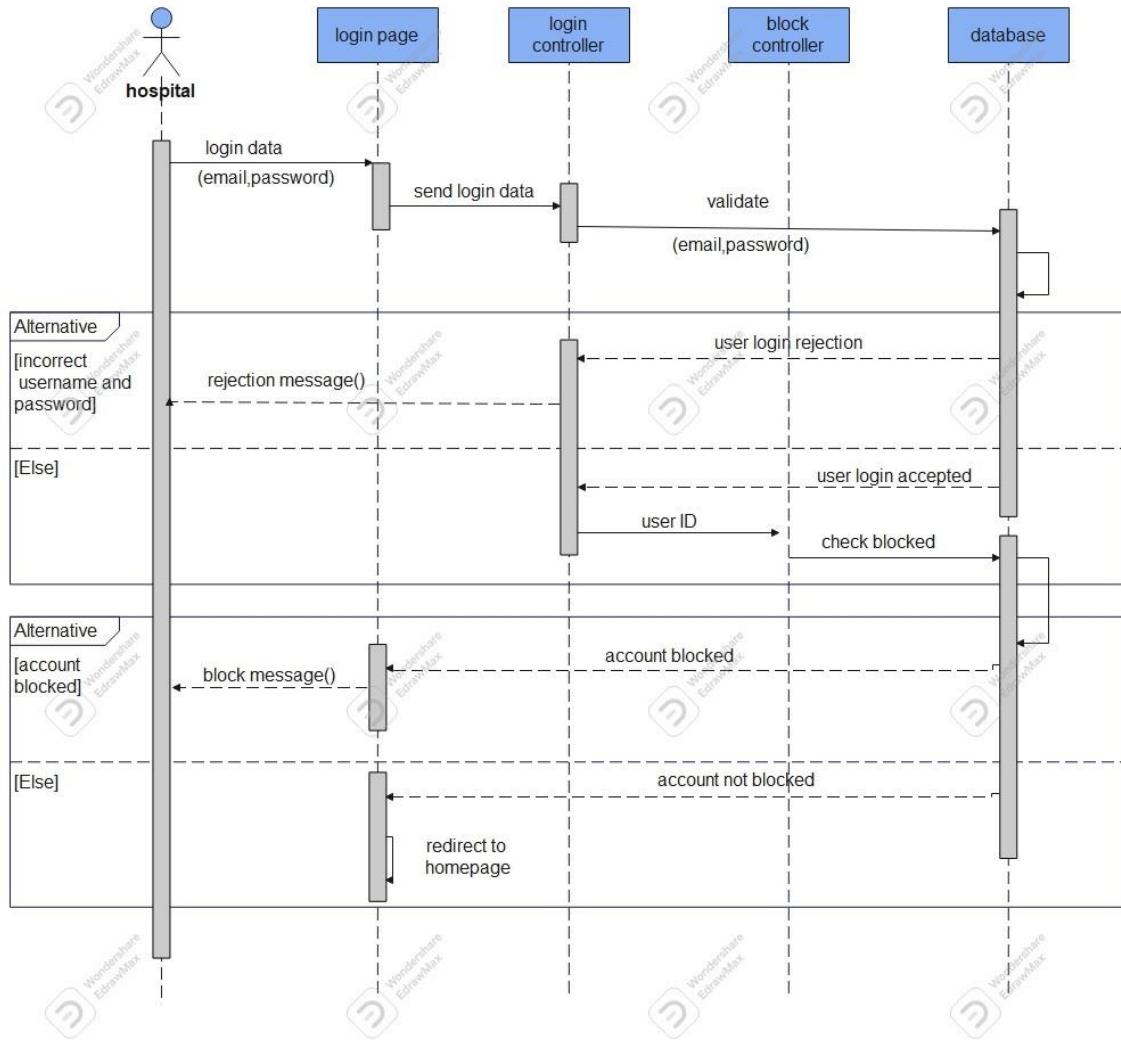
Users can choose to log out of their account, and they get redirected to the log in page.

### 3.5.2.2 Hospital sequence diagrams:



*Figure 3.5.2.2.1 Hospitals Registration.*

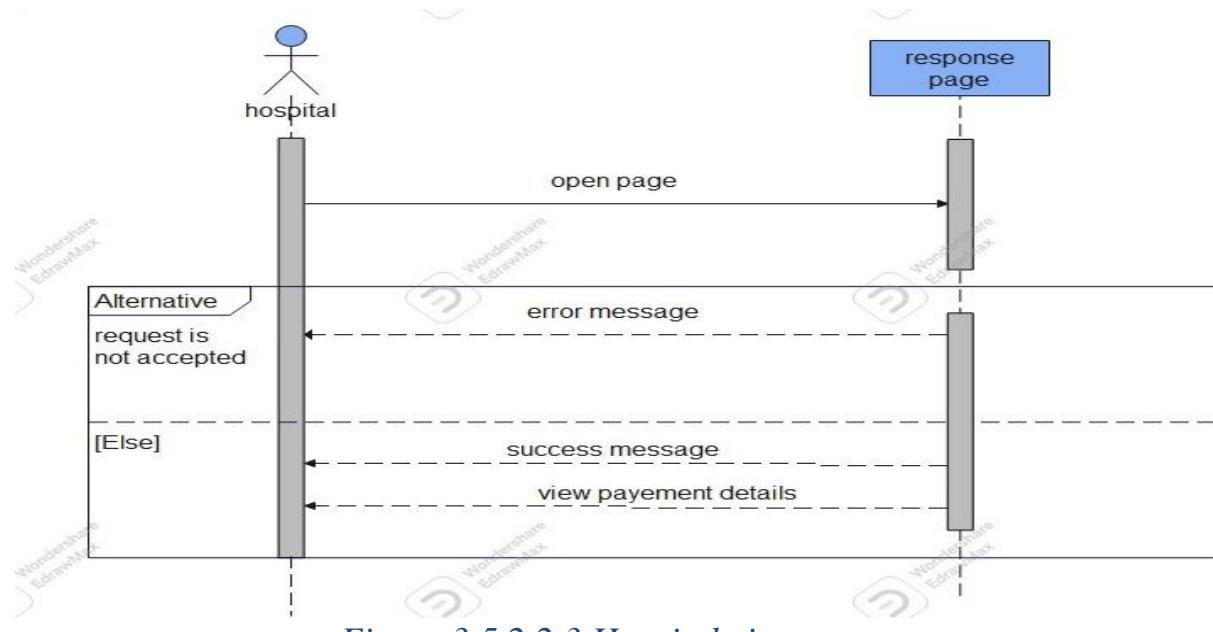
Hospitals administrator can choose the payment package they prefer, send the hospital information: Hospital name, email, address, phone numbers, password and password confirmation, then request to add the hospital to the website.



*Figure 3.5.2.2.2 Hospital log in.*

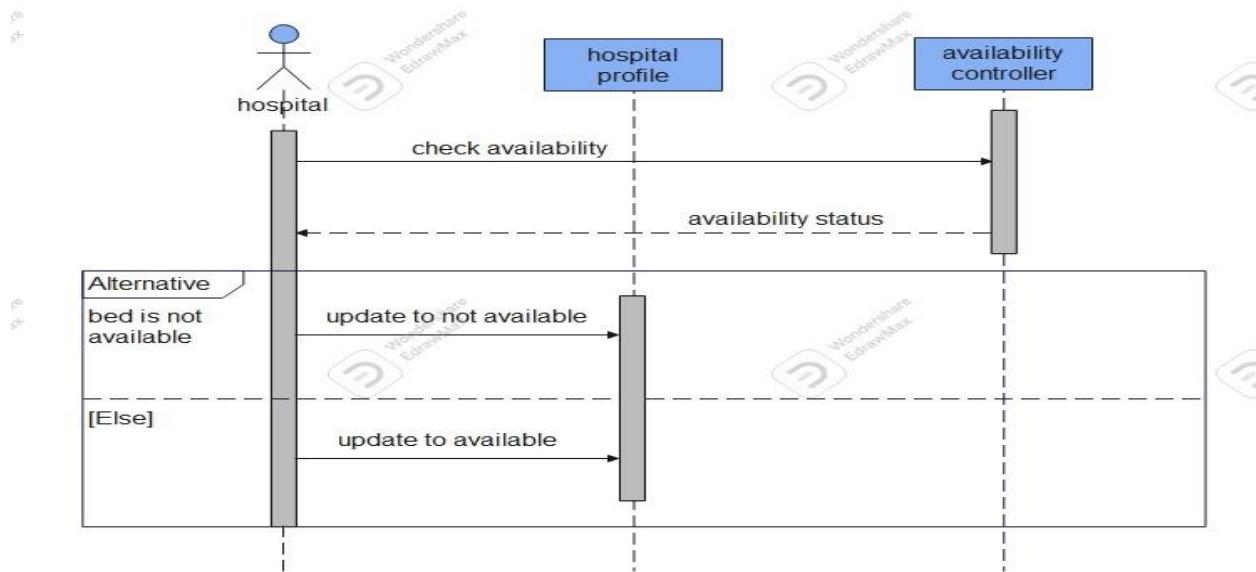
After the hospital receives the approval message and its data is added to the database, its admin can log in and manage the patients' requests.

If the system admins blocked the hospital, it won't be able to log in anymore.



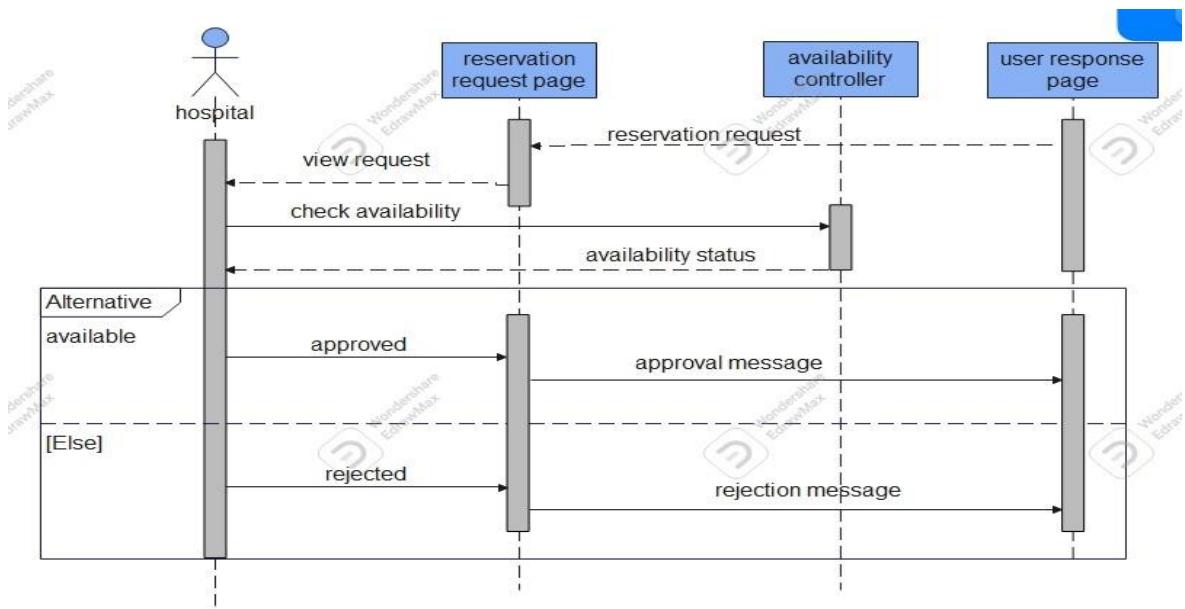
*Figure 3.5.2.2.3 Hospital view response*

Hospitals administrators can view the response to their request. If it was accepted, the message is followed by payment details and an appointment to pay in the office. Other than that, they get a response that the hospital won't be added to the system.



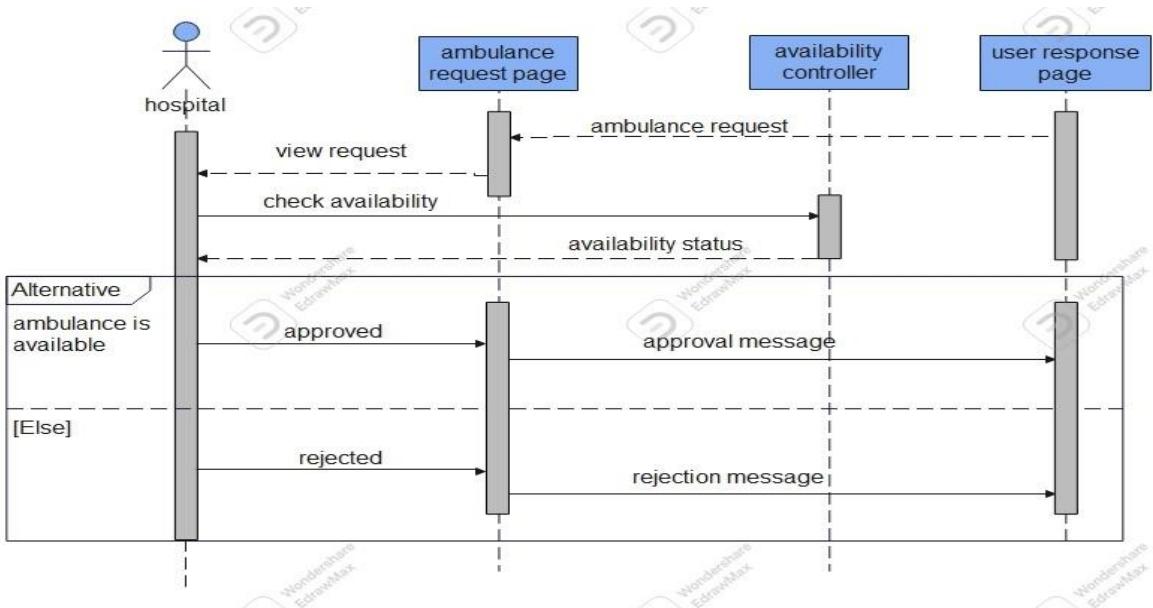
*Figure 3.5.2.2.4 Hospital update availability*

Hospital admins check if there's available beds there or not to update the status to available or not available.



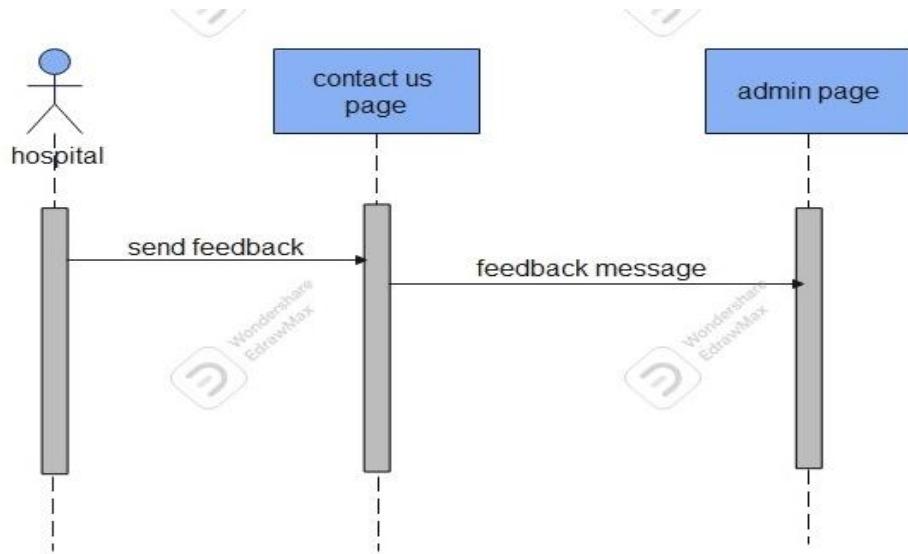
*Figure 3.5.2.2.5 Hospital view reservations.*

Hospital admins view and respond to patients' reservation requests with approval or rejection based on the patient's condition details and the hospital's capabilities.



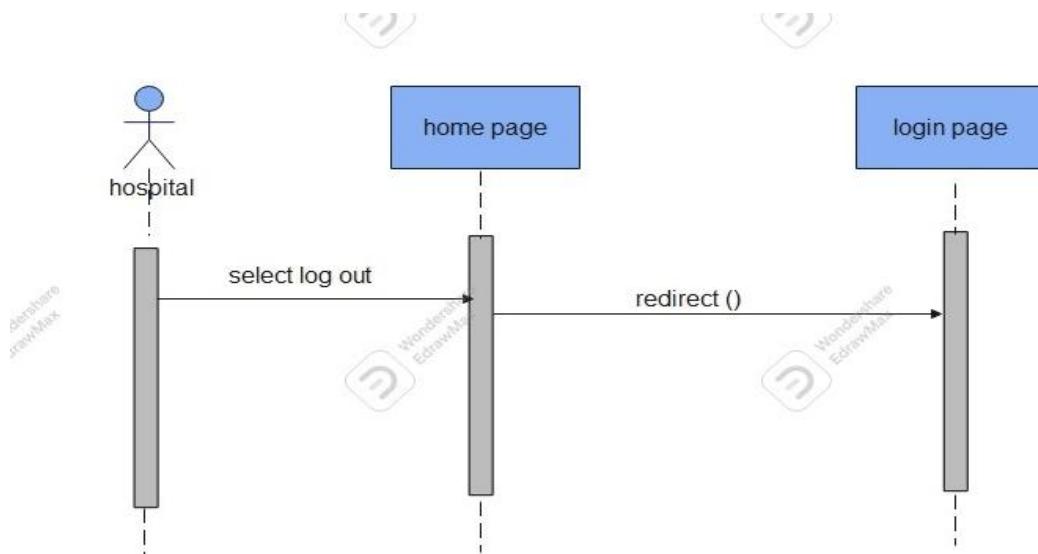
*Figure 3.5.2.2.6 View ambulance requests.*

Hospital admins can view and respond to ambulance requests with acceptance if there were available ambulances or else the request is refused.



*Figure 3.5.2.2.7 Hospital send feedback.*

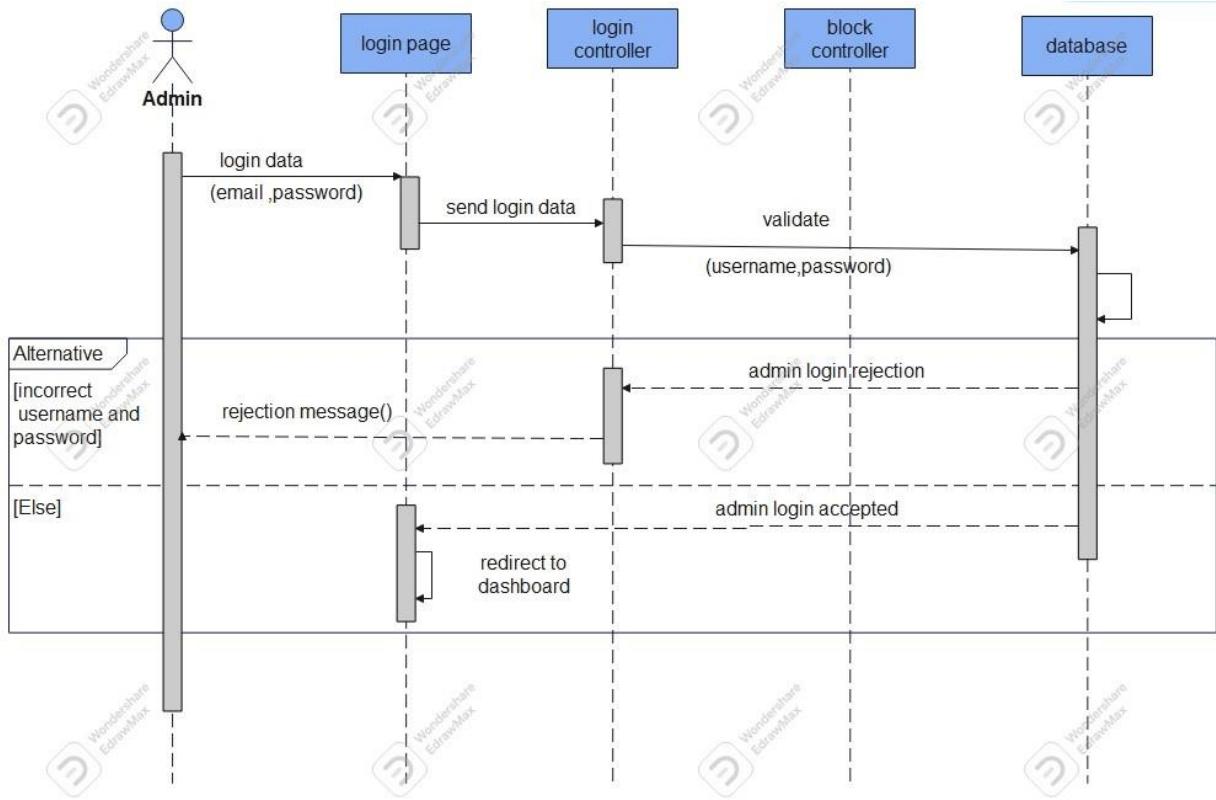
Hospital admins can use the contact us page to send their feedback.



*Figure 3.5.2.2.8 Hospital admins log out.*

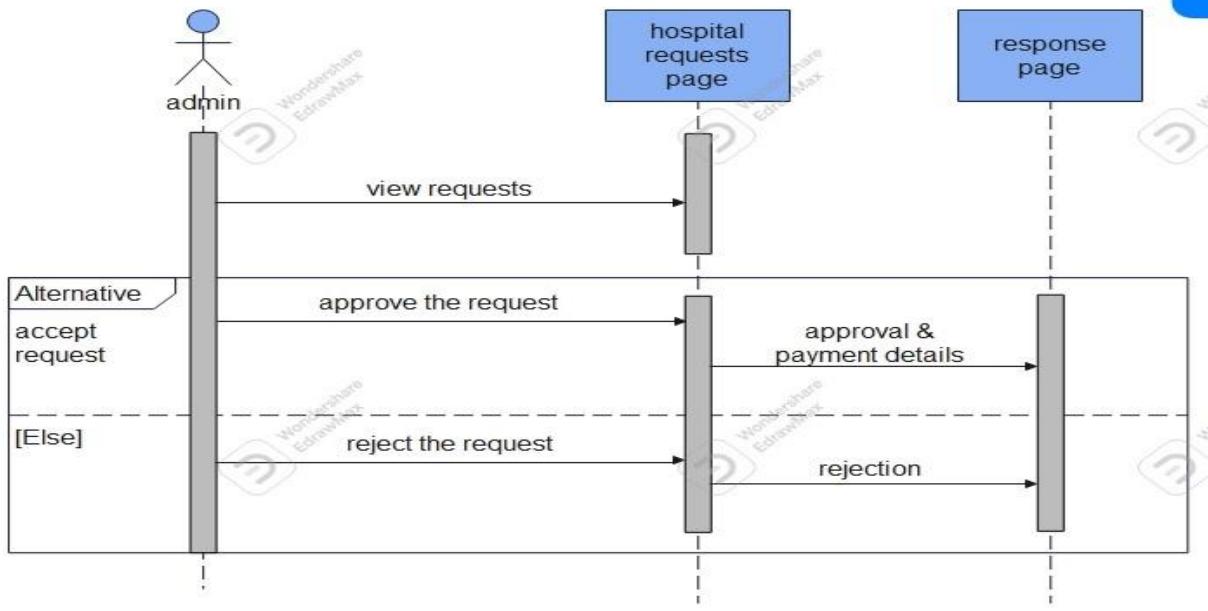
Hospitals can choose to log out and get redirected to the log in page.

### 3.5.2.3 System admins sequence diagrams:



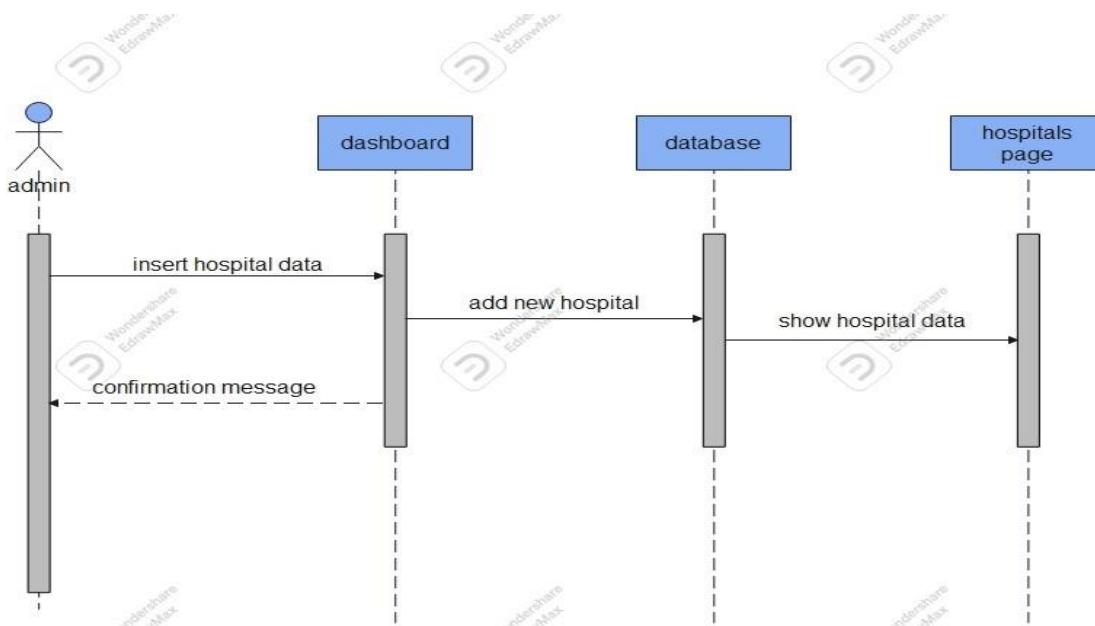
*Figure 3.5.2.3.1 Admins log in.*

System admins are allowed to log in to the website using their email and password after their data is validated to make certain it exists in the database and then redirect to the dashboard.



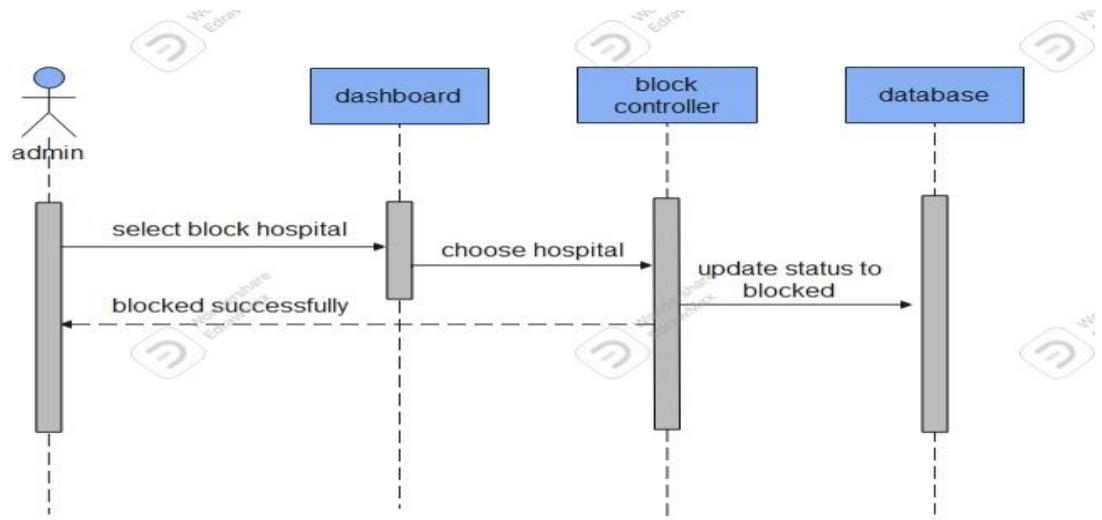
*Figure 3.5.2.3.2 Admin views hospital requests.*

Hospital requests are sent to the system admins for approval and if so, the admins send the payment appointment and details.



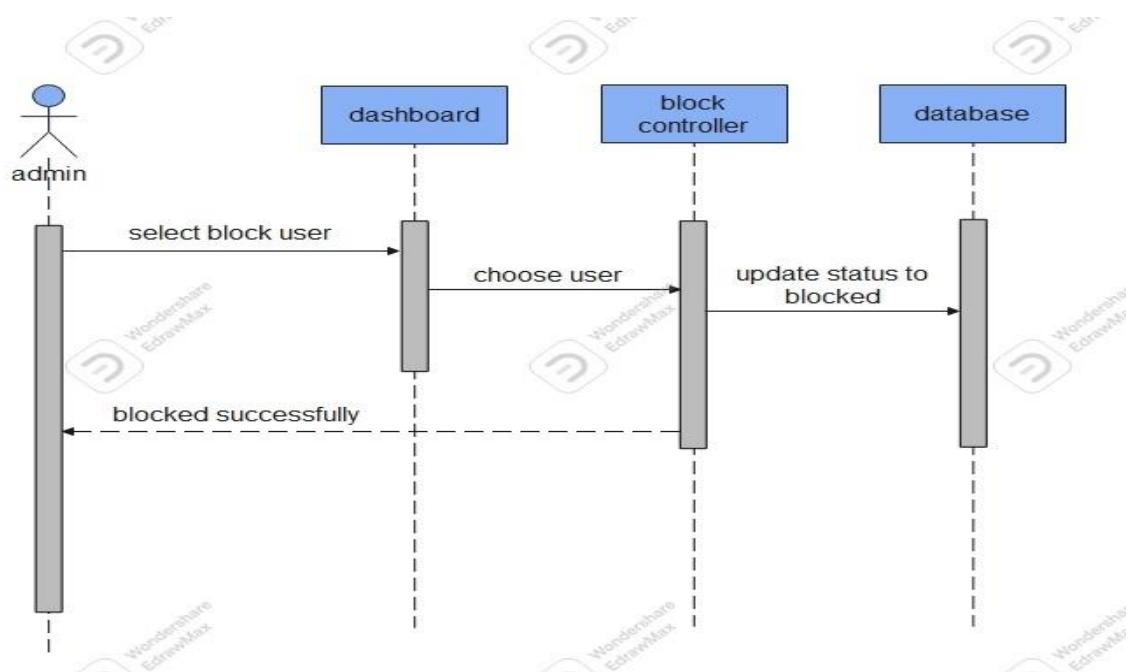
*Figure 3.5.2.3.3 Admins add hospital.*

When a hospital is admitted to the website, the admins log in to the dashboard to add its information to the database.



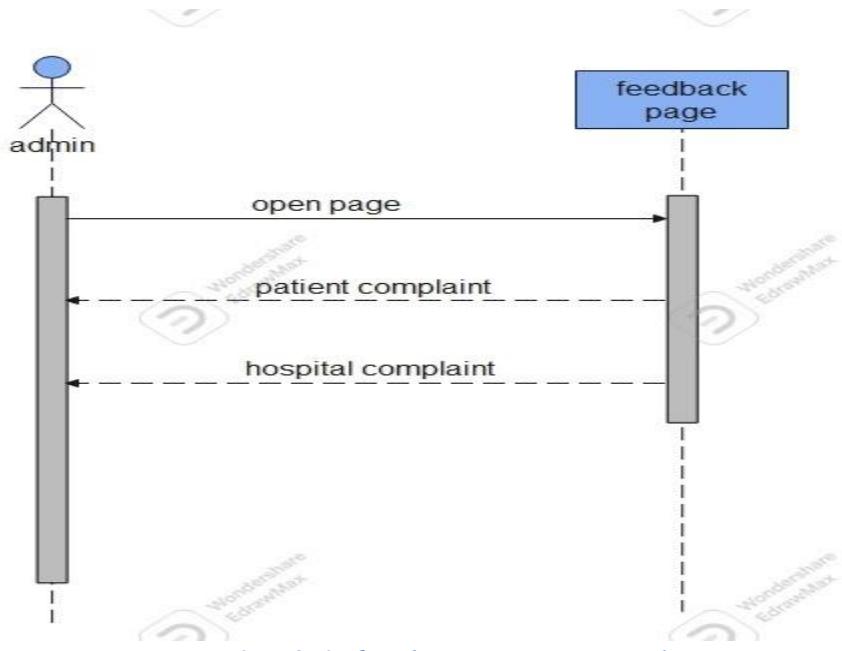
*Figure 3.5.2.3.4 Admins block hospital.*

Admins can block a hospital. After that, it's prevented from signing in and removed from hospitals page.



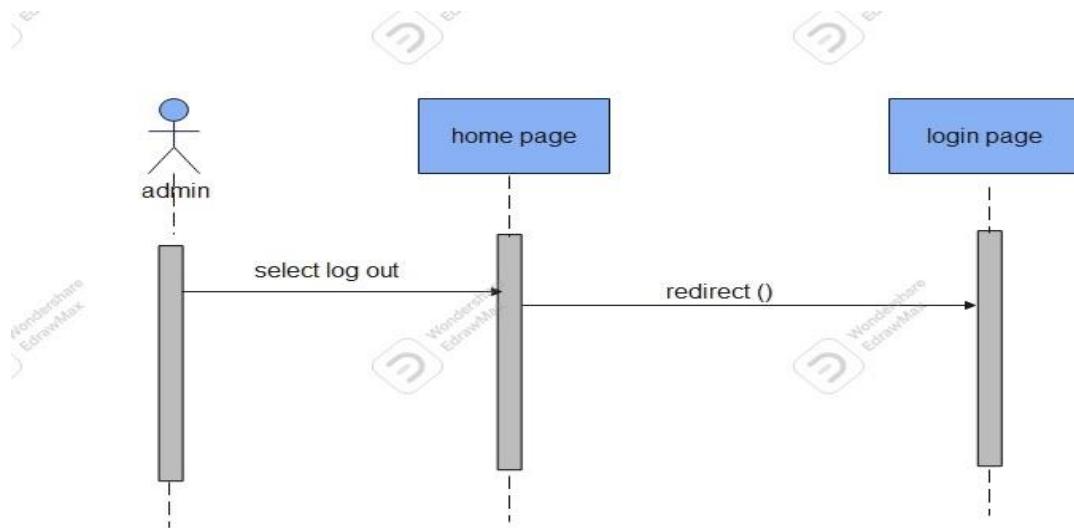
*Figure 3.5.2.3.5 Admins block user.*

Admins can block a user, so he or she will not be able to log in to the website.



*Figure 3.5.2.3.6 Admin views complaints.*

Admins are able to view both hospitals' and users' complaints that are sent from the feedback page.



*Figure 3.5.2.3.7 System admins log out.*

Admins can log out of the website and get redirected to the log in page.

# **Chapter Four**

## **System Design**

### **4.1 Introduction**

The process of defining a system's entire requirements, such as the architecture, modules, interface, and design, is called system design.

We can say that system design ranges from discussing the system requirements to product development.

System development creates, or alters the system so that the processes, practices, and methodologies are changed to develop the system. Therefore, a systematic approach is needed to manage the system requirements and design methodology. It can be classified as logical design and physical design.

The logical design is the abstract representation of the data flow, inputs, and outputs of the system. It explains the sources, destinations, data stores, and data flow all in a process that satisfies the user needs. The logical design of a system is prepared while keeping the level of detail that virtually tells the information flow and out of the system in mind,

While physical design is the process of actual input and output of the system. The main criteria of physical design are to manage how the data is verified, processed, and displayed as a result. It basically revolves around the interface design, process design, and data design of the user.

### **4.2 Activity diagrams**

*Activity diagram Is a UML behavior diagram, it is a way to visualize the processes of the business and the software in the form of actions flow. Activity diagram is helpful as it illustrates and describe:*

- *The process in a use case diagram.*
- *The logic of an algorithm.*
- *The flow of interaction between the user and the system.*
- *Simplify the sequence of actions of a system.*

## 4.2.1 Users' activity diagrams:

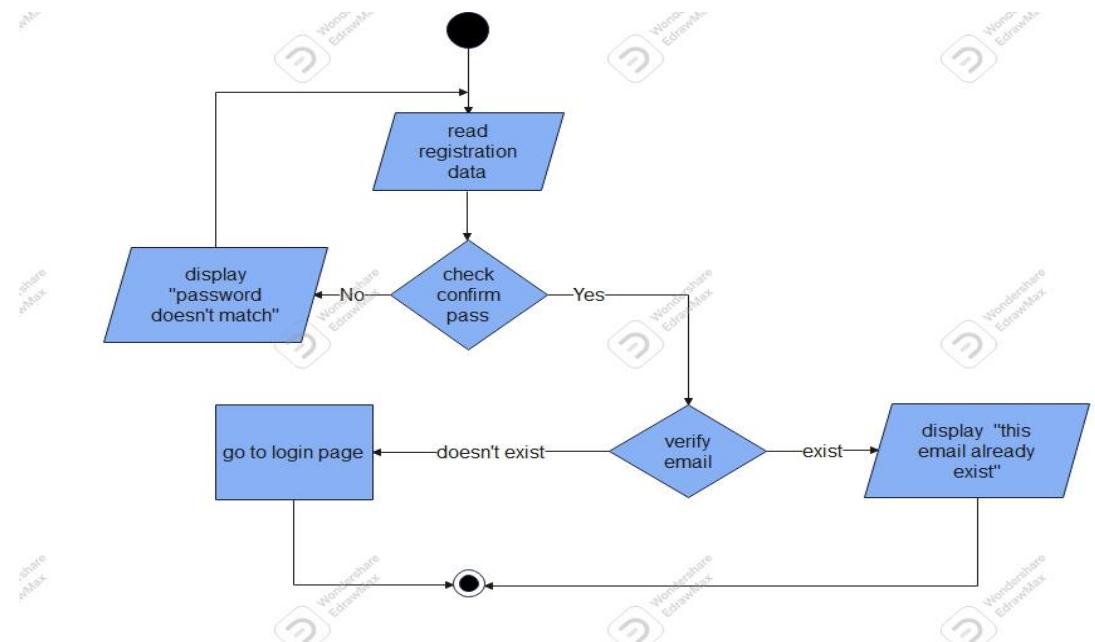


Figure 4.2.1.1 Patients' registration

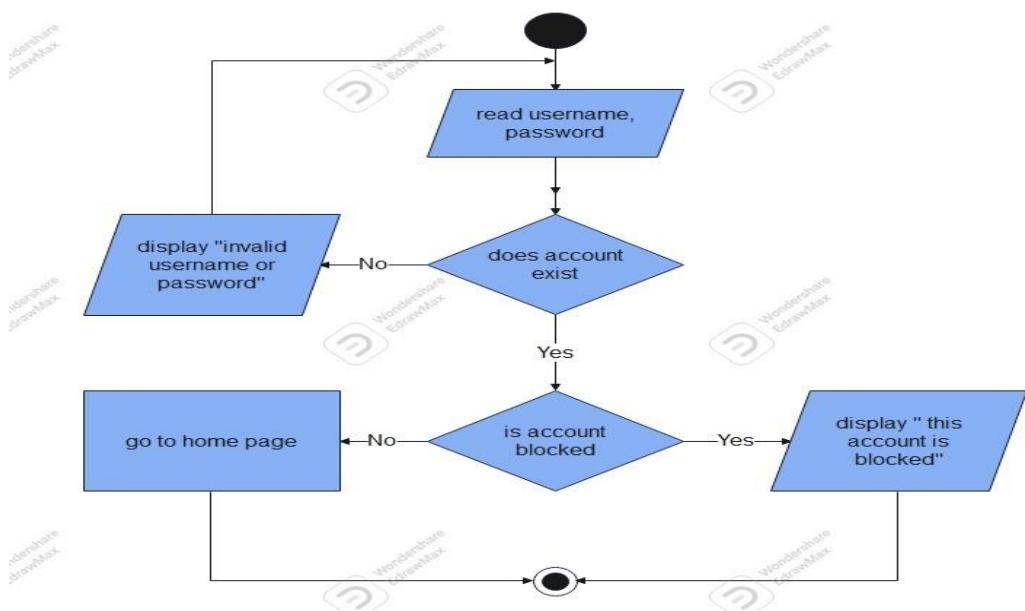
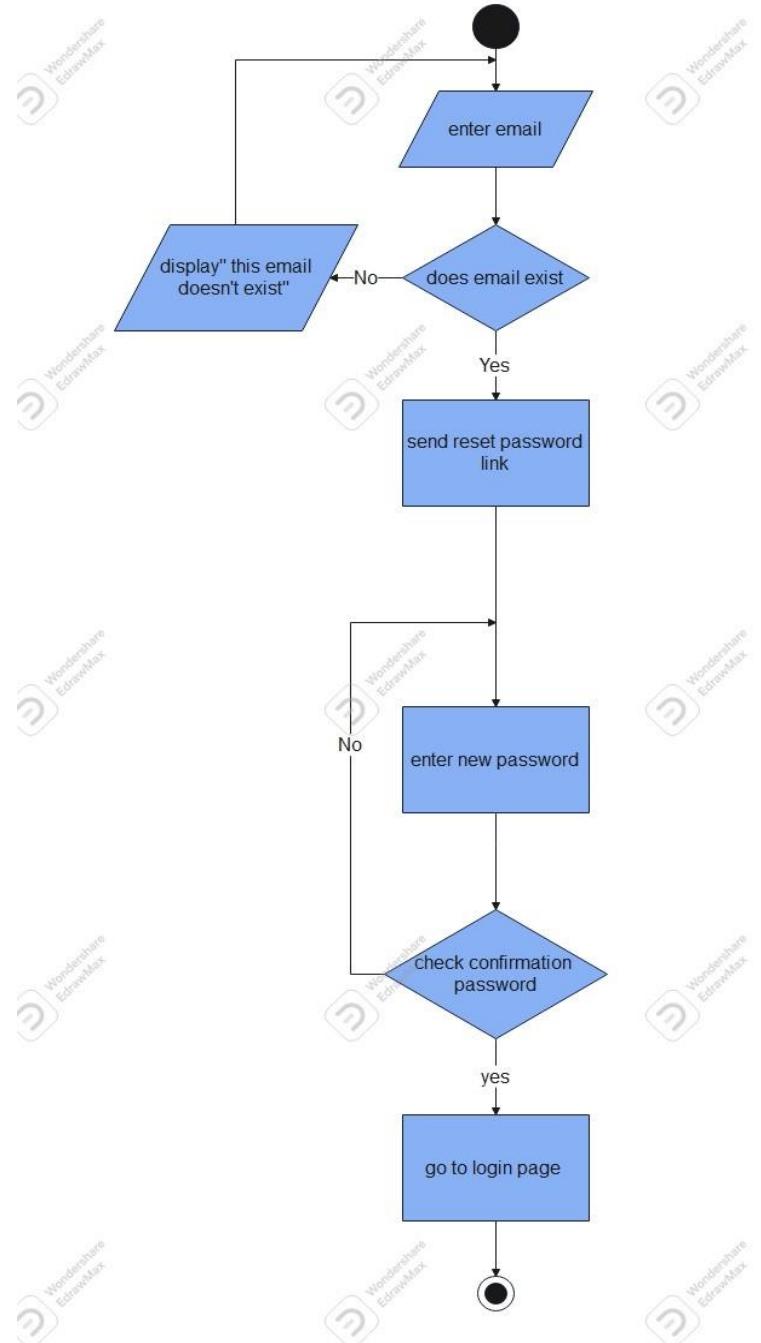
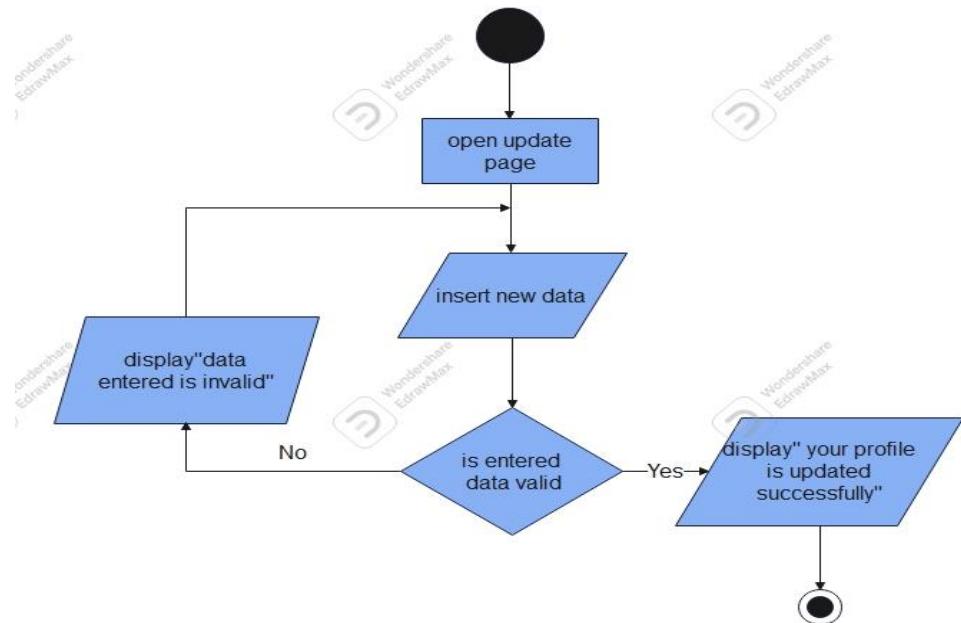


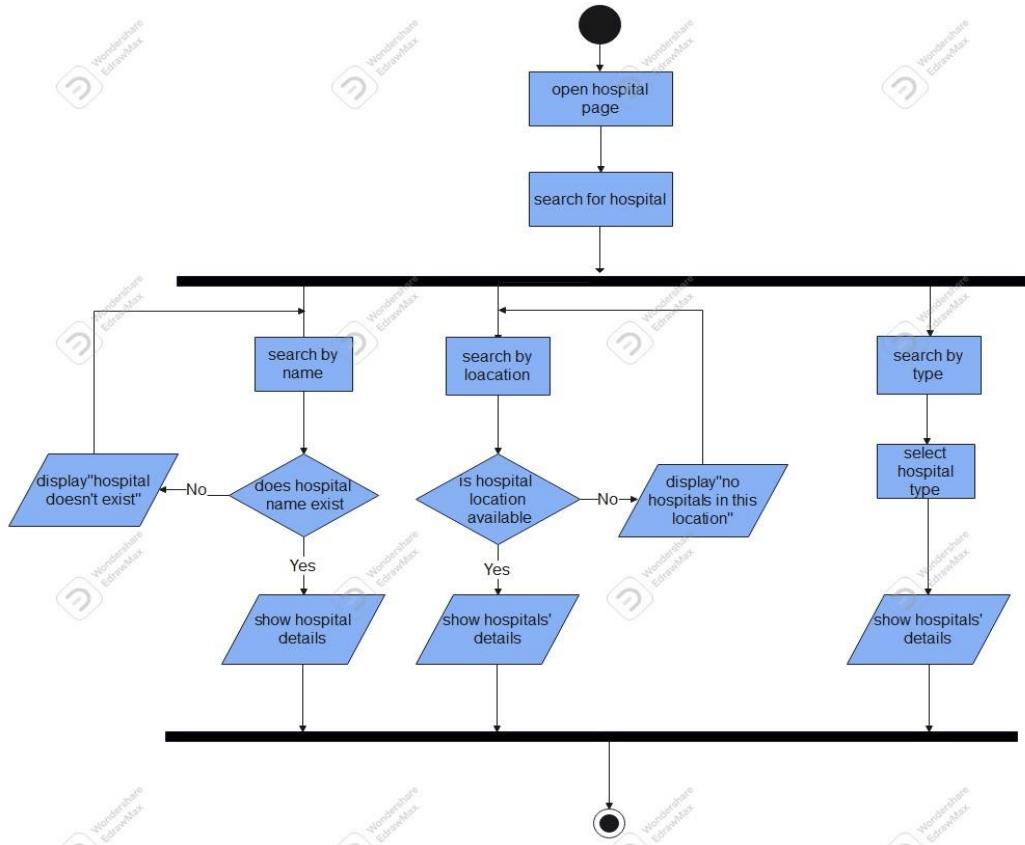
Figure 4.2.1.2 Patients' log in.



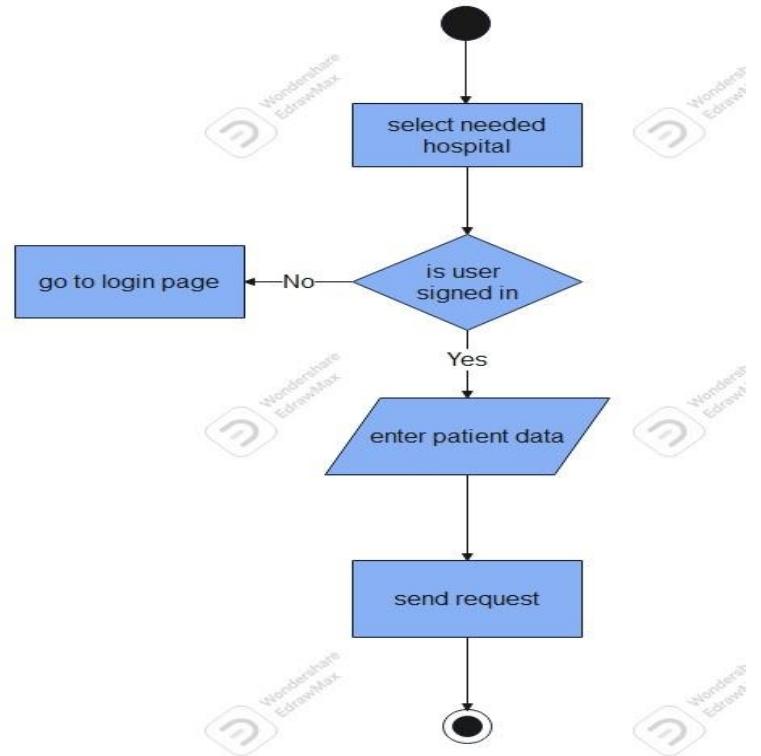
*Figure 4.2.1.3 Users' reset password.*



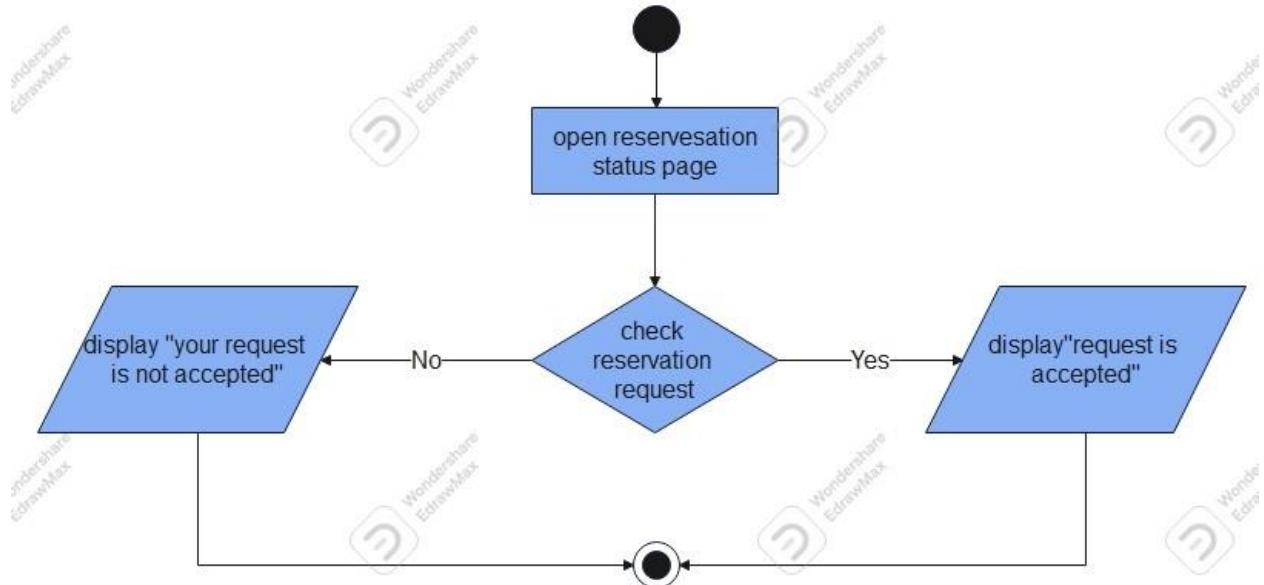
*Figure 4.2.1.4 Users' profile update*



*Figure 4.2.1.5 Users' search for a hospital.*



*Figure 4.2.1.6 Users' reservation.*



*Figure 4.2.1.7 View reservation response.*

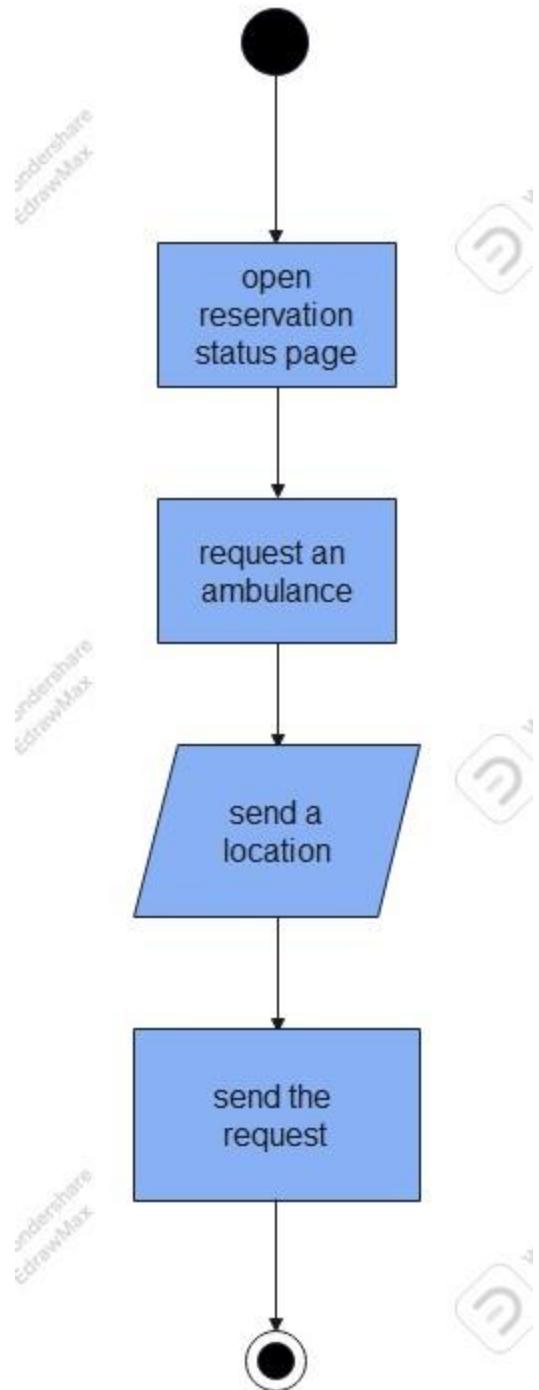


Figure 4.2.1.8 Request an ambulance.

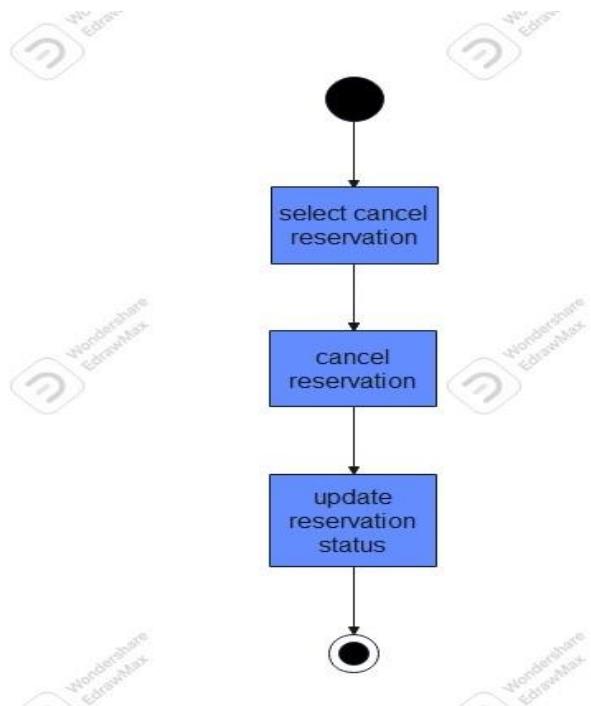


Figure 4.2.1.9 Cancel reservation.

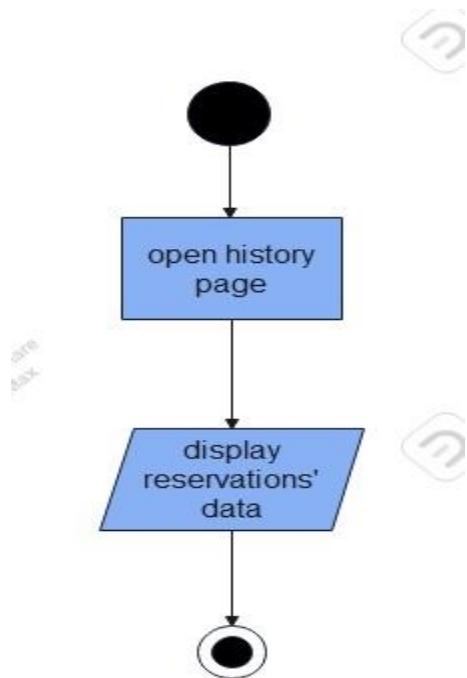


Figure 4.2.1.10 View reservations' history.

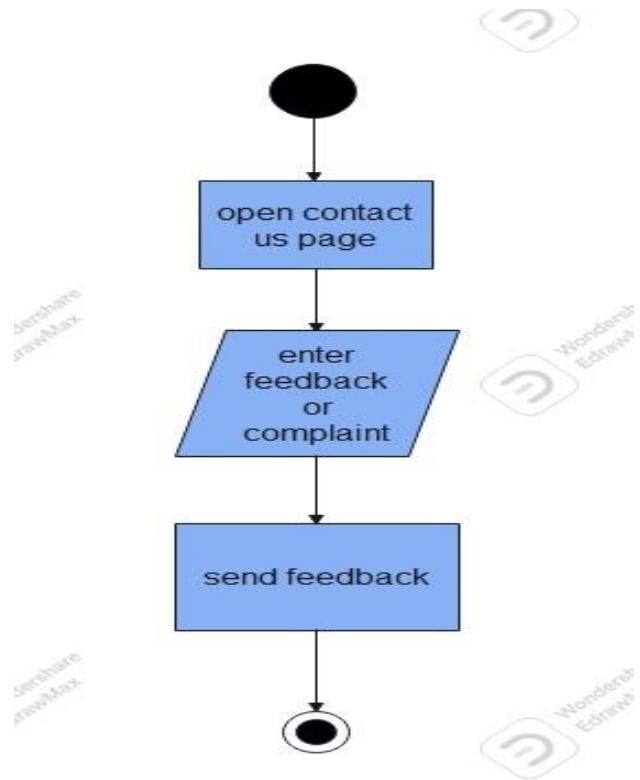


Figure 4.2.1.11 Users give feedback.

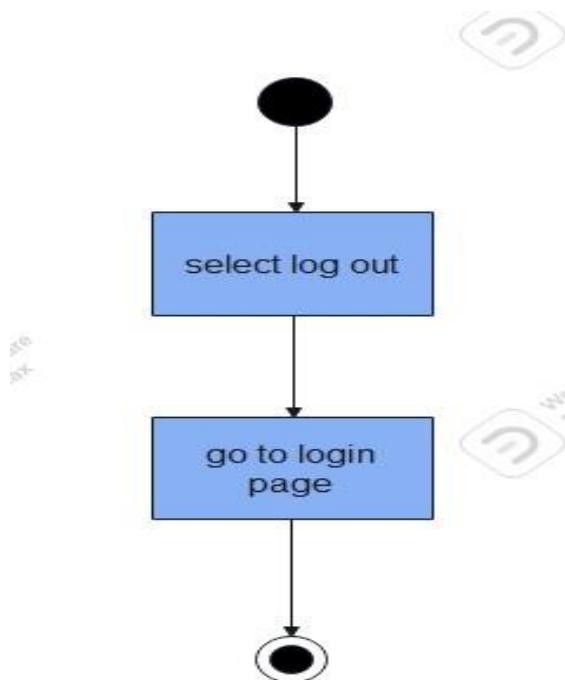
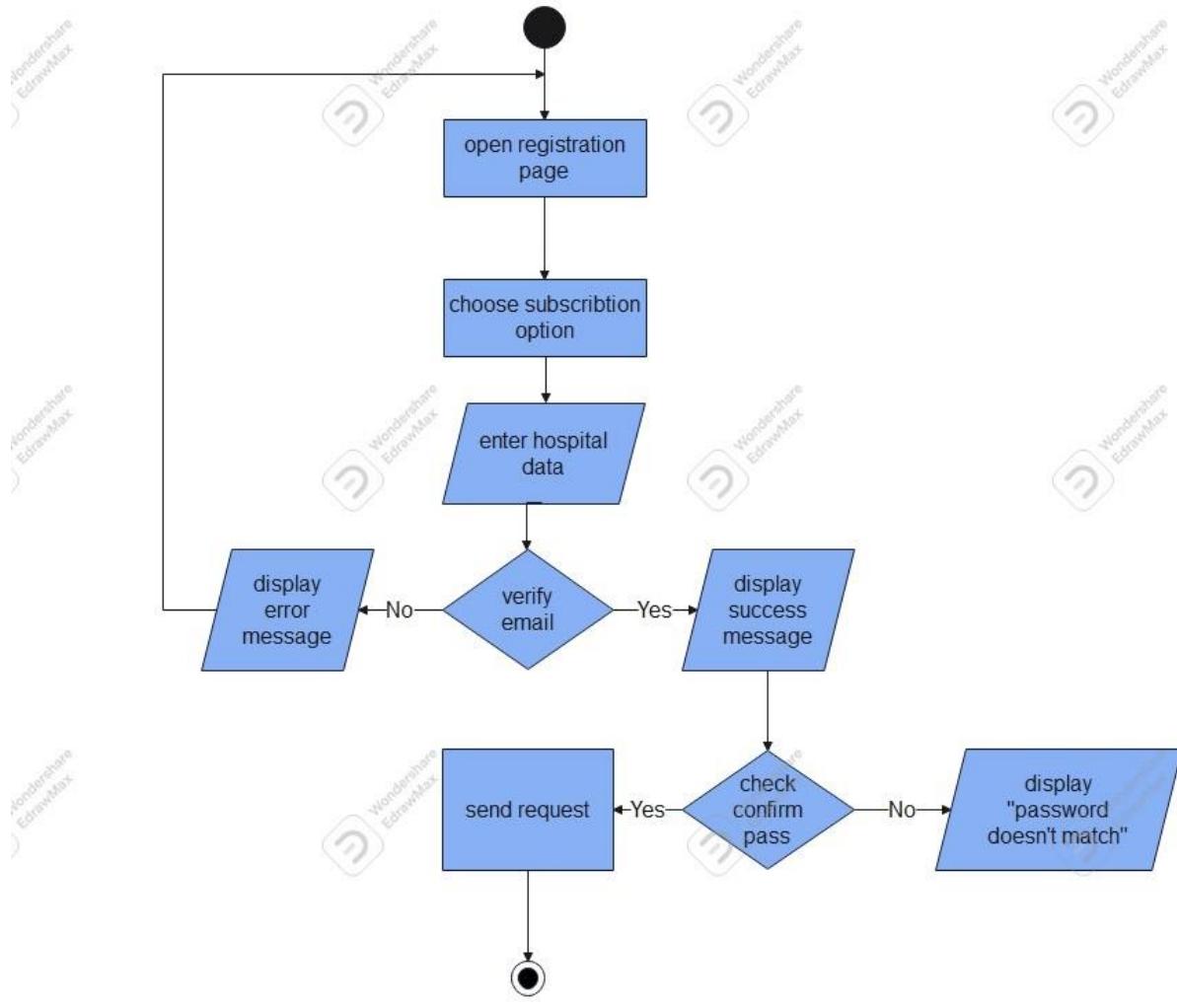
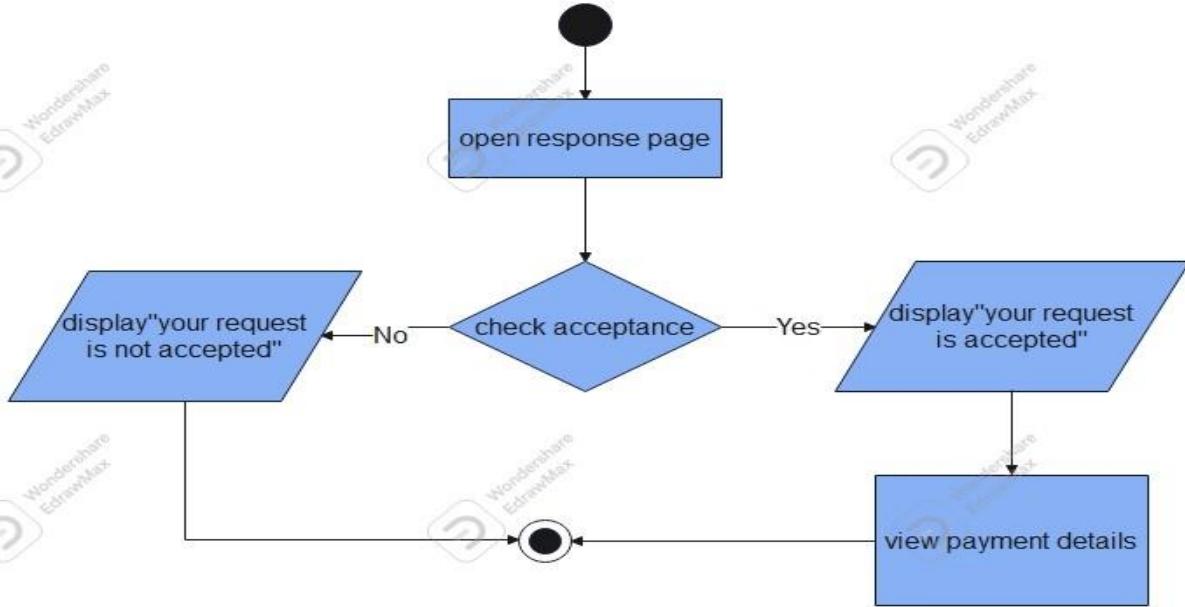


Figure 4.2.1.2 Users' log out.

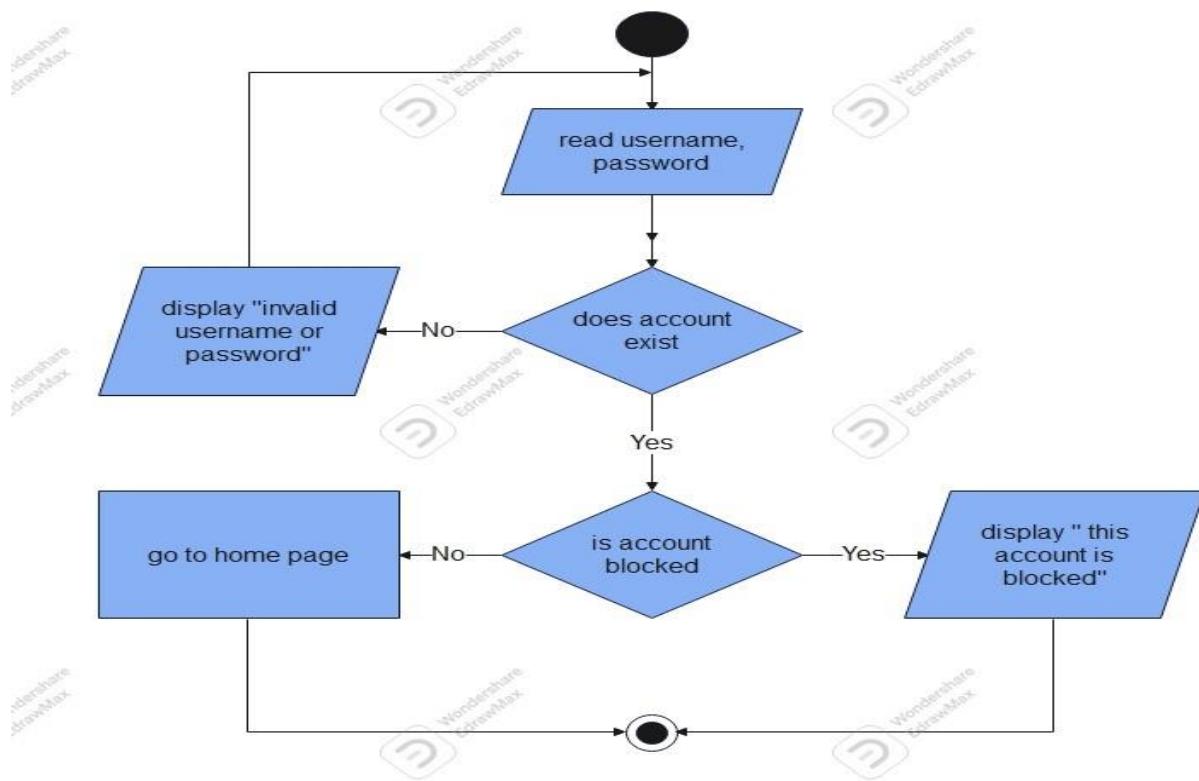
#### **4.2.2 Hospitals' activity diagrams:**



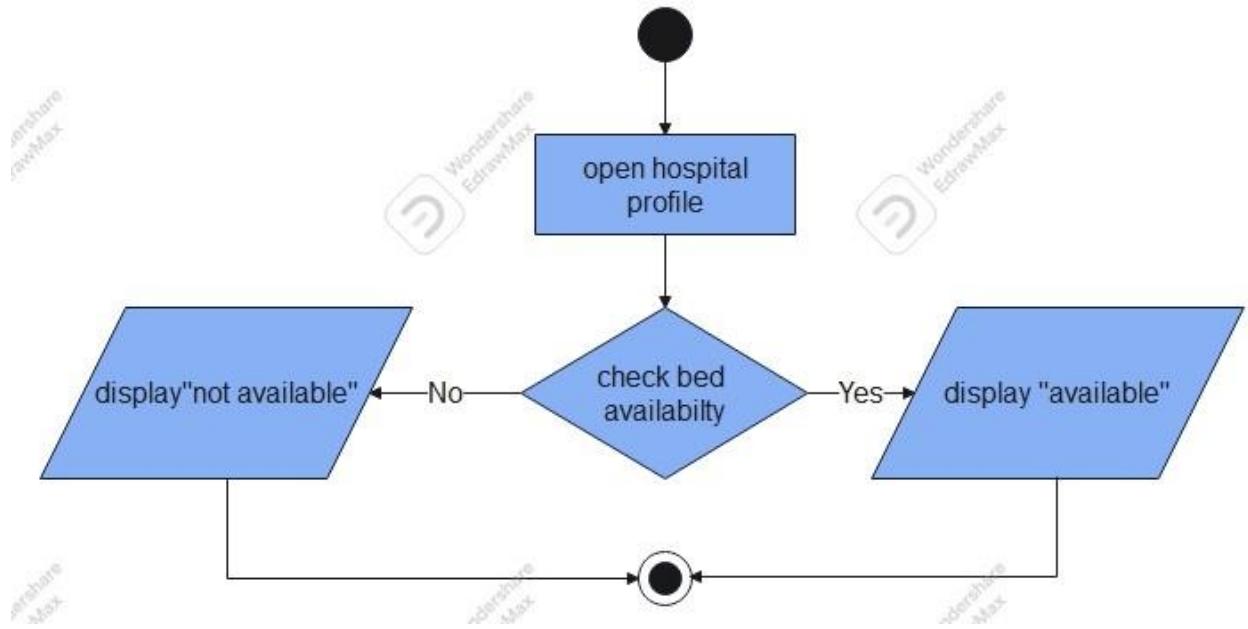
**Figure 4.2.2.1 Hospitals' registration.**



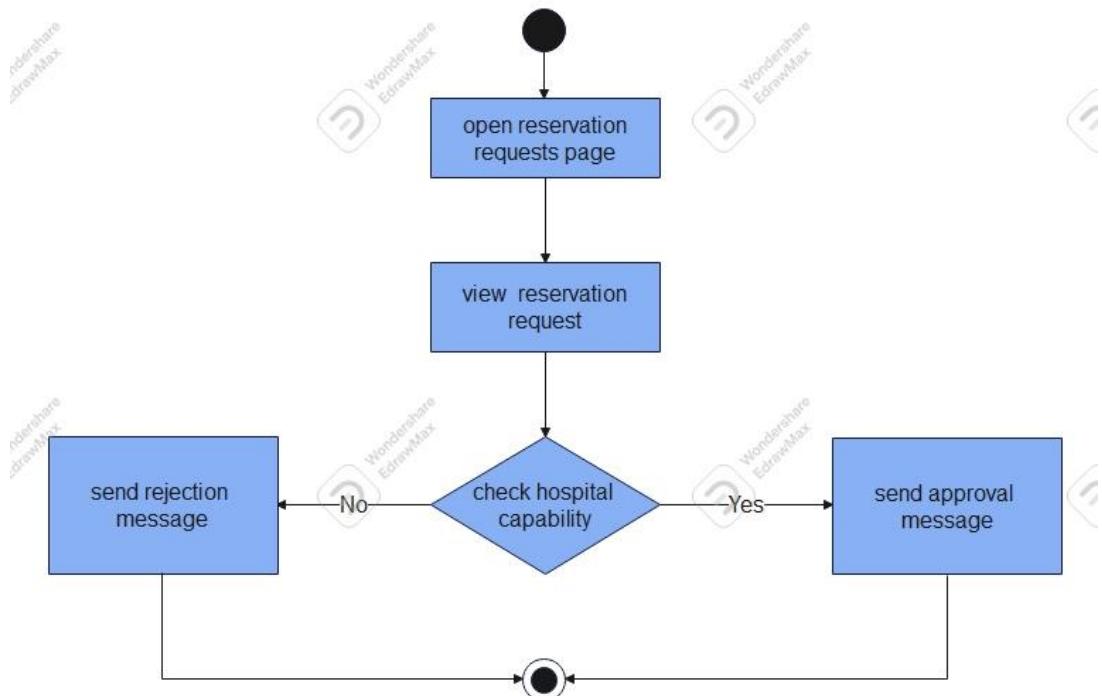
*Figure 4.2.2.2 Hospitals receive response.*



*Figure 4.2.2.3 Hospital log in.*



*Figure 4.2.2.4 Update bed availability status.*



*Figure 4.2.2.5 View reservation requests.*

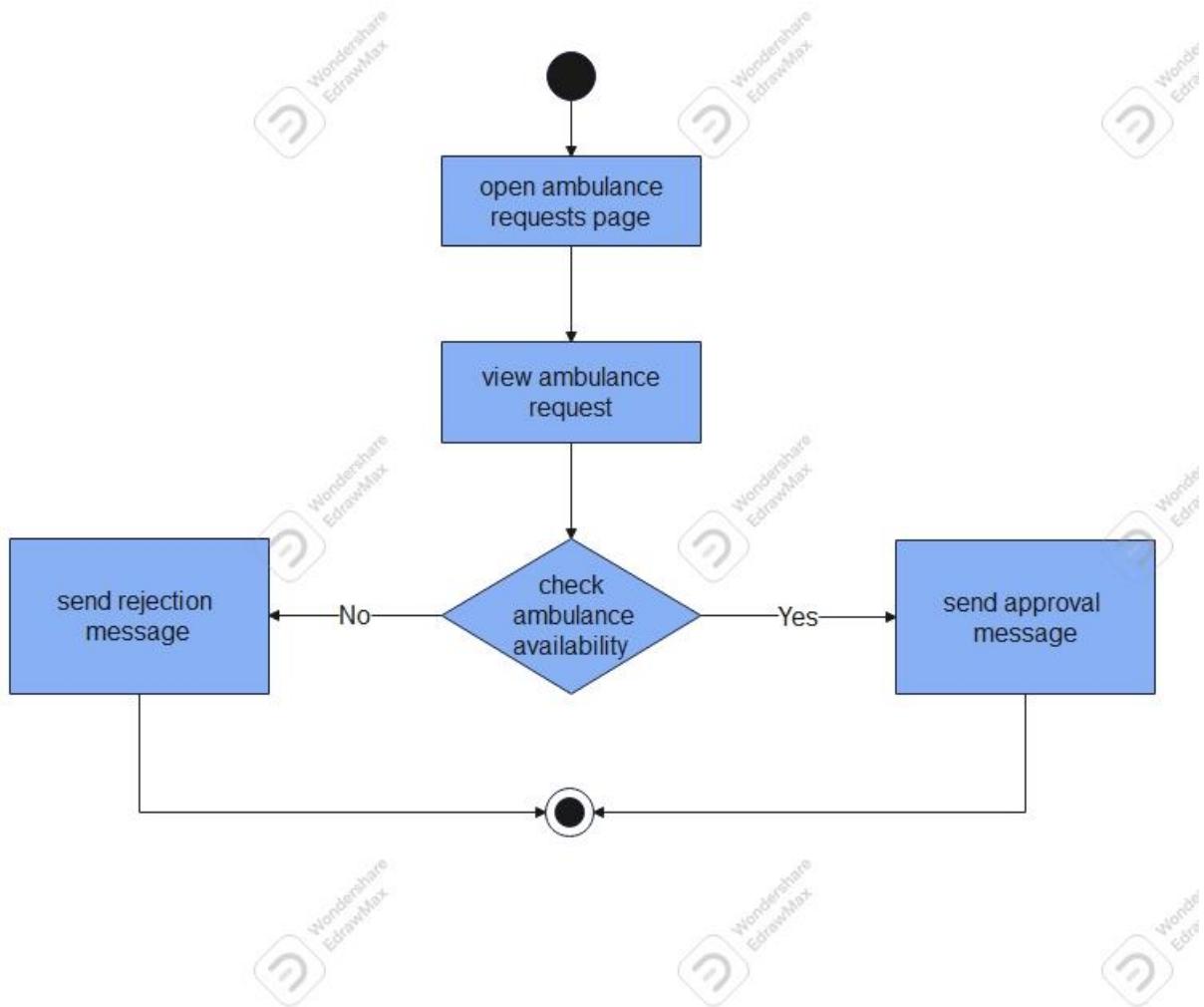


Figure 4.2.2.6 View ambulance requests.

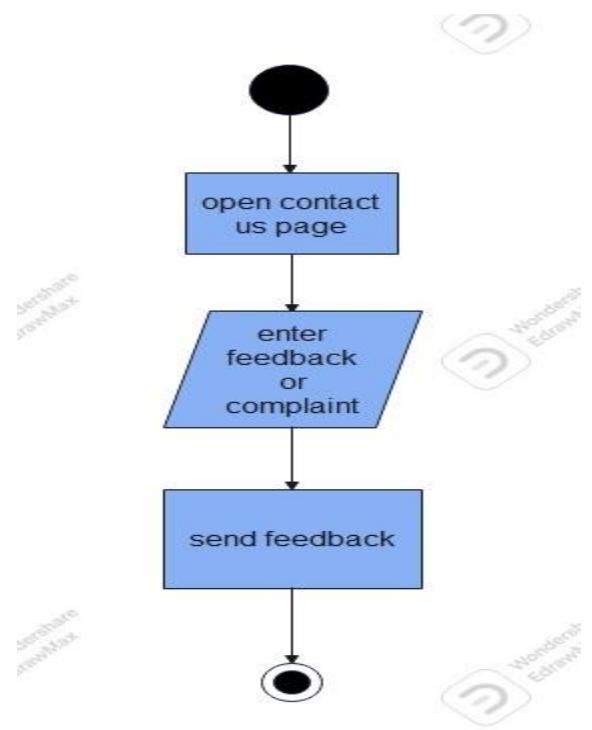


Figure 4.2.2.7 Hospitals' send feedback.

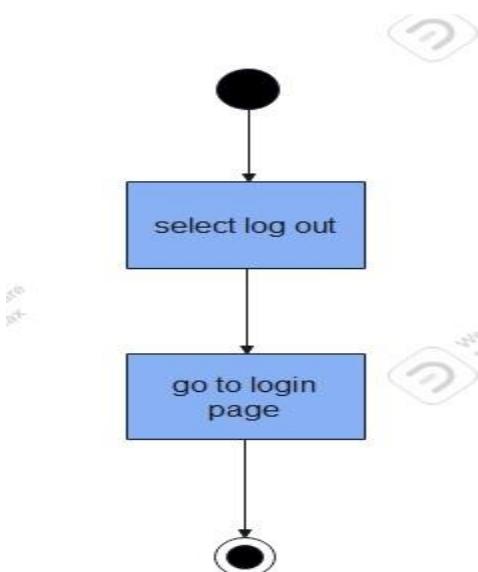


Figure 4.2.2.8 Hospitals' log out.

#### 4.2.3 Admins activity diagrams:

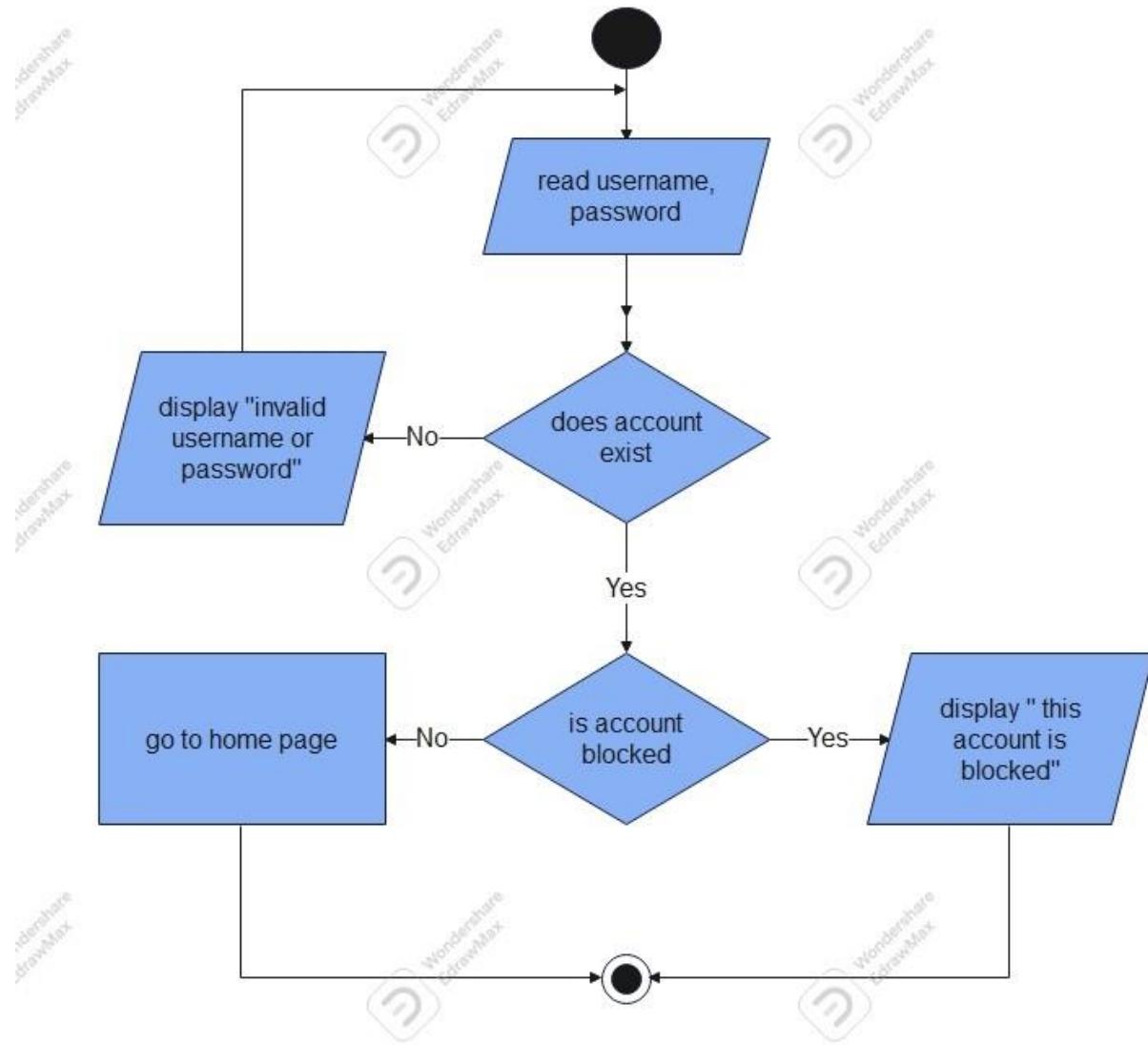
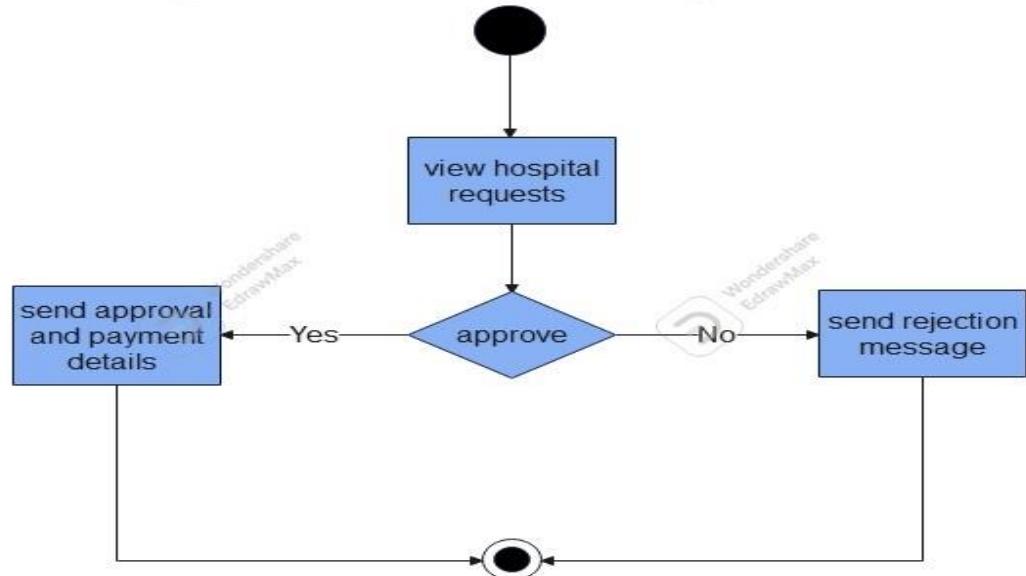
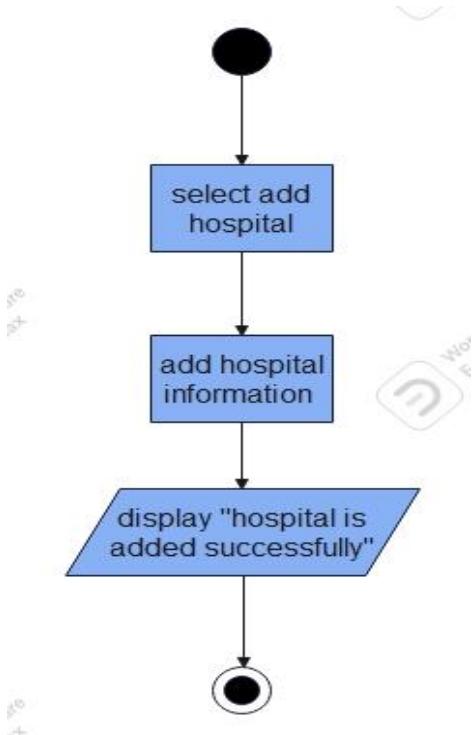


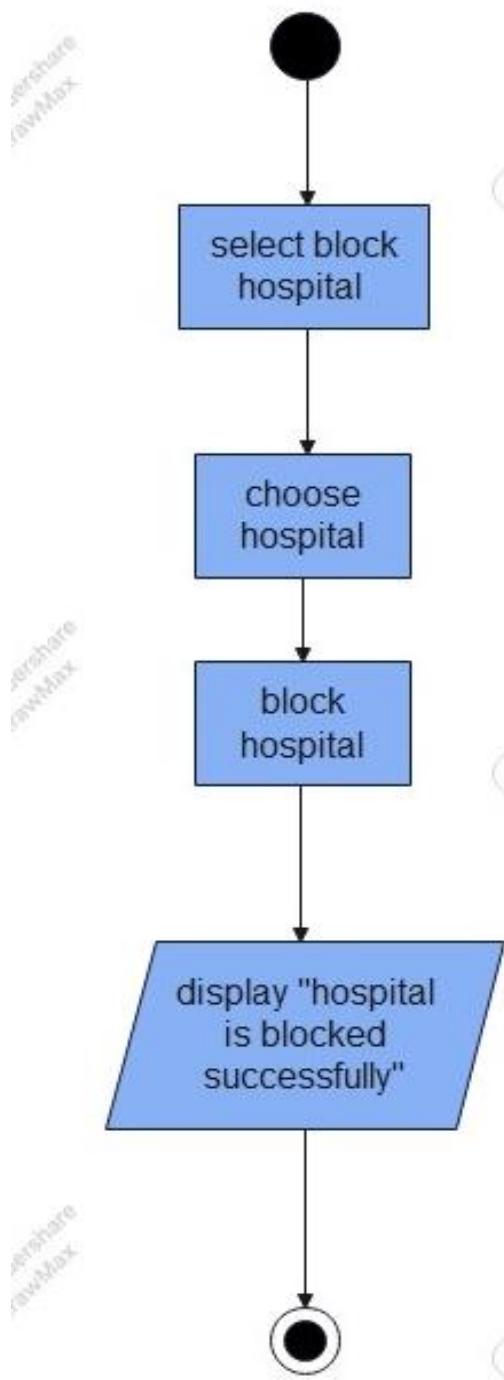
Figure 4.2.3.1 Admins' log in.



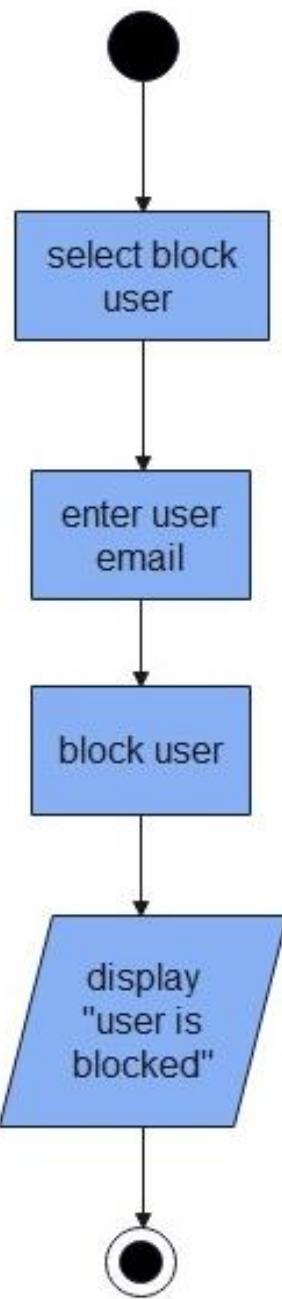
*Figure 4.2.3.2 Admin views hospital requests.*



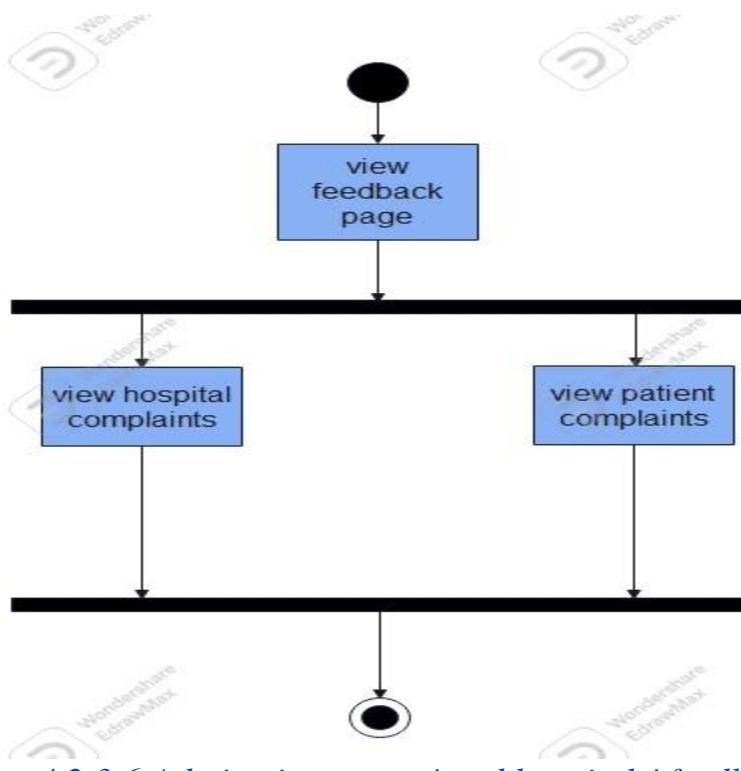
*Figure 4.2.3.3 Admin adds new hospital.*



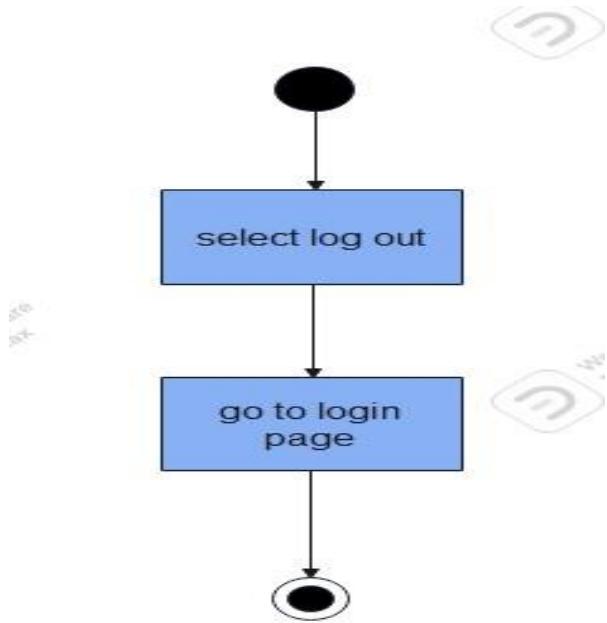
*Figure 4.2.3.4  
Admin blocks a hospital.*



*Figure 4.2.3.5  
Admin blocks a user.*



*Figure 4.2.3.6 Admin views users' and hospitals' feedbacks.*

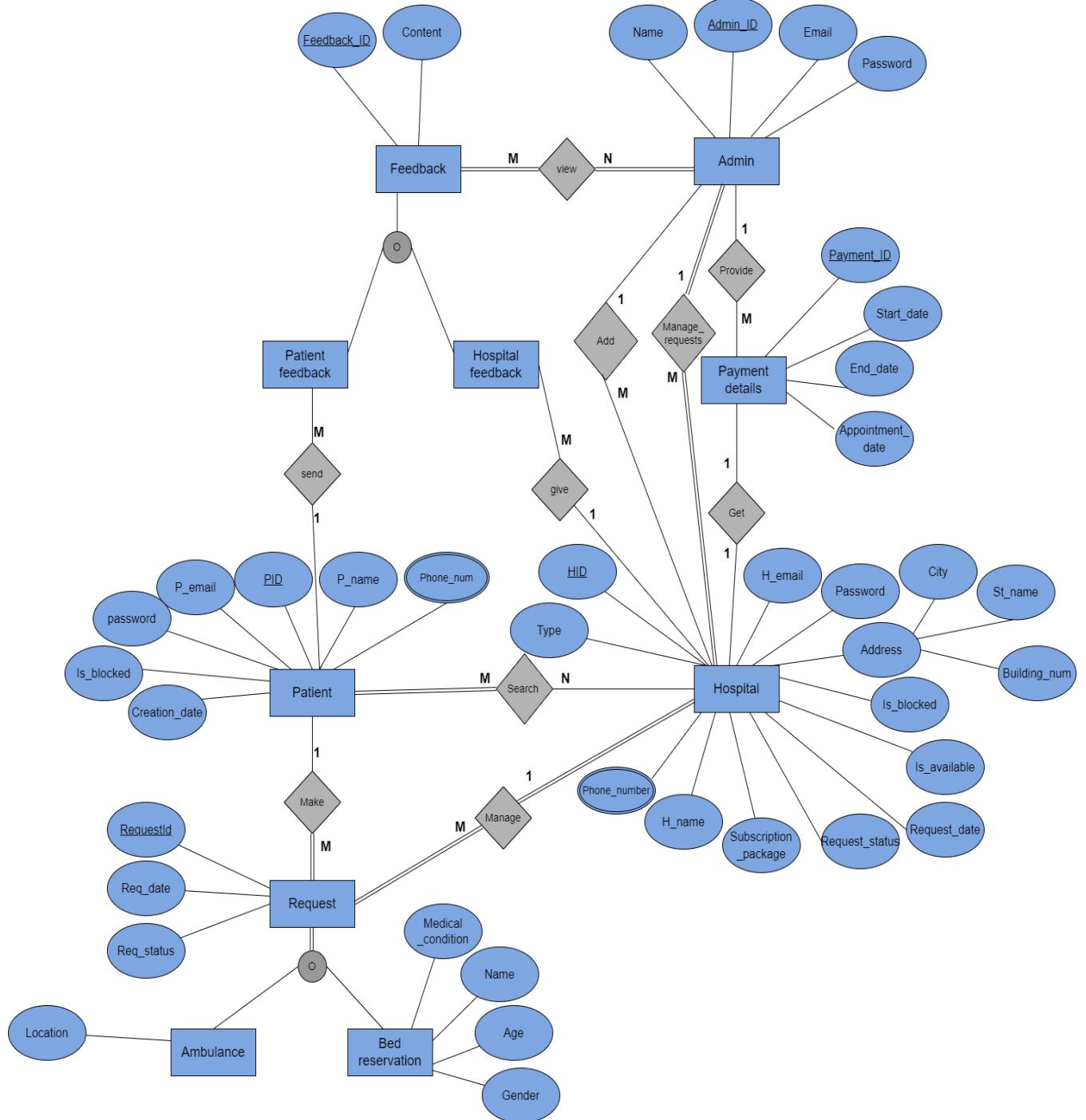


*Figure 4.2.3.7 Admins' log out.*

### **4.3 EER diagram**

*Enhanced Entity-relationship diagram helps in creating and maintaining detailed databases through high-level models and tools. In addition, it's developed on the basic ER diagrams (extended version of it). Advantages of EER Model in DBMS:*

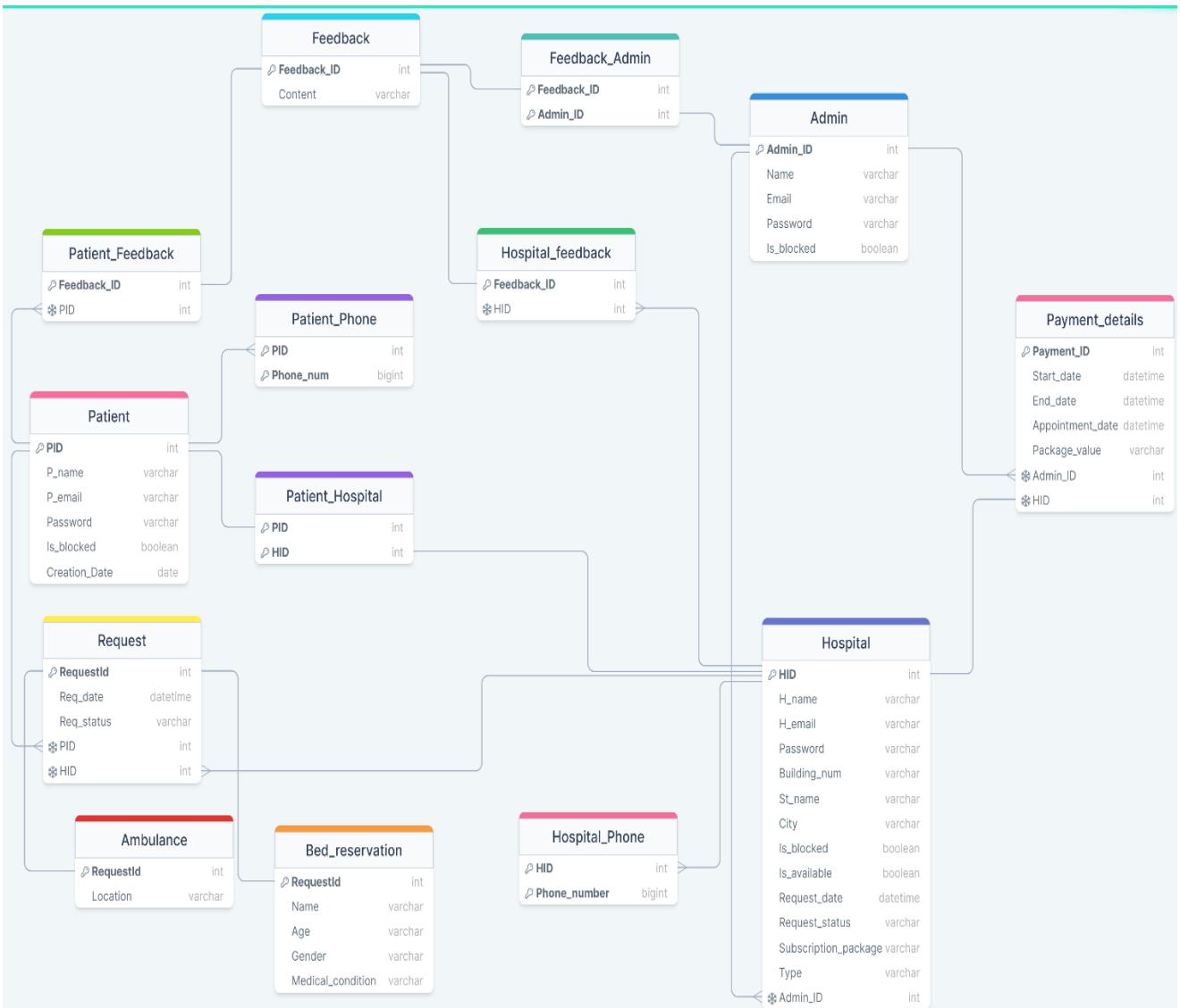
- Easy to develop and maintain, also it is easy to understand and interpret.*
- Since it is a visual illustration, it explains the database of system well making it easy to understand.*
- It serves as a communication tool and helps display the relationship between entities.*
- You can always convert the EER model into a table. Thus, it can easily be integrated into a relational model.*



4.3.1 InCare system EERD

## 4.4 Database Schema

The database schema is a structure of a database described in a formal language supported by the database management system. The term "schema" refers to the organization of data as a blueprint of how the database is constructed.

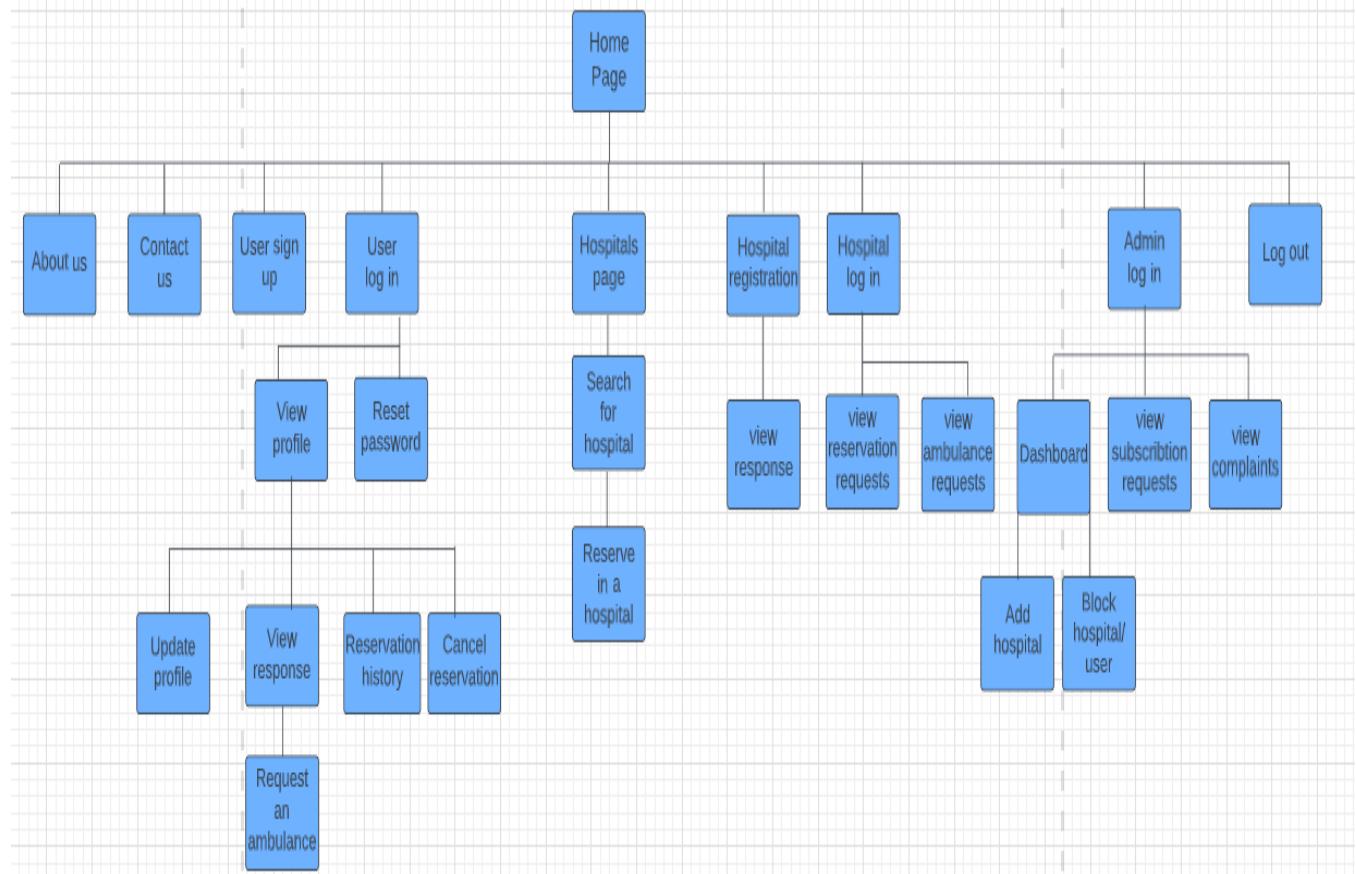


*4.4.1 InCare system database schema*

## **4.6 Site Map**

A site map is a model of a website or an application's content designed to help both users and search engines navigate the site. A site map can be an organization chart, or a hierarchical list of pages (with links) organized by topic.

### **“InCare” site map:**



*4.6.1 InCare system site map*

# **Chapter Five**

## **System Implementation**

### **5.1 Aim of chapter**

The implementation plan facilitates the execution of a plan, idea, model, design, specification, standard, algorithm, or policy by presenting clear implementation steps that need to follow. After we have carefully planned our project and shown you its business plan and system analysis, you will be ready to start the project implementation phase, the third phase of the project management life cycle. The implementation phase involves putting the project plan into action which you can interact with.

## 5.2 Project Screenshots

### Home Page:

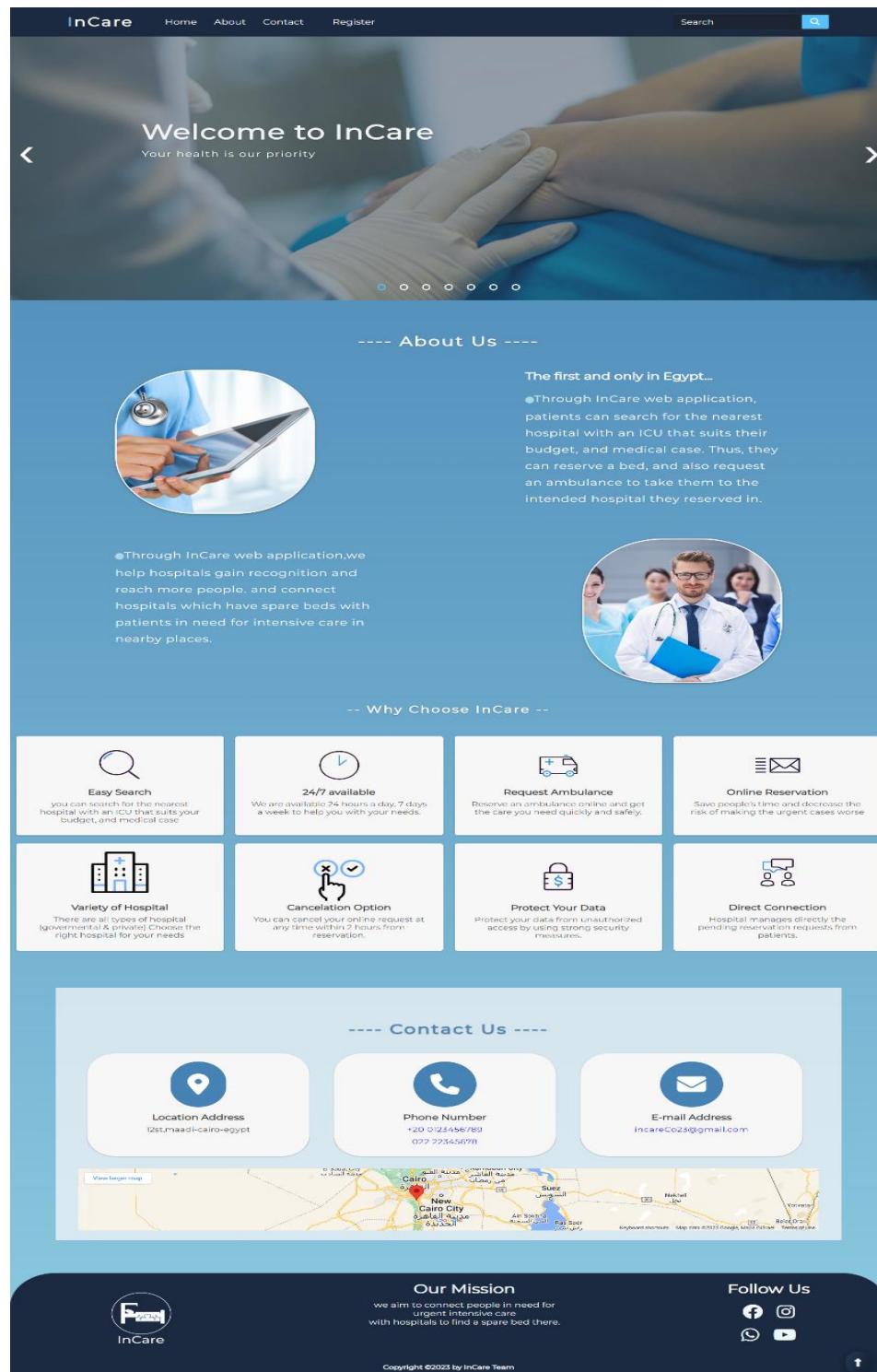


Figure 5.1

The first section of InCare home page is a slider contains some pictures of the hospitals subscribed in the gold package with a button navigating to more detailed information as shown in figure (5.2)



Figure 5.2

The learn more button redirects to the hospitals page with this hospital info. (Figure 5.3).

A screenshot of the InCare website's hospital details page for Dar Al-Fouad Hospital. The top part of the page has a dark blue header with the "INCARE" logo, a search bar, and a filter icon. Below the header, the hospital's name "Dar Al-Fouad Hospital" is displayed in bold black text. Underneath the name, the word "private" is shown in smaller text. There are four icons with corresponding information: a location pin for "Location: 26 July St., 6th of October City", a phone icon for "Phone: 01119983339", a price tag icon for "Price: 6000 per day", and a green "available" status indicator. A "Reserve Bed" button is located at the bottom of this section. The background of the page is white.

Figure 5.3

-If an unregistered user tries to reserve, the button redirects them to the log in page

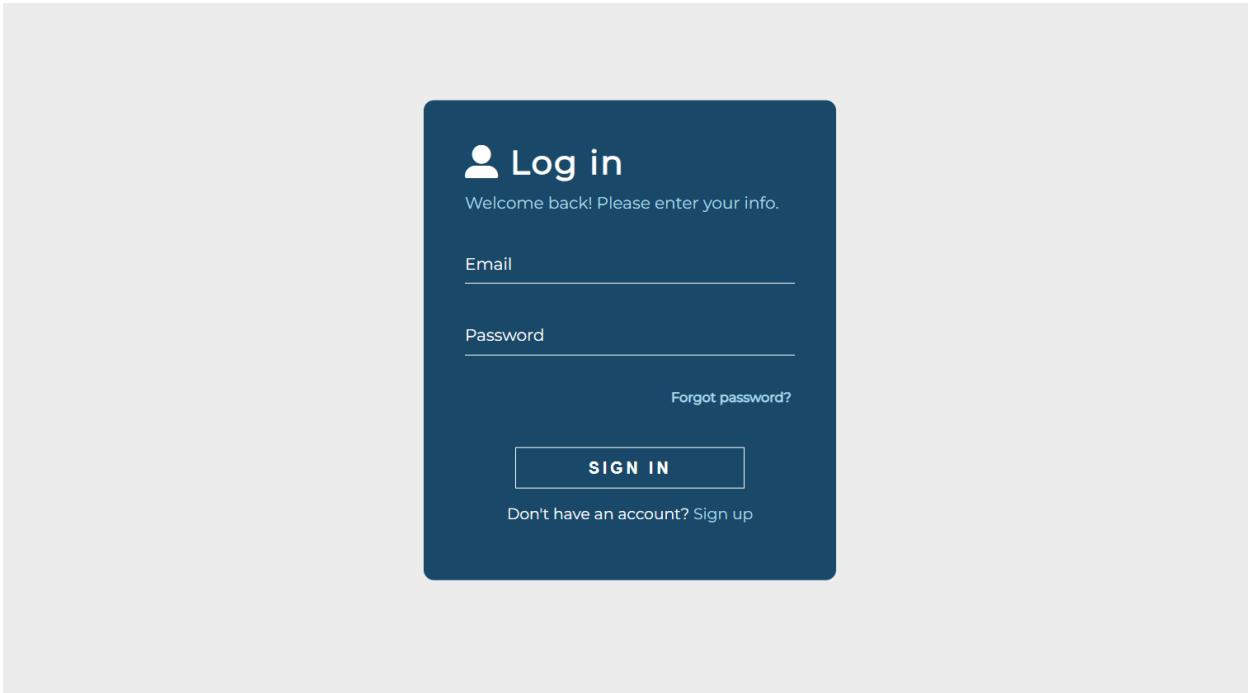


Figure 5.4

Home page after signing in:



Figure 5.5

When the registered users search for a hospital, they can reserve a bed as follows:

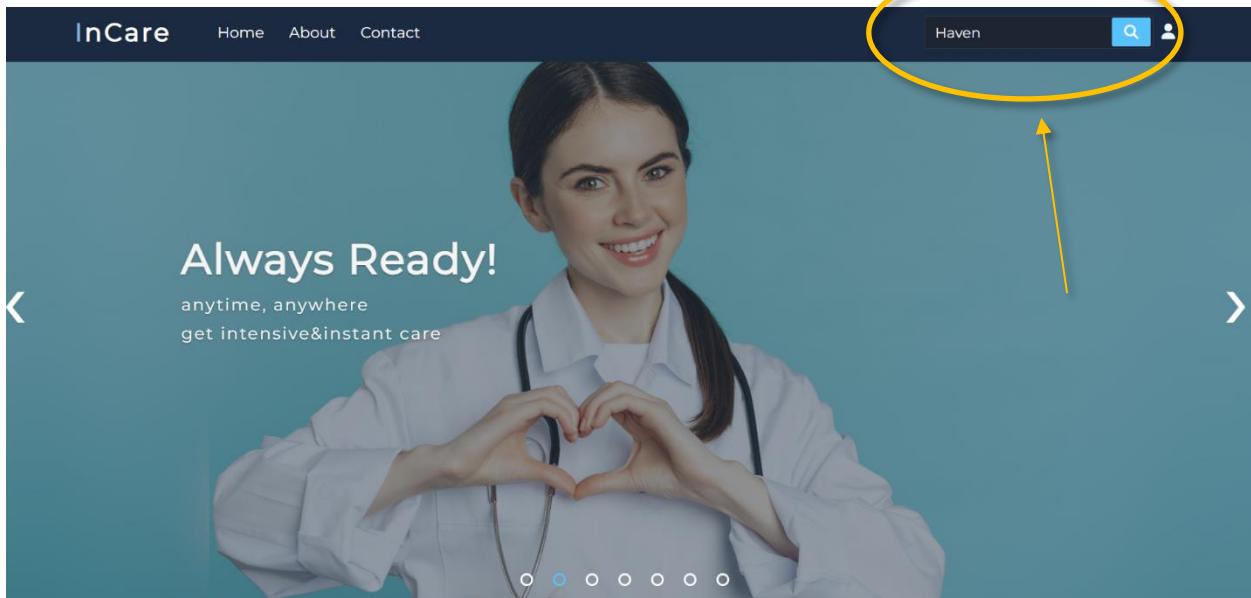


Figure 5.6

Users can search for hospital name/location, and the results appear in the hospitals page for the available hospitals with that name in that location (if specified).

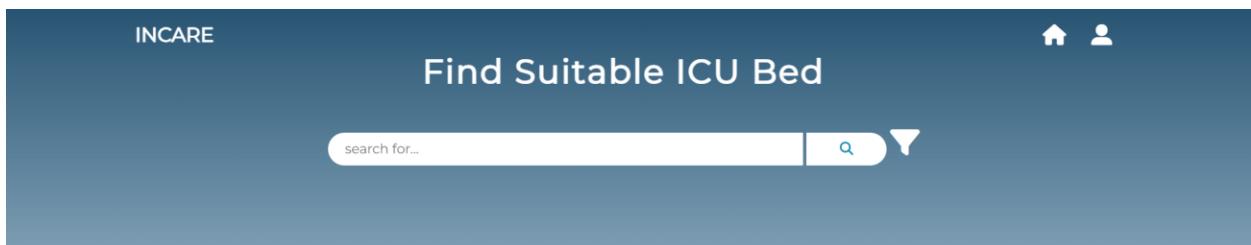


Figure 5.7

As illustrated in figure (5.8) Results can be filtered to show only the private or governmental hospitals and it can also be sorted based on the price per day

The screenshot shows the INCARE platform's search interface. At the top, there is a search bar with the placeholder "search for..." and a magnifying glass icon. Below the search bar, the title "Find Suitable ICU Bed" is displayed. A "Refine results" dialog box is open, containing options to "Sort by price" (with "Ascending" selected) and "Hospital type" (with "Governmental" and "Private" as choices). The main search results are listed under "Search Results For 'october'" (2 results):

- Haven hospital**  
private  
Location: 6 October city  
Phone: 02 38244204  
Price: 5400 per day  
**available**  
[Reserve Bed](#)
- Dar Al-Fouad Hospital**  
private  
Location: 26 July St., 6th of October City  
Phone: 01119983339  
Price: 6000 per day  
**available**  
[Reserve Bed](#)

Figure 5.8

Users insert the name, age and upload a medical report of the patient, and their data is sent to the hospital they reserve in for review.

The screenshot shows the INCARE platform's request interface. At the top, the title "Find Suitable ICU Bed" is displayed. A "Request ICU bed" dialog box is open, prompting the user to "Please enter your details." The form fields include:

- Full Name: Nour Magdy
- Gender: female
- Age: 21
- Phone Number: 01012345678
- Upload report: Choose File report.png

A "Submit" button is located at the bottom of the dialog. To the left of the dialog, the search results for "Haven hospital" are visible, showing its details and a "Reserve Bed" button.

Figure 5.9

User profile: Where users can view/update their personal data.

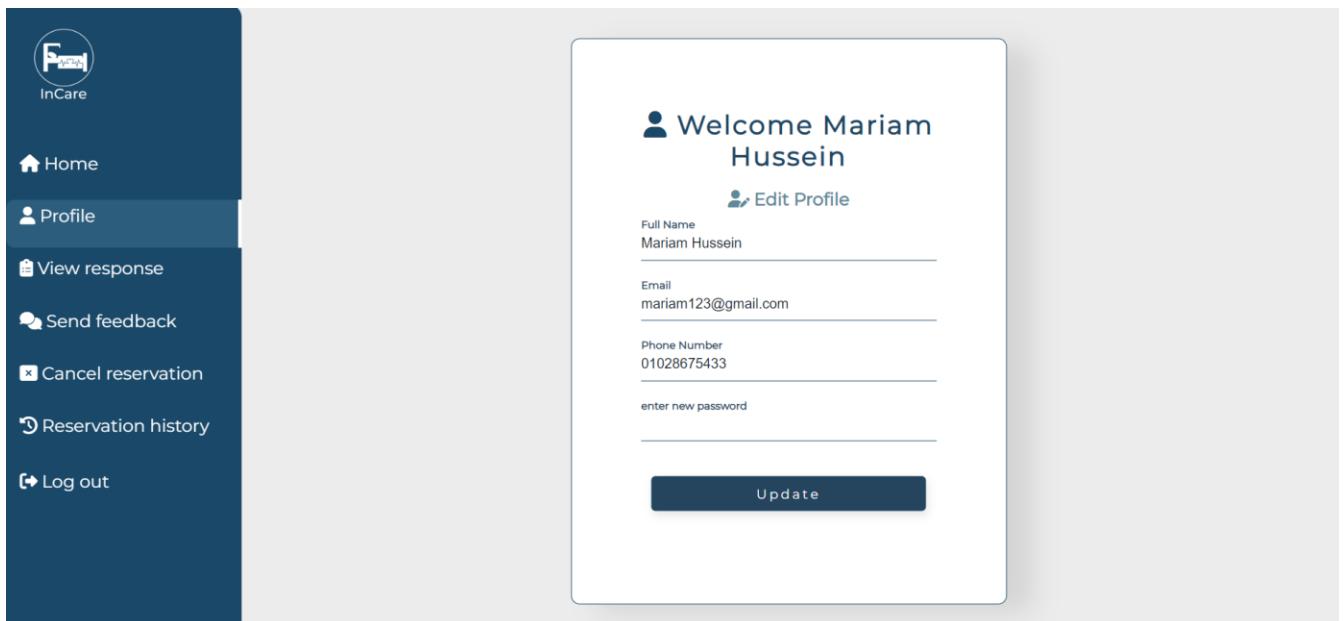


Figure 5.10

Reservation history: This page shows the history of all the reservations made by this user account.

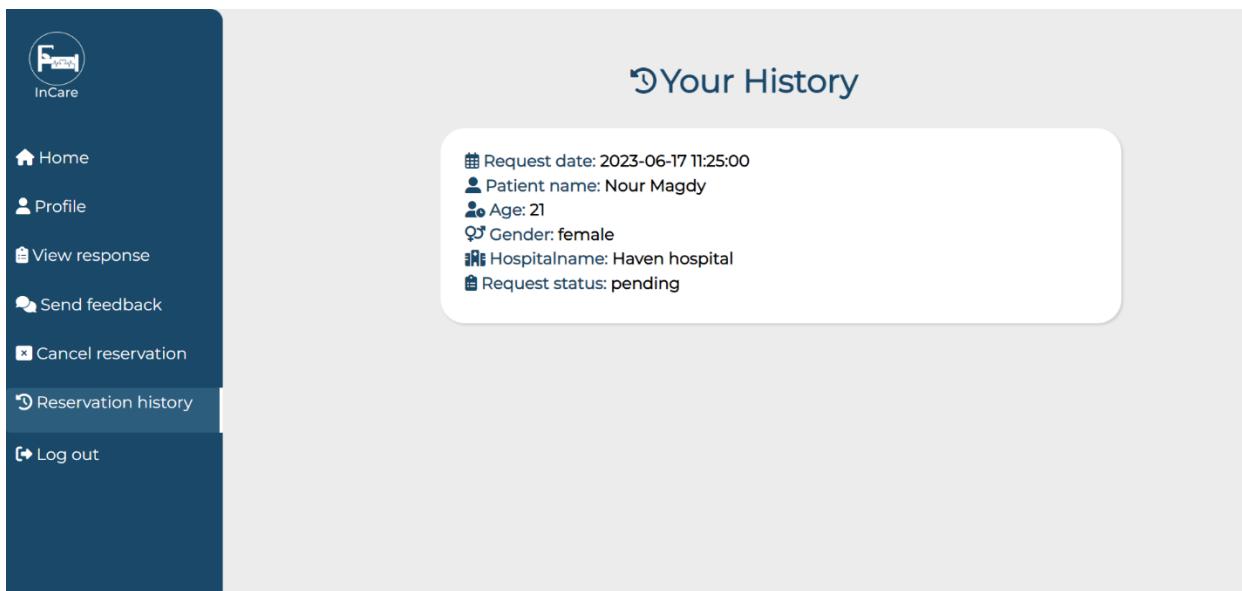


Figure 5.11

## The hospitals' response page:

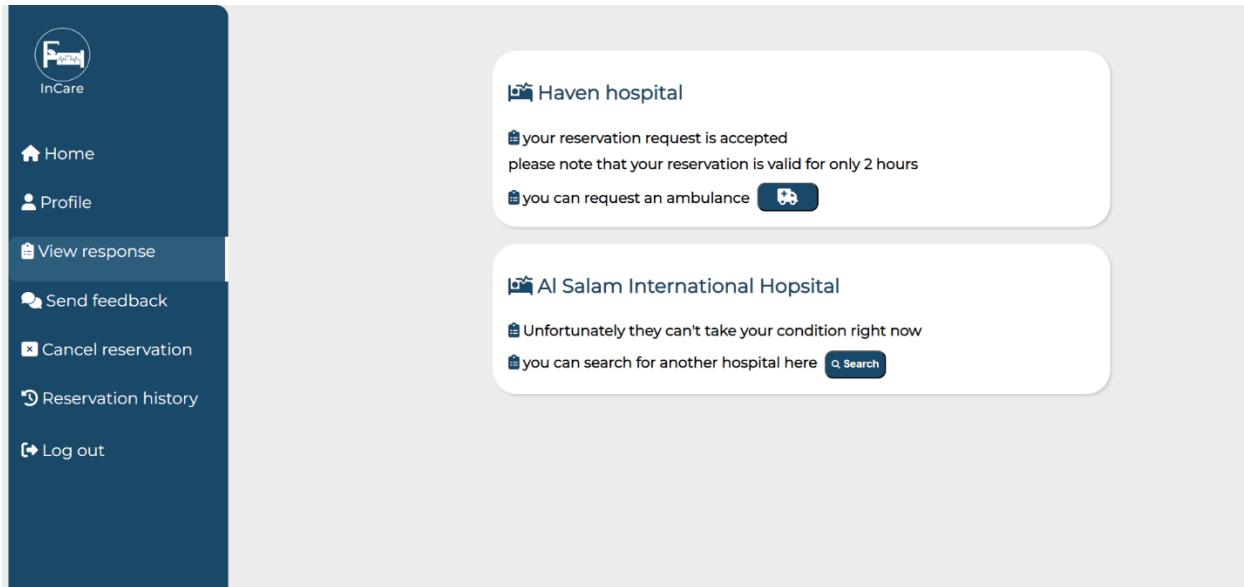


Figure 5.12

Shown in figure (5.13) an ambulance can be requested to take the patients to the hospital, they shall fill in a form and the website takes their location and request to the hospital.

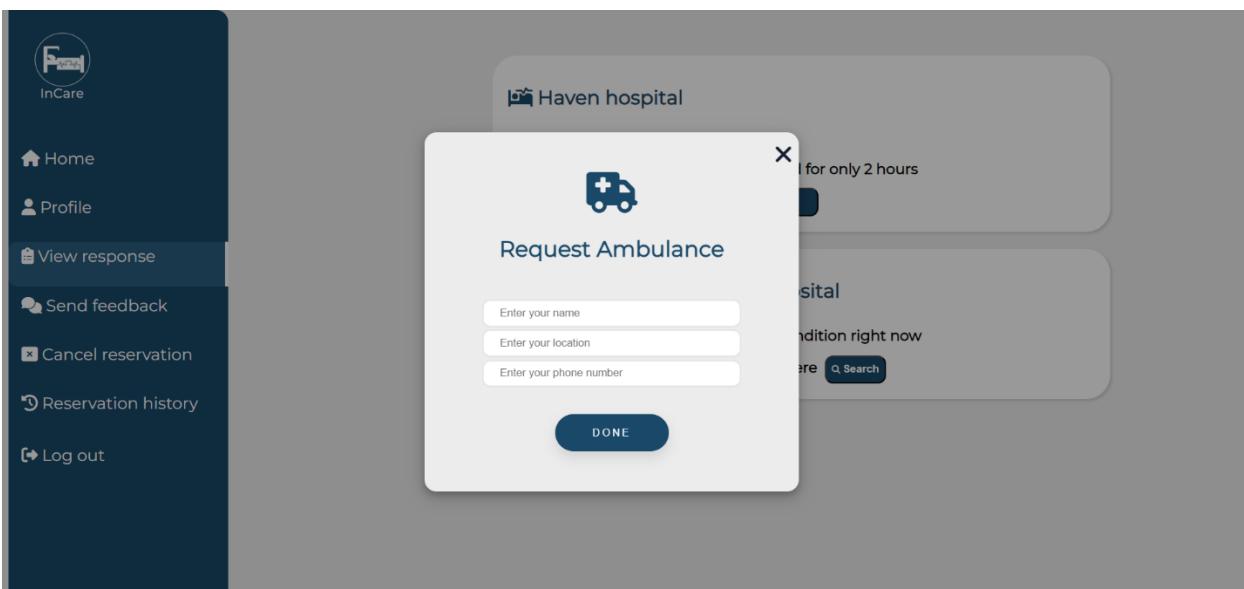


Figure 5.13

Cancel reservation: this page shows all the in-progress reservations.

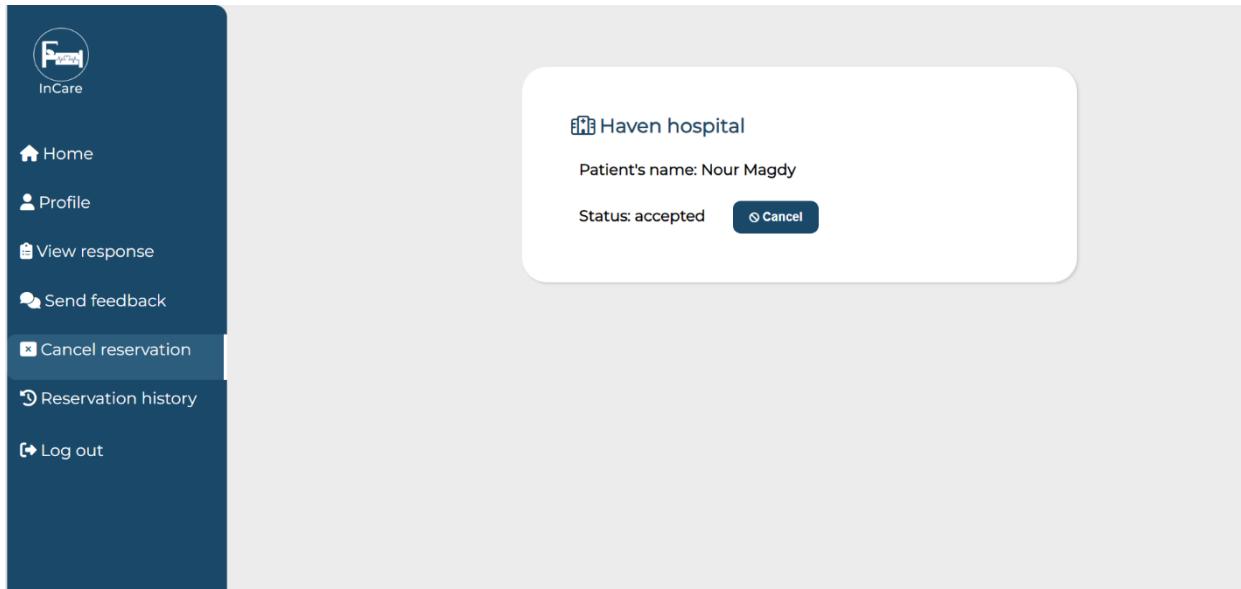


Figure 5.14

Users' Feedback:

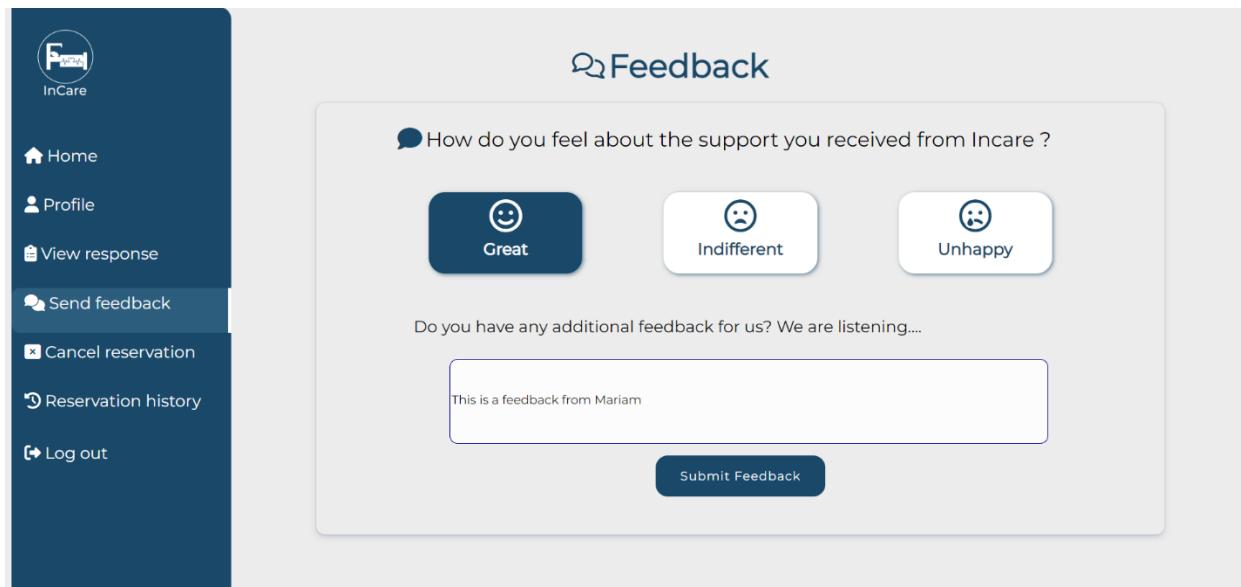


Figure 5.15

Users can log out and be redirected to the log in page.

Hospital administrators can manage their hospital account using the profile page as shown in figure (5.16)

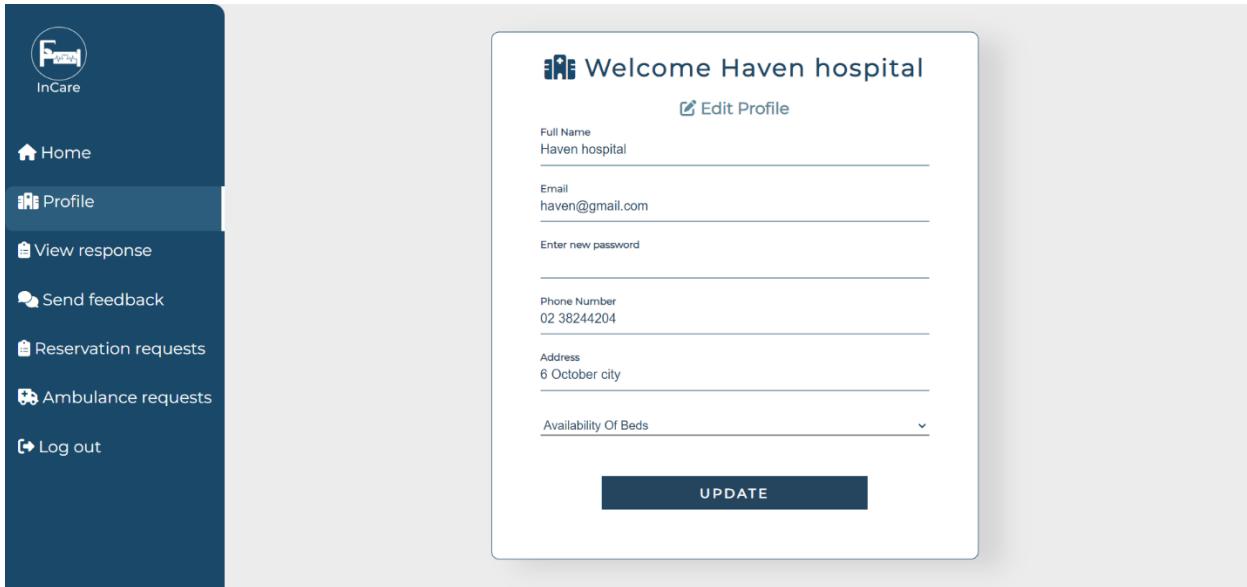


Figure 5.16

Hospitals find any appointments' date& time in the response page.

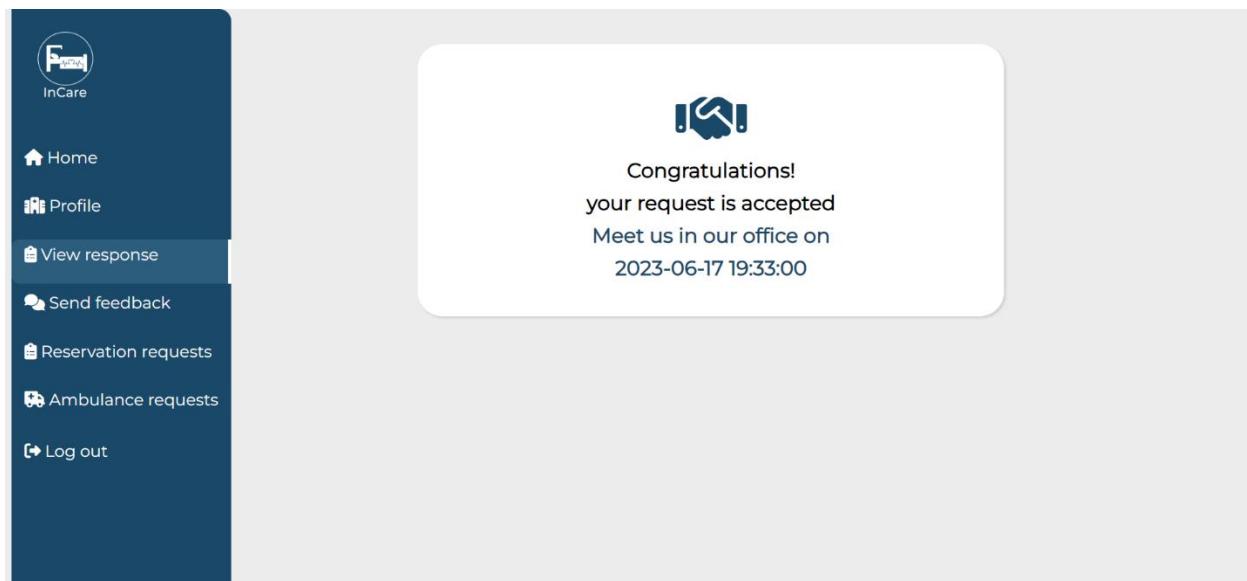


Figure 5.17

As illustrated in figures (5.18& 5.19), Hospitals can manage any pending requests from patients.

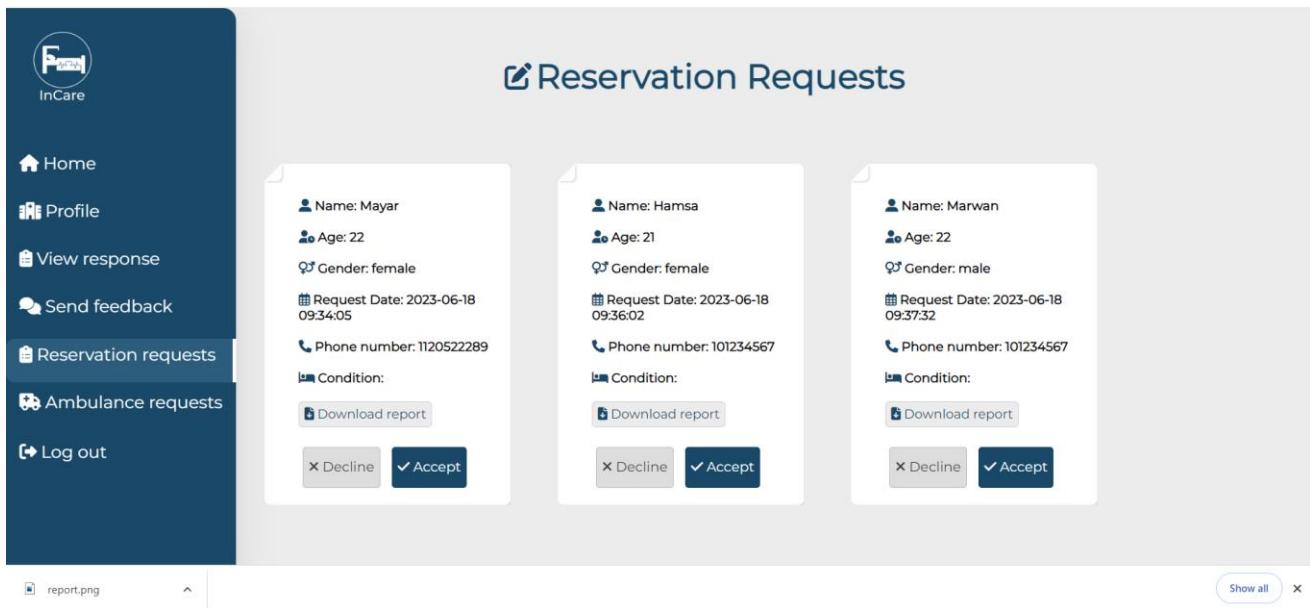


Figure 5.18

Medical reports provided by patients can be downloaded to decide whether to take this condition or that the hospital is not capable of providing the right medical care for them.

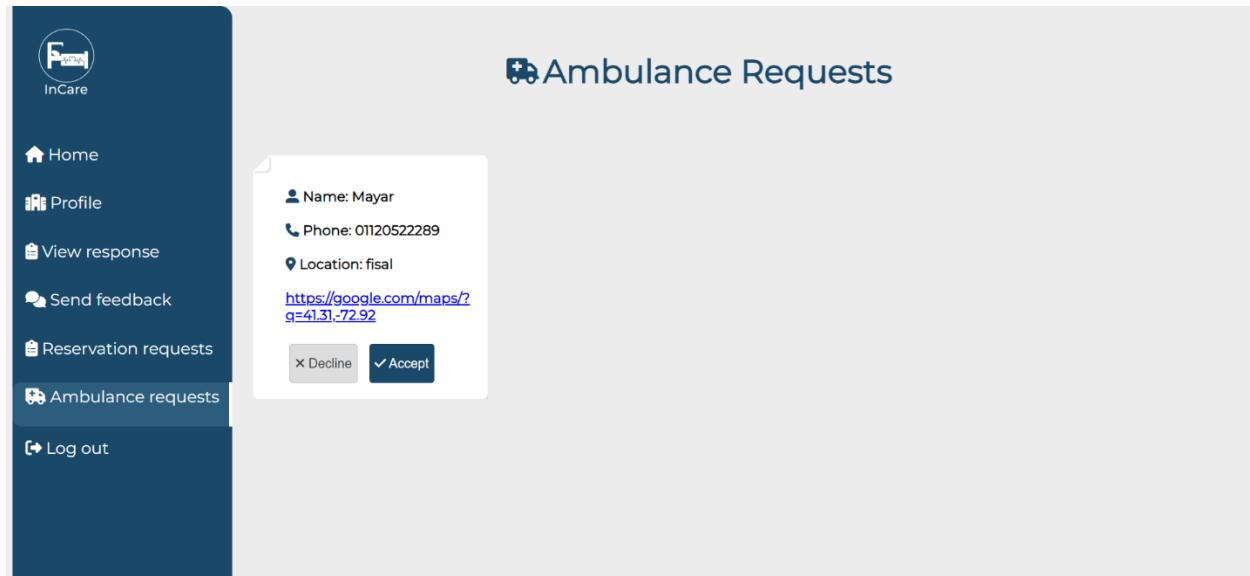


Figure 5.19

Dashboard (accessed only by system admins) contains all the hospitals in our website, Admins are able to block any of them:

The screenshot shows the InCare Dashboard. On the left is a sidebar with a logo and the following menu items: Home, Hospital requests, + Add a hospital, Set appointment, Block a user, View feedbacks, and Log out. The main area is titled "InCare Dashboard" and contains a table with the following data:

Hospital name	Status	Type	Action
Dar Al-Fouad Hospital	accepted	private	<button>BLOCK</button>
Al Salam International Hospital	accepted	private	<button>BLOCK</button>
Haven hospital	accepted	private	<button>BLOCK</button>
Al-Marwa Hospital	accepted	private	<button>BLOCK</button>
Mansheyet El Bakry General Hospital	accepted	governmental	<button>BLOCK</button>
Air Force Specialized Hospital	accepted	governmental	<button>BLOCK</button>
Qasr El Eyni Hospital	pending	governmental	<button>BLOCK</button>
Nozha international hospital	pending	private	<button>BLOCK</button>

Figure 5.20

Admins can add new hospital data:

The screenshot shows the InCare interface. A modal window is open, prompting the admin to enter hospital details. The fields are: Enter Hospital's name, Enter E-mail, Enter Password, Enter Phone number, Enter hospital type, and Enter Address. Below these fields is a green "ADD" button. To the right of the modal, a preview of the added hospital is shown with the following information: Sheikh Zayed Specialized Hospital, sheikh43@gmail.com, 0238500926, Sheikh Zayed City, Giza Governorate, a "Decline" button, and an "Accept" button.

Figure 5.21

Hospital requests can be managed by admins:

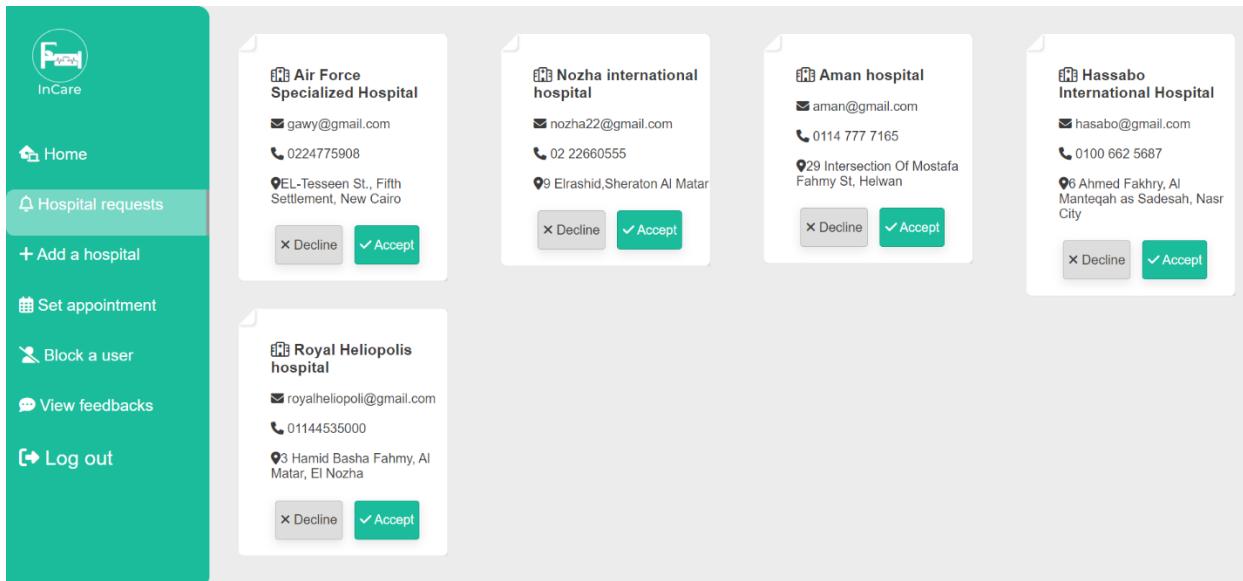


Figure 5.22

Only hospitals added by admins and accepted hospitals appear in the search results page, previously shown (figure 5.7).

Admins can set an appointment for the accepted hospitals as illustrated below:

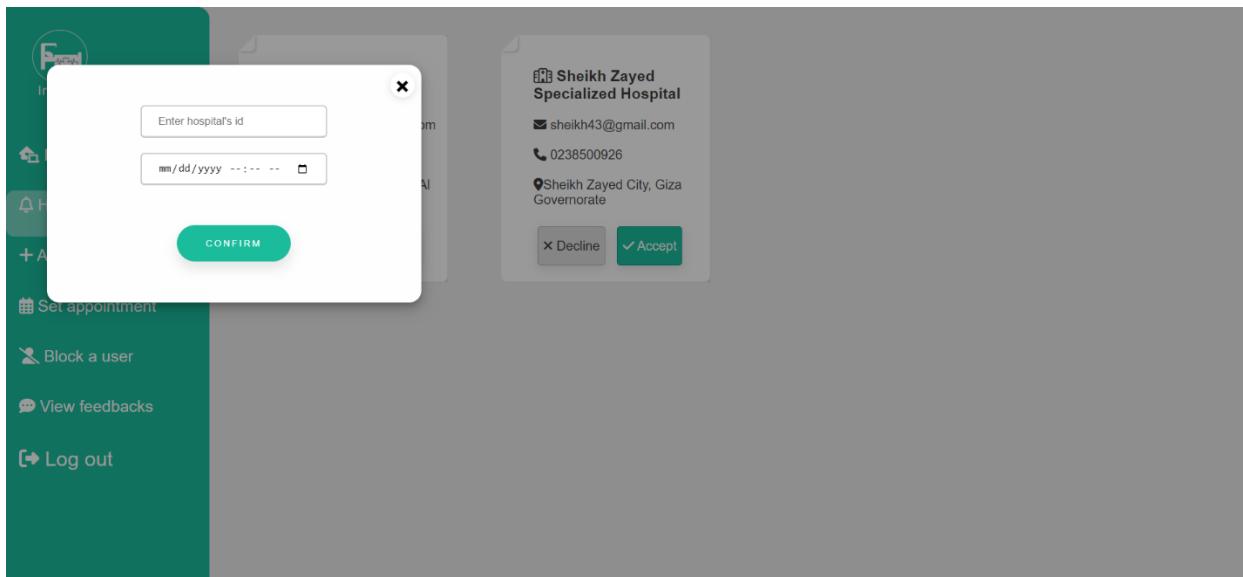


Figure 5.23

An admin can block any user using their unique email:

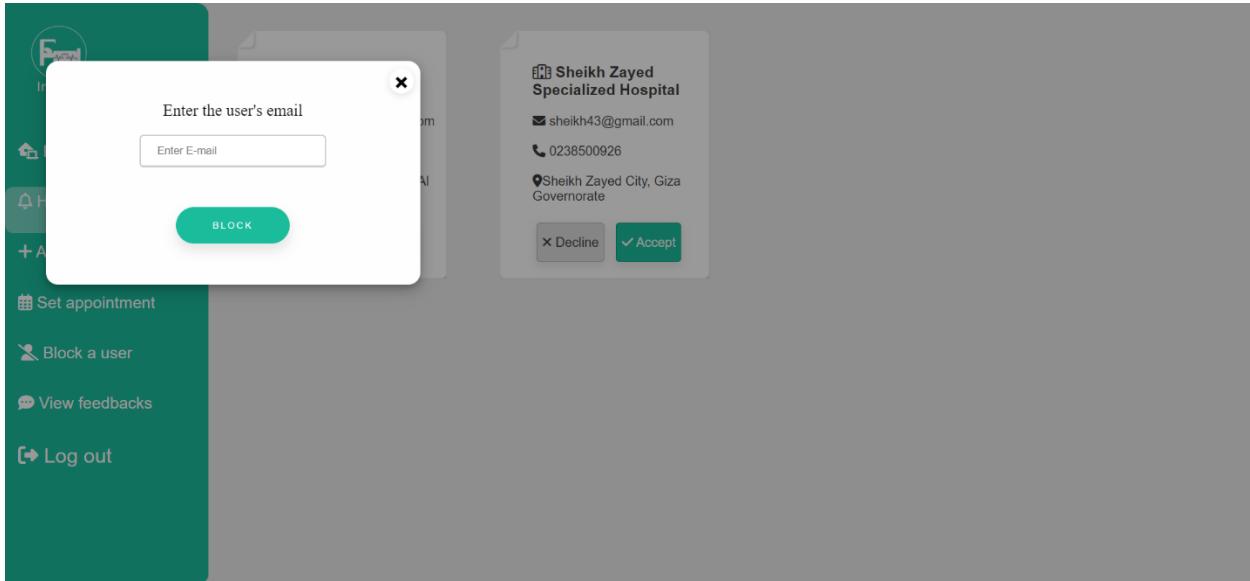


Figure 5.24

Admins can click log out to return to the log in page:

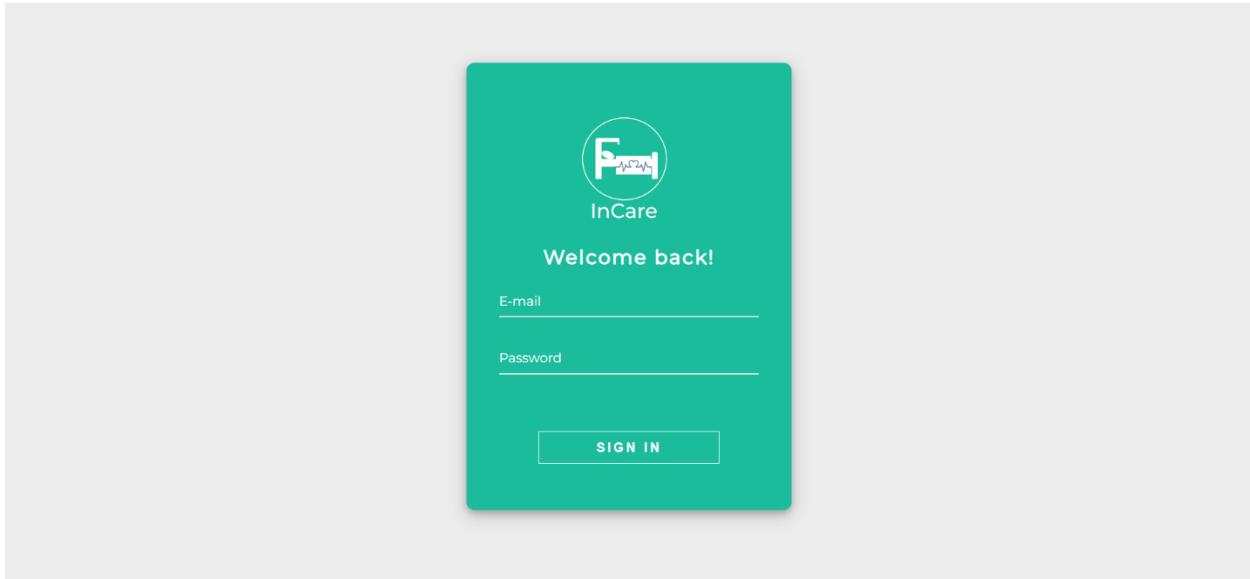


Figure 5.25

## 5.3 Routes

### 5.3.1 User Routes:

```

18 Route::get('/', function () {
19     | return view('home');
20 })->name('home');
21 Route::get('/search', [SearchController::class,'search'])->name('search');
22 Route::get('/search/{id}', [SearchController::class,'advsearch'])->name('advsearch');
23
24
25
26 //users
27
28 Route::middleware(['auth'])->group(function(){
29     /* Route::get('/reservee',function ()
30     {
31         })->name('reserveee');*/
32     Route::post('/reserve/{id}', [UserController::class,'reserveBed'])->name('reserve');
33
34     Route::get('users/profile/update',function(){
35         | return view('user.UpdateProfile');
36     });
37     Route::put('users/profile/update',[UserController::class,'updateprofile'])->name('updateProfile');
38
39     Route::get('/home', function () {
40         | return view('home');
41     })->name('home');
42
43     Route::post('/logout',[UserController::class,'destroy'])->name('logout');
44
45
46     Route::get('/profile', function () {
47         | return view('user.profile');
48     })->name('profile');
49
50 });
51
52 Route::get('/register', function () {
53     return view('auth.register');
54 })->name('registeruser');
```

Figure 5.26.1 user routes

```

56 Route::post('user/register',[UserController::class,'createuser'])->name('registerform');
57
58 Route::get('/login', function () {
59     | return view('auth.login');
60 })->name('login');
61 Route::post('/login',[UserController::class,'userlog'])->name('logform');
62 Route::get('/forgot-password', function(){
63     | return view('auth.forgot-password');
64 })->name('forgot-password');
65 Route::post('forget-password', [UserController::class, 'submitForgotPasswordForm'])->name('forget.password.post');
66 Route::get('reset-password/{token}', [UserController::class, 'showResetPasswordForm'])->name('reset.password.get');
67 Route::post('reset-password', [UserController::class, 'submitResetPasswordForm'])->name('reset.password.post');
68 Route::get('/profile/edit', function () {
69     | return view('user.UpdateProfile');
70 })->name('profile.edit');
71
72
73
74
75 Route::get('/profile/password', function () {
76     | return view('user.UpdatePassword');
77 })->name('profile.password');
78
79 Route::get('/profile/feedback', function () {
80     | return view('user.FeedBack');
81 })->name('user.Feedback');
82 Route::post('/feedback', [UserController::class,'sendFeedback'])->name('feedback');
83 Route::get('/profile/reservations', [UserController::class, 'cancelReservation'])->name('user.cancelReservation');
84 Route::get('/profile/reservations/{id}', [UserController::class, 'cancel'])->name('cancel');
85 Route::get('/profile/ambreservations/{id}', [UserController::class, 'cancelAmb'])->name('cancelAmb');
86 Route::get('/profile/histories', [UserController::class, 'viewHistory'])->name('userReservationHis');
87 Route::put('/profile', [ProfileController::class, 'update'])->name('profile.update');
88 Route::get('/profile/viewResponse', [UserController::class, 'viewResponse'])->name('response');
89 Route::post('/profile/request/{id}', [UserController::class, 'requestAmb'])->name('requestAmbo');
90
91 require __DIR__ .'/admin.php';
92 require __DIR__ .'/hospital.php';
```

Figure 5.26.2

### 3.3.2 Hospital Routes:

```
5
6 Route::get('hospitals/feedback',function () {
7     return view('Hospital.HosFeedback');
8 })->name('hospitalFeedback');
9 Route::get('/hregister', function () {
10    return view('Hospital.register');
11 })->name('registerhospital');
12 Route::post('hospital/register',[HospitalController::class,'createhospital'])->name('hospitalregister');
13 Route::get('hospitals/viewresponse', [HospitalController::class,'viewresponse'])->name('hospitalViewres');
14 Route::post('hospitals/sendfeedback', [HospitalController::class,'sendFeedback'])->name('sendfeedback');
15 Route::get('hospitals/bedReq', [HospitalController::class,'viewBedReq'])->name('reservationRequests');
16 Route::get('hospitals/ambReq', [HospitalController::class,'viewAmbReq'])->name('ambulanceRequests');
17 Route::get('hospitals/acceptres/{id}', [HospitalController::class,'acceptres'])->name('acceptres');
18 Route::get('hospitals/rejectres/{id}', [HospitalController::class,'rejectres'])->name('rejectres');
19 Route::get('hospitals/acceptreq/{id}', [HospitalController::class,'acceptreq'])->name('acceptreq');
20 Route::get('hospitals/rejectreq/{id}', [HospitalController::class,'rejectreq'])->name('rejectreq');
21 Route::get('hospitals/update', function(){return view('Hospital.HosUpdateProfile');})->name('hospital.update');
22 Route::put('hospitals/update', [HospitalController::class,'updateprofile'])->name('hospital.edit');
23
24 Route::prefix('hospital')->name('hospital.')->group(function(){
25     Route::get('hospital/Login',function(){return view('Hospital.log in');})->name('login');
26     Route::post('hospital/login',[HospitalController::class,'HosLog'])->name('logform');
27     Route::middleware(['auth:hospital'])->group(function(){
28         Route::post('/logout',[HospitalController::class,'destroy'])->name('logout');
29         Route::get('hospital/profile', function () {return view('Hospital.HosProfile');})->name('profile');
30         Route::get('hospital/home', function () {return view('home'); })->name('home');
31     });
32     Route::get('/forgot-password', function(){
33         return view('Hospital.recovery');
34     })->name('forgot-password');
35     Route::post('forget-password', [HospitalController::class, 'submitForgetPasswordForm'])->name('forget.password');
36     Route::get('reset-password/{token}', [HospitalController::class, 'showResetPasswordForm'])->name('reset.passwordlink');
37     Route::post('reset-password', [HospitalController::class, 'submitResetPasswordForm'])->name('reset.password');
38 });
39 
```

Figure 5.27

### 5.3.3 Admin Routes:

```
6
7 Route::get('admins/view', [AdminController::class,'showSubscriptions'])->name('ViewSubscriptions');
8 Route::get('admins/viewf', [AdminController::class,'showFeedbacks'])->name('viewFeedbacks');
9 Route::get('admins/hosblk/{$id}', [AdminController::class,'blockHospital'])->name('Hospital.block');
10 Route::get('admins/add', [AdminController::class,'addHospital'])->name('addHos');
11 Route::post('admins/setdate', [AdminController::class,'setdate'])->name('setdate');
12 Route::get('admins/blockUser', [AdminController::class,'blockUser'])->name('blockUser');
13 Route::get('admins/blockHos/{id}', [AdminController::class,'blockHos'])->name('blockHos');
14 Route::get('admins/accept/{id}', [AdminController::class,'acceptHos'])->name('accept');
15 Route::get('admins/decline/{id}', [AdminController::class,'rejectHos'])->name('decline');
16
17 Route::prefix('admin')->name('admin.')->group(function(){
18     Route::view('/login','Admin.log in')->name('login');
19     Route::post('/login',[Authcontroller::class,'store']);
20
21     Route::middleware(['auth:admin'])->group(function(){
22         Route::post('/logout',[Authcontroller::class,'destroy'])->name('logout');
23         Route::get('/home',[AdminController::class,'show'])->name('home');
24     });
25 });
```

Figure 5.28

## 5.4 Database tables

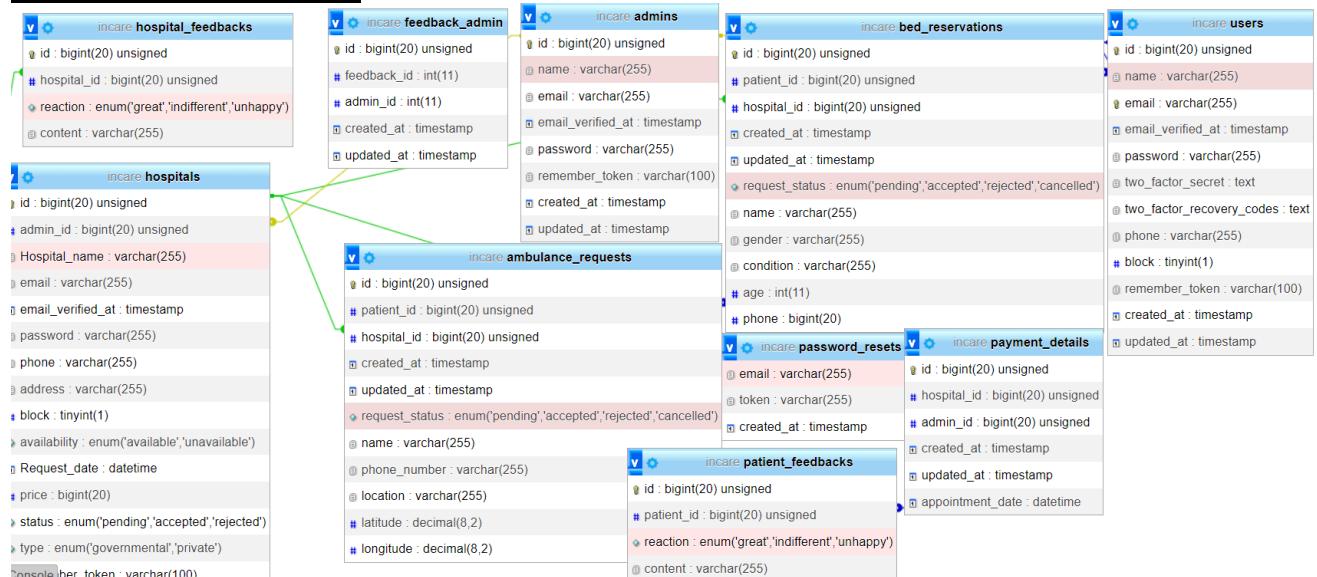


Figure 5.29

## Contact us section& footer:

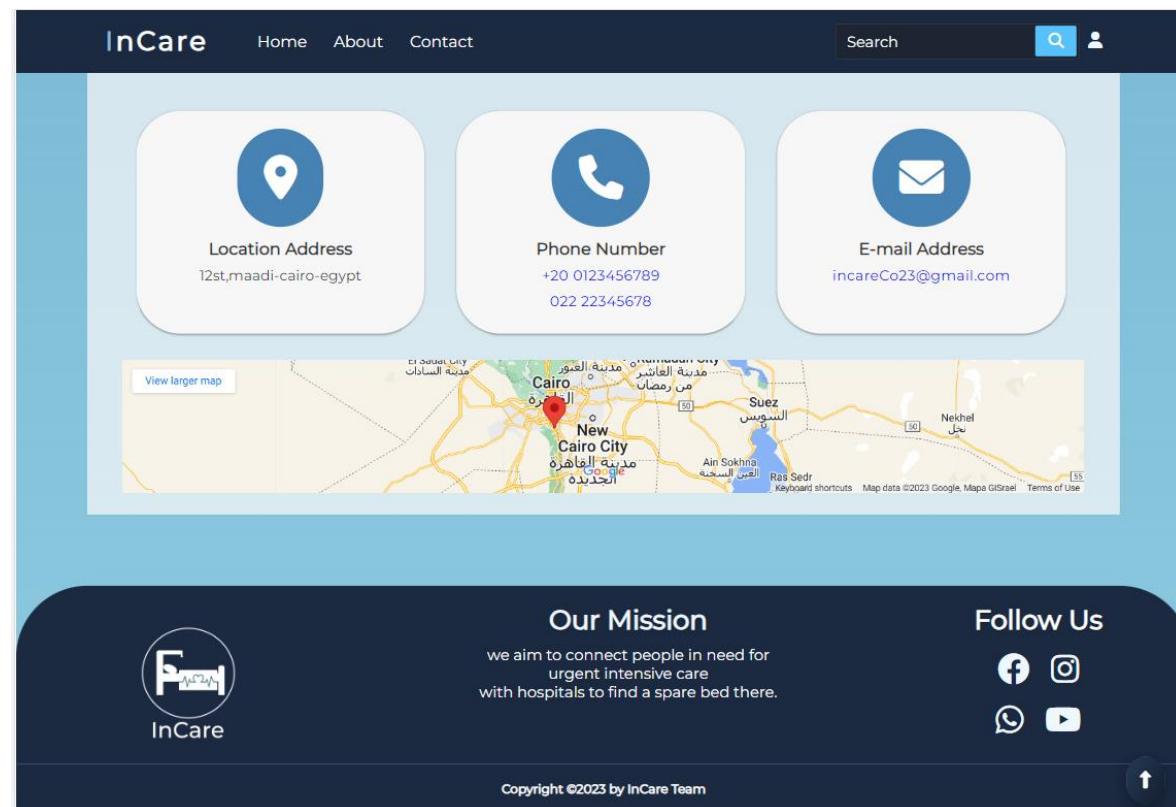


Figure 5.30

# **Chapter Six**

## **System Testing**

### **6.1 Aim of the chapter**

System Testing is a level of testing that validates the complete and fully integrated software product. The purpose of a system test is to evaluate the end-to-end system specifications. Usually, the software is only one element of a larger computer-based system. Ultimately, the software is interfaced with other software/hardware systems. System Testing is a series of different tests whose sole purpose is to exercise the full computer-based system.

**What do you verify in System Testing?**

System Testing involves testing the software code for following:

- Testing the fully integrated web application to check how components interact with one another and with the system as a whole. This is also called End to End testing scenario.
- Verify thorough testing of every input in the application to check for desired outputs.
- Testing of the user's experience with the application.

## 6.2 User registration form validation

```
48     | reference | 0 overrides
49     public function createuser(Request $request){
50         $validate = Validator::make($request->all(), [
51             'name' => 'required',
52             'email' => 'required|email|unique:users,email',
53             'password' => 'required|min:6|confirmed',
54             'password_confirmation' => 'required',
55             'phone' => 'required',
56         ], [
57             'name.required' => 'Name is must.',
58             'email.required' => 'email is must.',
59             'password.required' => 'password is must.',
60             'password.min' => 'password must have 6 char.',
61             'password.confirmed' => 'password must be matched.',
62             'password_confirmation.required' => 'confirmation is must .',
63             'phone.required' => 'phone is must.',
64             'email.email' => 'please enter valid email.',
65             'email.unique' => 'this email alredy exists.',
66         ]);
67         if($validate->fails()){
68             return back()->withErrors($validate->errors())->withInput();
69         }
70         User::create([
71             'name' => $request['name'],
72             'email' => $request['email'],
73             'password' => Hash::make($request['password']),
74             'phone' => $request['phone']
75         ]);
76         Auth::guard()->attempt($request->only('email','password'));
77
78         return redirect()->route('home');
79     }
80 }
```

Figure 6.1

The screenshot shows a registration form titled "Register". The form includes fields for Full Name, Email, Password, Confirm Password, and Phone Number. The Email field contains "nourmagdy574@gmail.com" and has an error message "this email alredy exists." The Phone Number field contains "0100 662 5687". A "SIGN UP" button is at the bottom, and a link for existing users to "Sign in" is also present.

Figure 6.2

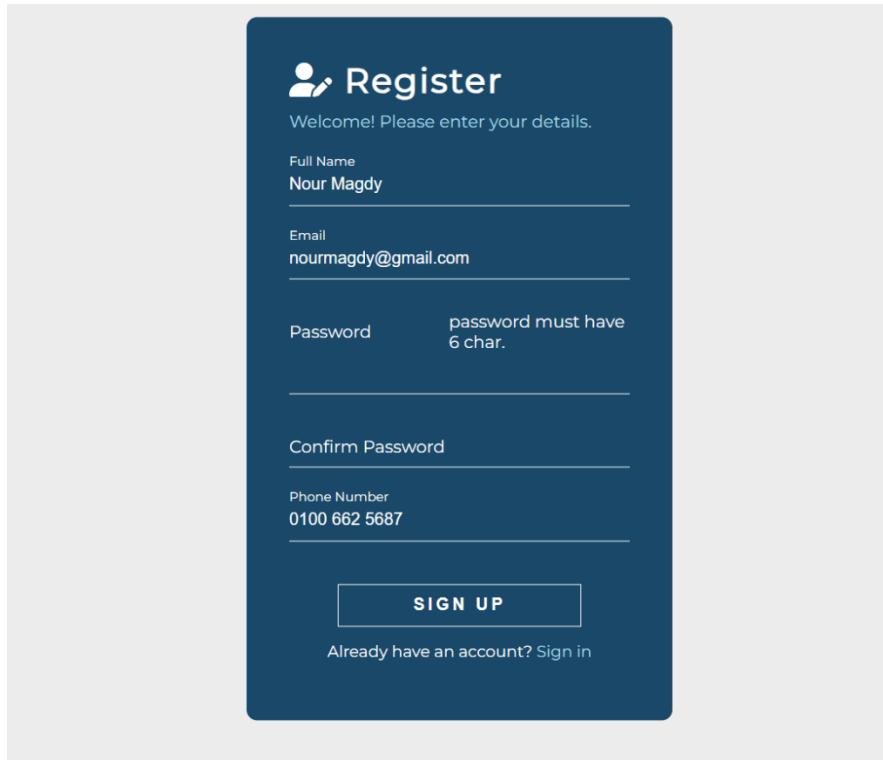


Figure 6.3

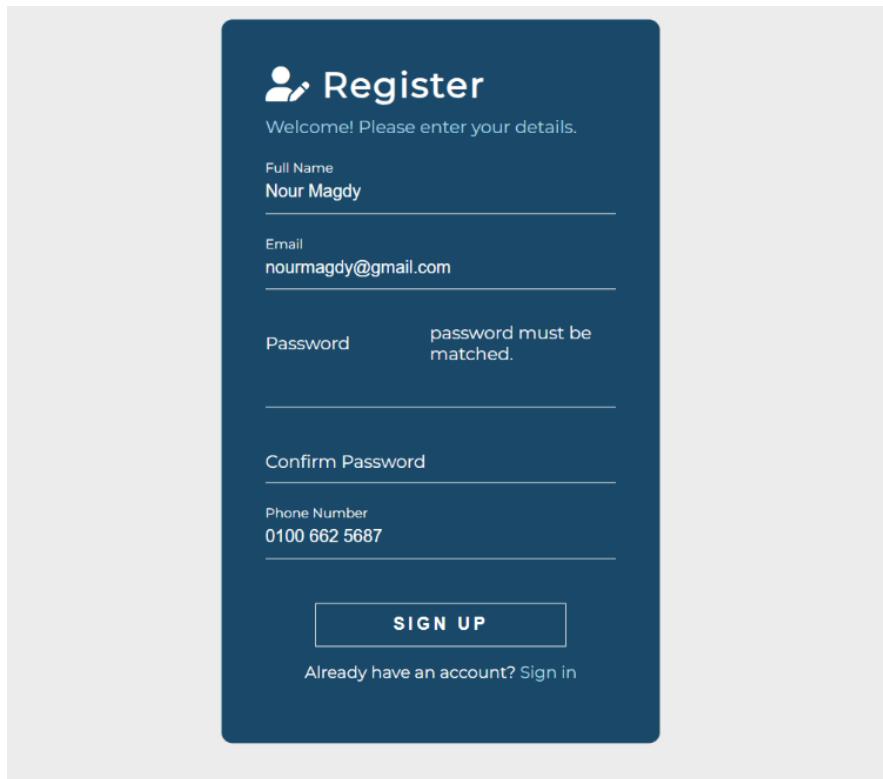
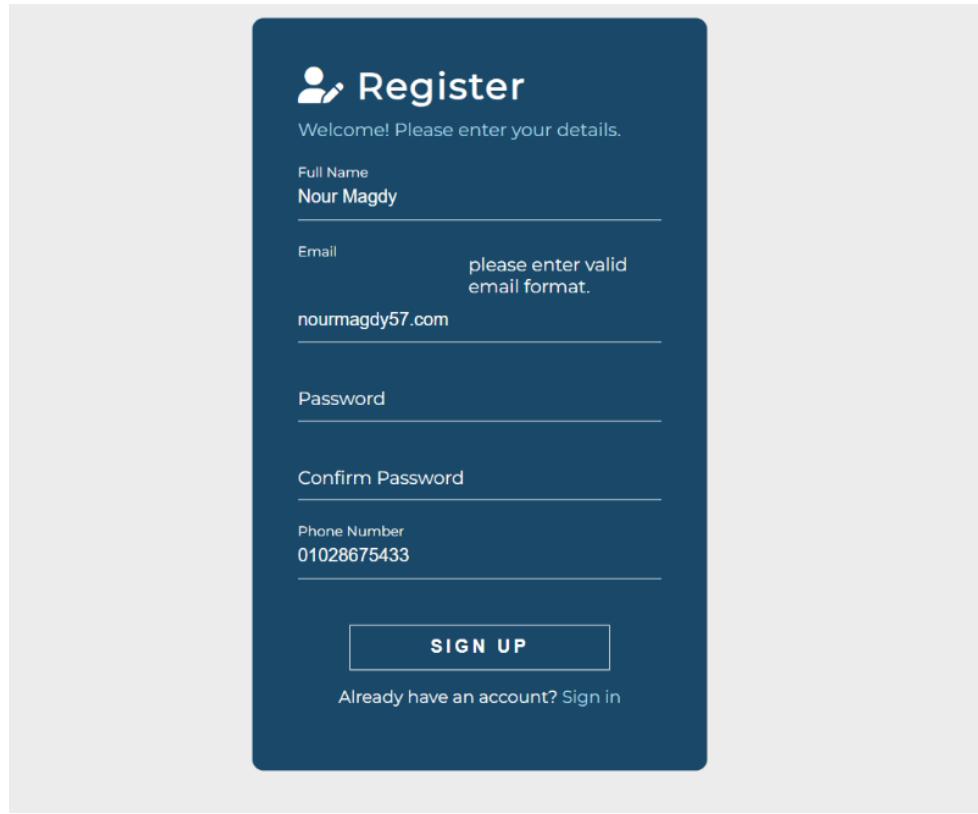


Figure 6.4



*Figure 6.5*

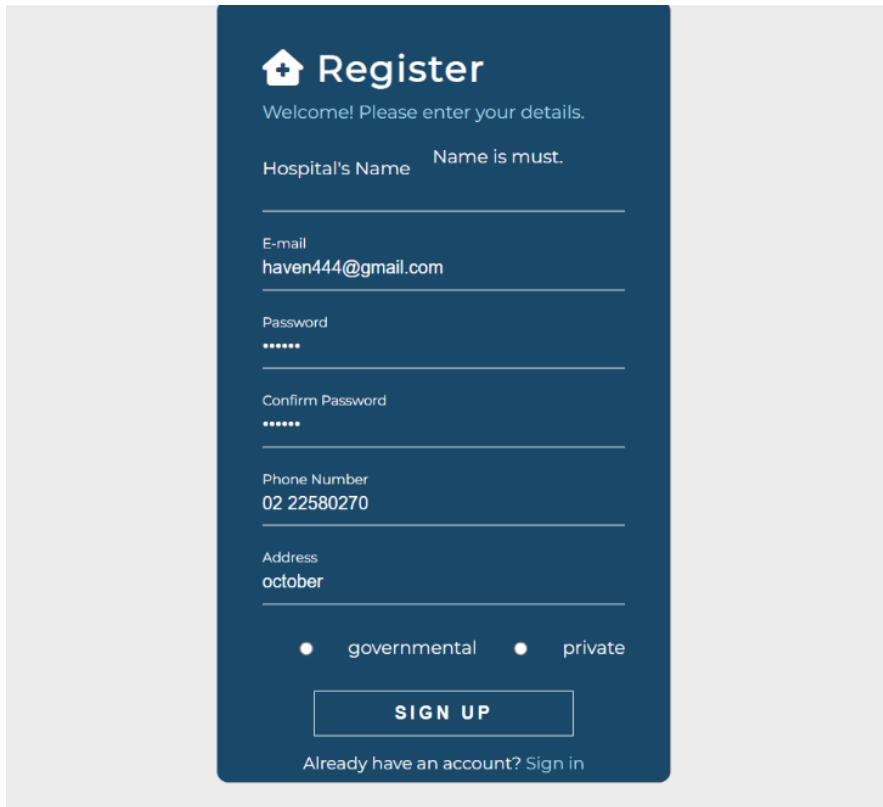
### **6.3 Hospital registration form validation**

```

42     public function createhospital(Request $request){
43         $validate = Validator::make($request->all(), [
44             'name' => 'required',
45             'email' => 'required|email|unique:hospitals,email',
46             'password' => 'required|min:6|confirmed',
47             'password_confirmation' => 'required',
48             'address' => 'required',
49             'phone' => 'required',
50             'type'=>'required',
51         ],[
52             'name.required' => 'Name is must.',
53             'email.required' => 'email is must.',
54             'password.required' => 'password is must.',
55             'password.min' => 'password must have 6 char.',
56             'password.confirmed' => 'password must be matched.',
57             'password_confirmation.required' => 'confirmation is must .',
58             'phone.required' => 'phone is must.',
59             'address.required' => 'address is must.',
60             'type.required' => 'type is must.',
61             'email.email' => 'please enter valid email.',
62             'email.unique' => 'this email already exists.',
63         ]);
64         if($validate->fails()){
65             return back()->withErrors($validate->errors())->withInput();
66         }
67         Hospital::create([
68             'admin_id'=>'1',
69             'Hospital.name' => $request['name'],
70             'email' => $request['email'],
71             'password' => Hash::make($request['password']),
72             'phone' => $request['phone'],
73             'address' => $request['address'],
74             'type'=>$request['type']
75         ]);
76         Auth::guard('hospital')->attempt($request->only('email','password'));
77
78         return redirect()->route('hospital.home');
79     }

```

*Figure 6.6*



*Figure 6.7*

## **6.4 Log in form validations**

```

1 reference | 0 overrides
23     public function HosLog(Request $request){
24         $hospital=Hospital::where('email',$request->email);
25         if($hospital->block='1'){
26             return redirect()->back()->with('error','This email is blocked');
27         }
28         $request->validate([
29             'email' => 'required|email|exists:hospitals',
30             'password' => 'required|exists:hospitals',
31         ],
32             [
33                 'email.required' => 'email is must.',
34                 'password.required' => 'password is must.',
35                 'email.exists'=>'wrong email',
36                 'password.exists'=>'wrong password'
37             ]
38         );
39         if(!Auth::guard('hospital')->attempt($request->only('email','password'))){
40             return redirect()->back()->with('error','Invalid Credentials');
41         };
42     }

```

*Figure 6.8*

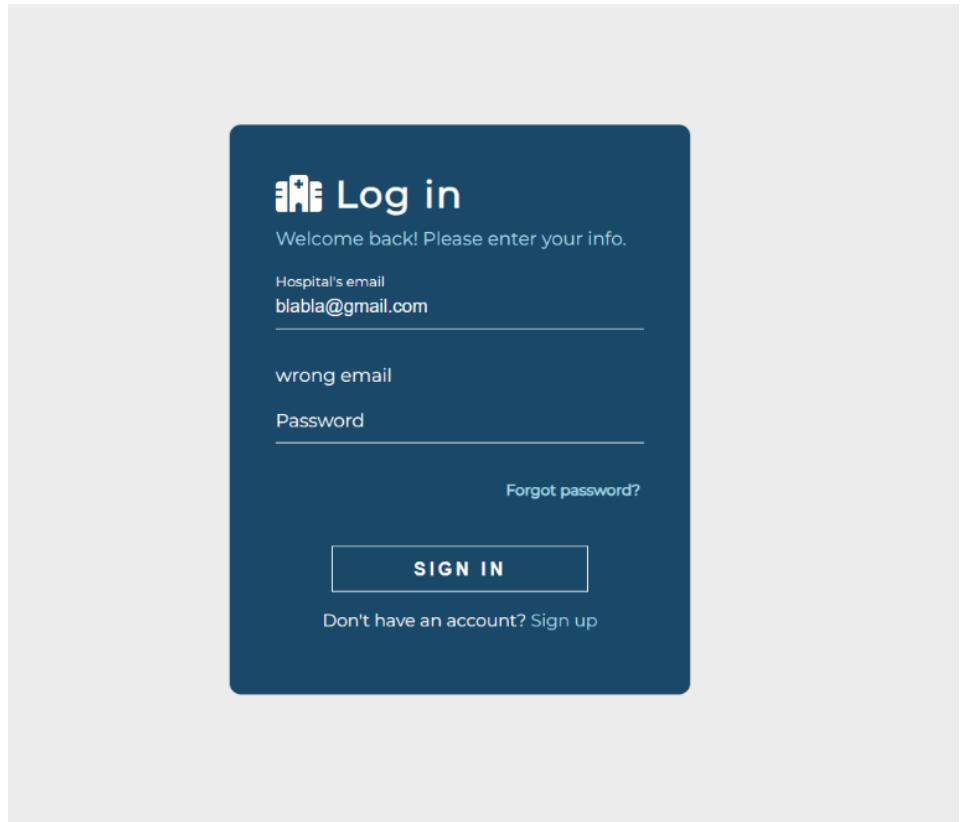


Figure 6.9

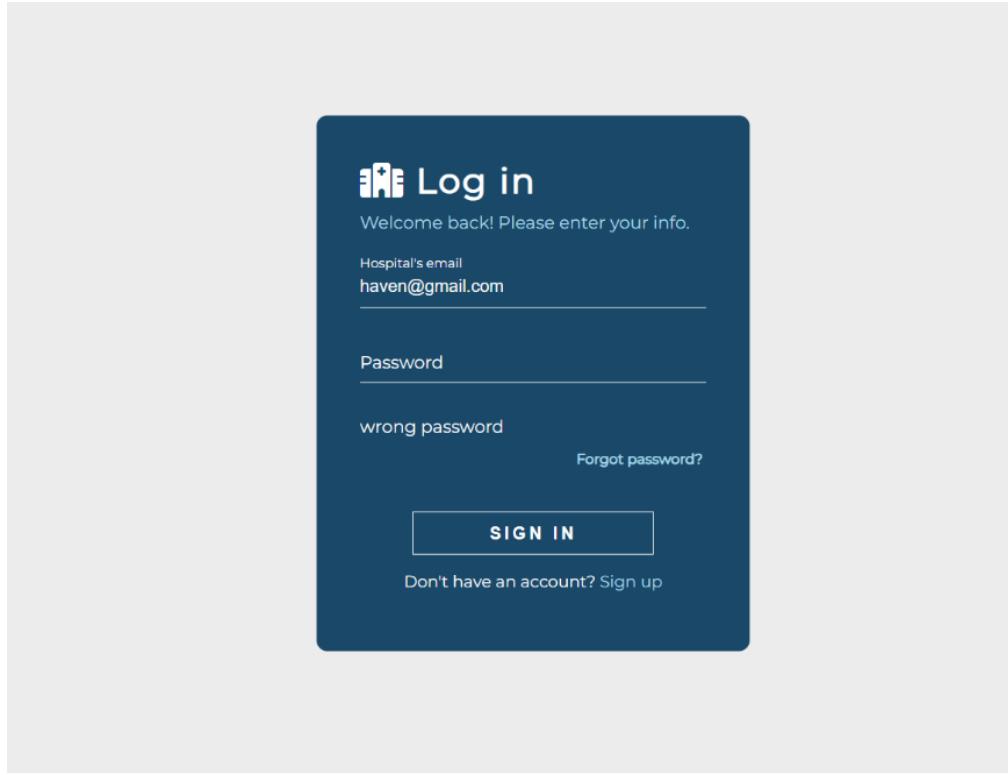


Figure 6.10

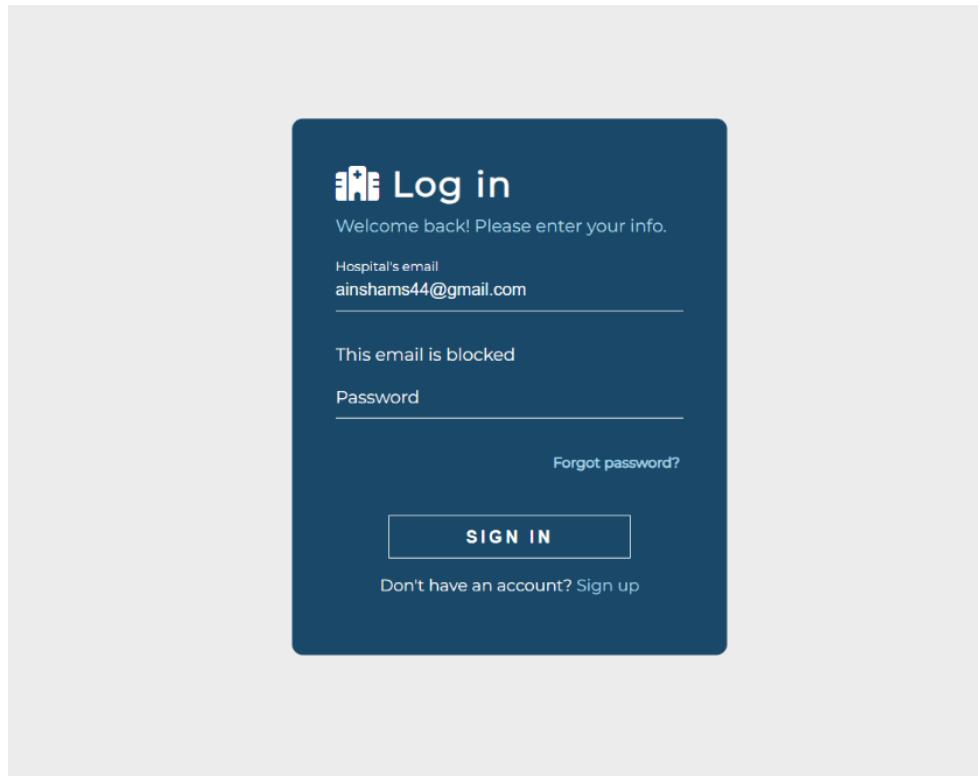


Figure 6.11

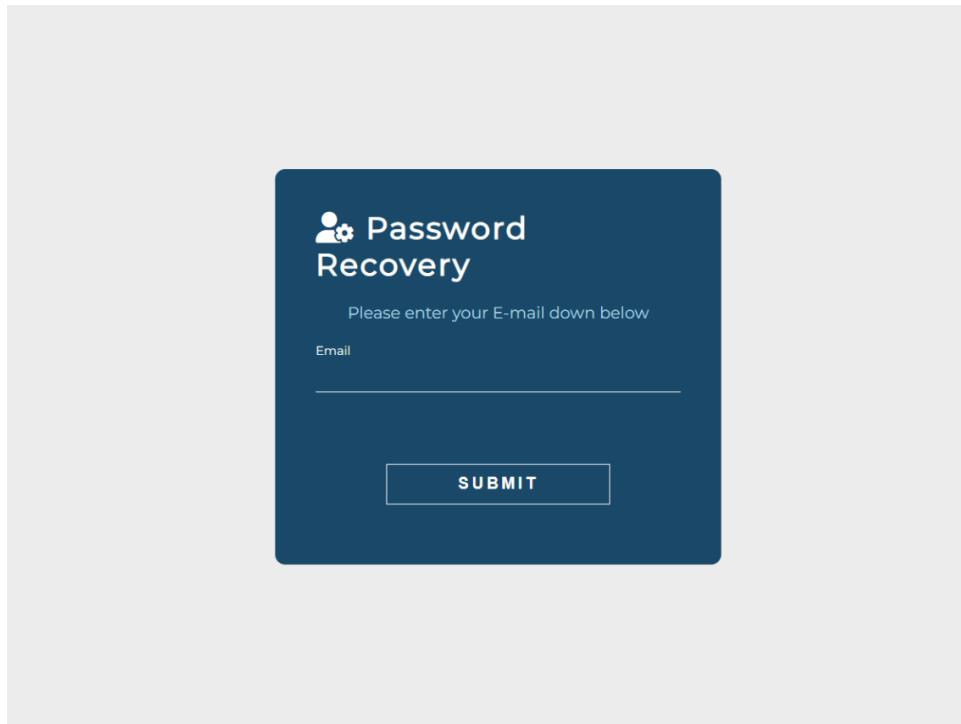


Figure 6.12

A reset password link is only valid for 1 hour, the user must update it in the update password page after signing in

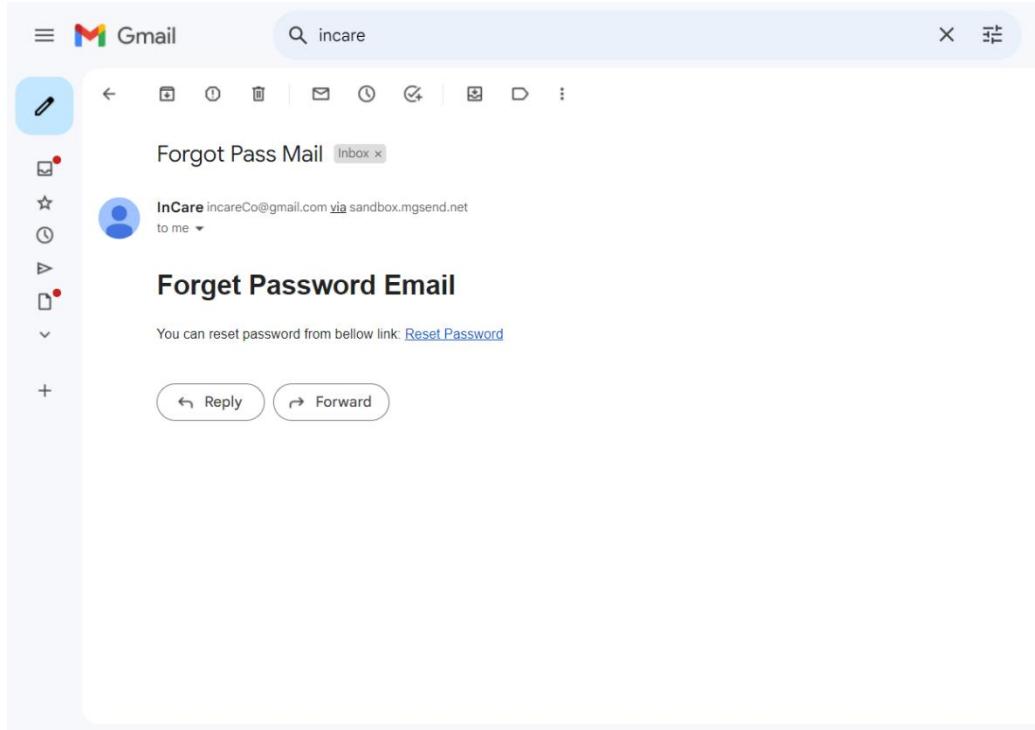


Figure 6.13

A password recovery form titled "Password Recovery". It features a user icon and the title "Password Recovery". Below the title is the instruction "Please enter your E-mail down below". There are three input fields: "Email", "New Password", and "confirm". Each field has a corresponding label above it. Below the "confirm" field is a large "RESET" button. At the bottom of the form is the text "Log in with the new password".

Figure 6.14

# **Chapter Seven**

## **Conclusion And Future Work**

### **7.1 Aim of chapter**

On this chapter we will explain our conclusion and future work and some of the features of our project that we didn't mention before.

### **7.2 Conclusion**

After implementing, and testing this system we planned and created a solid business plan for, we aim to change the search for ICU traditional ways completely using this easy-to-use web application that's in constant evolving due to the development of new technologies and making good use of our users' feedbacks to deliver better services and enhance the user experience.

### **7.3 Future work**

- Arabic version of the website.
- Expand our business to cover areas all over Egypt, not only Cairo.
- Include all the governmental hospitals in our web application.
- Develop mobile application for our project.
- Dark mode option.

## 7.4 Appendix

### Admin functions:

```
public function show(){
    $hospitals=Hospital::where('block','0')->get();
    return view('Admin.Dashboard',compact('hospitals'));
}
1 reference | 0 overrides
public function showSubscriptions(){
    $subscriptions=Hospital::all()->where('status','pending');
    return view('Admin.ViewSubscriptions',compact('subscriptions'));
}
1 reference | 0 overrides
public function showFeedbacks(){
    $HospitalFeedbacks=Hospital_feedback::with('Hospital')->get();
    $UserFeedbacks=Patient_feedback::with('User')->get();
    return view('Admin.viewFeedbacks',compact(['HospitalFeedbacks','UserFeedbacks']));
}
1 reference | 0 overrides
public function blockUser(Request $request){
    $email = $request->input('userMail');
    $user=User::where('email',$email);
    $user->update(['block'=>'1']);
    return redirect()->back();
}
1 reference | 0 overrides
public function blockHos($id){
    $hos=Hospital::where('id',$id);
    $hos->update(['block'=>'1']);
    return redirect()->back();
}
```

Figure 7.4.1

```
1 reference | 0 overrides
public function addHospital(Request $request){
    $request->validate(['email' => 'email|unique:hospitals,email']);
    Hospital::create([
        'admin_id' => '1',
        'Hospital_name' => $request->name,
        'email' => $request->email,
        'password' => Hash::make($request->pass),
        'phone' => $request->phone,
        'address' => $request->address,
        'type' => $request->type,
        'status' => 'accepted' ]);
    return redirect()->back();
}
1 reference | 0 overrides
public function setdate(Request $request){
    Payment_detail::create([
        'admin_id'=>auth()->guard('admin')->user()->id,
        'hospital_id' => $request->hospitalid,
        'appointment_date' => $request->paymentdetails]);
    return redirect()->back();
}
1 reference | 0 overrides
public function acceptHos($id){
    $hosp=Hospital::where('id',$id);
    $hosp->update(['status'=>'accepted']);
    return redirect()->back();
}
1 reference | 0 overrides
public function rejectHos($id){
    $hosp=Hospital::where('id',$id)->first();
    $hosp->update([
        'status'=>'rejected',
        'block'=>'1'
    ]);
    event(new WelcomeHos($hosp));
    return redirect()->back();
}
```

Figure 7.4.2

Rejected hospitals receive the following mail:

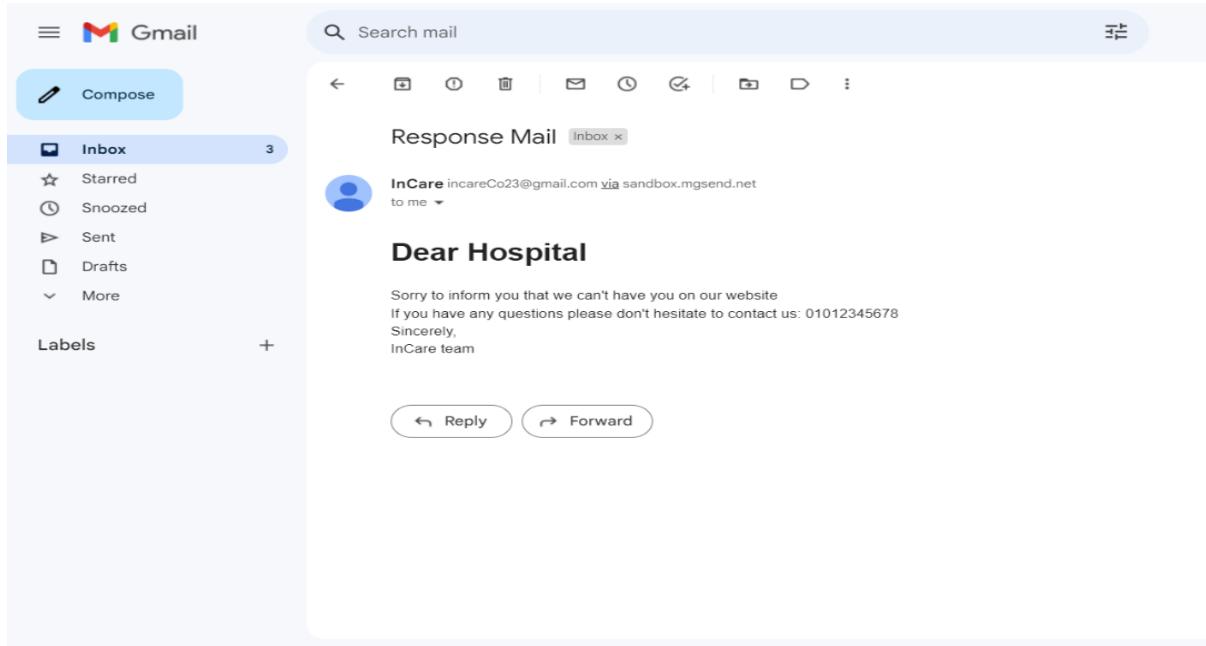


Figure 7.4.3

InCare features:

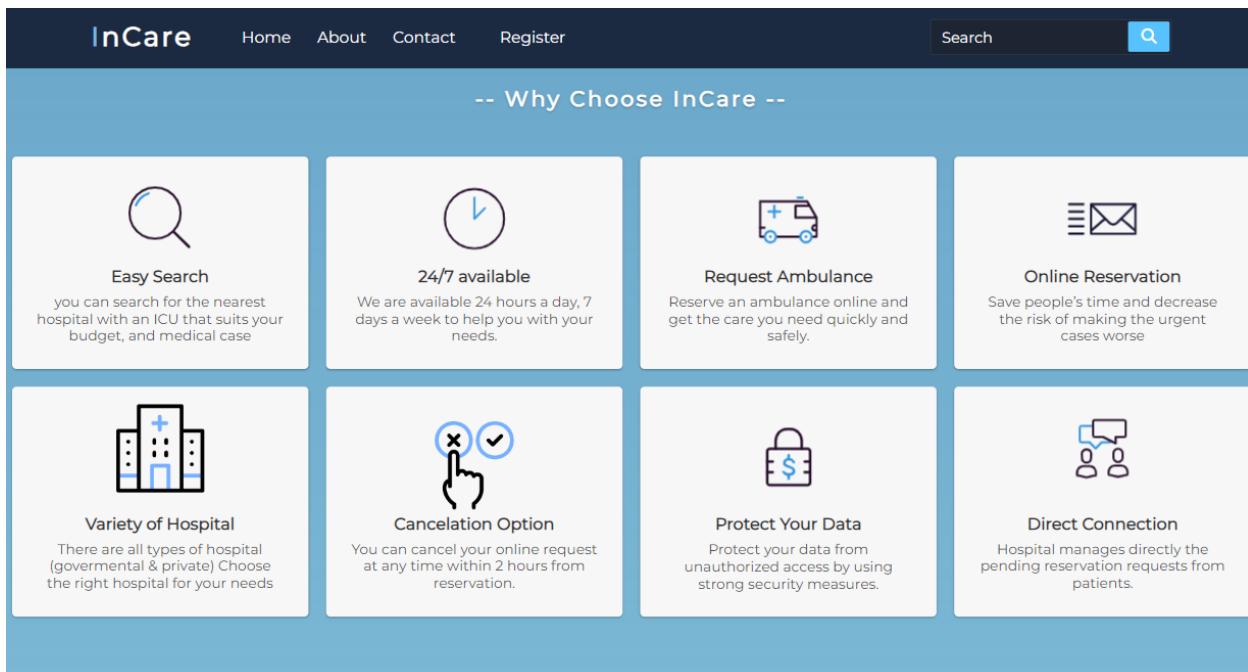
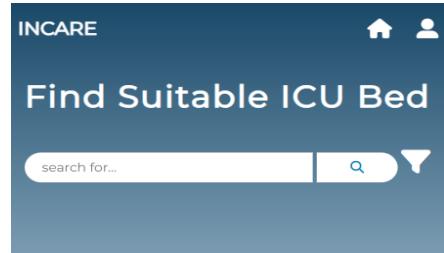


Figure 7.4.4

InCare is a mobile-friendly website. Responsive design snippets:



Figure 7.4.5 About Us in homepage



Search Results For "hospital": (18)

**Dar Al-Fouad Hospital**

private

📍 Location: 26 July St., 6th of October City

📞 Phone: 01119983339

👉 Price: 6000 per day

available

**Reserve Bed**

**Haven hospital**

private

Figure 7.4.6 Search Page

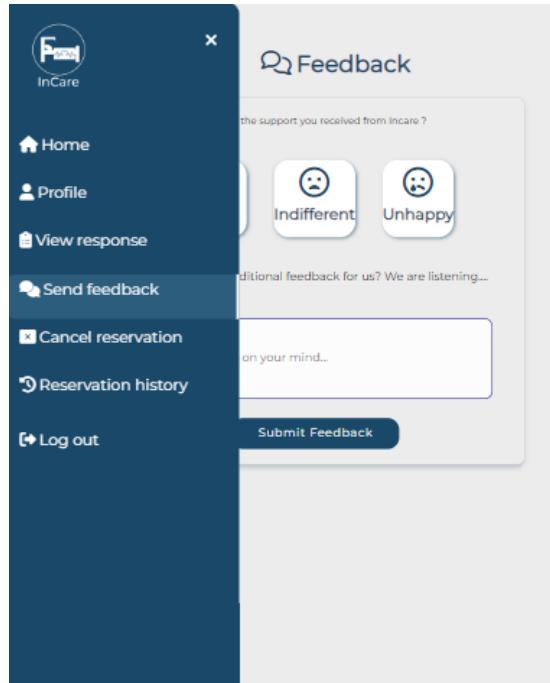


Figure 7.4.7 Dashboard responsive sidebar

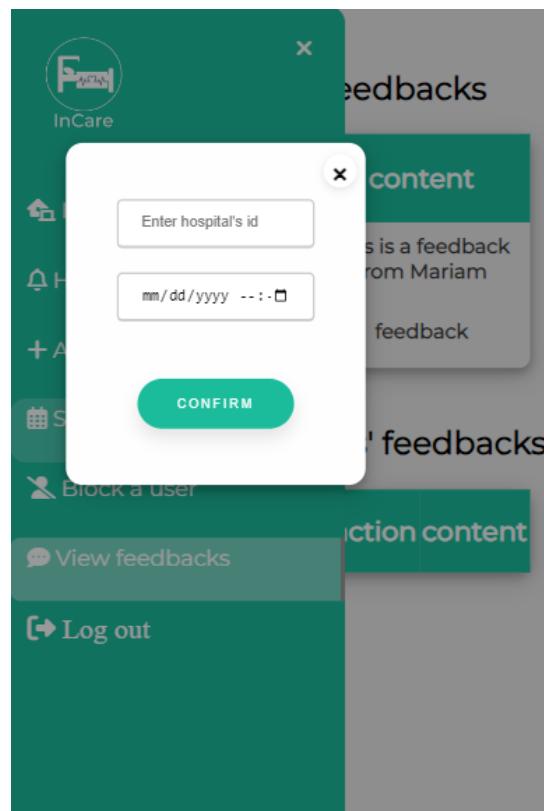


Figure 7.4.8 set appointment to hospital from admin's dashboard

## **7.5 References**

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