

## TRƯỜNG ĐẠI HỌC FPT

# FPT UNIVERSITY

## Capstone Project Document

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Nursing Home Management System  
Connecting Families - Enhancing Care Efficiency  
(CareConnect)

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Finally, a special thanks to Ms. Vũ Thị Thùy Dương, our direct supervisor who provided extensive support in areas.

Last but not least, we want to thank our family and friends who supported us throughout this project.

We acknowledge that due to our lack of experience and unfamiliarity with certain technologies used in the project, mistakes were inevitable. We hope that people will overlook and forgive any errors or shortcomings.

Thank you for your unwavering support.

Regards.

## Definition and Acronyms

Table 01 - Acronym and Definition

Acronym	Definition
PWM	Psychology website
AWS	Amazon Web Services
BA	Business Analysis
BR	Business Rule
ERD	Entity Relationship Diagram
GUI	Graphical User Interface
PM	Project Manager
SDD	Software Design Description
SPMP	Software Project Management Plan
SRS	Software Requirement Specification
UAT	User Acceptance Test
UC	Use Case
API	Application Program Interface

# I. Project Introduction

## 1. Overview

### 1.1 Project Information

- Project name: NHMS: Connecting Families - Enhancing Care Efficiency
- Project code: SU24SE035
- Group name: GSU24SE20
- Software type: Web Application, Mobile Application.

### 1.2 Project Team

Table 02 - Project Team

Full Name	Role	Email	Mobile
Vũ Thị Thùy Dương	Supervisor	duongvtt9@fe.edu.vn	
Nguyễn Văn Toàn	Leader	toannvse150463@fpt.edu.vn	0386 218 039
Lương Huỳnh Ngọc Hảo	Member	haolhnse150758@fpt.edu.vn	0912 201 924
Houang Gia Thành	Member	thanhhgse161051@fpt.edu.vn	0797 302 368
Lê Thị Thảo My	Member	mylttse161097@fpt.edu.vn	0373 615 702

## 2. Product Background

With the average life expectancy increasing. Many families want to give the elderly a peaceful time. However, many families find it difficult to care for the elderly at home due to time constraints and lack of caregivers.

This has led to an increasing number of elderly people being admitted to nursing homes. Because many families want their elderly to have a comfortable, suitable environment and have caregivers to monitor their health. This leads to problems for the staff in the nursing home in managing customer information, elderly people, contract information, etc. Because of that, it can delay the operation of the nursing home.

The concern of every family with the nursing home, that is the problem of monitoring the health of the elderly, many families want to know how the health of the elderly is, they have to call, go to the place or wait for a call from the nursing home to be able to grasp the health situation, which leads to monitoring the health of the elderly becoming passive and not meeting the needs of customers.

To solve these challenges, applying technology to nursing home management is a practical and effective solution.

## 3. Existing Systems

### 3.1 HioCare

- **Brief descriptions:** HioCare is an application that provides support functions for scheduling services for the elderly and scheduling visits.

- **Reference:**

- Website: <https://hiocare.vn/>

- Google Play: <https://play.google.com/store/apps/details?id=com.eldicare.eldicare>
- App Store: <https://apps.apple.com/vn/app/hiocare/id6466456429?l=vi>

**- Main features:**

- Set service schedule and service delivery time.
- Monitor the status of the service.
- Information on service packages.

**- Advantages:**

- The application has a friendly interface, convenient for customers to use.
- Specific and detailed registration form.

**- Disadvantages:**

- Does not support monitoring the health status of the elder.
- Does not support service evaluation.
- No information about the nurse is provided

## 4. Business Opportunity

Growing elderly population: VCCI Vietnam's Elderly Care Services Market Outlook Report highlights a promising market for elderly care services, which is expected to grow to 20 million potential customers by 2035. This leads to increased demand for elder care services, including nursing home services.

The nursing home market is currently being targeted, customer needs are no longer aimed at facilities but more towards monitoring the health of the elderly and providing rich and appropriate services.

## 5. Software Product Vision

In a world where families feel connected and empowered, no matter the distance, ensuring the well-being of their loved ones in nursing homes. Through our innovative platform, families can effortlessly access crucial information, seamlessly manage care services, and stay emotionally close, fostering a sense of peace and security for all.

## 6. Project Scope & Limitations

### 6.1 Major Features

- FE-01: Register
- FE-02: Login
  - Change password
  - Forgot password
  - Logout
- FE-03: Manage account information
  - View account information
  - Update account information
- FE-04: Manage room and block
  - View list of rooms and blocks
  - View detail of room and block
  - Create room and block
  - Update room and block
- FE-05: Manage customer
  - View list of customers
  - View detail of customer

- Create customer
  - Update customer
- FE-06: Manage elder
  - View list of elders
  - View detail of elder
  - View contract information of elder
  - View medical record of elder
  - Create elder
  - Update elder
- FE-07: Manage contract information
  - View list of contracts information
  - View detail of contract information
  - Create contract information
  - Renew contract information
  - Cancel contract information
- FE-08: Manage appointment
  - View list of appointments
  - Create visitation appointment
  - Create renew contract information appointment
  - Create cancel contract information appointment
  - Create complete procedures appointment
- FE-09: Manage nursing package
  - View list of nursing packages
  - View detail of nursing package
  - Create nursing package
  - Update nursing package
  - Delete nursing package
- FE-10: Manage service package
  - Manage service category
    - View list of service categories
    - Create service category
    - Delete service category
  - Create service package
  - Update service package
  - Delete service package
  - Confirmation of service completion
- FE-11: Manage employee
  - View list of employees
  - View detail of employee
  - Create employee
  - Update employee
  - Delete employee
- FE-12: Care schedule
  - View care schedule of nurse
  - Create care schedule
- FE-13: Manage order
  - View list of orders

- View detail of order
  - Payment
- FE-14: Manage feedback
  - View list of feedbacks
  - View detail of feedback
  - Create feedback
- FE-15: Manage potential customer
  - View list of potential customers
  - View detail potential customer
  - Create potential customer
  - Feedback potential customer
- FE-16: Manage health report
  - Manage health category
    - View list of health categories
    - View detail of health category
    - Create health category
    - Update health category
    - Delete health category
  - Create health report
- FE-17: Notification
  - Notification of contract expiry
  - Notification of health report was created
  - Notification of continuous service next month
- FE-18: Payment
  - Payment order by VnPAY
  - Payment order by Momo

## 6.2 Limitations

- LI-01: Not available on IOS operating system
- LI-02: Performance is not optimal
- LI-03: The issue of health notification still depends on the nurse when creating the health report to notify.
- LI-04: Only supports Vietnamese language

# II. Project Management Plan

## 1. Overview

### 1.1 Scope & Estimation

Table 03 - Scope & Estimation

#	WBS Item	Complexity	Est. Effort (man-days)
1	<b>Research, Implement and Collect Requirements</b>		<b>17</b>
1.1	Define background and context of product	Simple	1
1.2	Find problems of users	Medium	2
1.3	Existed system analysis	Medium	4

1.4	Research and implement Momo	Medium	4
1.5	Research and implement VN Pay	Medium	2
1.6	Research and implement OTP authentication with Firebase	Medium	2
1.7	Research and implement Firestore with Firebase	Medium	2
<b>2</b>	<b>Project Planning &amp; Training</b>		<b>16</b>
2.1	Define scope	Medium	2
2.2	Set and prioritise objective	Medium	2
2.6	Learn .NET API framework	Simple	4
2.7	Learn ReactJS framework	Simple	4
2.8	Learn React-Native framework	Simple	4
<b>3</b>	<b>Common</b>		<b>18</b>
3.1	Set up to build source version control	Simple	1
3.2	Set up back-end deployment	Medium	2
3.3	Set up Vercel and refactor Node.js version to deploy front-end	Complex	4
3.4	Set up baseline source code for back-end with .NET	Medium	3
3.5	Set up baseline source code for front-end with React.js	Medium	3
3.6	Set up baseline source code for mobile with ReactNative	Medium	3
3.7	Set up Firebase	Medium	2
<b>4</b>	<b>Document writing</b>		<b>31</b>
4.1	Write project introduction	Medium	2
4.2	Write project management plan	Medium	3
4.3	Write software requirement specification	Complex	5
4.4	Write software design document	Complex	7
4.5	Write test document	Complex	7
4.6	Write user guide document	Medium	3
4.7	Write final document	Medium	4
<b>5</b>	<b>Interface Design</b>		<b>20</b>
5.1	Design web application interface	Complex	10

5.2	Design mobile application interface	Complex	10
<b>6</b>	<b>Implementation</b>		<b>182</b>
6.1	Web Application for Director	Complex	20
6.2	Web Application for Manager	Complex	44
6.3	Web Application for Staff	Complex	50
6.4	Mobile Application for Nurse	Complex	30
6.5	Mobile Application for Customer	Complex	38
<b>7</b>	<b>Testing</b>		<b>21</b>
7.1	Unit Test	Medium	5
7.2	Integration Test	Complex	8
7.3	System Test	Complex	8
<b>8</b>	<b>Closing</b>		<b>8</b>
8.1	Maintenance	Medium	4
8.2	Prepare slides for thesis defence	Medium	4

**Total Estimated Effort (man-days)**      **313**

## 1.2 Project Objectives

*Table 04 - Project Objectives*

#	Testing Stage	No. of Defects	% of Defect	Notes
01	Integration Test	< 20	27%	
02	System Test	< 15	15%	

## 1.3 Project Risks

*Table 05 - Project Risks*

#	Risk Description	Impact	Possibility	Response Plans
01	The team underestimated the level of technical complexity and the expertise required to implement certain features.	High	Low	Collaborate with the development team to reevaluate the project requirements and constraints.
02	The group determined that the scope of the topic was too broad, leading to reduced progress and incomplete completion.	High	Medium	Discuss with mentor about the scope of the topic

03	Problems deploying the product on the server	High	High	Search for backup servers when a server fails
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## 2. Management Approach

### 2.1 Project Process

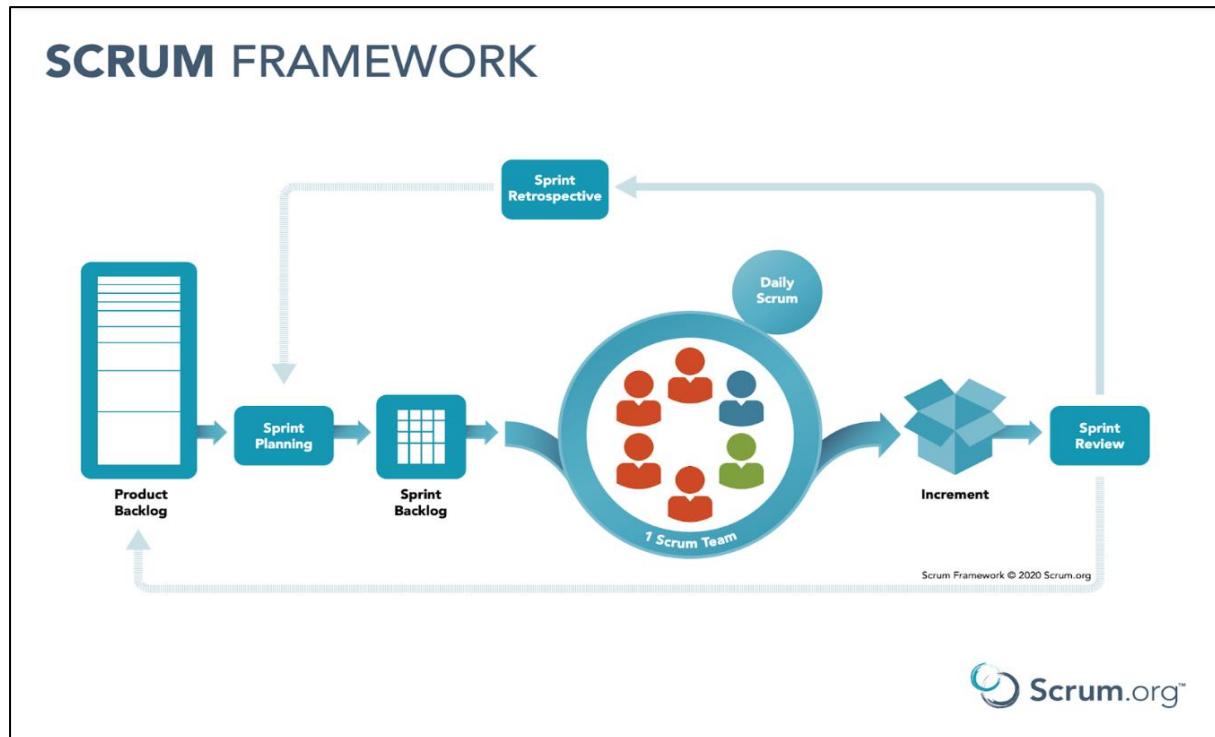


Figure 01 - [The Scrum Framework Process](#)

The CareConnect project has chosen to implement the Scrum model as an Agile framework for software development due to several key reasons.

- Firstly, it enables the team to collaboratively decide on what tasks to undertake, who will handle them, and how they will be accomplished, fostering a sense of ownership and accountability. This approach empowers team members to manage their work effectively, leading to the resolution of complex problems with increased agility and the attainment of superior results.
- Secondly, the project benefits from being composed of a cross-functional team comprising individuals with diverse expertise, all working together towards a common goal. This diversity allows for comprehensive problem-solving and innovative solutions.
- Thirdly, Scrum's simplicity and clarity make it easy for the team to grasp, follow, and organise tasks efficiently. Additionally, it facilitates flexibility, allowing for early adjustments to design or specification changes as needed during the development process.
- Lastly, the flexibility of Scrum enables the team to convene either in person or online, ensuring seamless communication and collaboration regardless of physical location.

## 2.2 Quality Management

### - .NET Coding Conventions

- Convention of name:
  - For the variable's name, use camelCase. Example: routeType, nextStation, etc.
  - For function name, class name, use PascalCase. Example: GetAllStations, GetCurrentLocation, etc.
- Convention of layout:
  - Write only one statement/declaration per line.
  - Indent continuation one tab stop (four spaces).
  - Add at least one blank line between method definitions and property definitions.
  - Use parentheses to make clauses in an expression apparent.
- Using C# Code Convention From: [C# convention](#)

### - Reactjs Coding Convention

- Convention of name:
  - Use PascalCase for component names (e.g., MyComponent.jsx).
  - Use lowercase with hyphens for file names for non-component files (e.g., my-component.js).
  - Name other identifiers using lowerCamelCase
- Convention of layout:
  - Avoid lines longer than 80 characters
  - Use curly braces for all flow control statements
  - Format code using dart format

Using Reactjs Convention From: [Reactjs convention](#)

## 2.3 Training Plan

Table 06 - Training Plan

Training Area	Participants	When, Duration	Waiver Criteria
Working process	All members	Week 1 - 1 day	Mandatory
Source version control (Git, Sourcetree)	All members	Week 1 - 1 day	Mandatory
Project baselined source code	All members	Week 1 - 1 day	Mandatory

## 3. Project Deliverables

Sprint backlog: [Sprint backlog](#)

## 4. Responsibility Assignments

Table 07 - Responsibility Assignments

Responsibility	Nguyễn Văn Toàn	Lương Huỳnh Ngọc Hảo	Houang Gia Thành	Lê Thị Thảo My
Back-end for system		x		
Front-end web	x		x	

Mobile app	x			x
Server		x		
Others	x	x	x	x

## 5. Project Communications

Table 08 - Project Communications

Communication Item	Who/Target	Purpose	When, Frequency	Type, Tool, Method(s)
Working in group	Team member	- Do remote work - Discuss about documents and code - Raise opinions, problems - Report working status to leader - Evaluate progress and result	6 days/week	Face to face, Google Meet, Messenger
Working with advisor	Supervisor	- Review documentation - Review works - Give orientation - Give feedback - Evaluate progress and result	1 days/week	Face to face, Google Meet, Zalo

## 6. Configuration Management

### 6.1 Document Management

- Use Google Drive to manage project documentation.
- Upload diagrams, images, media to categorised folders for easy management.

Reference: [NHMS Drive](#)

### 6.2 Source Code Management

- We use GitHub to store source code and divide it into Front-end and Back-end, Mobile sources. It allows members to collaborate on source code efficiently and conveniently and easily resolve conflicts, especially useful when looking back and quickly identifying changes that collaborators have made.
- We set these rules when using Git:
  - Consider carefully and take responsibility before pushing code to the repository.
  - Take detailed, clear notes when pushing code to the repository.
  - Fetch, review, and resolve common merge conflicts.

### 6.3 Tools & Infrastructures

Table 09 - Tools & Infrastructures

Category	Tools / Infrastructure
Technology	React 18.3.1 (Front-end), React-Native 51.0.2 (Mobile App), ASP.NET 8 (Back-end)
Database	MySQL
IDEs/Editors	Visual Studio Code, Visual Studio 2022
Diagramming	DrawIO, Visual Paradigm
Documentation	MS Office 2016, Google Docs/Sheets/Slides
Version Control	GitHub(Source Codes), Google Drive (Documents)
Deployment server	Digital Ocean, Vercel
Project management	Google Sheets

## III. Software Requirement Specification

### 1. Product Overview

Nursing home management system: Connecting families - Improving care efficiency (CareConnect) is an application that helps users monitor the health status of elderly people in nursing homes, besides Users can purchase service packages for the elderly.

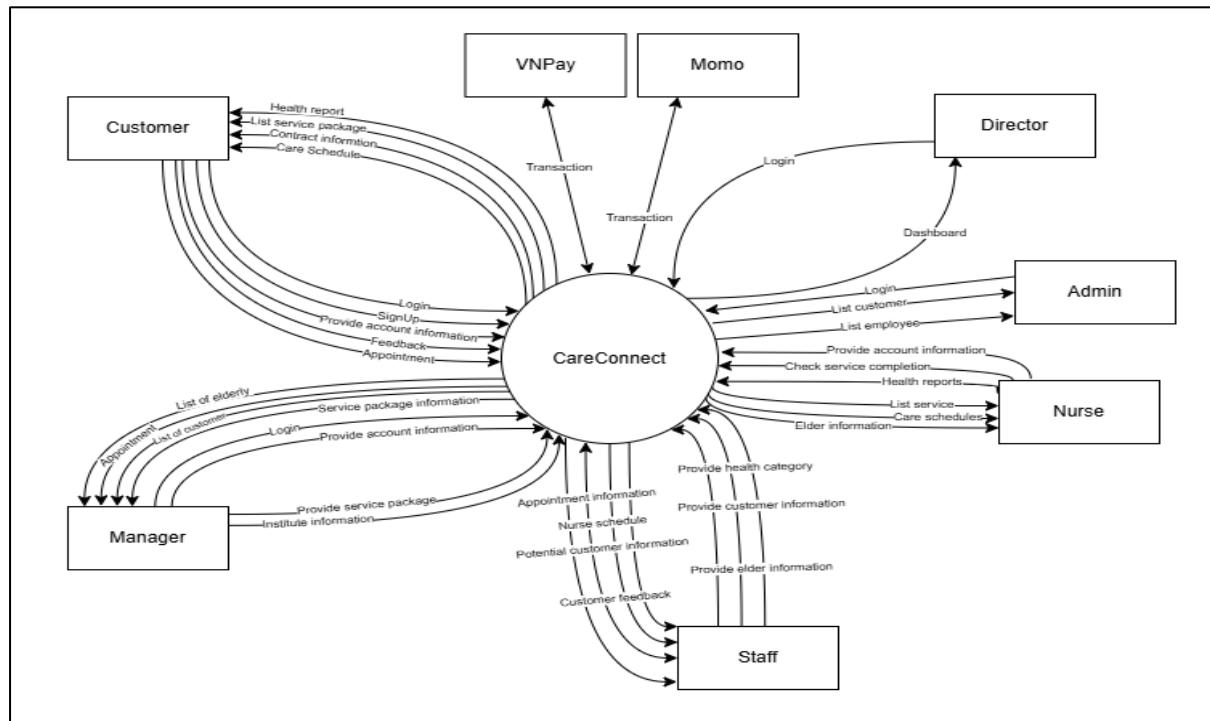


Figure 02 - [System Context Diagram](#)

## 2. User Requirements

### 2.1 Actors

Table 10 - Actors

#	Actor	Description
01	Admin	The admin is responsible for managing the system related to managing accounts in the system including accounts of: Directors, Managers, Staffs, Nurses and Users.
02	Director	The director is the person in the system who can view charts related to: revenue from service packages, customer statistics, patient statistics, and service user statistics.
03	Manager	The manager is the person who tracks customer and elderly information created by staff, monitors the entire room, and monitors the customer's visitation schedule.
04	Staff	Staff is the person who records information of customers and the elderly, monitors nurses' work schedules, monitors visitation schedules, evaluates services from customers and customers whose information is left on the landing page.
05	Nurse	The nurse is the person who will be responsible for monitoring the health of the elderly, recording reports on the health status of the elderly and recording the service performed according to the customer's request.
06	Customer	The customers in the system are customers of the nursing home, they send the elderly into the system, they can monitor the health status of the elderly and they can choose to add extra services for the elderly.

## 2.2 Use Cases

### 2.2.1 Diagram(s)

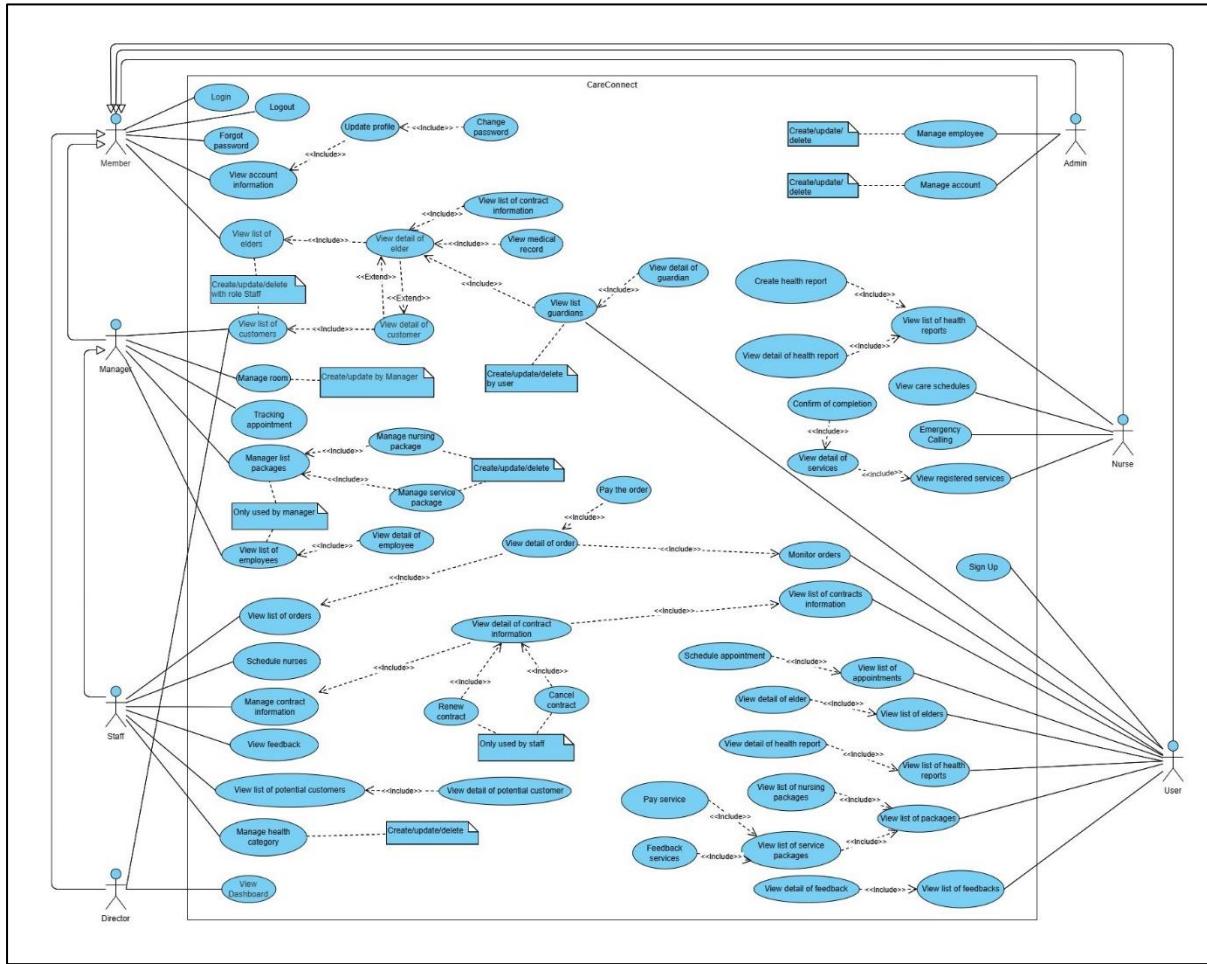


Figure 03 - [Use Case Diagram](#)

### 2.2.2 Descriptions

Website manager use cases:

Table 11 - Description of Website manager use cases

ID	Use Case	Actors	Use Case Description
01	Login	Manager	Login to the system with registered account by admin
02	Logout	Manager	Logout the system
03	Forgot password	Manager	Reset password without login
04	View account information	Manager	View profile
05	Update profile	Manager	Update profile
06	Change password	Manager	Change password with login

07	Manage room	Manager	View all room in nursing home
08	Create room	Manager	Create room in nursing home
09	Update room	Manager	Update room in nursing home
10	View list customers	Manager	View list of customer in nursing home
11	View detail of customer	Manager	View detail of customer
12	View list of elders	Manager	View list of elder in nursing home
13	View detail of elder	Manager	View detail of elder
14	View list of contract information	Manager	View list contract information of elder
15	View medical record	Manager	View medical record of elder
16	View list guardians	Manager	View list guardians of elder
17	View detail of guardians	Manager	View detail of guardian
18	Tracking appointment	Manager	Monitor customer appointment about visitation, completing procedures, renew contract and cancel contract
19	Manage nursing package	Manager	Nursing package for the elder when entering
20	Create nursing package	Manager	Create nursing package
21	Update nursing package	Manager	Update nursing package
22	Delete nursing package	Manager	Delete nursing package
23	Manage service package	Manager	List of services that can be purchased for the elder
24	Create service package	Manager	Create services
25	Update service package	Manager	Update services
26	Delete service package	Manager	Delete services
27	View employee list	Manager	Manager employee information
28	View detail of employee	Manager	View detail of employee

Website staff use cases:

*Table 12 - Description of Website staff use cases*

ID	Use Case	Actors	Use Case Description
01	Login	Staff	Login to the system with registered account by admin
02	Logout	Staff	Logout the system
03	Forgot password	Staff	Reset password without login
04	View account information	Staff	View profile
05	Update profile	Staff	Update profile
06	Change password	Staff	Change password with login
07	View list of customers	Staff	View list of customer in nursing home
08	View detail of customer	Staff	View detail of customer
09	Create customer	Staff	Create customer information
10	Update customer	Staff	Update customer information
11	Delete customer	Staff	Delete customer of system
12	View list of elders	Staff	View list of elder in nursing home
13	View detail of elder	Staff	View detail of elder
14	Create elder	Staff	Create elder information
15	Update elder	Staff	Update elder information
16	Delete elder	Staff	Change the elder's status
17	View list of contract information	Staff	View list contract information of elder
18	View medical record	Staff	View medical record of elder
19	View list guardians	Staff	View list guardians of elder
20	View detail of guardian	Staff	View detail of guardian
21	View list of orders	Staff	View list order
22	View detail of order	Staff	View order detail

23	Pay the order	Staff	Pay the order by cash
24	Schedule nurses	Staff	Schedule nurses to work the rooms
25	Manage contract information	Staff	Manage contract information of customer
26	View detail of contract information	Staff	View detail contract information of customer
27	Cancel contract	Staff	Cancel the contract when requested by the customer
28	Renewal contract	Staff	Renew contract for customers
29	View feedback	Staff	View list of customer reviews about the service
30	Tracking appointment	Staff	Monitor customer appointment about visitation, completing procedures, renew contract and cancel contract
31	View list of potential customers	Staff	View list of potential customer information in landing page
32	View detail of potential customer	Staff	View detail of potential customer information
33	Manage health category	Staff	Manage health category to help nurse create health report
34	Create health category	Staff	Create health category
35	Update health category	Staff	Update health category
36	Delete health category	Staff	Delete health category

Mobile nurse use cases:

*Table 13 - Description of Mobile nurse use cases*

ID	Use Case	Actors	Use Case Description
01	Login	Nurse	Login to the system with registered account by admin
02	Logout	Nurse	Logout the system
03	Forgot password	Nurse	Reset password without login
04	Manage account information	Nurse	Manage personal information

05	Update account information	Nurse	Update personal information
06	Change password	Nurse	Change password with login
07	View care schedules	Nurse	View the assigned care schedule
08	View list of elders	Nurse	View list of elders in the assigned rooms
09	View detail of elder	Nurse	View detail of elder
10	View detail of customer	Nurse	View customer information of elder
11	View list guardians	Nurse	View list guardians of elder
12	View detail of guardian	Nurse	View detail guardian of elder
13	Emergency calling	Nurse	Contact the customer/guardian via phone number when there is an urgent need to contact
14	View medical record	Nurse	View medical record of elder
15	View list of health reports	Nurse	View the list of health reports for the elder
16	View detail of health report	Nurse	View detail of health report of elder
17	Create health report	Nurse	Create reports on the health status of the elder
18	View registered services	Nurse	View list registered services
19	View detail of services	Nurse	View detail registered services
20	Confirm of completion	Nurse	Confirm service has been performed

Customer application use cases:

*Table 14 - Description of Mobile user use cases*

ID	Use Case	Actors	Use Case Description
01	Login	Customer	Login to the system with registered account by admin
02	Logout	Customer	Logout the system
03	Sign up	Customer	Register an app account
04	Forgot password	Customer	Reset password without login

05	Manage account information	Customer	Manage personal information
06	Update account information	Customer	Update personal information
07	Change password	Customer	Change password with login
08	View list of nursing packages	Customer	View list of nursing package of nursing home
09	View detail of nursing package	Customer	View detail of nursing package
10	View list of service packages	Customer	View list of service packages
11	View detail of service package	Customer	View detail of service packages
12	Pay the service	Customer	Pay the service by Momo/VnPay
13	View list of elders	Customer	View a list of elders people who are sent to nursing homes
14	View detail of elder	Customer	View detail of elder
15	View medical record	Customer	View medical information of elder
16	View list guardians	Customer	View list guardians of elder
17	View detail of guardian	Customer	View detail of guardian of elder
18	Create guardian	Customer	Create guardian for elder
19	Update guardian	Customer	Update guardian for elder
20	Delete guardian	Customer	Delete guardian for elder
21	Feedback services	Customer	Evaluate the services after the elders use them
22	View list of feedbacks	Customer	View list of feedbacks
23	View detail of feedbacks	Customer	View detail of feedbacks
24	Monitor orders	Customer	Monitor of orders service
25	View detail of order	Customer	View detail of order
26	Pay the order	Customer	Pay the order by Momo/VnPay

27	View list of contracts information	Customer	View list of contracts information of elder
28	View detail of contract information	Customer	View detail of contract information
29	View list of health reports	Customer	View list of health report for the elder
30	View detail of health report	Customer	View detail of health report for the elder
31	View list of appointments	Customer	View list of appointments
32	Schedule appointment	Customer	Create appointment about visitation, completing procedures, renew contract and cancel contract

Website admin use cases:

*Table 15 - Description of Website admin use cases*

ID	Use Case	Actors	Use Case Description
01	Login	Admin	Login to the system with registered account by admin
02	Logout	Admin	Logout the system
03	Forgot password	Admin	Reset password without login
04	Manage account information	Admin	Manage personal information
05	Update account information	Admin	Update personal information
06	Change password	Admin	Change password with login
07	Manage employee	Admin	View list employee in system
08	Create employee	Admin	Create employee for system
09	Update employee	Admin	Update employee for system
10	Delete employee	Admin	Delete employee for system
11	Manage account	Admin	View list accounts in system
12	Create account	Admin	Create account for system
13	Update account	Admin	Update account for system
14	Delete account	Admin	Delete account for system

Website director use cases:

*Table 16 - Description of Website director use cases*

ID	Use Case	Actors	Use Case Description
01	Login	Director	Login to the system with registered account by admin
02	Logout	Director	Logout the system
03	Forgot password	Director	Reset password without login
04	Manage account information	Director	Manage personal information
05	Update account information	Director	Update personal information
06	Change password	Director	Change password with login
07	View list of customers	Director	View list of customer in nursing home
08	View detail of customer	Director	View detail of customer
09	View list of elders	Director	View list of elder in nursing home
10	View detail of elder	Director	View detail of elder
11	View list of contract information	Director	View list contract information of elder
12	View medical record	Director	View medical record of elder
13	View list guardians	Director	View list guardians of elder
14	View detail of guardians	Director	View detail of guardian

### 3. Functional Requirements

#### 3.1 System Functional Overview

##### 3.1.1 Screen Flow

###### 3.1.1.1 Mobile module in customer

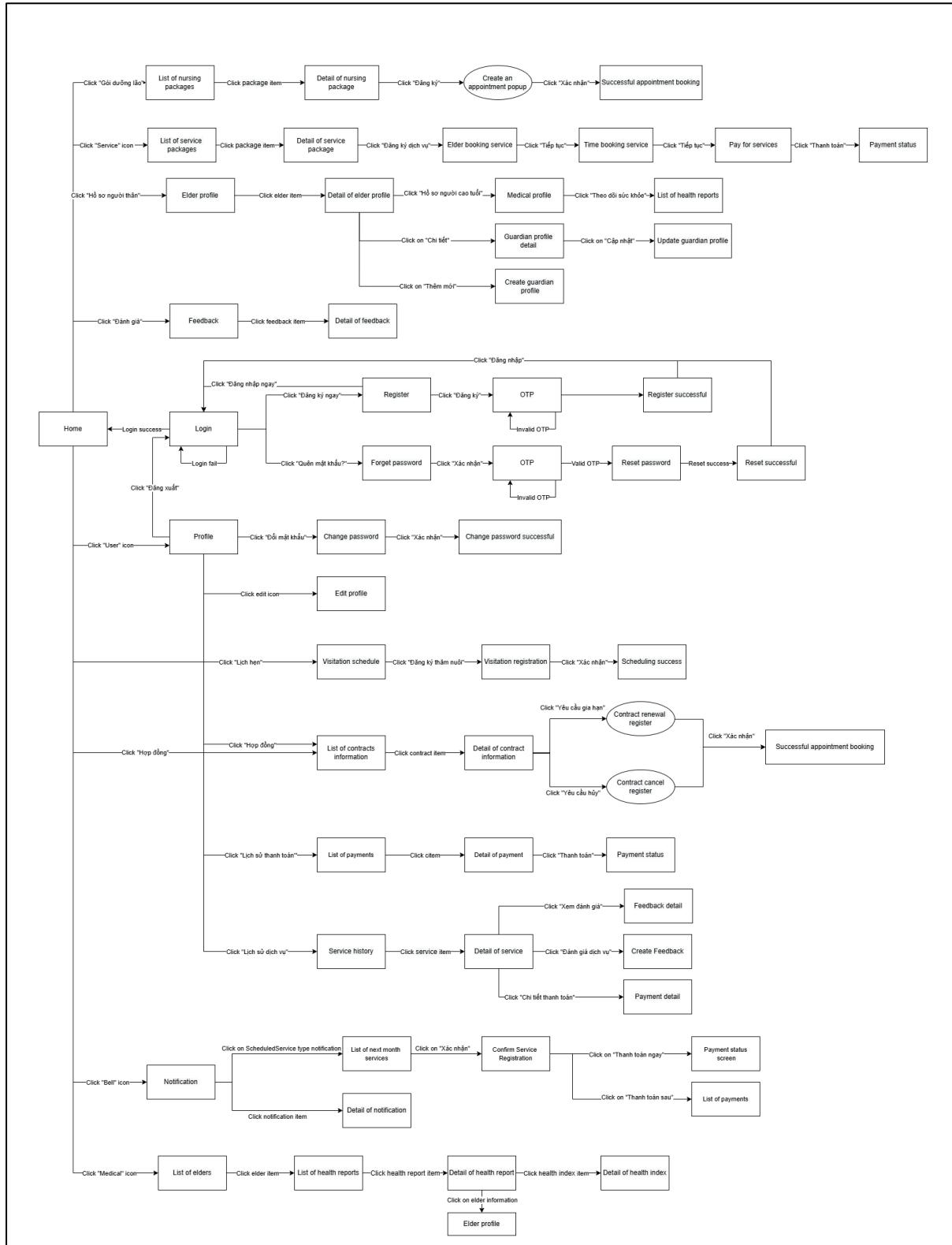


Figure 04 - [Screen Flow of customer mobile application](#)

### 3.1.1.2 Mobile module in nurse

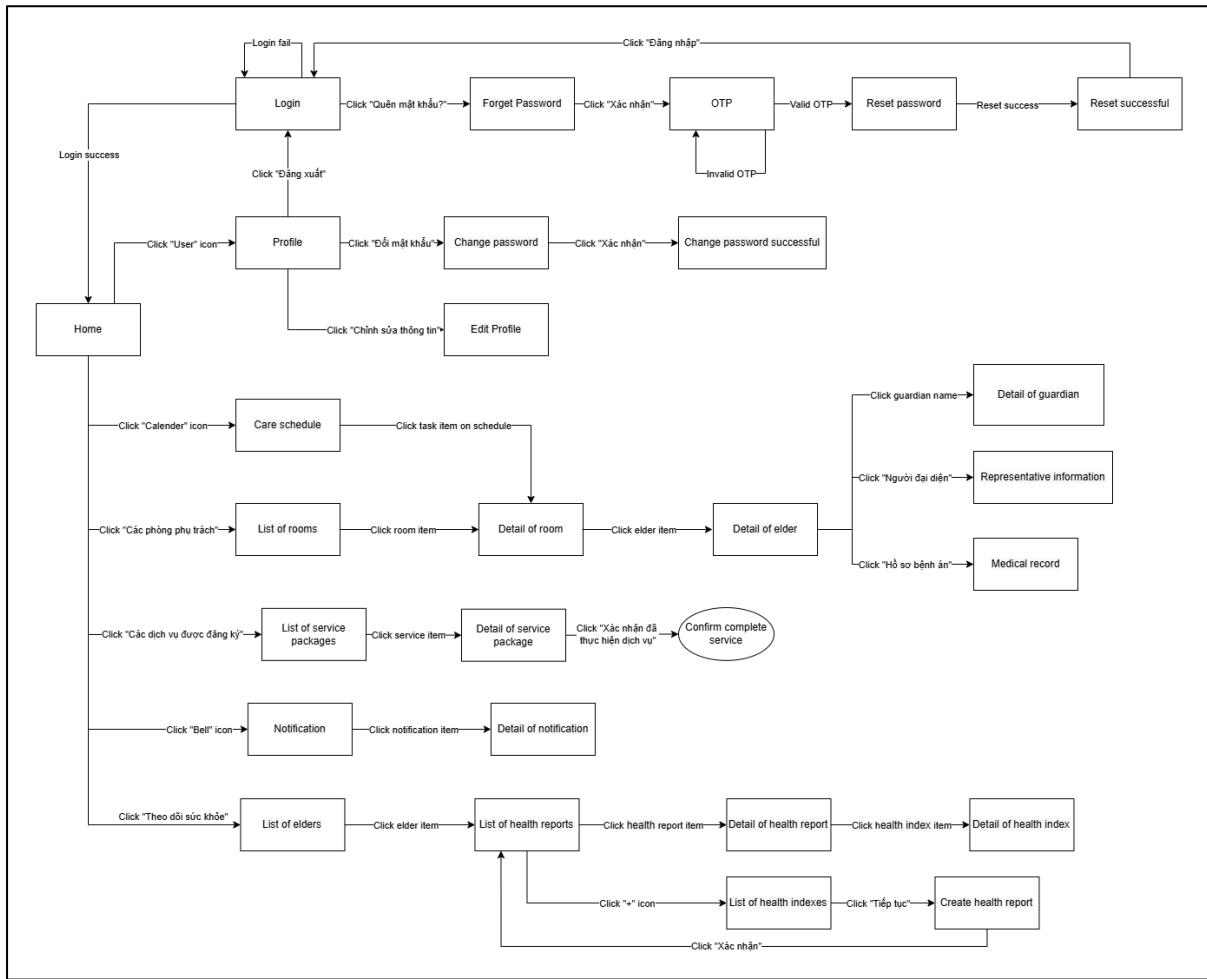


Figure 05 - Screen Flow of nurse mobile application

### 3.1.1.3 Website module in manager

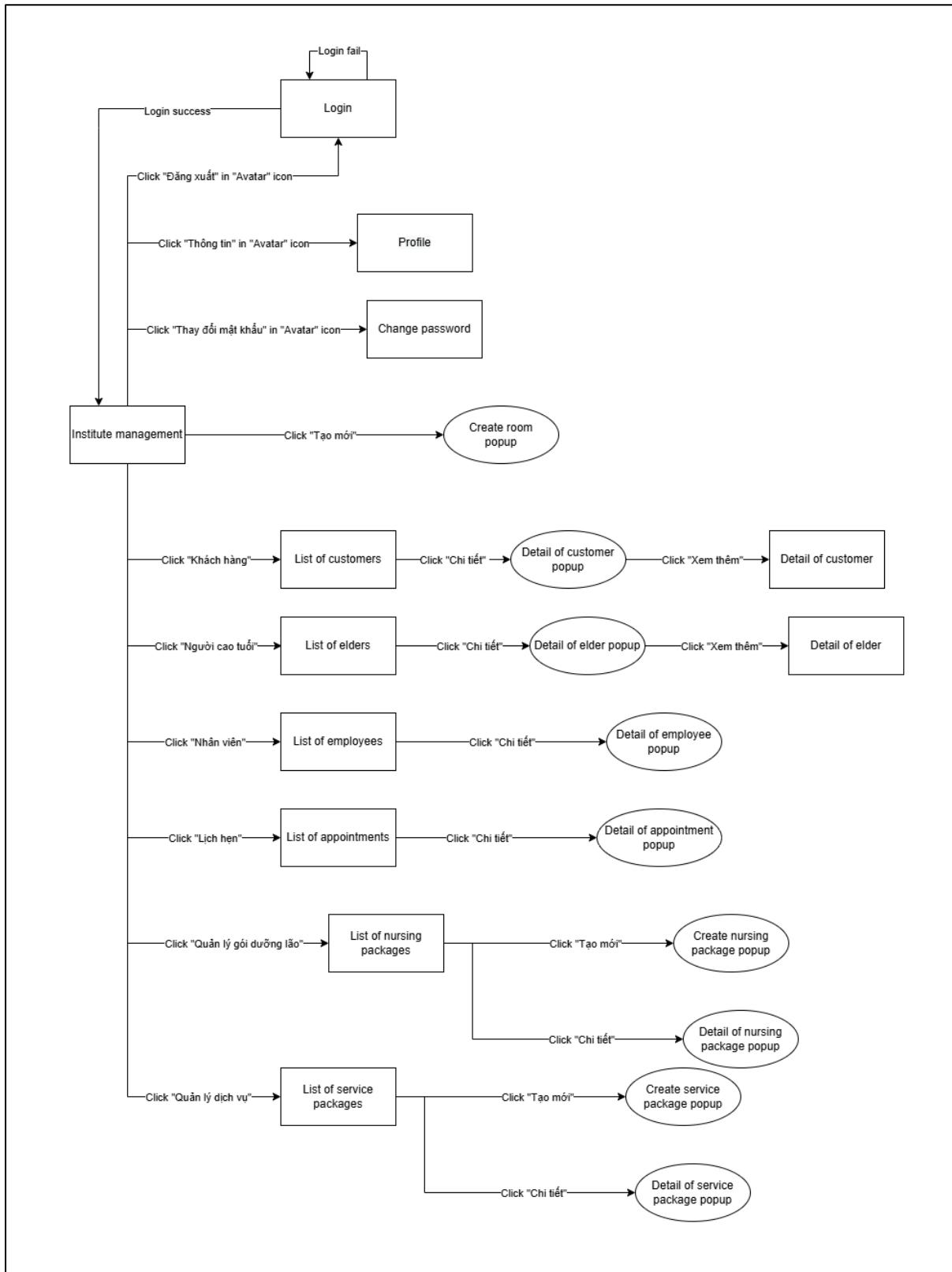


Figure 06 - Screen Flow of manager website application

### 3.1.1.4 Website module in staff

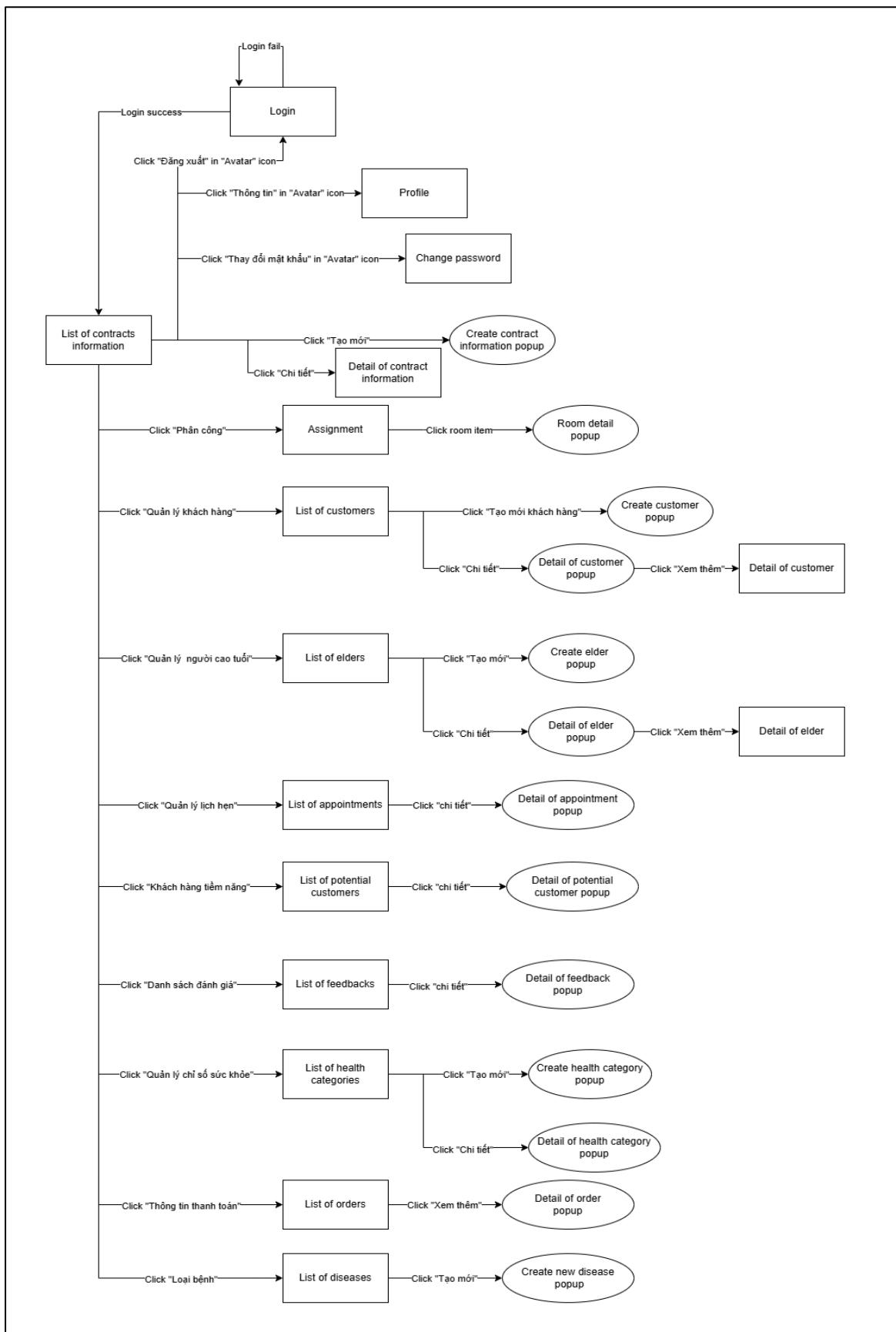


Figure 07 - Screen Flow of staff website application

### 3.1.1.5 Website module in director

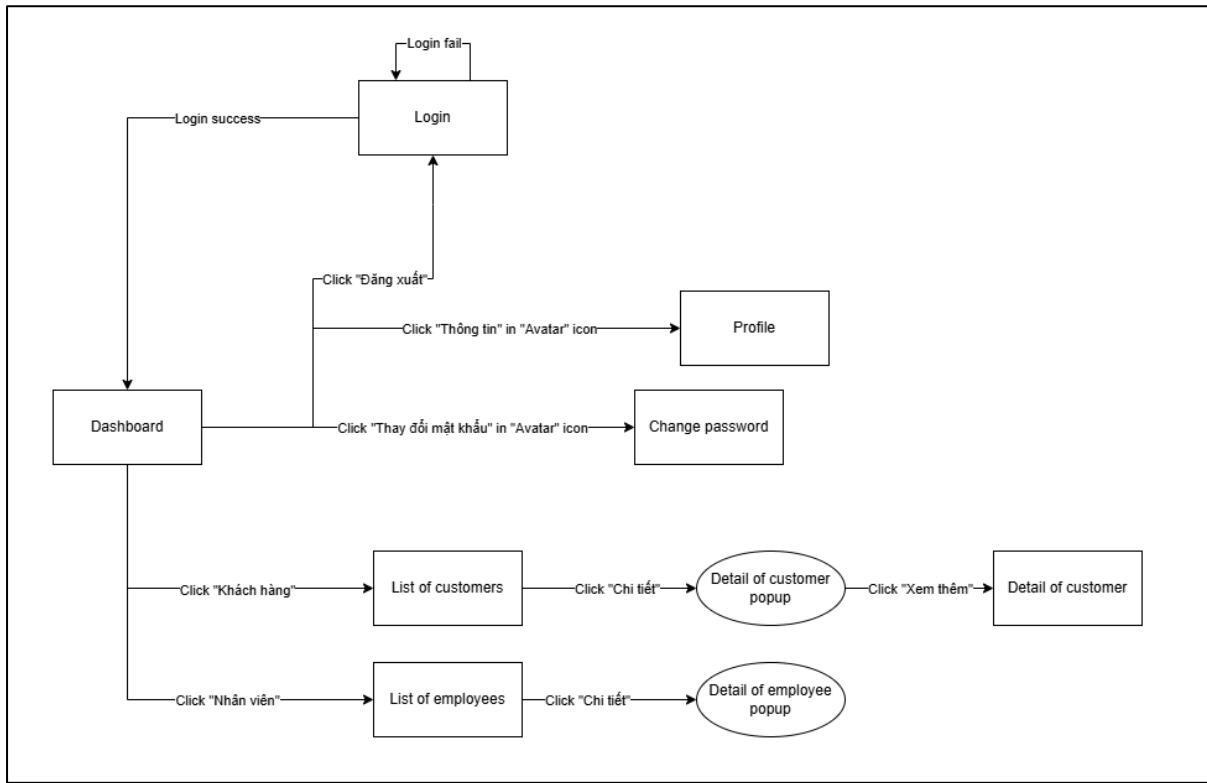


Figure 08 - [Screen Flow of director website application](#)

### 3.1.1.6 Website module in admin

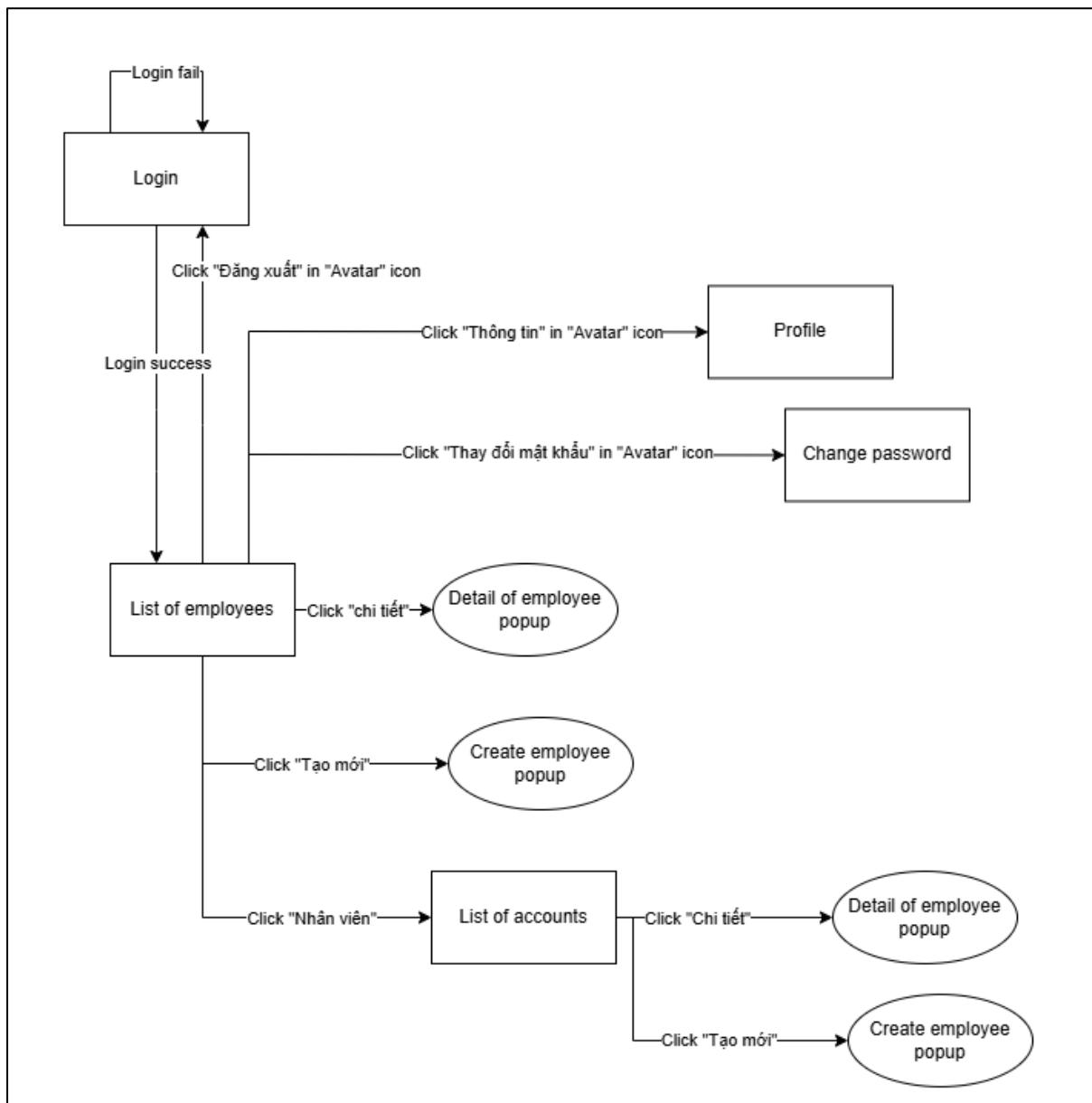


Figure 09 - [Screen Flow of admin website application](#)

## 3.1.2 Screen Flow Description

### 3.1.2.1 Mobile module in customer

Table 17 - Screen Flow Description of mobile module in customer

#	Feature	Screen	Description
01	Login	Login	Login to system by account
02	Register	Register	Register to system
03	Forget password	Forget password	Reset password without login
04	Change password	Change password	Reset password within login

05	OTP authentication	OTP	Check authentication
06	Reset password	Reset password	Fill new password
07	View profile	Profile	View personal information
08	Edit profile	Edit profile	Edit personal information
09	View list nursing package	List of nursing packages	View list nursing package of nursing home
10	View detail of nursing package	Detail of nursing package	View detail nursing package
11	Create an appointment	Detail of nursing package	Create appointment to sign the contract
12	View list service package	List of service packages	View list of service for elder
13	View detail of service package	Detail of service package	View detail service
14	Choose elder for service package	Elder booking service	Choose elder get service
15	Choose time for service package	Time booking service	Choose time execute service
16	View total value of registered service package	Pay for services	Pay the service
17	Payment status	Pay for services	Display the status of payment for the registered service
18	View visitation schedule	Visitation schedule	History of visitation schedule
19	Create visitation schedule	Visitation registration	Create visitation schedule
20	View contract information	List of contracts information	View list contracts information
21	View detail of contract information	Detail of contract information	View detail of contract information

22	Cancel contract	Detail of contract information	Cancel contract with reason
23	Renew contract	Detail of contract information	Renew contract
24	View list order	List of orders	History order of service or nursing package
25	View order detail	Detail of order	View order detail
26	Pay the order	Payment for order	Pay the order
27	View notification	Notification	Notification of report health
28	View detail notification	Notification detail	Detail of notification
29	View list of elder	List of elders	View list elder of customer
30	View elder profile	Elder profile	View detail of elder profile
31	View list of health reports	List of health reports	View list of health report
32	View medical profile	Medical profile	View medical profile of elder
33	Detail of report	Detail of health report	Detail of health reports include health index, status,...
34	View health index detail	Detail of health index	View the value of this health index created by nurse
35	View registered service	Service history	View list of service which customer registered
36	View detail registered service	Detail of service package	View the performance information of that service
37	Feedback service	Feedback service	Service evaluation has been performed
38	Cancel renew service	Cancel renew service	Cancel repeating this service the following month
39	Feedback history	Detail of feedback	View list of feedback were evaluated
40	Feedback detail	Detail of feedback	View detail of feedback were evaluated

41	Logout	Profile	Logout the system
42	View list of services repeat in next month	Register service	View list of services that can be repeated in next month
43	View detail of guardian	Guardian profile detail	View detail of guardian
44	Create guardian	Create guardian profile	Create guardian
45	Update guardian	Update guardian profile	Update guardian

### 3.1.2.2 Mobile module in nurse

Table 18 - Screen Flow Description of mobile module in nurse

#	Feature	Screen	Description
01	Login	Login	Login to system by account
02	Forget password	Forget password	Reset password without login
03	Change password	Change password	Reset password within login
04	View profile	Profile	View personal information
05	Edit profile	Profile	Edit personal information
06	View care schedule	Care schedule	See room duty schedule
07	View list room	List of rooms	View list of room will duty
08	View list elder	Detail of room	View list of elder in this room
09	View detail of elder	Detail of elder	View all information of elder
10	Customer information	Customer information	View customer information of elder
11	View Medical record	Medical record	View health indicators such as weight, height, underlying diseases,...
12	View list room of report	Health Reports	Choose the room to create health report

13	View list elder of this room	List of elders	Choose the elder to create health report
14	View list report of this elder	List of health reports	Show all health report of elder
15	View report detail	Detail of health report	View previous health reports
16	Create a report	Create a report	Create health report
17	View health index details	Detail of health index	View the health index
18	View registered services	Registered service	Show list of service of elder
19	View detail of this service	Detail of service	View detail of service
20	View notification	Notification	Show list of notification from manager or system
21	View detail of notification	Detail of notification	View detail of this notification
22	View detail of guardian	Guardian profile detail	View detail of guardian

### 3.1.2.3 Website module in manager

Table 19 - Screen Flow Description of website module in manager

#	Feature	Screen	Description
01	Login	Login	Login to system by account
02	View profile	Profile	View personal information
03	Edit profile	Profile	Edit personal information
04	Change password	Change password	Reset password within login
05	View list room	Institute management	Show list room of nursing home
06	Create block	Institute management	Create block for nursing home
07	Update block	Institute management	Update block for nursing home

08	Create room	Institute management	Create room for nursing home
09	Update room	Institute management	Update room for nursing home
10	View list customer	List of customers	View all customer in system
11	View detail customer	Detail of customer popup	View detail information of customer
12	View list elder	List of elders	View all elder in system
13	View detail elder	Detail of elder	View detail information of elder
14	View medical record of elder	Detail of elder	View medical records of elder include weight, height,...
15	View contract information	Detail of elder	View list contract information of elder
16	View list employee	List of employees	View list employee in system
17	View detail of employee	Detail of employee	View detail information of employee
18	View visitation schedule	Appointment schedule	View appointment schedule of customer
19	View procedural finalisation schedule	Appointment schedule	View procedural finalisation schedule
20	View contract renewal schedule	Appointment schedule	View contract renewal schedule
21	View contract cancellation schedule	Appointment schedule	View contract cancellation schedule
22	View detail of appointment	Detail of appointment popup	View detail of appointment
23	Check appointment	Detail of appointment popup	Check attend of appointment when customer come to nursing home
24	View list nursing package	List of packages	View all list nursing package

25	View detail of nursing package	Detail of nursing package popup	View detail of nursing package
26	Create nursing package	List of nursing packages	Create nursing package
27	Update nursing package	List of nursing packages	Update nursing package
28	Delete nursing package	List of nursing packages	Delete nursing package
29	View list service categories	List of service packages	View list of service categories
30	Create service categories	List of service packages	Create service categories
31	Update service package	List of service packages	Update service categories
32	Delete service package	List of service packages	Delete service categories
33	View list service package	List of service packages	View list of service package
34	Create service package	List of service packages	Create service package
35	Update service package	List of service packages	Update service package
36	Delete service package	List of service packages	Delete service package

#### **3.1.2.4 Website module in staff**

*Table 20 - Screen Flow Description of website module in staff*

#	Feature	Screen	Description
01	Login	Login	Login to system by account
02	View profile	Profile	View personal information
03	Edit profile	Profile	Edit personal information
04	Change password	Change password	Reset password within login

05	View schedule of room	Assignment	View list room and schedule of this room
06	View detail of room	Assignment	View room and schedule of this room
07	View list customer	List of customers	View all customer in system
08	View detail customer	Detail of customer	View detail information of customer
09	Create customer	Create customer popup	Create customer information
10	Update customer	List of customers	Update customer information
11	Delete customer	List of customers	Delete customer information
12	View list elder	List of elders	View all elder in system
13	View detail elder	Detail of elder	View detail information of elder
14	Create elder	Create elder popup	Create elder information into system
15	Update elder	List of elders	update elder information into system
16	Delete elder	List of elders	Elder discharged from the nursing home
17	View medical record of elder	Detail of elder	View medical records of elder include weight, height,...
18	View contract information	Detail of elder	View list contract information of elder
19	View list contract	List contracts information	View all contract of elder
20	Create contract	Create contract information popup	Create contract information
21	View detail contract	Detail of contract information	View detail information of contract

22	Cancel contract	Detail of contract information	Cancel contract when valid contract
23	Renew contract	Detail of contract information	Renew contract when customer want to continue signing
24	View visitation schedule	Appointment schedule	View visitation schedule of customer
25	View procedural finalisation schedule	Appointment schedule	View procedural finalisation schedule
26	View contract renewal schedule	Appointment schedule	View contract renewal schedule
27	View contract cancellation schedule	Appointment schedule	View contract cancellation schedule
28	View detail of appointment	Detail of appointment popup	View detail of appointment
29	Check appointment	Detail of appointment popup	Check attend of appointment when customer come to nursing home
30	View list potential customer	List of potential customers	View the information customers have left on the landing page
31	View detail of potential customer	Detail of potential customer popup	View detail information customers have left on the landing page
32	Check potential customer	Detail of potential customer popup	Feedback problem of potential customer
33	View list feedback	List of feedbacks	View list evaluation about service
34	View detail feedback	Detail of feedback popup	View detail information of evaluation
35	View list of order	List of orders	View list order paid of nursing package

36	View detail of order	Detail of order popup	View detail of order
37	Pay orders	Detail of order popup	Pay the order
38	View list health category	List of health categories	View list of health category
39	View detail of health category	Detail of health category popup	View detail of health category
40	Create health category	Create health category popup	Create health category
41	Update health category	List of health categories	Update health category
42	Delete health category	List of health categories	Delete health category
43	View list health report	List of health categories	View list of health report
44	View list health diseases	List of diseases	View list health diseases
45	Update health diseases	List of diseases	Update health diseases
46	Delete health diseases	List of diseases	Delete health diseases

### 3.1.2.5 Website module in director

Table 21 - Screen Flow Description of website module in director

#	Feature	Screen	Description
01	Login	Login	Login to system by account
02	View profile	Profile	View personal information
03	Edit profile	Profile	Edit personal information
04	Change password	Change password	Change password within login
05	View dashboard	Dashboard	View monthly revenue statistics charts, number of elders and customers
06	View list customer	List of customers	View all customer in system

07	View detail customer	Detail of customer	View detail information of customer
08	View list elder	List of elders	View all elder in system
09	View detail elder	Detail of elder	View detail information of elder
10	View medical record of elder	Detail of elder	View medical records of elder include weight, height,...
11	View contract information	Detail of elder	View list contract information of elder

### 3.1.2.6 Website module in admin

Table 22 - Screen Flow Description of website module in admin

#	Feature	Screen	Description
01	Login	Login	Login to system by account
02	View profile	Profile	View personal information
03	Edit profile	Profile	Edit personal information
04	Change password	Change password	Change password within login
05	View list employee	List of employees	View list employee
06	View detail of employee	Detail of employee	View detail of employee
07	Create employee	List of employees	Create employee information
08	View list account	List of accounts	View list customer
09	View detail of account	Detail of account	View detail of customer
10	Create account	List of accounts	Create employee information
11	Reset password	List of employees	Reset password

### 3.1.3 Screen Authorization

Table 23 - Screen Authorization

Screen	Admin	Director	Manager	Staff	Nurse	Customer
Login	x	x	x	x	x	x
Register						x

Forget password		x	x	x	x	x
Change password		x	x	x	x	x
OTP		x	x	x	x	x
Reset password					x	x
Profile	x	x	x	x	x	x
Edit profile	x	x	x	x	x	x
List of nursing packages			x			x
Detail of nursing package			x			x
List of service packages			x		x	x
Detail of service package			x		x	x
Elder booking service						x
Time booking service						x
Pay for services				x		x
Visitation schedule						x
Visitation registration						x
Payment for order				x		x
Notification					x	x
List of elders			x	x	x	x
List of health reports			x		x	x
Detail of health report			x		x	x
Detail of health index				x	x	x
Feedback service				x		x
Detail of feedback				x		x
Care schedule				x	x	x
List of rooms			x	x	x	x

Detail of room			x	x	x	
Detail of elder			x	x	x	x
Representative information			x	x	x	
Medical record			x	x	x	x
Create a report					x	
Registered service			x	x	x	x
OverAll			x	x		
List of customers			x	x		
List of employees	x	x	x			
Appointment schedule			x	x		
Dashboard		x				
Detail of customer			x	x	x	
Assignment				x	x	
List of contracts information			x	x		x
Detail of contract information			x	x		x
List of potential customers				x		
List of feedbacks				x		x
List of orders				x		x
Detail order				x		x
Detail of guardian					x	x
List of accounts	x					

### 3.1.4 Non-Screen Functions

Table 24 - Non-Screen Function

#	Feature	System Function	Description
01	Send notification	Send notification	The system will send notifications in the following cases:

			<ul style="list-style-type: none"> <li>• Health reports</li> <li>• Renew contract information</li> <li>• Care schedule</li> <li>• Scheduled service</li> </ul>
02	Send sms	Send sms	The system will send sms in the following cases: <ul style="list-style-type: none"> <li>• Forget password OTP</li> </ul>
03	Send mail	Send mail	The system will send mail in the following cases: <ul style="list-style-type: none"> <li>• Health reports</li> <li>• Contract information</li> </ul>

### 3.1.5 Entity Relationship Diagram

#### 3.1.5.1 Conceptual Model

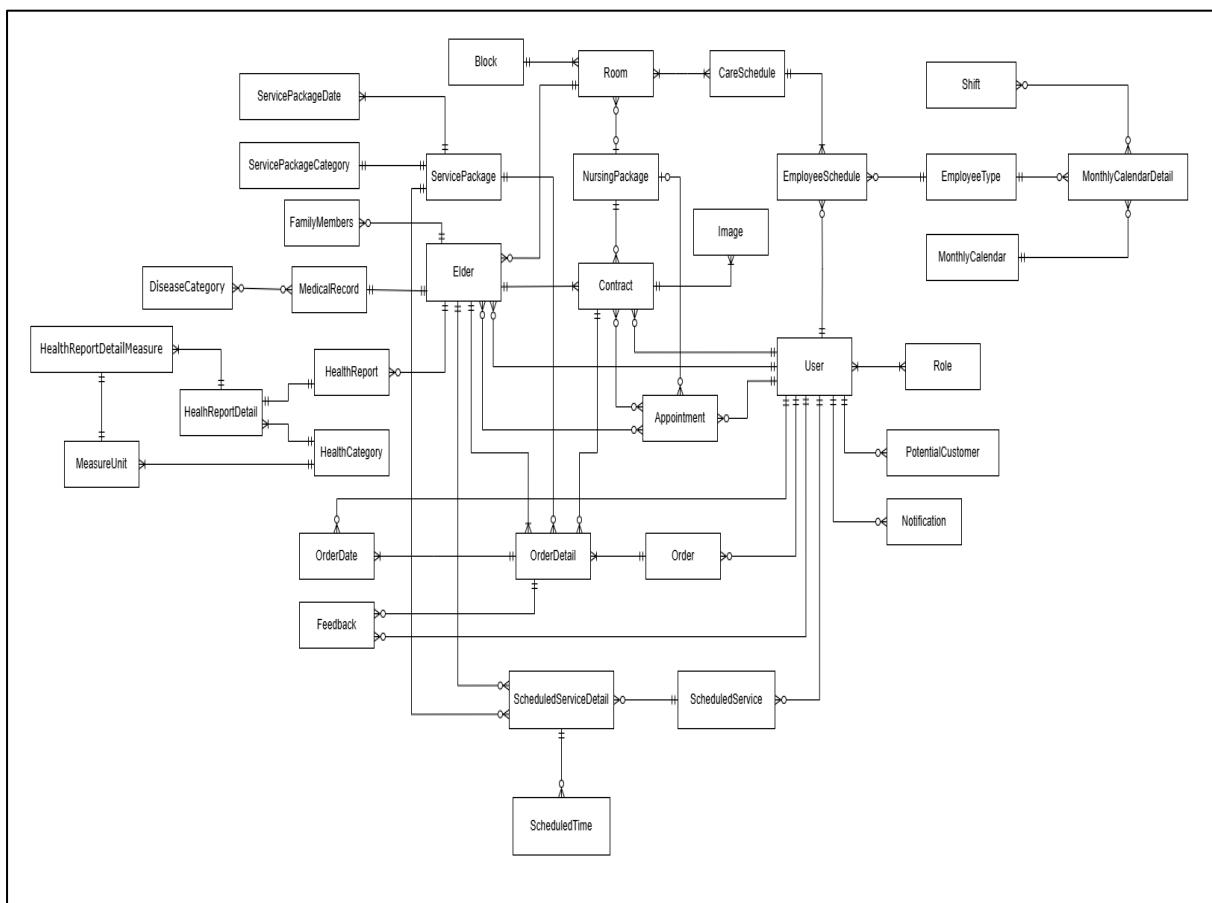


Figure 10 - [Conceptual model of Entity Relationship Diagram](#)

### **3.1.5.2 Logical Model**

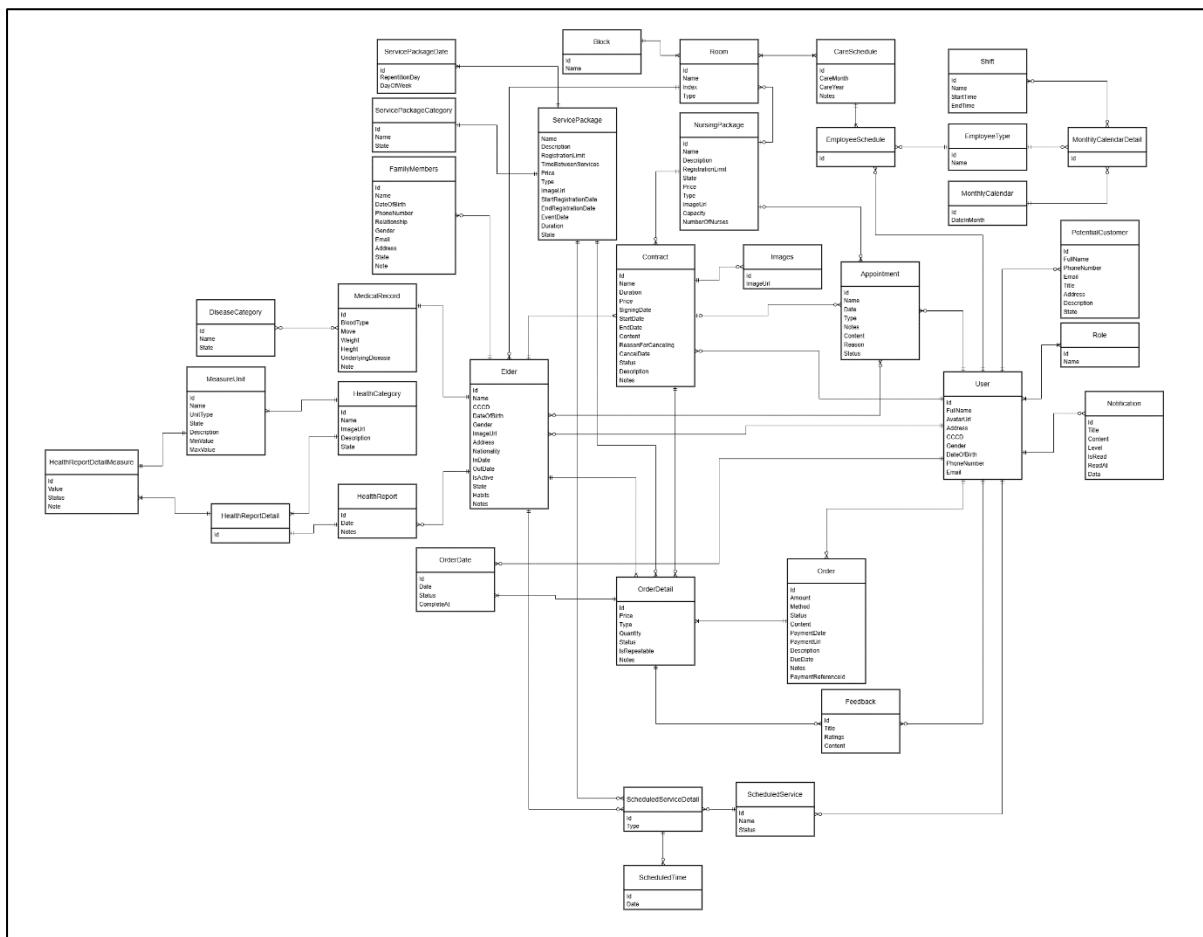


Figure 11 - Logical model of Entity Relationship Diagram

## Entities Description

*Table 25 - Entities Description*

#	Entity	Description
01	Room	Store room in nursing home
02	Block	Store block in nursing home
03	NursingPackage	Store nursing package in nursing home
04	Contract	Store contract of elder in nursing home
05	Image	Store image of each information when creating nursing package, service package,...
06	Appointment	Store appointment of customer about FollowUpVisit, ProcedureCompletion, Consultation, Cancel
07	User	Store information in system like director, manager, staff, nurse and customer

08	Role	Store role in system like director, manager, staff, nurse and customer
09	Elder	Store elder of customer in system
10	Order	Store order of customer like nursing package and service package
11	OrderDetail	Store information of order like service package
12	OrderDate	Store the date the service must be performed
13	Feedback	Store feedback of service from customer
14	ServicePackage	Store service package in nursing home provide
15	ServicePackageDate	Store the date the service was performed
16	ServicePackageCategory	Store the category of service
17	MedicalRecord	Store medical record of elder
18	DiseaseCategory	Store underlying diseases of the elder
19	HealthReport	Store health report which nurse created When having a medical examination
20	HealthCategory	Store health categories like blood pressure, heart rate...
21	HealthReportDetail	Each health report have more than health category
22	HealthReportDetailMeasure	The result of each category created by nurse
23	MeasureUnit	Store the unit of health category
24	ScheduledServiceDetail	Store type repeat of service
25	ScheduledTime	Store time repeat of service
26	ScheduledService	Archive service confirmation to be performed the following month
27	CareSchedule	Store Schedule of nurse
28	EmployeeSchedule	Store information employee of schedule
29	EmployeeType	Store type of employee
30	MonthlyCalendarDetail	Store detail of calendar of employee in month

31	MonthlyCalendar	Store calendar of employee all month
32	PotentialCustomer	Store customer information in landing page
33	Notification	Store information like health reports,....
34	FamilyMembers	Store guardians of elder

### 3.2 Customer Features

#### 3.2.1 Account/Login

- Function trigger: Unauthenticated user request login to the system by tapping on the “Đăng nhập” button
- Function description:
  - Actors: Unauthenticated user
  - Purpose: Guest login to the system to verify role, give them access to more features in the system
  - Pre condition: Unauthenticated user must have an account
  - Post condition:
    - Success: Unauthenticated user successfully login
    - Fail: Show message to inform the error when wrong phone number or password, not connected to the Database or the Server
- Function details:
  - Data:
    - Phone number: number
    - Password: text
  - Login flow:
    - Unauthenticated user input phone number, password and tap on “Đăng nhập” button
    - System queries the phone number and password exist in the database

#### 3.2.2 Account/Change password

- Function trigger: Customer tap “Đổi mật khẩu”
- Function description:
  - Actors: Customer
  - Purpose: Customer can change their password
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: Password is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Old password: text
    - New password: text
    - Confirm new password: text
  - Change password flow:
    - Customer input old password, new password and confirm new password and tap on “Đổi mật khẩu” button
    - System update new password for this account

### **3.2.3 Account/Update profile**

- Function trigger: Customer tap on edit icon
- Function description:
  - Actors: Customer
  - Purpose: Customer can change their profile
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: Customer information is successfully change
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone number: number
    - Email: text
    - Address: text
  - Flow:
    - Customer input any information that needs to be changed: phone number, email and address and tap on “Lưu thông tin” button
    - System update new information for this account

### **3.2.4 Account/Forget password**

- Function trigger: Customer tap “Quên mật khẩu”
- Function description:
  - Actors: Unauthenticated user
  - Purpose: Unauthenticated user can reset their password
  - Pre condition: Unauthenticated user must have an account
  - Post condition:
    - Success: Password is reset successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone number: text
    - OTP: number
    - New password: text
    - Confirm new password: text
  - Flow:
    - User input phone number and tap on “Xác nhận” button
    - System queries the phone number exist in the database and send OTP to it
    - User input OTP and tap on “Xác nhận” button
    - System confirm the valid OTP
    - User input new password and confirm new password and tap on “Xác nhận” button

### **3.2.5 Nursing packages/Get nursing packages list**

- Function trigger: Customer tap on “Gói dưỡng lão” on Home screen
- Function description:
  - Actors: Customer
  - Purpose: Customer can see list of all nursing packages

- Pre condition: Customer is successfully login to system
- Post condition:
  - Success: All of the nursing packages are shown
  - Fail: Show message to inform the error
- Function details:
  - Data:
    - Image: image
    - Nursing package name: text
    - Description: text
    - Price: number
    - Number of people in room: number

### **3.2.6 Appointment/Create contract signing appointment**

- Function trigger: Customer tap on a nursing package item and tap on “Điền form đăng ký”
- Function description:
  - Actors: Customer
  - Purpose: Customer can create an appointment to sign contract
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: An appointment to sign contract is created
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Appointment date: date input
  - Validation:
    - The appointment date must be after the current date.
    - The appointment date only be 14 days after the current date
  - Flow:
    - Actor chooses a subcategory nursing package
    - Actor tap on “Điền form đăng ký”
    - Actor input the appointment date
    - Actor tap on “Xác nhận”

### **3.2.7 Search/Get list service packages**

- Function trigger: Customer tap on “Nhập tên dịch vụ, giá cả,...”
- Function description:
  - Actors: Customer
  - Purpose: Customer can find their need service package faster
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: All the service packages that have the search text is shown or show nothing if it not found the search input
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Image: image
    - Service package name: text

- Description: text
- Category: text
- Price: number

### **3.2.8 Service register/Register a service**

- Function trigger: Customer tap on “Dịch vụ” on Home
- Function description:
  - Actors: Customer
  - Purpose: Customer can book a service for their elder
  - Pre condition:
    - Customer is successfully login to system
    - Customer has at least 1 elder in the nursing home
  - Post condition:
    - Success: Customer successfully booked the service
    - Fail: Show message to inform the error when not connected to the Database or the Server
- Function details:
  - Data:
    - Customer information
      - Name: text
      - Phone number: number
      - elder information
        - Name: text
        - Room: text
    - Service information
      - Service name: text
      - Price: number
    - Booking service information
      - Booking date: date input
      - Repetition: value input
      - Payment method: value input
  - Validation:
    - The booking date must be after the current date
  - Business rules:
    - New booking service will be created in the system with the initial status of “...”.
    - A booking contain the following information:
      - Customer information
        - Name: text
        - Phone number: number
      - elder information
        - Name: text
        - Room: text
      - Service information
        - Service name: text
        - Price: number
      - Booking service information
        - Booking date: date input

- Repetition: value input
    - Payment method: value input
  - System must ensure the input information is valid
  - System creates an order by the information of the booking
- Flow:
  - Actor chooses a service package
  - Actor tap on “Đăng ký dịch vụ”
  - Actor chooses an elder to use the service
  - Actor tap on “Tiếp tục”
  - Actor input the repetition
    - Actor tap on “Theo ngày”
      - Actor can choose one or a list of random booking date
    - Actor tap on “Theo tuần”
      - Actor chooses the day of week
      - Actor chooses the period of time that the service is repeated (optional)
    - Actor tap on “Theo tháng”
      - Actor chooses the day of month
  - Actor tap on “Tiếp tục”
  - Actor chooses a payment method
  - Actor tap on “Thanh toán”
    - Success:
      - System create a new booking and show message that booking successfully
      - System create a new order with the “Paid” status
    - Fail: Show a message to notify the actor that payment failed and the booking request has been failed

### **3.2.9 Service register/Get history of registered service**

- Function description:
  - Actors: Customer
  - Purpose: Customer can see the history of all services they have registered
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: All of the registered services are shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Image: image
    - Service package name: text
    - Booking date: date string
    - Elder name: text
    - Status: text
  - Flow:
    - Customer taps on “Lịch sử dịch vụ” in Profile screen

### **3.2.10 Service register/Cancel renewal registered service**

- Function description:

- Actors: Customer
- Purpose: Customer can cancel the renewal of a service for which they have registered
- Pre condition: Customer has at least one registered service that renews each month
- Post condition:
  - Success:
    - The service does not renew in the following months
    - The customer does not receive any service order in the following months
  - Fail: Show message to inform the error
- Function details:
  - Flow:
    - Customer chooses a registered service
    - Customer tap on “Hủy gia hạn dịch vụ”
    - Customer tap on “Xác nhận” on the confirm modal
  - Business rules:
    - The registered service is still renewed and implemented in the current month
    - System process to cancel the service and turn this order status to cancel

### **3.2.11 Service register/Feedback registered service**

- Function description:
  - Actors: Customer
  - Purpose: Customer can feedback the service
  - Pre condition: Customer has received the service
  - Post condition:
    - Success: Customer successfully feedback the service
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Image: image
    - Title: input text
    - Content: input text
    - Satisfaction level: select value
    - Feedback service flow:
      - Customer chooses a registered service
      - Customer tap on “Đánh giá dịch vụ”
      - Customer type the feedback data
      - Customer tap on “Gửi đánh giá”
  - Business rules:
    - The feedback button only appears at the end of the month from date .. to date...
    - Customer can feedback many times until the feedback button disappears

### **3.2.12 Order/Get list orders**

- Function trigger: Customer tap on "Hóa đơn" in Profile screen
- Function description:
  - Actors: Customer
  - Purpose: Customer can see all of their orders
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: All the orders are shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Image: image
    - order title: text
    - order id: text
    - Due date: date
    - Status: text

### **3.2.13 Order/Pay for order**

- Function trigger: Customer tap on "Thanh toán"
- Function description:
  - Actors: Customer
  - Purpose: Customer can pay for their orders
  - Pre condition:
    - Customer is successfully login to system
    - Customer has the order has "Unpaid" status that is not past due
  - Post condition:
    - Success: Customer successfully pays for the order
    - Fail: Show message to inform the error
- Function details:
  - Flow:
    - Customer chooses a order item
    - Customer choose payment method and tap on "Thanh toán"
    - Success:
      - System show message that pay successfully
      - System change the order to the "Paid" status
    - Fail: Show a message to notify the actor that payment failed and the payment request has been failed

### **3.2.14 Feedback/Get history of feedbacks**

- Function trigger: Customer tap on "Đánh giá" in Profile screen
- Function description:
  - Actors: Customer
  - Purpose: Customer can see all of their feedbacks
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: All the feedbacks are shown
    - Fail: Show message to inform the error
- Function details:

- Data:
  - Image: image
  - Feedback title: text
  - Create date: date
  - Service name: text

### **3.2.15 Elder/Get list elders**

- Function trigger: Customer tap on “Hồ sơ người thân” in Home screen
- Function description:
  - Actors: Customer
  - Purpose: All the elder of the customer are shown
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: All the elder of the customer are shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Image: image
    - Name: text
    - Gender: date
    - Date of birth: date
    - Contract id: text

### **3.2.16 Elder/Get profile of an elder**

- Function trigger: Customer choose an elder item
- Function description:
  - Actors: Customer
  - Purpose: Customer can see the profile of the elder
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: The profile of selected elder is shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Image: image
    - Name: text
    - Gender: date
    - Date of birth: date
    - Id number: number
    - Nursing home address: text
    - Address: text

### **3.2.17 Elder/Get health information of elder**

- Function trigger: Customer taps on “Hồ sơ bệnh án”
- Function description:
  - Actors: Customer
  - Purpose: Customer can see the health information of the elder
  - Pre condition: Customer is successfully login to system
  - Post condition:

- Success: The health information of selected elder is shown
  - Fail: Show message to inform the error
- Function details:
  - Data:
    - General index
    - Underlying disease
    - Note

### **3.2.18 Appointment/Get list visitation appointments**

- Function trigger: Customer taps on “Lịch thăm nuôi” on Home screen
- Function description:
  - Actors: Customer
  - Purpose: Customer can see the list of visitation appointment
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: The list of visitation appointment is shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Register date: date
    - User name: text
    - Phone number: number

### **3.2.19 Appointment/Create a visitation appointment**

- Function trigger: Customer taps on “Đăng ký” Register Visitation Appointment screen
- Function description:
  - Actors: Customer
  - Purpose: Customer can create a visitation appointment
  - Pre condition:
    - Customer is successfully login to system
    - Customer has at least 1 elder in the nursing home
  - Post condition:
    - Success: Customer successfully create the visitation appointment
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Register date
    - Elder object
  - Flow:
    - Customer chooses a visitation appointment
    - Customer enter the appointment data
    - Customer tap on “Xác nhận”
  - Business rules:
    - The system create a visitation appointment
    - The register date must be after the current date
    - Customer can choose many elder to visit

### **3.2.20 Contract information/Get list contracts information**

- Function trigger: Customer taps on “Hợp đồng” on Home screen

- Function description:
  - Actors: Customer
  - Purpose: Customer can see the list of their contracts
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: The list of contracts are shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Contract title: text
    - Contract id: text
    - User name: text
    - Start date: date
    - End date: date
    - Status: text

### **3.2.21 Appointment/Create a cancel contract appointment**

- Function trigger: Customer tap on a contract item and tap on “Yêu cầu hủy”
- Function description:
  - Actors: Customer
  - Purpose: Customer can create an appointment to cancel contract
  - Pre condition:
    - Customer is successfully login to system
    - Customer has unexpired contract
  - Post condition:
    - Success: An appointment to cancel contract is created
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Appointment date: date input
    - Reason: text
    - Validation:
      - The appointment date must be after the current date.
      - The appointment date only be 14 days after the current date
  - Flow:
    - Actor chooses a contract item
    - Actor tap on “Yêu cầu hủy”
    - Actor input the appointment date
    - Actor input the cancel reason
    - Actor tap on “Xác nhận”

### **3.2.22 Appointment/Create a renew contract appointment**

- Function trigger: Customer tap on a contract item and tap on “Yêu cầu gia hạn”
- Function description:
  - Actors: Customer
  - Purpose: Customer can create an appointment to renew contract
  - Pre condition:
    - Customer is successfully login to system

- Customer has unexpired contract
- Post condition:
  - Success: An appointment to renew contract is created
  - Fail: Show message to inform the error
- Function details:
  - Data:
    - Appointment date: date input
    - Validation:
      - The appointment date must be after the current date.
      - The appointment date only be 14 days after the current date
  - Flow:
    - Actor chooses a contract item
    - Actor tap on “Yêu cầu gia hạn”
    - Actor input the appointment date
    - Actor tap on “Xác nhận”
  - Business rule:
    - The “Yêu cầu gia hạn” button is only visible 30 days before the contract end date

### **3.2.23 Account/Register**

- Function trigger: Customer tap on edit icon
- Function description:
  - Actors: Customer
  - Purpose: Customer can change their profile
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: Customer information is successfully change
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone number: number
    - Email: text
    - Address: text
  - Flow:
    - Customer input any information that needs to be changed: phone number, email and address and tap on “Lưu thông tin” button
    - System update new information for this account

### **3.2.24 Elder/Get detail profile of guardian**

- Function trigger: On Elder Detail Profile screen, customer clicks on : icon and click on “Xem chi tiết”
- Function description:
  - Actors: Customer
  - Purpose: Customer can see detail profile of selected guardian
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: All the profile of selected guardian is shown
    - Fail: Show message to inform the error

- Function details:
  - Data:
    - Name: text
    - Gender: date
    - Date of birth: date
    - Address: text
    - Phone number: text
    - Relationship: text
    - Email: text

### **3.2.25 Elder/Create guardian profile**

- Function trigger: On Elder Detail Profile screen, customer clicks on button “Thêm mới”
- Function description:
  - Actors: Customer
  - Purpose: Customer can create the guardian detail profile
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: The guardian detail profile is created
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Gender: date
    - Date of birth: date
    - Address: text
    - Phone number: text
    - Relationship: text
    - Email: text
  - Flow:
    - On Elder Detail Profile screen, customer clicks on button “Thêm mới”
    - Customer enter the guardian data
    - Customer tap on “Lưu thông tin”
  - Business rules:
    - Two guardians of the same elder cannot have the same phone number

### **3.2.26 Elder/Update guardian profile**

- Function trigger: Customer click on button “Cập nhật” on guardian profile screen
- Function description:
  - Actors: Customer
  - Purpose: Customer can update the guardian detail profile
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: The guardian detail profile is updated
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Gender: date

- Date of birth: date
  - Address: text
  - Phone number: text
  - Relationship: text
  - Email: text
- Flow:
  - On guardian profile screen, customer clicks on button “Cập nhật”
  - Customer enter the guardian data
  - Customer tap on “Lưu thông tin”
- Business rules:
  - Two guardians of the same elder cannot have the same phone number

### **3.2.27 Elder/Delete guardian profile**

- Function trigger: Customer click on button “Xóa” on guardian profile screen
- Function description:
  - Actors: Customer
  - Purpose: Customer can delete the guardian
  - Pre condition: Customer is successfully login to system
  - Post condition:
    - Success: The guardian is deleted
    - Fail: Show message to inform the error
- Function details:
  - Flow:
    - On guardian profile screen, customer clicks on button “Xóa”
    - Customer clicks on button “Xác nhận”

## **3.3 Nurse Features**

### **3.3.1 Account/Login**

- Function trigger: Unauthenticated user request login to the system by tapping on the “Đăng nhập” button
- Function description:
  - Actors: Unauthenticated user
  - Purpose: Guest login to the system to verify role, give them access to more features in the system
  - Pre condition: Unauthenticated user must have an account
  - Post condition:
    - Success: Unauthenticated user successfully login
    - Fail: Show message to inform the error when wrong phone number or password, not connected to the Database or the Server
- Function details:
  - Data:
    - Phone number: number
    - Password: text
  - Flow:
    - Unauthenticated user input phone number, password and tap on “Đăng nhập” button
    - System queries the phone number and password exist in the database

### **3.3.2 Account/Change password**

- Function trigger: User tap “Đổi mật khẩu”
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can change their password
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: Password is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Old password: text
    - New password: text
    - Confirm new password: text
    - Change password flow:
      - Nurse input old password, new password and confirm new password and tap on “Đổi mật khẩu” button
      - System update new password for this account

### **3.3.3 Account/Update profile**

- Function trigger: Nurse tap on edit icon
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can change their profile
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: Nurse information is successfully change
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone number: number
    - Email: text
    - Address: text
  - Flow:
    - Nurse input any information that needs to be changed: phone number, email and address and tap on “Lưu thông tin” button
    - System update new information for this account

### **3.3.4 Account/Forget password**

- Function trigger: User tap “Quên mật khẩu”
- Function description:
  - Actors: Unauthenticated user
  - Purpose: Unauthenticated user can reset their password
  - Pre condition: Unauthenticated user must have an account
  - Post condition:
    - Success: Password is reset successfully
    - Fail: Show message to inform the error
- Function details:

- Data:
  - Phone number: text
  - OTP: number
  - New password: text
  - Confirm new password: text
- Flow:
  - Actor input phone number and tap on “Xác nhận” button
  - System queries the phone number exist in the database and send OTP to it
  - Actor input OTP and tap on “Xác nhận” button
  - System confirm the valid OTP
  - Actor input new password and confirm new password and tap on “Xác nhận” button

### **3.3.5 Care schedule/Get list care schedules**

- Function trigger: Nurse taps on “Lịch làm việc” on Home screen
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can see the list of their care schedule
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: The list of care schedule is shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Title: text
    - Date: date
    - Time: time
  - Flow:
    - Nurse taps on “Lịch làm việc” on Home screen
    - Nurse input the date to check schedule

### **3.3.6 Room/Get list rooms**

- Function trigger: Nurse taps on “Các phòng phụ trách” on Home screen
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can see the list of rooms they are responsible for
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: The list of rooms they are responsible for is shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Room name: text
    - Number of people in room: number
    - Address: text
    - Type: text
  - Business rule:

- Only displays the rooms that nurse is responsible for in the current day

### **3.3.7 Room/Get list elders in room**

- Function trigger: Nurse choose a room item
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can see the list of elderlies in room
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: The list of elderlies in room are shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Elder name: text
    - Age: number
    - Gender: text
    - Image: image

### **3.3.8 Elder/Get profile of an elder**

- Function trigger: Nurse choose an elder item
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can see the profile of selected elder
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: The profile of selected elder is shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Image: image
    - Name: text
    - Gender: date
    - Date of birth: date
    - Nursing home address: text
    - Address: text

### **3.2.9 Elder/Get health information of elder**

- Function trigger: Nurse taps on “Hồ sơ bệnh án”
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can see the health information of the elder
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: The health information of selected elder is shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - General index
    - Underlying disease

- Note

### **3.2.10 Elder/Get information of the customer representing the elder**

- Function trigger: Nurse taps on “Người đại diện”
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can see the profile of the customer representing the elder
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: The profile of the customer representing the elder is shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Image: image
    - Name: text
    - Gender: date
    - Date of birth: date
    - Phone: text
    - Email: text

### **3.2.11 Elder/Contact to customer representing the elder**

- Function trigger: Nurse taps on “Liên hệ khẩn cấp”
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can phone to the customer representing the elder
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: Nurse can successfully phone to the customer representing the elder
    - Fail: Show message to inform the error
- Function details:
  - Flow:
    - Actor taps on “Liên hệ khẩn cấp”
    - Click on button call on the phone screen

### **3.2.12 Health monitor/Get list health monitors of an elder**

- Function trigger: Nurse taps on “Báo cáo sức khỏe” on Home screen
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can see the list of health monitor
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: The list of health monitor are shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Elder name: text
    - Age: number
    - Gender: text

- Image: image
- Flow:
  - Actor taps on “Báo cáo sức khỏe” on Home screen
  - Actor choose an elder item

### **3.2.13 Health monitor/Create health monitor of an elder**

- Function trigger: Nurse tap on “+” icon on list of health monitor screen
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can create an health monitor
  - Pre condition: Nurse is successfully create an health monitor
  - Post condition:
    - Success: A health monitor is created in the system
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Health index title: text
    - Health index result: number
    - Health index status: text
    - Health index note: text
    - General note: text
  - Validation:
    - The value of health index result can not be negative
  - Flow:
    - Actor taps on “+” icon on list of health monitor screen
    - Actor input list of health index
    - Actor tap on “Tiếp tục”
    - Actor input the health monitor data
    - Actor tap on “Xác nhận”
  - Business rule:
    - After health monitor is created, the system must send a notification to the customer representing the elder
    - When the status of any health index is “Bất thường”, the system must send a notification to the customer representing the elder and the nurse must contact to customer representing the elder

### **3.2.14 Service register/Get list registered services**

- Function trigger: Nurse taps on “Các dịch vụ đã được đăng ký” on Home screen
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can see the list of registered service
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: The list of registered services is shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Elder data

- Elder name: text
  - Age: number
  - Gender: text
  - Image: image
  - Registered service data
  - Service name: text
  - Nurse name: text
  - Conduct time: time
  - Conduct status: text
- Business rule:
  - Only display registered services of elder in the rooms for which the nurse is responsible on current day

### **3.2.15 Service register/Mark to complete registered service**

- Function trigger: Nurse taps on “Xác nhận đã thực hiện”
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can mark to complete registered service
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: Nurse can successfully mark to complete registered service
    - Fail: Show message to inform the error.
- Function details:
  - Data:
    - Nurse name: text
    - Conduct time: time
  - Flow:
    - Actor taps on “Các dịch vụ đã được đăng ký”
    - Actor choose a registered service item
    - Actor taps on “Xác nhận đã thực hiện”
  - Business rule:
    - System change the status of registered service to “conducted”
    - System updates the nurse name of the registered service with the full name of the nurse and the conduct time service with the current time

### **3.2.16 Elder/Get detail profile of guardian**

- Function trigger: On Elder Detail Profile screen, nurse clicks on guardian name
- Function description:
  - Actors: Nurse
  - Purpose: Nurse can see detail profile of selected guardian
  - Pre condition: Nurse is successfully login to system
  - Post condition:
    - Success: All the profile of selected guardian is shown
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Gender: date

- Date of birth: date
- Address: text
- Phone number: text
- Relationship: text
- Email: text

### **3.4 Manager Features**

#### **3.4.1 Account/Login**

- Function trigger: Unauthenticated user request login to the system by tapping on the “Đăng nhập” button
- Function description:
  - Actors: Unauthenticated user
  - Purpose: User login to the system to verify role, give them access to more features in the system
  - Pre condition: Unauthenticated user must have an account
  - Post condition:
    - Success: Unauthenticated user successfully login
    - Fail: Show message to inform the error when wrong phone number or password, not connected to the Database or the Server.
- Function details:
  - Data:
    - Phone number: number
    - Password: text
  - Flow:
    - Unauthenticated user input phone number, password and tap on “Đăng nhập” button
    - System queries the phone number and password exist in the database
    - System validate and resolving content

#### **3.4.2 Account/Change password**

- Function trigger: Manager tap “Thay đổi mật khẩu”
- Function description:
  - Actors: Manager
  - Purpose: Manager can change their password
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Password is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Old password: text
    - New password: text
    - Confirm new password: text
  - Flow:
    - Manager input old password, new password and confirm new password and tap on “Đổi mật khẩu” button
    - System update new password for this account

### **3.4.3 Account/Update profile**

- Function trigger: Manager tap “Cập nhật thông tin” in profile
- Function description:
  - Actors: Manager
  - Purpose: Manager can change their profile
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Profile is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone number: number
    - Email: text
    - Address: text
  - Flow:
    - Manager tap “Thông tin” in drop down menu of avatar
    - Manager tap “Cập nhật thông tin” in :
    - Manager input phone number, email and address, and tap on “Cập nhật” button
    - System update profile for this account

### **3.4.4 Account/Forgot password**

- Function trigger: Manager tap “Quên mật khẩu” in login page
- Function description:
  - Actors: Manager
  - Purpose: Manager can change their password when they forgot
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Password is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone Number: number
    - OTP: number
    - New Password: text
    - Confirm Password: text
  - Flow:
    - Manager tap “Quên mật khẩu” in login page
    - Manager input phone number
    - Manager input OTP send in SMS
    - Manager tap “Tiếp tục”
    - Manager input password and confirm password, and tap on “Lấy lại mật khẩu” button
    - System update new password for this account

### **3.4.5 Room/View all room**

- Function trigger: Manager tap “Quản lý viện”
- Function description:

- Actors: Manager
- Purpose: Manager can view all room in nursing home
- Pre condition: Manager is successfully login to system
- Post condition:
  - Success: All room are shown in page
  - Fail: Show message to inform the error
- Function details:
  - Data:
    - Block: text
    - Number of rooms: number
    - Status: text
    - Number of beds: number
    - Type room: text
    - Number of empty beds: number

#### **3.4.6 Room/Create room**

- Function trigger: Manager tap “Tạo mới”
- Function description:
  - Actors: Manager
  - Purpose: Manager can create room
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully create a new room
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Block: text
    - Nursing package: text
  - Flow:
    - Manager input name, block and nursing package and tap on “Tạo phòng” button

#### **3.4.7 Customer/Get list of customers**

- Function trigger: Manager tap “Khách hàng” in navbar
- Function description:
  - Actors: Manager
  - Purpose: Manager can view list of customer
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view list of customer
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Date of birth: date
    - Phone number: number

- CMND or CCCD: number
- Gmail: text
- Address: text
- Gender: text

#### **3.4.8 Customer/Get detail of customer**

- Function trigger: Manager tap "Chi tiết" in "..."
- Function description:
  - Actors: Manager
  - Purpose: Manager can view detail of customer
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view all information of customer
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Date of birth: date
    - Phone number: number
    - CMND or CCCD: number
    - Gmail: text
    - Address: text
    - Gender: text

#### **3.4.9 Elder/Get list of elders**

- Function trigger: Manager tap "Người cao tuổi" in navbar
- Function description:
  - Actors: Manager
  - Purpose: Manager can view list of elder
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view list of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name of elder: text
    - Image: text
    - Name of customer: text
    - Date of birth: date
    - Gender: text
    - Room: text
    - Type of nursing package: text
    - Address: text

#### **3.4.10 Elder/Get detail of elder**

- Function trigger: Manager tap "Chi tiết" in "..."
- Function description:
  - Actors: Manager

- Purpose: Manager can view detail of elder
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view all information of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name of elder: text
    - Image: text
    - Name of customer: text
    - Date of birth: date
    - Gender: text
    - CCCD: number
    - InDate: date
    - OutDate: date
    - Room: text
    - Type of nursing package: text
    - Address: text

#### **3.4.11 Elder/Get contract information**

- Function trigger: Manager tap “Chi tiết” in “...”
- Function description:
  - Actors: Manager
  - Purpose: Manager can view contract information of elder
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view contract of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Sign date: date
    - Start date: date
    - End date: date
    - Content: text

#### **3.4.12 Elder/Get medical record of elder**

- Function trigger: Manager tap “Chi tiết” in “...”
- Function description:
  - Actors: Manager
  - Purpose: Manager can view medical record of elder
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view medical record of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Blood type: text

- Weight: text
- Height: text
- Underlying Disease: text
- Ability: text

#### **3.4.13 Appointment/Get list appointments**

- Function trigger: Manager tap “Lịch hẹn”
- Function description:
  - Actors: Manager
  - Purpose: Manager can view list of appointment
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view list of appointments
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Name of customer: text
    - Date: date
    - Type: text
    - Phone: number

#### **3.4.14 Nursing package/Get list of nursing packages**

- Function trigger: Manager tap “Quản lý gói dưỡng lão”
- Function description:
  - Actors: Manager
  - Purpose: Manager can view list of nursing package in nursing home
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view list of nursing package
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text
    - Price: number
    - Number: number

#### **3.4.15 Nursing package/Get detail of nursing package**

- Function trigger: Manager tap “Chi tiết” in “...”
- Function description:
  - Actors: Manager
  - Purpose: Manager can view detail of nursing package
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view detail of nursing package
    - Fail: Show message to inform the error
- Function details:
  - Data:

- Name: text
- Image: text
- Price: number
- Number: number
- Registration limit: number

#### **3.4.16 Nursing package/Create nursing package**

- Function trigger: Manager tap “Tạo mới”
- Function description:
  - Actors: Manager
  - Purpose: Manager can create nursing package
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully create nursing package
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text
    - Price: number
    - Number: number
    - Registration limit: number
  - Flow:
    - Manager input name, image, price and number, and tap on “Tạo mới” button
    - System create new nursing package in database

#### **3.4.17 Nursing package/Update nursing package**

- Function trigger: Manager tap “Cập nhật thông tin” in “...”
- Function description:
  - Actors: Manager
  - Purpose: Manager can update nursing package
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully update nursing package
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text
    - Price: number
    - Number: number
  - Flow:
    - Manager input name, image, price and number, and tap on “Cập nhật thông tin” button
    - System update nursing package in database
  - Business rules:

- For contracts that are still valid with the old nursing package, the old price will still be kept and not updated to the new price

#### **3.4.18 Nursing package/Delete nursing package**

- Function trigger: Manager tap “Xóa” in “...”
- Function description:
  - Actors: Manager
  - Purpose: Manager can delete nursing package
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully delete nursing package
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text
    - Price: number
    - Number: number
    - Registration limit: number
  - Flow:
    - Manager tap on “Xóa” button
    - System change status nursing package in database
  - Business rules:
    - For contracts that are still valid with the old nursing package, the old price will still be maintained

#### **3.4.19 Service package/Get list of service packages**

- Function trigger: Manager tap “Quản lý dịch vụ”
- Function description:
  - Actors: Manager
  - Purpose: Manager can view list of service package in nursing home
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view list of service package
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text
    - Price: number
    - Category of service: text
    - Type of service: text
    - Registration limit: number

#### **3.4.20 Service package/Get detail of service package**

- Function trigger: Manager tap “Chi tiết” in “...”
- Function description:
  - Actors: Manager
  - Purpose: Manager can view detail of service package

- Pre condition: Manager is successfully login to system
- Post condition:
  - Success: Manager successfully view detail of service package
  - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text
    - Price: number
    - Category of service: text
    - Type of service: text
    - Registration limit: number

#### **3.4.21 Service package/Create service package**

- Function trigger: Manager tap “Tạo mới”
- Function description:
  - Actors: Manager
  - Purpose: Manager can create service package
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully create service package
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text
    - Price: number
    - Category of service: text
    - Type of service: text
    - Registration limit: number
  - Flow:
    - Manager input name, image, price, category of service, type of service and registration limit, and tap on “Tạo mới” button
    - System create new service package in database

#### **3.4.22 Service package/Update service package**

- Function trigger: Manager tap “Cập nhật thông tin” in “...”
- Function description:
  - Actors: Manager
  - Purpose: Manager can update service package
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully update service package
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text

- Price: number
- Category of service: text
- Type of service: text
- Registration limit: number
- Flow:
  - Manager input name, image, price, category of service, type of service and registration limit, and tap on “Cập nhật” button
  - System update service package in database
- Business rules:
  - After service package is updated, the system can send a notification to the user
  - But if the service is repeated, the new price will apply from the following month

#### **3.4.23 Service package/Delete service package**

- Function trigger: Manager tap “Xóa” in “...”
- Function description:
  - Actors: Manager
  - Purpose: Manager can delete service package
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully delete service package
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text
    - Price: number
    - Category of service: text
    - Type of service: text
    - Registration limit: number
  - Flow:
    - Manager tap on “Xóa” button
    - System change status service package in database
  - Business rules:
    - Registered services still work normally
    - But the repeat service will not be repeated from the following month

#### **3.4.24 Employee/Get list of employees**

- Function trigger: Manager tap “Nhân viên”
- Function description:
  - Actors: Manager
  - Purpose: Manager can view list of employee in nursing home
  - Pre condition: Manager is successfully login to system
  - Post condition:
    - Success: Manager successfully view list of employee
    - Fail: Show message to inform the error
- Function details:

- Data:
  - FullName: text
  - Image: text
  - Position: text
  - Date of birth: date
  - Phone: number
  - Gmail: text
  - Gender: text

### **3.5 Staff Features**

#### **3.5.1 Account/Login**

- Function trigger: Unauthenticated user request login to the system by tapping on the “Đăng nhập” button
- Function description:
  - Actors: Unauthenticated user
  - Purpose: User login to the system to verify role, give them access to more features in the system
  - Pre condition: Unauthenticated user must have an account
  - Post condition:
    - Success: Unauthenticated user successfully login
    - Fail: Show message to inform the error when wrong phone number or password, not connected to the Database or the Server.
- Function details:
  - Data:
    - Phone number: number
    - Password: text
  - Flow:
    - Unauthenticated user input phone number, password and tap on “Đăng nhập” button
    - System queries the phone number and password exist in the database
    - System validate and resolving content

#### **3.5.2 Account/Change password**

- Function trigger: Staff tap “Thay đổi mật khẩu”
- Function description:
  - Actors: Staff
  - Purpose: Staff can change their password
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Password is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Old password: text
    - New password: text
    - Confirm new password: text
  - Flow:

- Staff input old password, new password and confirm new password and tap on “Đổi mật khẩu” button
- System update new password for this account

### **3.5.3 Account/Update profile**

- Function trigger: Staff tap “Cập nhật thông tin” in profile
- Function description:
  - Actors: Staff
  - Purpose: Staff can change their profile
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Profile is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone number: number
    - Email: text
    - Address: text
  - Flow:
    - Staff tap “Thông tin” in drop down menu of avatar
    - Staff tap “Cập nhật thông tin” in :
    - Staff input phone number, email and address, and tap on “Cập nhật” button
    - System update profile for this account

### **3.5.4 Account/Forgot password**

- Function trigger: Staff tap “Quên mật khẩu” in login page
- Function description:
  - Actors: Staff
  - Purpose: Staff can change their password when they forgot
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Password is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone Number: number
    - OTP: number
    - New Password: text
    - Confirm Password: text
  - Flow:
    - Manager tap “Quên mật khẩu” in login page
    - Manager input phone number
    - Manager input OTP send in SMS
    - Manager tap “Tiếp tục”
    - Manager input password and confirm password, and tap on “Lấy lại mật khẩu” button
    - System update new password for this account

### **3.5.5 Schedule/View all room**

- Function trigger: Staff tap “Phân công”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view all room in nursing home
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: All room are shown in page
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Block: text
    - Number of rooms: number
    - Status: text
    - Number of beds: number
    - Type room: text
    - Number of empty beds: number

### **3.5.6 Schedule/Create schedule**

- Function trigger: Staff tap “Xếp lịch” in “...”
- Function description:
  - Actors: Staff
  - Purpose: Staff can create schedule
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully create a new schedule
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Room: text
    - Block: text
    - Nursing package: text
    - Month: date
    - List nurse information
      - Name: text

### **3.5.7 Customer/Get list of customers**

- Function trigger: Staff tap “Quản lý khách hàng”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view list of customers
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view list of customer
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text

- Image: text
- Date of birth: date
- Phone number: number
- CMND or CCCD: number
- Gmail: text
- Address: text
- Gender: text

### **3.5.8 Customer/Get detail of customer**

- Function trigger: Staff tap "Chi tiết" in "..."
- Function description:
  - Actors: Staff
  - Purpose: Staff can view detail of customer
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view all information of customer
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Date of birth: date
    - Phone number: number
    - CMND or CCCD: number
    - Gmail: text
    - Address: text
    - Gender: text

### **3.5.9 Customer/Create customer information**

- Function trigger: Staff tap "Tạo mới"
- Function description:
  - Actors: Staff
  - Purpose: Staff can create customer information
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully create customer information
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Date of birth: date
    - Phone number: number
    - CMND or CCCD: number
    - Gmail: text
    - Address: text
    - Gender: text
  - Flow:

- Staff input fullname, image, date of birth, phone number, CMND or CCCD, gmail, address and gender, and tap on “Tạo mới” button
  - System create new customer information in database
- Business rules:
  - After customer information is created, the system can send a notification about account login into app to the user

### **3.5.10 Customer/Update customer information**

- Function trigger: Staff tap “Cập nhật thông tin” in “...”
- Function description:
  - Actors: Staff
  - Purpose: Staff can update customer information
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully update customer information
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Date of birth: date
    - Phone number: number
    - CMND or CCCD: number
    - Gmail: text
    - Address: text
    - Gender: text
  - Flow:
    - Staff input fullname, image, date of birth, phone number, CMND or CCCD, gmail, address and gender, and tap on “Cập nhật” button
    - System update new customer information in database

### **3.5.11 Elder/Get list of elders**

- Function trigger: Staff tap “Quản lý người cao tuổi”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view list of elder
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view list of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name of elder: text
    - Image: text
    - Name of customer: text
    - Date of birth: date
    - Gender: text
    - Room: text

- Type of nursing package: text
- Address: text

### **3.5.12 Elder/Get detail of elder**

- Function trigger: Staff tap "Chi tiết" in "..."
- Function description:
  - Actors: Staff
  - Purpose: Staff can view detail of elder
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view all information of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name of elder: text
    - Image: text
    - Name of customer: text
    - Date of birth: date
    - Gender: text
    - CCCD: number
    - InDate: date
    - OutDate: date
    - Room: text
    - Type of nursing package: text
    - Address: text

### **3.5.13 Elder/Create elder information**

- Function trigger: Staff tap "Tạo mới"
- Function description:
  - Actors: Staff
  - Purpose: Staff can create elder information
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully create information of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name of elder: text
    - Image: text
    - Name of customer: text
    - Date of birth: date
    - Gender: text
    - CCCD: number
    - Room: text
    - Type of nursing package: text
    - Address: text
    - Blood Type: text
    - Weight: text

- Height: text
  - Move: text
  - Underlying disease: text
- Flow:
  - Staff input name of elder, image, name of customer, date of birth, room, phone number, CMND or CCCD, blood Type, weight, height, move, underlying disease, address and gender, and tap on “Tạo mới” button
  - System create new elder information in database
- Business rules:
  - After elder information is created, the system can send a notification user
  - User can see elder information in application

#### **3.5.14 Elder/Update elder information**

- Function trigger: Staff tap “Cập nhật thông tin” in “...”
- Function description:
  - Actors: Staff
  - Purpose: Staff can update elder information
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully update information of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name of elder: text
    - Image: text
    - Name of customer: text
    - Date of birth: date
    - Gender: text
    - CCCD: number
    - Room: text
    - Type of nursing package: text
    - Address: text
    - Blood Type: text
    - Weight: text
    - Height: text
    - Move: text
    - Underlying disease: text
  - Flow:
    - Staff input name of elder, image, name of customer, date of birth, room, phone number, CMND or CCCD, blood Type, weight, height, move, underlying disease, address and gender, and tap on “Cập nhật” button
    - System update elder information in database

#### **3.5.15 Elder/Get contract information**

- Function trigger: Staff tap “Chi tiết” in “...”
- Function description:
  - Actors: Staff

- Purpose: Staff can view contract information of elder
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view contract information of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Sign date: date
    - Start date: date
    - End date: date
    - Price: number
    - Content: text

### **3.5.16 Elder/Get medical record of elder**

- Function trigger: Staff tap “Chi tiết” in “...”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view medical record of elder
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view medical record of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Blood type: text
    - Weight: text
    - Height: text
    - Underlying Disease: text
    - Ability: text

### **3.5.17 Appointment/Get list of appointments**

- Function trigger: Staff tap “Quản lý lịch hẹn”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view list of appointment
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view list of appointments
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Name of customer: text
    - Date: date
    - Type: text
    - Phone: number

### **3.5.18 Order/Get list of orders**

- Function trigger: Staff tap “Thông tin thanh toán”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view list of order
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view list of order
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Amount: number
    - Payment date: date
    - Due date: date
    - Method: text
    - Content: text

### **3.5.19 Order/Get detail of order**

- Function trigger: Staff tap “Chi tiết” in “...”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view detail of order
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view detail of order
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Amount: number
    - Payment date: date
    - Due date: date
    - Method: text
    - Content: text

### **3.5.20 Order/Pay the order**

- Function trigger: Staff tap “Thanh toán tiền mặt” in detail order popup
- Function description:
  - Actors: Staff
  - Purpose: Staff can pay orders to user
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Invoices Paid
    - Fail: Show message to inform the error
- Function details:
  - Flow:
    - Staff tap on “Thanh toán”
    - System change status of order to “Paid” in database
  - Business rules:

- After invoices paid, the system can send a notification user
- User can see paid order in application

### **3.5.21 Contract information/Get list of contracts information**

- Function trigger: Staff tap “Thông tin hợp đồng”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view list of contract information
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view list of contract information
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Elder Name: text
    - Customer Name: text
    - Image: text
    - Nursing package: text
    - Effective date: date
    - Expiration date: date

### **3.5.22 Contract information/Get detail of contract information**

- Function trigger: Staff tap “Chi tiết” in “...”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view detail of contract information
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view detail of contract information
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Elder Name: text
    - Customer Name: text
    - Image: text
    - Nursing package: text
    - Effective date: date
    - Expiration date: date

### **3.5.23 Contract information/Cancel contract**

- Function trigger: Staff tap “Hủy hợp đồng” in detail contract information
- Function description:
  - Actors: Staff
  - Purpose: Staff can cancel of contract information
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Cancel contract information successfully

- Fail: Show message to inform the error
- Function details:
  - Flow:
    - Staff tap on “Hủy hợp đồng”
    - Staff input reason cancel and tap “Xác nhận”
    - System change status of contract to “Cancel” in database
  - Business rules:
    - Cancellation of the contract must be confirmed by the customer and the reason

### **3.5.24 Contract information/Renew contract**

- Function trigger: Staff tap “Gia hạn” in detail contract information
- Function description:
  - Actors: Staff
  - Purpose: Staff can renew of contract information
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Renewal contract information successfully
    - Fail: Show message to inform the error
- Function details:
  - Flow:
    - Staff tap on “Gia hạn”
    - System change status of contract to “pending” in database
  - Business rules:
    - For renewal contracts, if the time in the contract has not reached the current time, the status is "pending", and if the time is the same, the status is "valid"
    - User can see contract information in application

### **3.5.25 Feedback/Get list of feedbacks**

- Function trigger: Staff tap “Danh sách đánh giá”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view list of feedback service
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view list of feedback service
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Service: text
    - Rate: text
    - Description: date
    - Implementation date: date

### **3.5.26 Feedback/Get detail of feedback**

- Function trigger: Staff tap “Chi tiết” in “...”
- Function description:

- Actors: Staff
- Purpose: Staff can view detail of feedback service
- Pre condition: Staff is successfully login to system
- Post condition:
  - Success: Staff successfully view detail of feedback service
  - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Name of elder: text
    - Phone: number
    - Room: text
    - Service: text
    - Nurse: text
    - Rate: text
    - Rate date: date
    - Description: date
    - Implementation date: date

### **3.5.27 Potential customer/Get list of potential customers**

- Function trigger: Staff tap “Khách hàng tiềm năng”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view list of potential customer
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view list of potential customer
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Fullname: text
    - Phone: number
    - Email: text
    - Title: text
    - Respond: bool

### **3.5.28 Potential customer/Get detail of potential customer**

- Function trigger: Staff tap “Chi tiết” in “...”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view detail of potential customer
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view detail of potential customer
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Fullname: text

- Phone: number
- Email: text
- Title: text
- Respond: bool
- Description: text

### **3.5.29 Health Category/Get list of health categories**

- Function trigger: Staff tap “Quản lý chỉ số sức khỏe”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view list of health categories
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view list of health categories
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Image: text
    - Description: text

### **3.5.30 Health Category/Get detail of health category**

- Function trigger: Staff tap “+”
- Function description:
  - Actors: Staff
  - Purpose: Staff can view detail of health category
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully view list of health category
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Unit: text
    - Min value: number
    - Max value: number
    - Description: text

### **3.5.31 Health Category/Create health category**

- Function trigger: Staff tap “Tạo mới”
- Function description:
  - Actors: Staff
  - Purpose: Staff can create health category
  - Pre condition: Staff is successfully login to system
  - Post condition:
    - Success: Staff successfully create health category
    - Fail: Show message to inform the error
- Function details:
  - Data:

- Name: text
- Information: text
- Units of measurement information
  - Name: text
  - Unit: text
  - Min value: number
  - Max value: number
  - Description: text
- Image: text

### **3.6 Director Features**

#### **3.6.1 Account/Login**

- Function trigger: Unauthenticated user request login to the system by tapping on the “Đăng nhập” button
- Function description:
  - Actors: Unauthenticated user
  - Purpose: User login to the system to verify role, give them access to more features in the system
  - Pre condition: Unauthenticated user must have an account
  - Post condition:
    - Success: Unauthenticated user successfully login
    - Fail: Show message to inform the error when wrong phone number or password, not connected to the Database or the Server.
- Function details:
  - Data:
    - Phone number: number
    - Password: text
  - Flow:
    - Unauthenticated user input phone number, password and tap on “Đăng nhập” button
    - System queries the phone number and password exist in the database
    - System validate and resolving content

#### **3.6.2 Account/Change password**

- Function trigger: Director tap “Thay đổi mật khẩu”
- Function description:
  - Actors: Director
  - Purpose: Director can change their password
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Password is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Old password: text
    - New password: text
    - Confirm new password: text
  - Flow:

- Director input old password, new password and confirm new password and tap on “Đổi mật khẩu” button
- System update new password for this account

### **3.6.3 Account/Update profile**

- Function trigger: Director tap “Cập nhật thông tin” in profile
- Function description:
  - Actors: Director
  - Purpose: Director can change their profile
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Profile is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone number: number
    - Email: text
    - Address: text
  - Flow:
    - Director tap “Thông tin” in drop down menu of avatar
    - Director tap “Cập nhật thông tin” in :
    - Director input phone number, email and address, and tap on “Cập nhật” button
    - System update profile for this account

### **3.6.4 Account/Forgot password**

- Function trigger: Director tap “Quên mật khẩu” in login page
- Function description:
  - Actors: Director
  - Purpose: Director can change their password when they forgot
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Password is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone Number: number
    - OTP: number
    - New Password: text
    - Confirm Password: text
  - Flow:
    - Manager tap “Quên mật khẩu” in login page
    - Manager input phone number
    - Manager input OTP send in SMS
    - Manager tap “Tiếp tục”
    - Manager input password and confirm password, and tap on “Lấy lại mật khẩu” button
    - System update new password for this account

### **3.6.5 Dashboard/Get list of charts**

- Function trigger: Director tap "Thống kê"
- Function description:
  - Actors: Director
  - Purpose: Director can view dashboard of nursing home
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Director successfully view dashboard of nursing home
    - Fail: Show message to inform the error

### **3.6.6 Dashboard/Get detail of chart**

- Function trigger: Director tap on chart
- Function description:
  - Actors: Director
  - Purpose: Director can view detail of chart
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Director successfully view detail of chart
    - Fail: Show message to inform the error

### **3.6.7 Customer/Get list of customers**

- Function trigger: Director tap "Khách hàng"
- Function description:
  - Actors: Director
  - Purpose: Director can view list of customer
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Director successfully view list of customer
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Date of birth: date
    - Phone number: number
    - CMND or CCCD: number
    - Gmail: text
    - Address: text
    - Gender: text

### **3.6.8 Customer/Get detail of customer**

- Function trigger: Director tap "Chi tiết" in "..."
- Function description:
  - Actors: Director
  - Purpose: Director can view detail of customer
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Director successfully view all information of customer
    - Fail: Show message to inform the error

- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Date of birth: date
    - Phone number: number
    - CMND or CCCD: number
    - Gmail: text
    - Address: text
    - Gender: text

### ***3.6.9 Elder/Get list of elders***

- Function trigger: Director tap “Người cao tuổi”
- Function description:
  - Actors: Director
  - Purpose: Director can view list of elder
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Director successfully view list of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name of elder: text
    - Image: text
    - Name of customer: text
    - Date of birth: date
    - Gender: text
    - Room: text
    - Type of nursing package: text
    - Address: text

### ***3.6.10 Elder/Get detail of elder***

- Function trigger: Director tap “Chi tiết” in “...”
- Function description:
  - Actors: Director
  - Purpose: Director can view detail of elder
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Director successfully view all information of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name of elder: text
    - Image: text
    - Name of customer: text
    - Date of birth: date
    - Gender: text
    - CCCD: number

- InDate: date
- OutDate: date
- Room: text
- Type of nursing package: text
- Address: text

### **3.6.11 Elder/Get contract information**

- Function trigger: Director tap “Xem chi tiết” in :
- Function description:
  - Actors: Director
  - Purpose: Director can view contract information of elder
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Director successfully view contract information of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Name: text
    - Sign date: date
    - Start date: date
    - End date: date
    - Price: number
    - Content: text

### **3.6.12 Elder/Get medical record of elder**

- Function trigger: Director tap “Xem chi tiết” in :
- Function description:
  - Actors: Director
  - Purpose: Director can view medical record of elder
  - Pre condition: Director is successfully login to system
  - Post condition:
    - Success: Director successfully view medical record of elder
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Blood type: text
    - Weight: text
    - Height: text
    - Underlying Disease: text
    - Ability: text

### **3.6.13 Employee/Get list of employees**

- Function trigger: Manager tap “Nhân viên”
- Function description:
  - Actors: Manager
  - Purpose: Manager can view list of employee in nursing home
  - Pre condition: Manager is successfully login to system
  - Post condition:

- Success: Manager successfully view list of employee
  - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Position: text
    - Date of birth: date
    - Phone: number
    - Gmail: text
    - Gender: text

### **3.7 Admin Features**

#### **3.7.1 Account/Login**

- Function trigger: Unauthenticated user request login to the system by tapping on the “Đăng nhập” button
- Function description:
  - Actors: Unauthenticated user
  - Purpose: User login to the system to verify role, give them access to more features in the system
  - Pre condition: Unauthenticated user must have an account
  - Post condition:
    - Success: Unauthenticated user successfully login
    - Fail: Show message to inform the error when wrong phone number or password, not connected to the Database or the Server.
- Function details:
  - Data:
    - Phone number: number
    - Password: text
  - Flow:
    - Unauthenticated user input phone number, password and tap on “Đăng nhập” button
    - System queries the phone number and password exist in the database
    - System validate and resolving content

#### **3.7.2 Account/Change password**

- Function trigger: Admin tap “Thay đổi mật khẩu”
- Function description:
  - Actors: Admin
  - Purpose: Admin can change their password
  - Pre condition: Admin is successfully login to system
  - Post condition:
    - Success: Password is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Old password: text
    - New password: text

- Confirm new password: text
- Flow:
  - Admin input old password, new password and confirm new password and tap on “Đổi mật khẩu” button
  - System update new password for this account

### **3.7.3 Account/Update profile**

- Function trigger: Admin tap “Cập nhật thông tin” in profile
- Function description:
  - Actors: Admin
  - Purpose: Admin can change their profile
  - Pre condition: Admin is successfully login to system
  - Post condition:
    - Success: Profile is change successfully
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - Phone number: number
    - Email: text
    - Address: text
  - Flow:
    - Admin tap “Thông tin” in drop down menu of avatar
    - Admin tap “Cập nhật thông tin” in :
    - Admin input phone number, email and address, and tap on “Cập nhật” button
    - System update profile for this account

### **3.7.4 System/Get list of accounts in system**

- Function trigger: Admin tap “Tài khoản”
- Function description:
  - Actors: Admin
  - Purpose: Admin can view list of customer
  - Pre condition: Admin is successfully login to system
  - Post condition:
    - Success: Admin successfully view list of customer
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Phone number: number
    - Gmail: text
    - Duty: text

### **3.7.5 System/Delete account**

- Function trigger: Admin tap “Xóa”
- Function description:
  - Actors: Admin
  - Purpose: Admin can delete account
  - Pre condition: Admin is successfully login to system

- Post condition:
  - Success: Account will delete in database
  - Fail: Show message to inform the error
- Function details:
  - Flow:
    - Admin tap on “Xóa” button
    - System Delete this account

### **3.7.6 Employee/Get list of employees**

- Function trigger: Admin tap “Nhân viên”
- Function description:
  - Actors: Admin
  - Purpose: Admin can view list of employee in nursing home
  - Pre condition: Admin is successfully login to system
  - Post condition:
    - Success: Admin successfully view list of employee
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Position: text
    - Date of birth: date
    - Phone: number
    - Gmail: text
    - Gender: text

### **3.7.7 Employee/Get detail of employee**

- Function trigger: Admin tap “Chi tiết” in “...”
- Function description:
  - Actors: Admin
  - Purpose: Admin can view detail of employee in nursing home
  - Pre condition: Admin is successfully login to system
  - Post condition:
    - Success: Admin successfully view detail of employee
    - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Position: text
    - Date of birth: date
    - Phone: number
    - Gmail: text
    - Gender: text

### **3.7.8 Employee/Create employee**

- Function trigger: Admin tap “+”
- Function description:

- Actors: Admin
  - Purpose: Admin can create elder information
  - Pre condition: Admin is successfully login to system
  - Post condition:
  - Success: Admin successfully create new employee
  - Fail: Show message to inform the error
- Function details:
  - Data:
    - FullName: text
    - Image: text
    - Position: text
    - Date of birth: date
    - Phone: number
    - Gmail: text
    - Gender: text
  - Flow:
    - Staff input all field and tap on “Tạo thông tin” button
    - System create new employee information in database
    - System create account for this employee

## **4. Non-Functional Requirements**

### **4.1 External Interfaces**

- Language used in the application is Vietnamese
- UI can be responsive on multiple screens, allowing the main content to display without scrolling horizontal appearance

### **4.2 Quality Attributes**

#### **4.2.1 Usability**

- All text, label, alert, and notification should be written in Vietnamese.
- The web application for the customers should be simple and easy to use without training.
- The web application for the staff should require more than 2 hours of training.

#### **4.2.2 Reliability**

- System is designed based on 3-layer architecture. Every component in the system is easy to maintain and develop.
- Naming conventions for classes, attributes, methods are meaningful which can explain the purpose of the variable.

#### **4.2.3 Security**

- CareConnect system is currently divided into 6 roles: Admin, Director, Manager, Staff, Nurse and Customer.
- All input data are validated before saving the database. (length limits, data formats, or allowed characters)
- Each role of the user has a specific permission to interact with the system.
- The system always checks for authorization and authentication before doing any features.
- Using hash passwords.

## 5. Requirement Appendix

### 5.1 Business Rules

*Table 26 - Business Rules*

ID	Rule Definition
BR-01	Personal information must be unique with information such as phone number, citizen identification number, username and email address.
BR-02	Customer age must be 18 years or older.
BR-03	Password format must be equal to or more than 8 characters, at least 1 uppercase letter, at least 1 lowercase letter, at least 1 number and 1 special character.
BR-04	When customer information is created directly at the nursing home, an account will be created for the customer with the login name being the phone number and the password will be sent via SMS.
BR-05	Guardians of the elderly can not have the same phone number.
BR-06	When the procedure is completed, the system will automatically generate an order for completing the payment of the nursing package to the customer.
BR-07	Once the procedure is complete, the elder's information should be in the system and the elder should be assigned to a room.
BR-08	For contracts, it is not allowed to update the contract, but when information is changed, a new contract must be created, and the old contract must be in the "Cancel" status.
BR-09	Regarding the contract term, for contracts with one month remaining, a notification will be sent to the customer. If the customer renews within that month, a new contract will be created with the status "Pending", if the startDate is equal to the current date, the new contract's status will be changed to "Valid", and the contract expires, the status will change to "Expired".
BR-10	Regarding the contract term, for contracts with one month left, a notification will be sent to the customer. If the customer does not renew within that month, when the endDate of the current contract is equal to the current date, the status will change to "Expired".
BR-11	When creating a contract, the startDate must be no more than 30 days from the current date.

BR-12	When creating a new contract, the system checks if the customer has a contract in "Valid" status. If so, it checks if the startDate of the new contract is within the effective date of the old contract. Then the contract will not be created.
BR-13	When changing the contract (Expired or Cancelled), the elderly's information is still saved in the system but the status will change to "Deleted". When creating a new contract with the same information as the previously existing elderly, the information will be created normally if the elderly's status is "Deleted".
BR-14	When creating an appointment, only one appointment can be created per appointment type on the same day.
BR-15	Customer appointments are not created in past and current dates.
BR-16	Create appointments only for future dates and no more than 14 days in the future
BR-17	For each room, there will be nurses appropriate to each shift. If the room is elderly, there must be a nurse on duty.
BR-18	The gap between working shifts must be one shift. They cannot be placed consecutively like evening and morning shifts, but must take breaks for nurses to rest.
BR-19	When customers choose the service, customers can choose payment methods between Momo and VnPAY. After successful payment, the system will create an order to complete the service payment for the customer.
BR-20	When creating a health report, a notification and mail must be sent to customer
BR-21	When booking a service, you can not book the current date or the past date.
BR-22	Services that customers have booked and rebooked must be disabled on the booked date.
BR-23	For the anyday service, select only the current month and the next two months.
BR-24	On the 25th of each month, a notification will appear confirming that the service will be available the following month. The last day of the current month is the deadline for payment of that order. Otherwise, the services will not be performed the following month.

BR-25	For services to be repeated the following month, it must be based on the term of the contract. If the contract ends next month, there is no need to send the confirmation notification.
BR-26	While confirming the service to be performed next month, if the customer chooses "Pay later", the payment date of the order will be the last day of the current month.
BR-27	Orders with status "Failed" or "Unpaid" can be repaid by the customer. If the payment is overdue, the status will change to "Overdue" and the customer will not be able to repay the order.
BR-28	When updating a service with a registration limit, if the number of new registrations is lower than the number of current registrations, the number of registered customers must be notified.
BR-29	With categories of components such as health, service,..., removing only changes the status and cannot be deleted directly. The purpose is for users who want to reuse that category.
BR-30	Confirmation of service performed by the nurse must be made on the exact date the service was performed.
BR-31	Service feedback will be opened after the last day of service performance. And the review period is after 5 days excluding the last day.
BR-32	When creating information with indicators such as weight, height,... in medical records then only the constraint is not negative numbers.
BR-33	Health index values are not negative.

## 5.2 Common Requirements

- **CR-01** Login: User can log into the application/web app
- **CR-02** Logout: User can log out the application/web app
- **CR-03** View profile: User can view information of profile
- **CR-04** Update profile: User can update the information of profile
- **CR-05** Change password: User can change password

## 5.3 Application Messages List

### 5.3.1 Customer Application Messages List

Table 27 - Customer Message List

#	Message code	Message Type	Context	Content
01	MSG-01	In red, under the text box	Phone number or password is not correct when clicking sign-in	Thông tin đăng nhập không hợp lệ. Vui lòng thử lại.

02	MSG-02	In red, under the text box	An error occurred when the server processed the login request	Đã có lỗi xảy ra. Vui lòng thử lại sau.
03	MSG-03	In red, under the text box	Input-required fields are empty when login	<Field name> không được để trống
04	MSG-04	Toast message	Login successfully	Đăng nhập thành công
05	MSG-05	In red, under the text box	Input-required fields are empty when register	<Field name> không được để trống
06	MSG-06	In red, under the text box	Register with the phone number already exist in the system	Số điện thoại đã được đăng ký
07	MSG-07	In red, under the text box	Register with the email already exist in the system	Email đã được đăng ký
08	MSG-08	In red, under the text box	Register with a incorrect format field	Định dạng <Field name> không hợp lệ
09	MSG-09	In red, under the text box	Register with date of birth under 18 years old	Người dưới 18 tuổi không được đăng ký tài khoản
10	MSG-10	In red, under the text box	Register with invalid format password	Mật khẩu phải có ít nhất 8 ký tự, 1 chữ hoa, 1 chữ thường, 1 số và 1 ký tự đặc biệt
11	MSG-11	In red, under the text box	Register with password and confirmation password do not match	Mật khẩu không trùng khớp
12	MSG-12	In red, under the text box	Register with invalid OTP	Mã xác thực không hợp lệ
13	MSG-13	In line	Register successfully	Đăng ký thành công
14	MSG-14	In red, under the text box	Payment failed	Đã có lỗi xảy ra khi thanh toán. Vui lòng thử lại!

15	MSG-15	Toast message	Payment failed when the order is paid	Thanh toán thất bại. Đơn hàng đã được thanh toán xong.
16	MSG-16	Toast message	Payment failed when the order is overdue	Thanh toán thất bại. Đơn hàng đã quá hạn thanh toán.
17	MSG-17	Toast message	Payment successfully	Đã thực hiện thanh toán thành công.
18	MSG-18	In red, under the text box	Input-required fields are empty when feedback	<Field name> không được để trống
19	MSG-19	Toast message	Feedback successfully	Gửi đánh giá thành công!
20	MSG-20	In line	Register to sign contract successfully	Đăng ký hoàn thành thủ tục thành công
21	MSG-21	In red, under the text box	Cancel contract request blank reason	Vui lòng điền lý do
22	MSG-22	In line	Cancel contract request successfully	Yêu cầu hủy hợp đồng đã được gửi đi
23	MSG-23	In line	Renew contract request successfully	Hẹn lịch gia hạn hợp đồng thành công
24	MSG-24	In line	Register to visitation successfully	Đăng ký thăm nuôi thành công
25	MSG-25	Toast message	Register service successfully	Đăng ký dịch vụ thành công
26	MSG-26	Toast message	Register service failed	Đã xảy ra lỗi khi đăng ký dịch vụ
27	MSG-27	Toast message	Register service when the contract expires	Một số ngày bạn chọn vượt qua hạn kết thúc hợp đồng. Vui lòng chọn ngày khác.
28	MSG-28	Toast message	Register the same service on the same day for elder	Dịch vụ này đã được đăng ký cho người cao tuổi <Tên người cao tuổi>

29	MSG-29	Toast message	Register the expired service	Dịch vụ đã hết hạn đăng ký. Bạn vui lòng chọn dịch vụ khác.
30	MSG-30	Toast message	Register the services that have run out of registrations	Dịch vụ đã hết lượt đăng ký. Bạn vui lòng chọn dịch vụ khác.
31	MSG-31	Toast message	Confirm renew service successfully	Xác nhận đăng ký thành công
32	MSG-32	Toast message	Confirm renew service fail	Đăng ký thành công. Bạn vui lòng thanh toán dịch vụ trước ngày <hạn cuối thanh toán>
33	MSG-33	In red, under the text box	Edit profile with the phone number already exist in the system	Số điện thoại tồn tại trong hệ thống
34	MSG-34	In red, under the text box	Edit profile with the email already exist in the system	Email đã tồn tại trong hệ thống
35	MSG-35	In red, under the text box	Edit profile with a incorrect format field	Định dạng <Field name> không hợp lệ
36	MSG-36	Toast message	Edit profile successfully	Chỉnh sửa thông tin thành công
37	MSG-37	In red, under the text box	Invalid image	Đăng tải ảnh bị lỗi. Xin vui lòng thử lại sau.
38	MSG-38	In red, under the text box	Invalid image	Ảnh không đúng định dạng. Xin vui lòng thử lại!
39	MSG-15	In red, under the text box	Invalid image.	Dung lượng ảnh tối đa không thể lớn hơn 5MB. Xin vui lòng thử lại
40	MSG-16	In red, under the text box	Change password	Mật khẩu phải có ít nhất 8 ký tự, 1 chữ hoa, 1 chữ thường, 1 số và 1 ký tự đặc biệt

41	MSG-17	In red, under the text box	Change password	Mật khẩu cũ không hợp lệ
42	MSG-18	In red, under the text box	Change password	Mật khẩu mới và xác nhận mật khẩu mới không khớp. Vui lòng thử lại!
43	MSG-19	Toast message	Change password	Bạn đã thay đổi mật khẩu thành công!
44	MSG-20	In line	There is not any search result	Không tìm thấy nội dung
45	MSG-21	Toast message	Create guardian successfully	Thêm người giám hộ thành công.
46	MSG-22	Toast message	Create guardian fail	Đã có lỗi xảy ra, vui lòng thử lại.
47	MSG-23	Toast message	Create duplicated guardian phone number	Số điện thoại của người giám hộ này đã tồn tại. Vui lòng thử lại.
48	MSG-24	Toast message	Update guardian successfully	Cập nhật người giám hộ thành công.
49	MSG-25	Toast message	Update guardian fail	Đã có lỗi xảy ra, vui lòng thử lại.
50	MSG-26	Toast message	Update duplicated guardian phone number	Số điện thoại của người giám hộ này đã tồn tại. Vui lòng thử lại.
51	MSG-27	Toast message	Delete guardian successfully	Xóa thành công.

### 5.3.2 Nurse Application Messages List

Table 28 - Nurse Message List

#	Message code	Message Type	Context	Content
01	MSG01	In red, under the text box	Phone number or password is not correct when clicking sign-in	Thông tin đăng nhập không hợp lệ. Vui lòng thử lại.

02	MSG02	In red, under the text box	An error occurred when the server processed the login request	Đã có lỗi xảy ra. Vui lòng thử lại sau.
03	MSG03	In red, under the text box	Input-required fields are empty when login	<Field name> không được để trống
04	MSG04	Toast message	Login successfully	Đăng nhập thành công
05	MSG05	In red, under the text box	Edit profile with the phone number already exist in the system	Số điện thoại tồn tại trong hệ thống
06	MSG06	In red, under the text box	Edit profile with the email already exist in the system	Email đã tồn tại trong hệ thống
07	MSG07	In red, under the text box	Edit profile with a incorrect format field	Định dạng <Field name> không hợp lệ
08	MSG08	Toast message	Edit profile successfully	Chỉnh sửa thông tin thành công
09	MSG09	In red, under the text box	Change password	Mật khẩu phải có ít nhất 8 ký tự, 1 chữ hoa, 1 chữ thường, 1 số và 1 ký tự đặc biệt
10	MSG10	In red, under the text box	Change password	Mật khẩu cũ không hợp lệ
11	MSG11	In red, under the text box	Change password	Mật khẩu mới và xác nhận mật khẩu mới không khớp. Vui lòng thử lại!
12	MSG12	Toast message	Change password successfully	Bạn đã thay đổi mật khẩu thành công!
13	MSG13	In red, under the text box	Create health monitor failed	<Field name> không được để trống
14	MSG14	Toast message	Create health monitor failed	Đã có lỗi xảy ra khi tạo báo cáo sức khỏe. Vui lòng thử lại sau

15	MSG15	Toast message	Create health monitor successfully	Tạo báo cáo sức khỏe thành công
16	MSG16	Toast message	Confirm to done service successfully	Xác nhận đã thực hiện dịch vụ thành công
17	MSG17	Toast message	Confirm to done service failed	Đã có lỗi xảy ra khi xác nhận thực hiện dịch vụ. Vui lòng thử lại sau

### 5.3.3 Manager Application Messages List

Table 29 - Manager Message List

#	Message code	Message Type	Context	Content
01	MSG01	In red, under the text box	Phone number or password is not correct when clicking sign-in	Thông tin đăng nhập không hợp lệ. Vui lòng thử lại.
02	MSG02	In red, under the text box	An error occurred when the server processed the login request	Đã có lỗi xảy ra. Vui lòng thử lại sau.
03	MSG03	In red, under the text box	Edit profile with the email already exist in the system	Email đã tồn tại trong hệ thống
04	MSG04	Toast message	Edit profile successfully	Chỉnh sửa thông tin thành công
05	MSG05	In red, under the text box	Create something with empty input required fields	<Field name> không được để trống
06	MSG06	In red, under the text box	Create something with invalid input required fields	Định dạng <Field name> không hợp lệ
07	MSG07	In red, under the text box	Create something with duplicate input required fields	<Field name> đã được sử dụng
08	MSG08	Toast message	Create something successfully	Tạo <Something> thành công
09	MSG09	Toast message	Create something unsuccessfully	Tạo <Something> không thành công

### 5.3.4 Staff Application Messages List

Table 30 - Staff Message List

#	Message code	Message Type	Context	Content
01	MSG01	In red, under the text box	Phone number or password is not correct when clicking sign-in	Thông tin đăng nhập không hợp lệ. Vui lòng thử lại.
02	MSG02	In red, under the text box	An error occurred when the server processed the login request	Đã có lỗi xảy ra. Vui lòng thử lại sau.
03	MSG03	In red, under the text box	Edit profile with the email already exist in the system	Email đã tồn tại trong hệ thống
04	MSG04	Toast message	Edit profile successfully	Chỉnh sửa thông tin thành công
05	MSG05	In red, under the text box	Create something with empty input required fields	<Field name> không được để trống
06	MSG06	In red, under the text box	Create something with invalid input required fields	Định dạng <Field name> không hợp lệ
07	MSG07	In red, under the text box	Create something with duplicate input required fields	<Field name> đã được sử dụng
08	MSG08	Toast message	Create something successfully	Tạo <Something> thành công
09	MSG09	Toast message	Create something unsuccessfully	Tạo <Something> không thành công

### 5.3.5 Director Application Messages List

Table 31 - Director Message List

#	Message code	Message Type	Context	Content
01	MSG01	In red, under the text box	Phone number or password is not correct when clicking sign-in	Thông tin đăng nhập không hợp lệ. Vui lòng thử lại.

02	MSG02	In red, under the text box	An error occurred when the server processed the login request	Đã có lỗi xảy ra. Vui lòng thử lại sau.
03	MSG03	In red, under the text box	Edit profile with the email already exist in the system	Email đã tồn tại trong hệ thống
04	MSG04	Toast message	Edit profile successfully	Chỉnh sửa thông tin thành công
05	MSG05	In red, under the text box	Create something with empty input required fields	<Field name> không được để trống
06	MSG06	In red, under the text box	Create something with invalid input required fields	Định dạng <Field name> không hợp lệ
07	MSG07	In red, under the text box	Create something with duplicate input required fields	<Field name> đã được sử dụng
08	MSG08	Toast message	Create something successfully	Tạo <Something> thành công
09	MSG09	Toast message	Create something unsuccessfully	Tạo <Something> không thành công

### 5.3.6 Admin Application Messages List

Table 32 - Admin Message List

#	Message code	Message Type	Context	Content
01	MSG01	In red, under the text box	Phone number or password is not correct when clicking sign-in	Thông tin đăng nhập không hợp lệ. Vui lòng thử lại.
02	MSG02	In red, under the text box	An error occurred when the server processed the login request	Đã có lỗi xảy ra. Vui lòng thử lại sau.
03	MSG03	In red, under the text box	Edit profile with the email already exist in the system	Email đã tồn tại trong hệ thống

04	MSG04	Toast message	Edit profile successfully	Chỉnh sửa thông tin thành công
05	MSG05	In red, under the text box	Create something with empty input required fields	<Field name> không được để trống
06	MSG06	In red, under the text box	Create something with invalid input required fields	Định dạng <Field name> không hợp lệ
07	MSG07	In red, under the text box	Create something with duplicate input required fields	<Field name> đã được sử dụng
08	MSG08	Toast message	Create something successfully	Tạo <Something> thành công
09	MSG09	Toast message	Create something unsuccessfully	Tạo <Something> không thành công

## IV. Software Design Description

### 1. System Design

#### 1.1 System Architecture

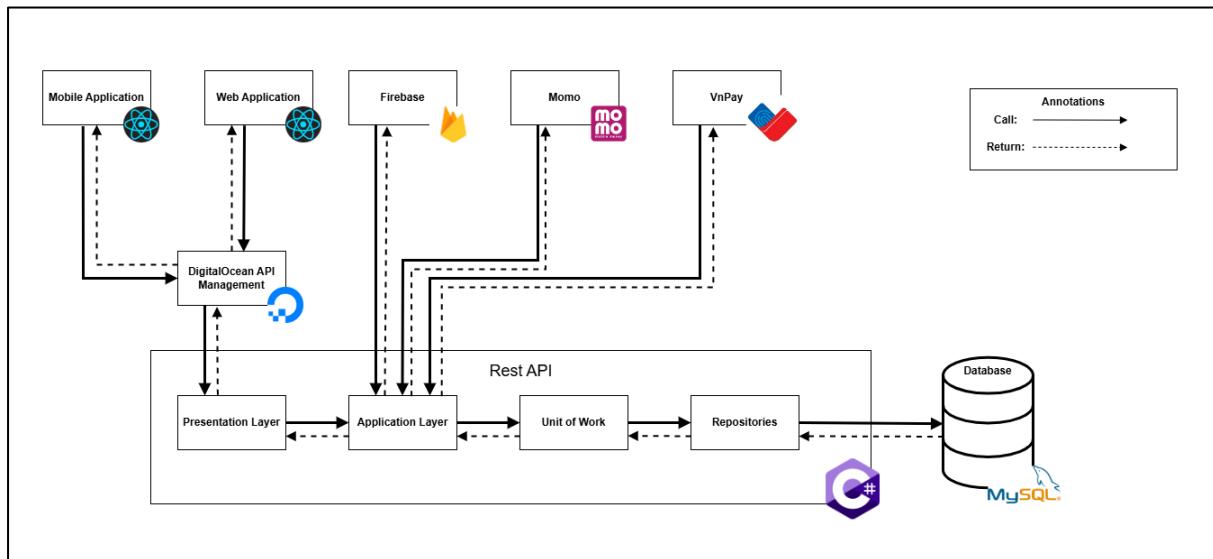


Figure 12 - [System Architecture](#)

## 1.2 Package Diagram

### 1.2.1 Front-end Package Diagram

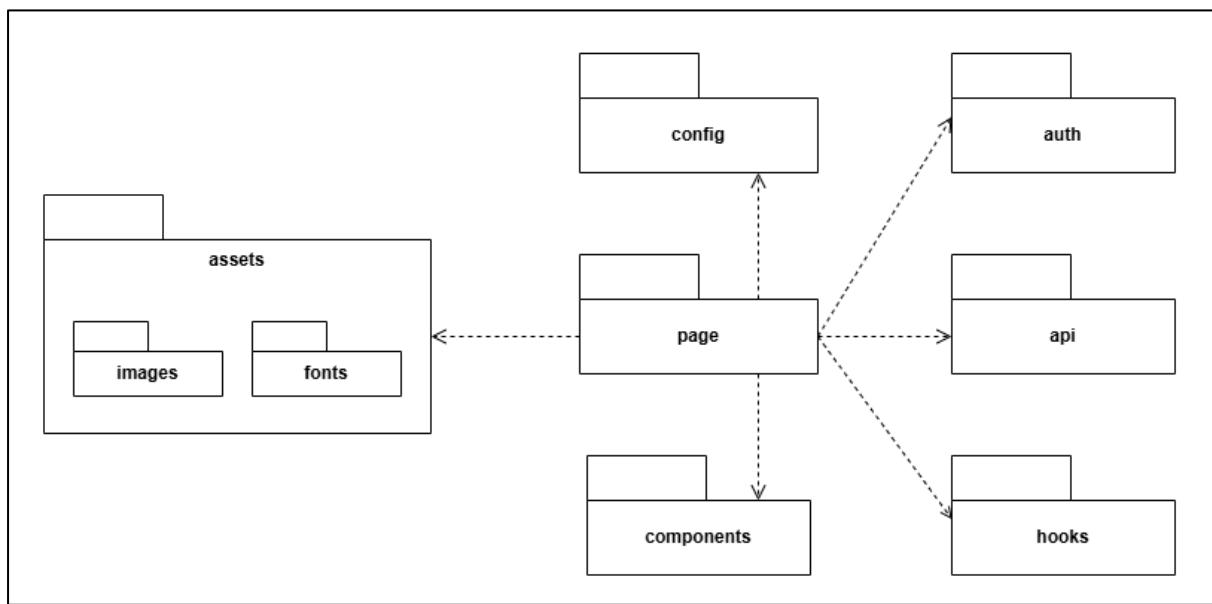


Figure 13 - [FrontEnd Package Diagram](#)

### Package Descriptions

Table 33 - [FrontEnd Package Description](#)

No	Package	Description
01	page	Contains different pages of the app
02	assets	Contains all static assets, such as fonts and images, icons,...
03	components	Contains a collection of UI components like buttons, modals, inputs, loader,...
04	hooks	Contains reusable functions (hooks) that encapsulate specific logic ( local storage interaction,...)
05	config	Contains configuration files for the entire application (Firebase, i18n, and navigation,...)
06	api	Contains functions for making API requests, handling authentication, error management, and other common tasks related to API communication
07	auth	Contains components and logic related to user authentication, including login, registration,...

### 1.2.2 Mobile Package Diagram

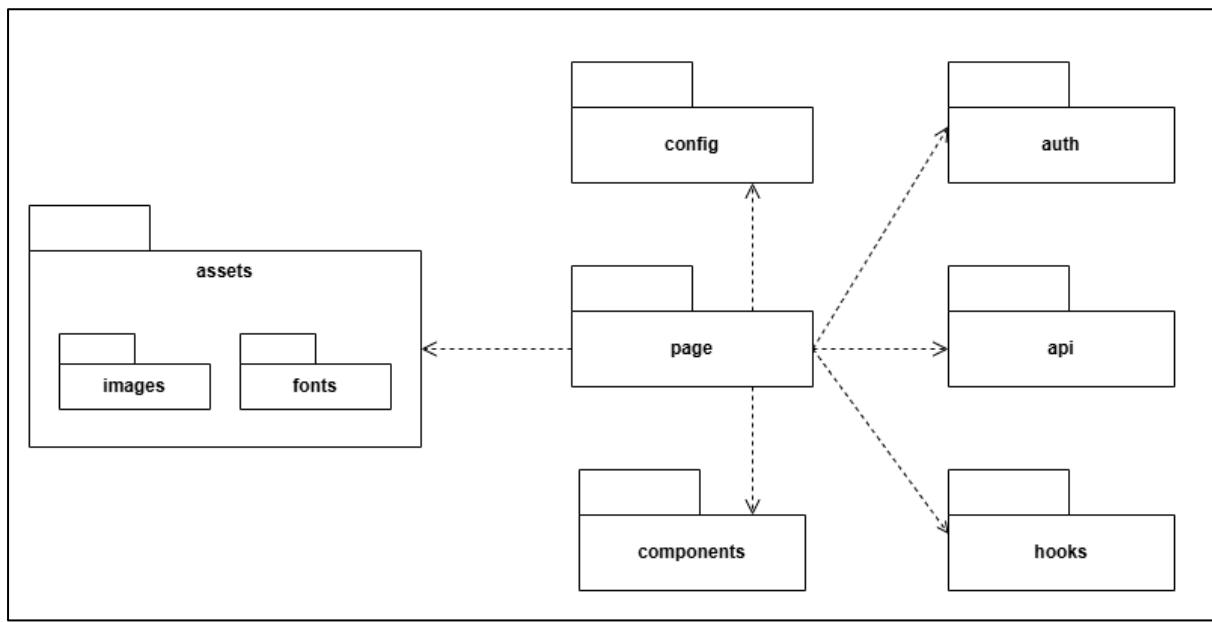


Figure 14 - [Mobile Package Diagram](#)

### Package Descriptions

Table 34 - [Mobile Package Description](#)

No	Package	Description
01	page	Contains different pages of the app
02	assets	Contains all static assets, such as fonts and images, icons,...
03	components	Contains a collection of UI components like buttons, modals, inputs, loader,....
04	hooks	Contains reusable functions (hooks) that encapsulate specific logic ( local storage interaction,...)
05	config	Contains configuration files for the entire application (Firebase, i18n, and navigation,...)
06	api	Contains functions for making API requests, handling authentication, error management, and other common tasks related to API communication
07	auth	Contains components and logic related to user authentication, including login, registration,...

### 1.2.2 Back-end Package Diagram

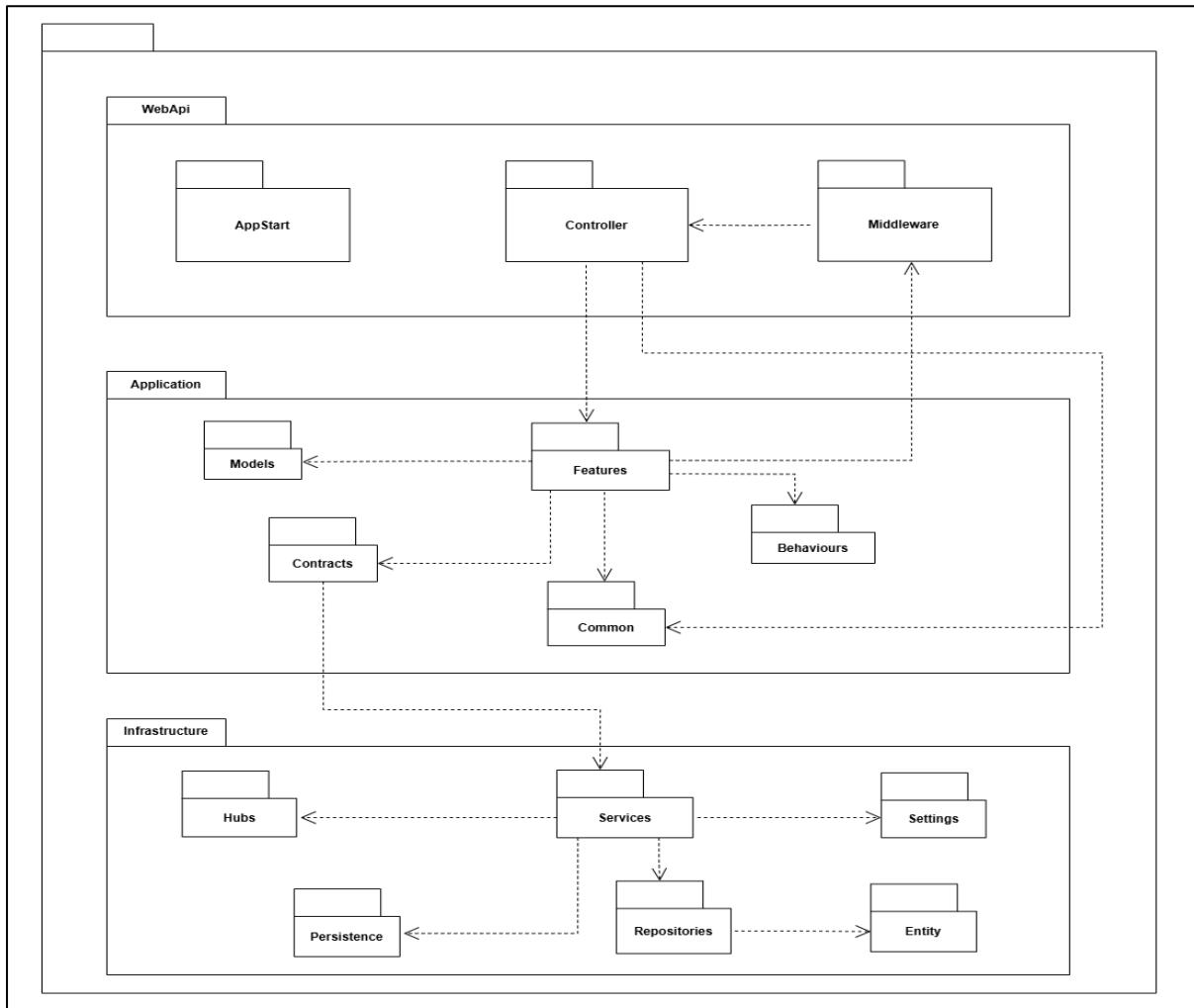


Figure 15 - [BackEnd Package Diagram](#)

### Package Descriptions

Table 35 - BackEnd Package Description

No	Package	Description
01	App Start	Contains code files to configure the application at startup, such as routing, DI (Dependency Injection) configuration, Web API configuration, BundleConfig, FilterConfig, RouteConfig, and others.
02	Controller	Controllers often contain methods (called actions) that correspond to specific requests from the user.
03	Middleware	Middleware are components that handle incoming HTTP requests and responses from the server. It can perform tasks such as authentication, logging, error handling, and data compression
04	Features	This directory contains commands, command handlers, and contains queries and query processing

05	Models	Contains basic folders of the system such as payment format samples like momo or vnPay, response information for users or possibly a paging request
06	Behaviours	Contains system log entries including queries such as request and response
07	Contracts	Contains directories for connecting to 3rd party services
08	Common	Contains directories containing requests sent by the user such as paging, sorting and responses returned to the user such as status
09	Services	Contains directories that reference classes or components responsible for implementing a set of functions related to the application's business logic.
10	Hubs	Contains directories that are mainly responsible for communication between server and client, helping to simplify the process of calling methods from server to client and vice versa.
11	Settings	Contains configuration files to easily get the system's configuration information in the appsettings.json file
12	Persistence	Contains the system's initial directories including the DbContext directory, the Migrations directory to use code first and the necessary information for data
13	Entity	Contains models or entities that represent data in the system.
14	Repositories	Contains classes that access data and perform database operations.

## 2. Database Design

## 2.1 Database

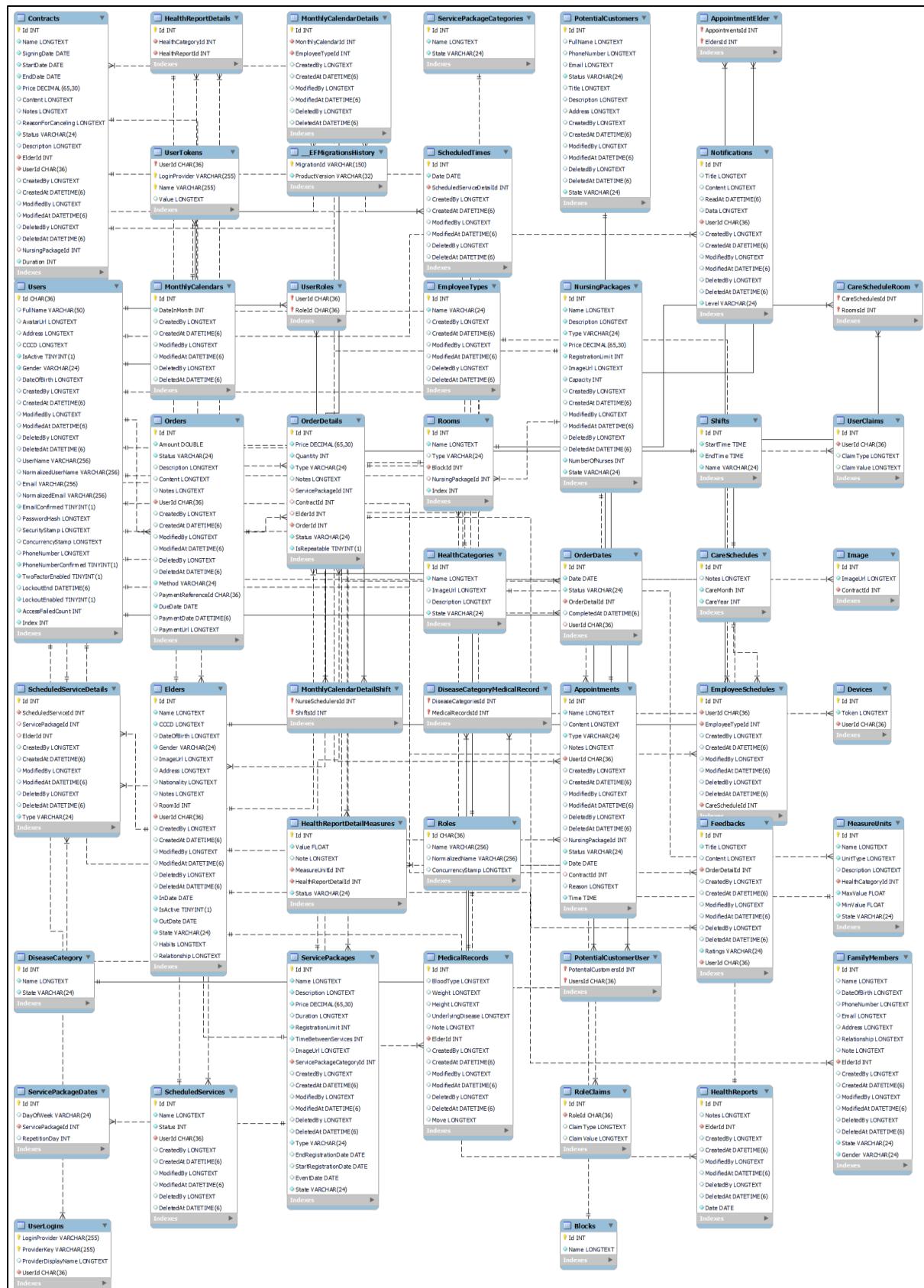


Figure 16 - Database Diagram

## 2.2 Database Description

### 2.2.1 Table role

Table 36 - Table Role Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	char(36)	No	Yes	PK
Name	varchar(256)	No	Yes	
NormalizedName	varchar(256)		No	
ConcurrencyStamp	longtext		No	

### 2.2.2 Table userroles

Table 37 - Table User Role Description

Field Name	Type	Allow Nulls	Unique	PK/FK
UserId	char(36)	No	No	FK
RoleId	char(36)	No	No	FK

### 2.2.3 Table users

Table 38 - Table User Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	char(36)	Yes	Yes	PK
FullName	varchar(50)	Yes	No	
AvatarUrl	longtext	Yes	No	
Address	longtext	Yes	No	
CCCD	longtext	Yes	Yes	
IsActive	tinyint(1)	No	No	
Gender	varchar(24)	No	No	
DateOfBirth	longtext	Yes	No	
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	
UserName	varchar(256)	No	Yes	
NormalizedUserName	varchar(256)	No	No	
Email	varchar(256)	Yes	Yes	
NormalizedEmail	varchar(256)	Yes	No	
EmailConfirmed	tinyint(1)	Yes	No	
PasswordHash	longtext	No	No	
SecurityStamp	longtext	No	No	
PhoneNumber	longtext	Yes	Yes	

### 2.2.4 Table appointments

Table 39 - Table Appointment Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	No	No	

Content	longtext	Yes	No	
Reason	longtext	Yes	No	
Date	datetime(6)	No	No	
Type	varchar(24)	No	No	
Status	varchar(24)	No	No	
Time	time	No	No	
Notes	longtext	Yes	No	
UserId	char(36)	No	No	FK
NursingPackageId	int	Yes	No	FK
ContractId	int	Yes	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

## 2.2.5 Table appointmentelder

Table 40 - Table Appointment Elder Description

Field Name	Type	Allow Nulls	Unique	PK/FK
AppointmentsId	int	No	No	FK
EldersId	int	No	No	FK

## 2.2.6 Table blocks

Table 41 - Table Block Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	No	Yes	

## 2.2.7 Table careschedules

Table 42 - Table Care Schedule Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
CareMonth	int	No	No	
CareYear	int	No	No	
Notes	longtext	Yes	No	

## 2.2.8 Table contracts

Table 43 - Table Contract Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	No	No	
SigningDate	date	No	No	
StartDate	date	No	No	
EndDate	date	No	No	
Duration	int	No	No	
Price	Decimal(65,30)	Yes	No	

Content	longtext	Yes	No	
Notes	longtext	Yes	No	
ReasonForCanceling	longtext	No	No	
Status	varchar(24)	Yes	No	
Description	longtext	Yes	No	
ElderId	int	No	No	FK
UserId	char(36)	No	No	FK
NursingPackageId	int	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

## 2.2.9 Table devices

Table 44 - Table Device Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Token	longtext	No	No	
UserId	char(36)	No	No	FK

## 2.2.10 Table diseasecategory

Table 45 - Table Disease Category Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	No	FK
Name	longtext	No	No	

## 2.2.11 Table elders

Table 46 - Table Elders Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	No	No	
CCCD	longtext	No	Yes	
DateOfBirth	longtext	Yes	No	
Gender	varchar(24)	No	No	
ImageUrl	longtext	Yes	No	
Address	longtext	Yes	No	
Nationality	longtext	Yes	No	
Notes	longtext	Yes	No	
InDate	date	No	No	
OutDate	date	No	No	
IsActive	tinyint(1)	Yes	No	
RoomId	int	No	No	FK
UserId	char(36)	No	No	FK
CreateBy	longtext	Yes	No	

CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	
State	varchar(24)	Yes	No	
Habits	longtext	Yes	No	
Relationship	longtext	Yes	No	

#### 2.2.12 Table employeeschedules

Table 47 - Table Employee Schedule Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
CareScheduleId	int	No	No	FK
UserId	char(36)	No	No	FK
EmployeeTypeId	int	Yes	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

#### 2.2.13 Table employeetypes

Table 48 - Table Employee TypeDescription

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	int	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

#### 2.2.14 Table feedbacks

Table 49 - Table Feedback Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Title	longtext	No	No	
Ratings	varchar(24)	No	No	
Content	longtext	Yes	No	
OrderDetailId	int	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	

ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 2.2.15 Table healthcategories

Table 50 - Table Health Category Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	No	Yes	
State	nvarchar(24)	No	No	
ImageUrl	longtext	Yes	No	
Description	longtext	Yes	No	

### 2.2.16 Table healthreports

Table 51 - Table Health Report Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Date	datetime(6)	No	No	
Notes	longtext	Yes	No	
ElderId	int	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 2.2.17 Table healthreportdetails

Table 52 - Table Health Report Detail Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
HealthCategoryId	int	No	No	FK
HealthReportId	int	No	No	FK

### 2.2.18 Table healthreportdetailmeasures

Table 53 - Table Health Report Detail Measures Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Value	float	No	No	
Status	varchar(24)	No	No	
Note	longtext	Yes	No	
MeasureUnitId	int	No	No	FK
HealthReportDetailId	int	No	No	FK

### **2.2.19 Table image**

*Table 54 - Table Image Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
ImageUrl	varchar(255)	No	No	
ContractId	int	No	No	FK

### **2.2.20 Table measureunits**

*Table 55 - Table Measures Units Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	Yes	No	
UnitType	longtext	Yes	No	
State	nvarchar(24)	No	No	
MinValue	Float	No	No	
MaxValue	Float	No	No	
Description	longtext	Yes	No	
CareScheduleId	int	No	No	FK
UserId	char(36)	No	No	FK
EmployeeTypeld	int	Yes	No	FK

### **2.2.21 Table medicalrecords**

*Table 56 - Table Medical Records Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
BloodType	longtext	Yes	No	
Weight	longtext	Yes	No	
Height	longtext	Yes	No	
UnderlyingDisease	longtext	Yes	No	
Note	longtext	Yes	No	
ElderId	int	No	No	FK
Move	longtext	Yes	No	
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### **2.2.22 Table monthlycalendars**

*Table 57 - Table Monthly Calendar Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
DateInMonth	int	No	No	
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	

ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 2.2.23 Table monthlycalendardetails

Table 58 - Table Monthly Calendar Details Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
MonthlyCalendarId	int	No	No	FK
EmployeeTypeld	int	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 2.2.24 Table notifications

Table 59 - Table Notification Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Title	longtext	No	No	
Content	longtext	No	No	
Level	varchar(24)	Yes	No	
ReadAt	datetime(6)	Yes	No	
Data	longtext	No	No	
UserId	char(36)	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 2.2.25 Table nursingpackages

Table 60 - Table Nursing Packages Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	No	Yes	
Description	longtext	Yes	No	
Type	varchar(24)	No	No	
State	varchar(24)	No	No	
Price	decimal(65,30)	No	No	
RegistrationLimit	int	Yes	No	
Capacity	int	No	No	

ImageUrl	longtext	Yes	No	
NumberOfNurses	int	Yes	No	
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 2.2.26 Table orders

Table 61 - Table Orders Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Amount	double	No	No	
Status	varchar(24)	No	No	
Description	longtext	Yes	No	
Content	longtext	Yes	No	
Notes	longtext	Yes	No	
UserId	char(36)	No	No	FK
PaymentDate	datetime(6)	No	No	
PaymentUrl	longtext	No	No	
DueDate	datetime(6)	No	No	
Method	varchar(24)	No	No	
PaymentReferenceId	char(36)	Yes	No	
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 2.2.27 Table orderdates

Table 62 - Table Order Date Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Date	date	No	No	
Status	varchar(24)	No	No	
CompletedAt	datetime(6)	No	No	
OrderDetailId	int	No	No	FK
UserId	char(36)	Yes	No	FK

### 2.2.28 Table orderdetails

Table 63 - Table OrderDatail Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Price	decimal(65,30)	No	No	

Quantity	int	No	No	
Type	varchar(24)	No	No	
Status	nvarchar(24)	No	No	
Notes	longtext	Yes	No	
ServicePackageld	int	Yes	No	FK
ContractId	int	Yes	No	FK
ElderId	int	No	No	FK
OrderId	int	No	No	FK

### 2.2.29 Table potentialcustomers

Table 64 - Table Potential Customer Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
FullName	varchar(255)	Yes	No	
PhoneNumber	longtext	Yes	No	
State	nvarchar(24)	No	No	
Email	varchar(255)	Yes	No	
Status	varchar(24)	No	No	
Title	varchar(255)	Yes	No	
Description	varchar(255)	Yes	No	
Address	varchar(255)	Yes	No	
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 2.2.30 Table potentialcustomeruser

Table 65 - Table Potential Customer User Description

Field Name	Type	Allow Nulls	Unique	PK/FK
UserId	char(36)	No	No	FK
PotentialCustomerId	int	No	No	FK

### 2.2.31 Table rooms

Table 66 - Table Room Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	Yes	Yes	
Type	varchar(24)	No	No	
BlockId	int	No	No	FK
NursingPackageld	int	Yes	No	FK
Index	int	No	No	

### **2.2.32 Table scheduledservices**

*Table 67 - Table Scheduled Service Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	varchar(255)	No	No	
Status	varchar(24)	No	No	
UserId	char(36)	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### **2.2.33 Table scheduledservicedetails**

*Table 68 - Table Scheduled Service Detail Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Type	nvarchar(24)	No	No	
ScheduledServiceId	int	No	No	FK
ServicePackagId	int	Yes	No	FK
ElderId	int	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### **2.2.34 Table scheduledtimes**

*Table 69 - Table Scheduled Service Detail Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Date	date	No	No	
ScheduledServiceId	int	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### **2.2.35 Table servicepackages**

*Table 70 - Table Service Packages Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK

Name	longtext	No	Yes	
Description	longtext	Yes	No	
Price	decimal(65,30)	No	No	
Duration	longtext	Yes	No	
State	nvarchar(24)	No	No	
RegistrationLimit	int	No	No	
TimeBetweenServices	int	No	No	
ImageUrl	longtext	Yes	No	
ServicePackageCategoryId	int	No	No	FK
StartRegistrationDate	date	No	No	
EndRegistrationDate	date	No	No	
Type	nvarchar(24)	No	No	
EventDate	date	Yes	No	
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 2.2.36 Table servicepackagecategories

Table 71 - Table Service Package Categories Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	No	Yes	
State	nvarchar(24)	No	Yes	

### 2.2.37 Table servicepackagedates

Table 72 - Table Service Package Dates Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
RepetitionDay	int	Yes	No	
DayOfWeek	nvarchar(24)	Yes	No	
ServicePackageId	int	No	No	FK

### 2.2.38 Table shifts

Table 73 - Table Shifts Description

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	varchar(24)	No	Yes	
StartTime	time	No	No	
EndTime	time	No	No	

### 2.2.39 Table carescheduleroom

Table 74 - Table Room Care Schedules Description

Field Name	Type	Allow Nulls	Unique	PK/FK
CareSchedulesId	int	No	No	FK

RoomsId	int	No	No	FK
---------	-----	----	----	----

#### **2.2.40 Table diseasecategorymedicalrecord**

*Table 75 - Table Disease Category Medication Record Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
DiseaseCategoriesId	int	No	No	FK
MedicalRecordsId	int	No	No	FK

#### **2.2.41 Table monthlycalendardetailshift**

*Table 76 - Table Monthly calendar Detail Shift Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
NurseSchedulersId	int	No	No	FK
ShiftsId	int	No	No	FK

#### **2.2.42 Table familymembers**

*Table 77 - Table Family Member Description*

Field Name	Type	Allow Nulls	Unique	PK/FK
Id	int	No	Yes	PK
Name	longtext	No	No	
DateOfBirth	longtext	Yes	No	
PhoneNumber	longtext	Yes	No	
Gender	longtext	Yes	No	
State	longtext	Yes	No	
Email	longtext	Yes	No	
Address	longtext	Yes	No	
Relationship	longtext	Yes	No	
Note	longtext	Yes	No	
ElderId	int	No	No	FK
CreateBy	longtext	Yes	No	
CreateAt	datetime(6)	Yes	No	
ModifiedBy	longtext	Yes	No	
ModifiedAt	datetime(6)	Yes	No	
DeleteBy	longtext	Yes	No	
DeleteAt	datetime(6)	Yes	No	

### 3. Detailed Design

#### 3.1 Create appointment

##### 3.1.1 Class Diagram

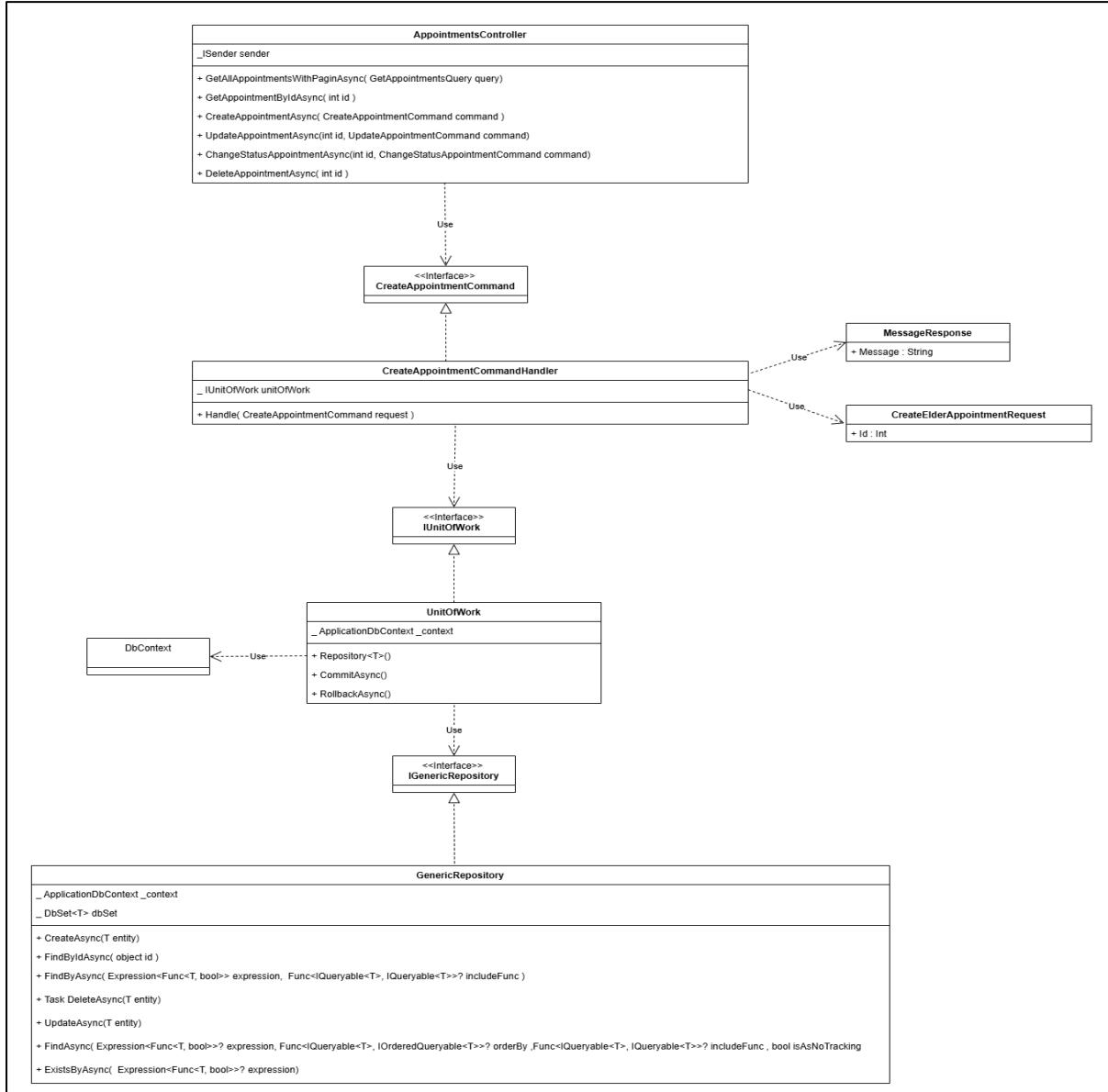


Figure 17 - [Create Appointment Class Diagram](#)

### 3.1.2 Sequence Diagram

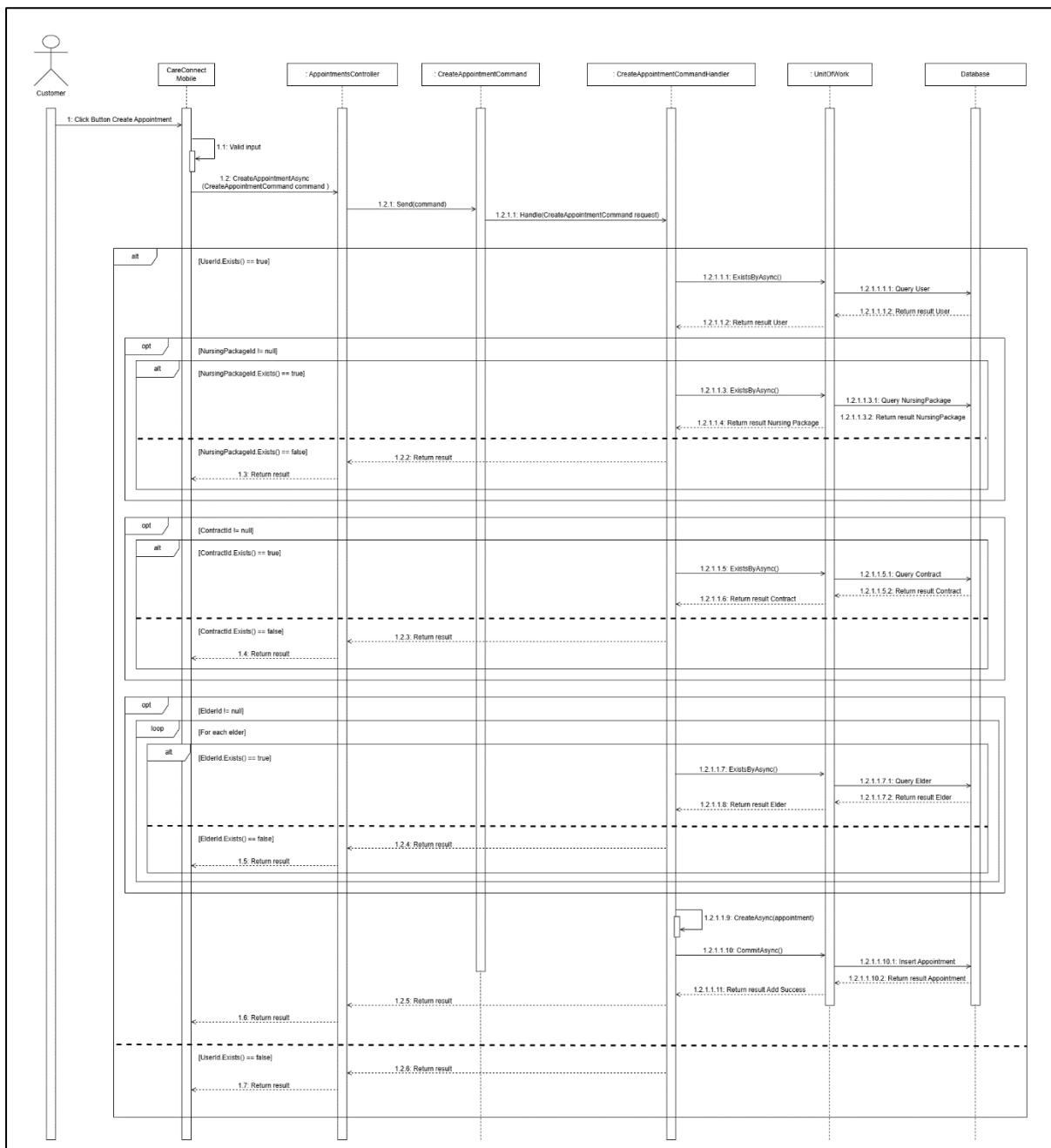


Figure 18 - [Create Appointment Sequence Diagram](#)

### 3.1.3 Activity Diagram

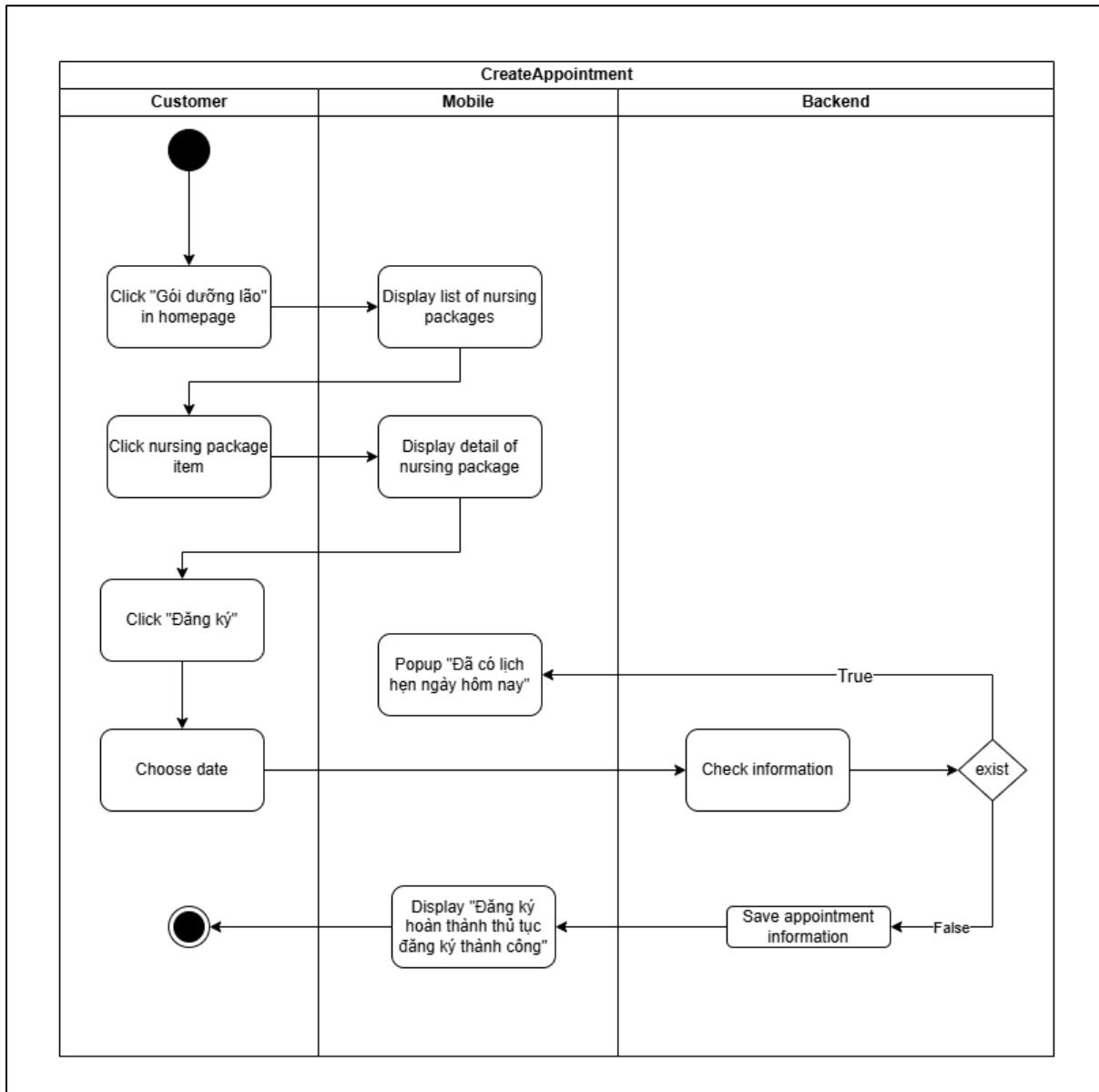


Figure 19 - [Create Appointment Activity Diagram](#)

### 3.1.4 State Machine Diagram

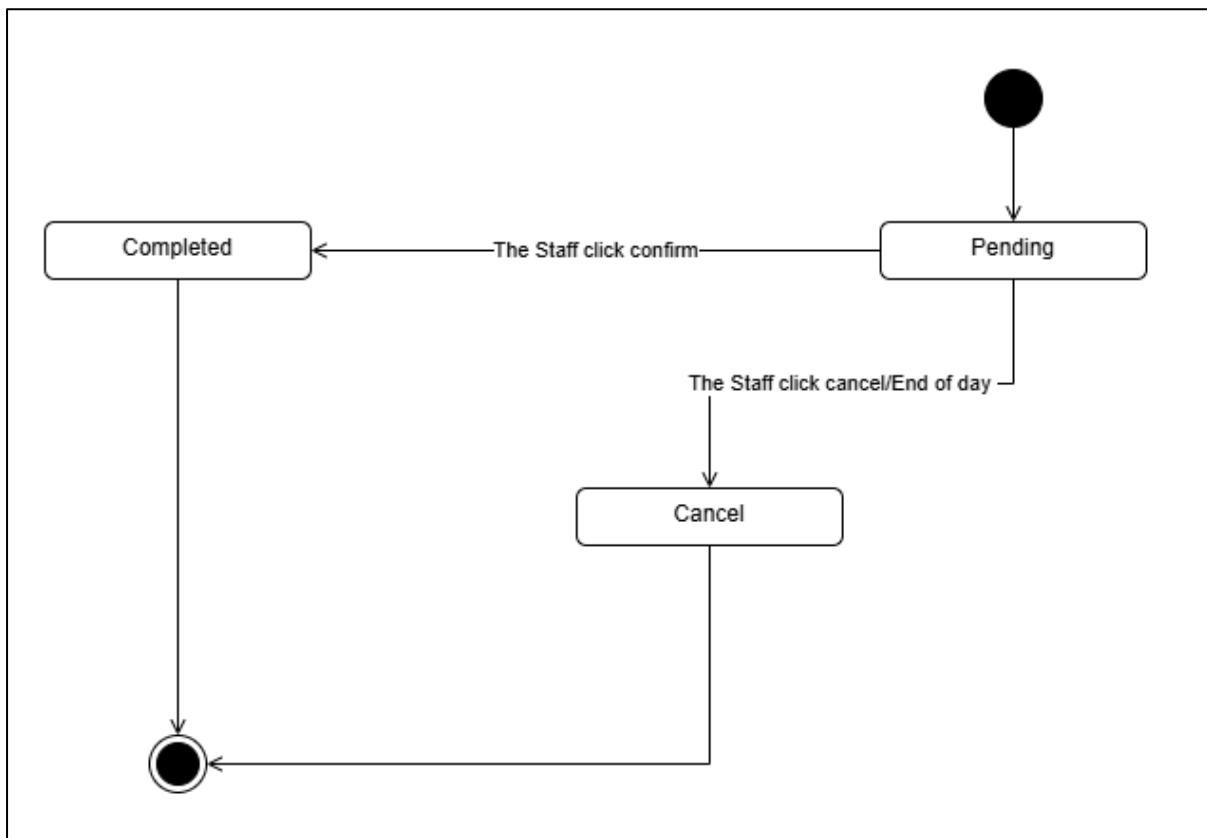


Figure 20 - *Appointment State Machine Diagram*

### 3.2 Create elder

### **3.2.1 Class Diagram**

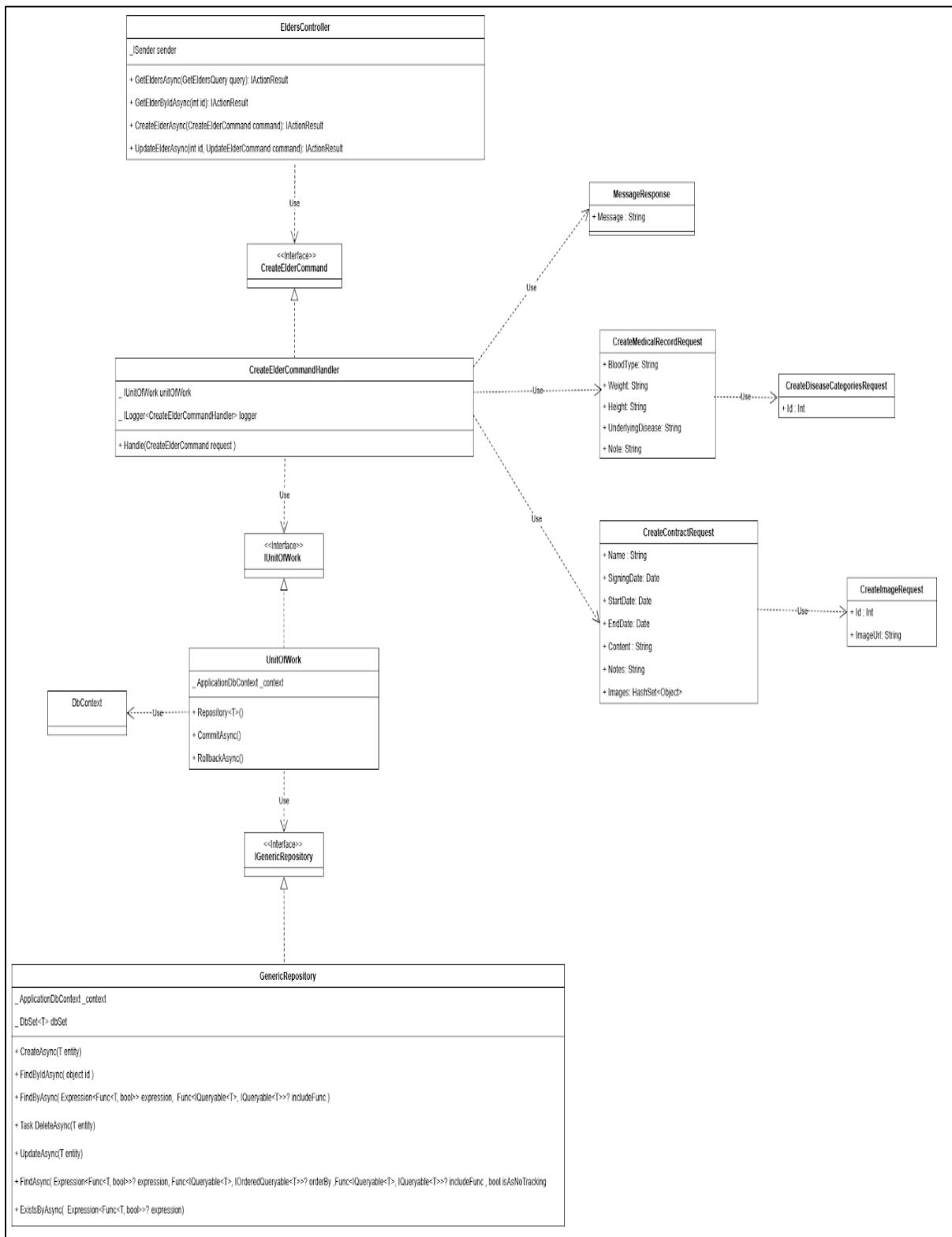


Figure 21 - Create Elder Class Diagram

### 3.2.2 Sequence Diagram

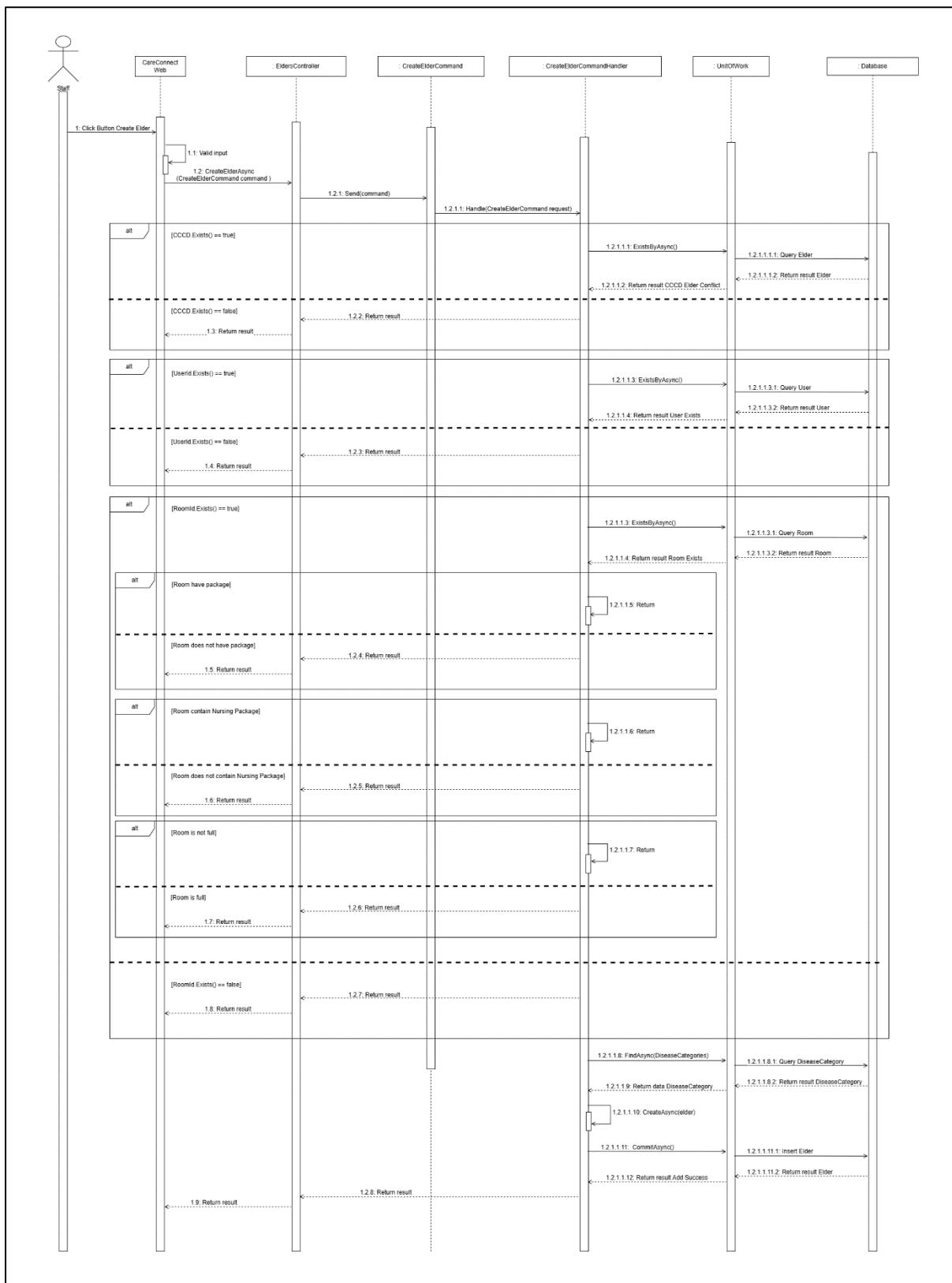


Figure 22 - [Create Elder Sequence Diagram](#)

### 3.2.3 Activity Diagram

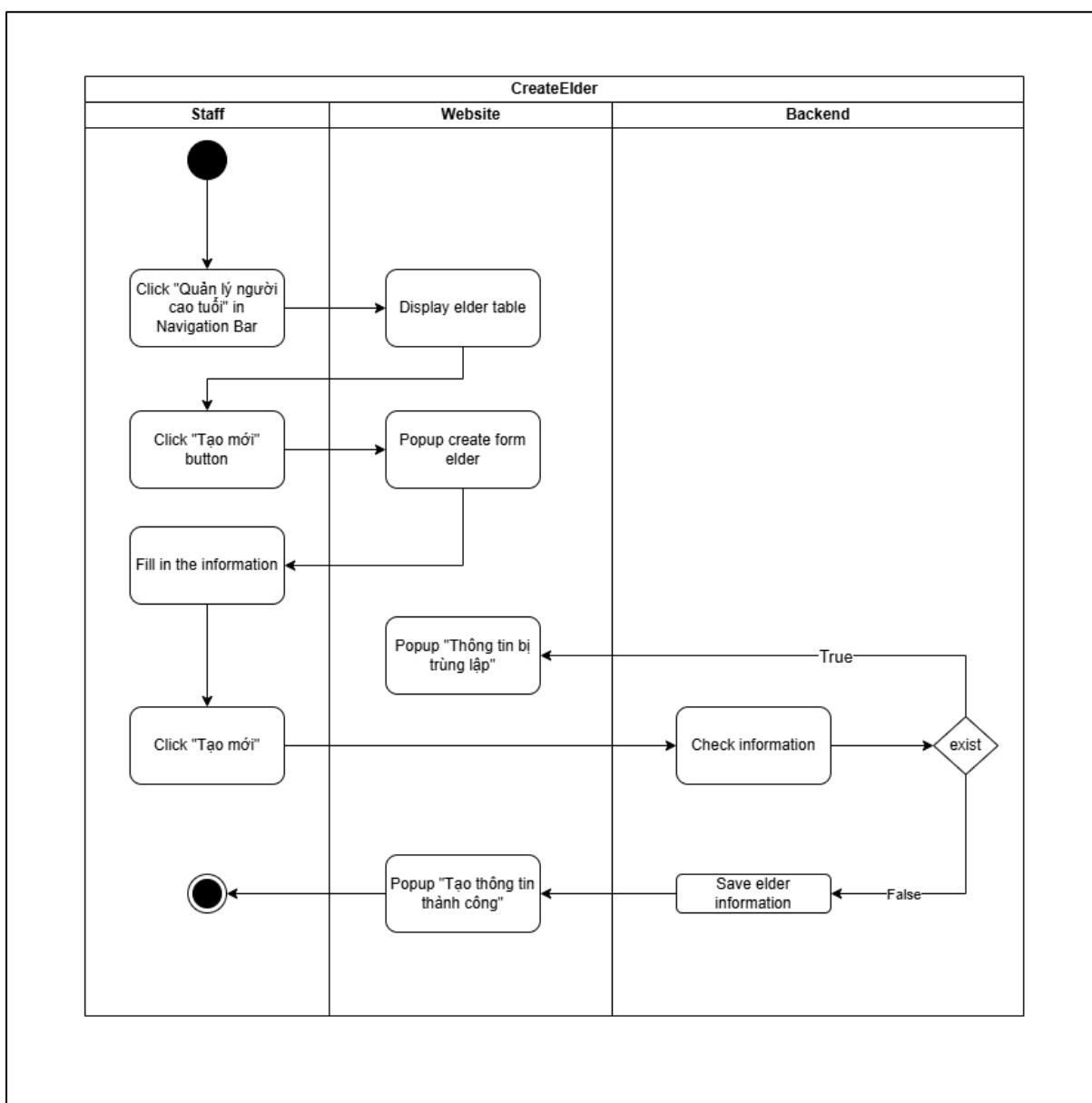


Figure 23 - [Create Elder Activity Diagram](#)

### 3.3 Create contract information

#### 3.3.1 Class Diagram

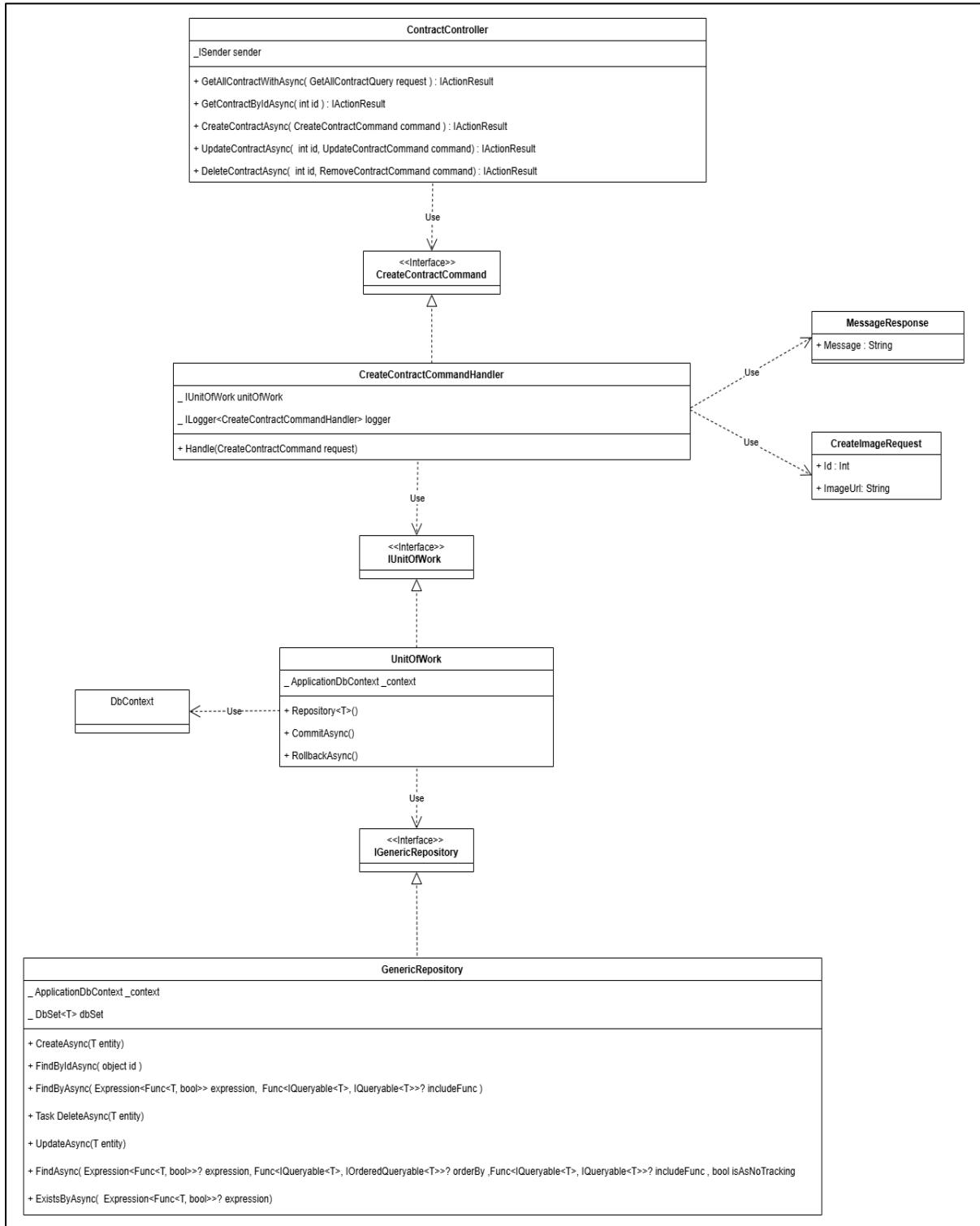


Figure 24 - [Create Contract Information Class Diagram](#)

### 3.3.2 Sequence Diagram

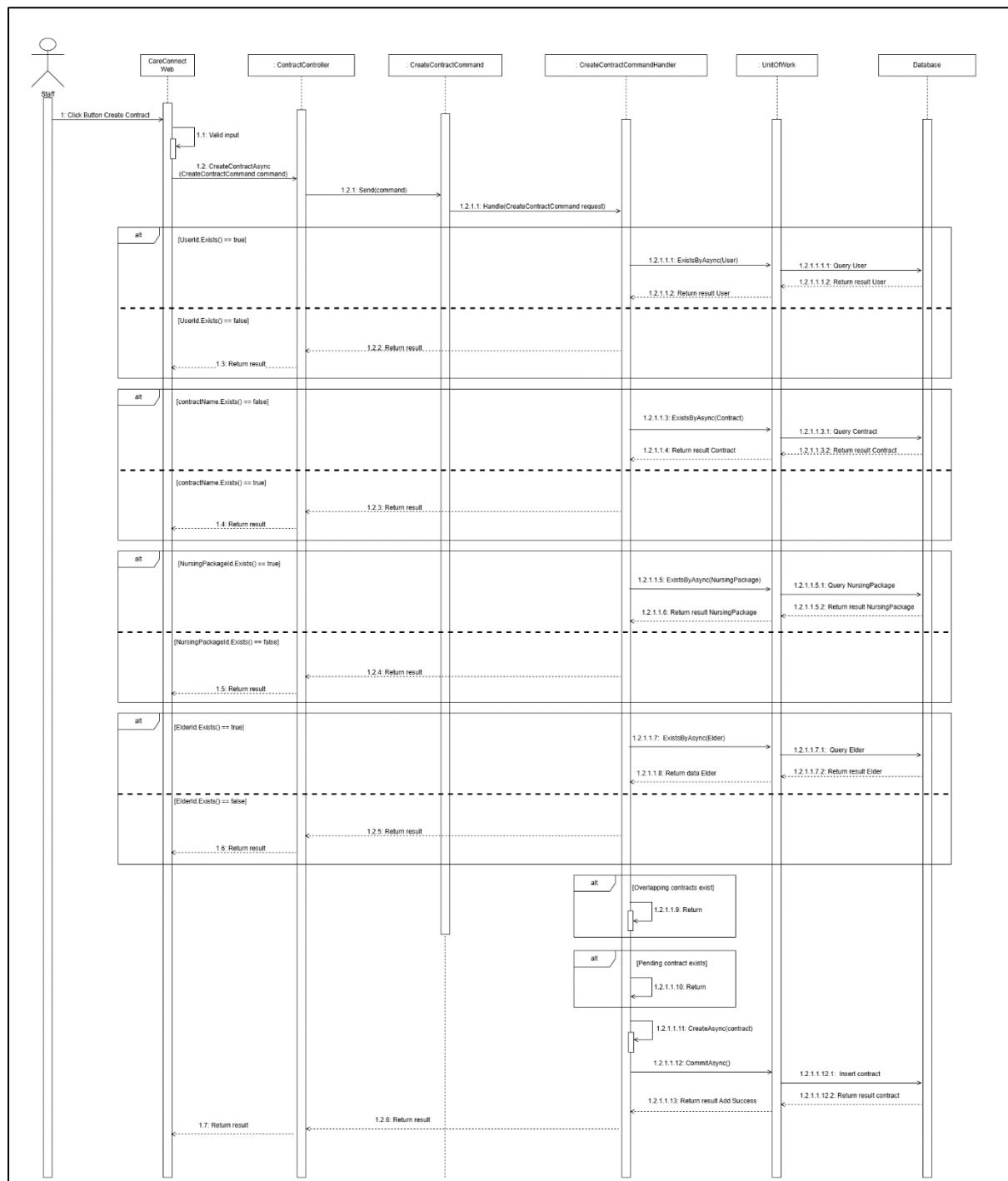


Figure 25 - [Create Contract Sequence Diagram](#)

### 3.3.3 Activity Diagram

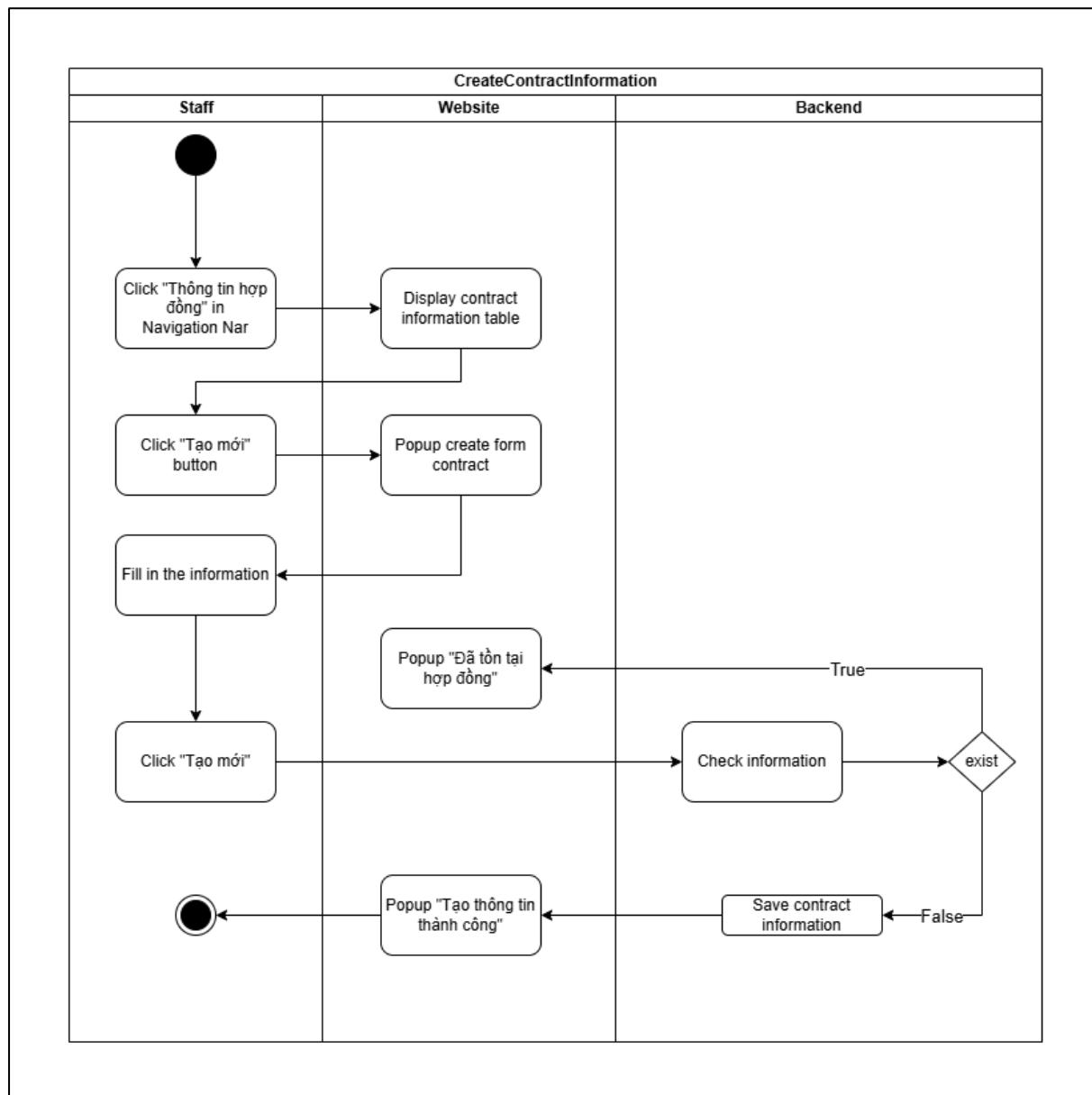


Figure 26 - [Create Contract Information Activity Diagram](#)

### 3.3.4 State Machine Diagram

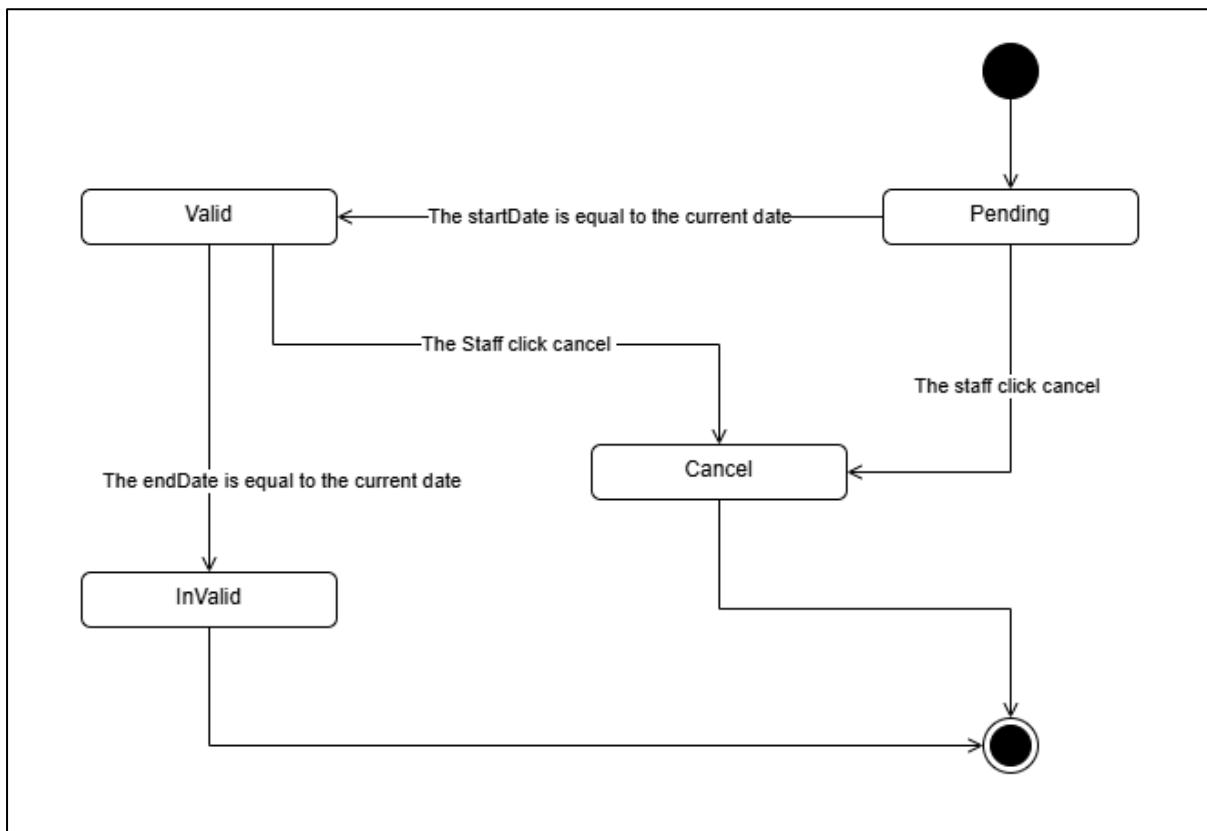


Figure 27 - [Contract State Machine Diagram](#)

## 3.4 Create nursing package

### 3.4.1 Class Diagram

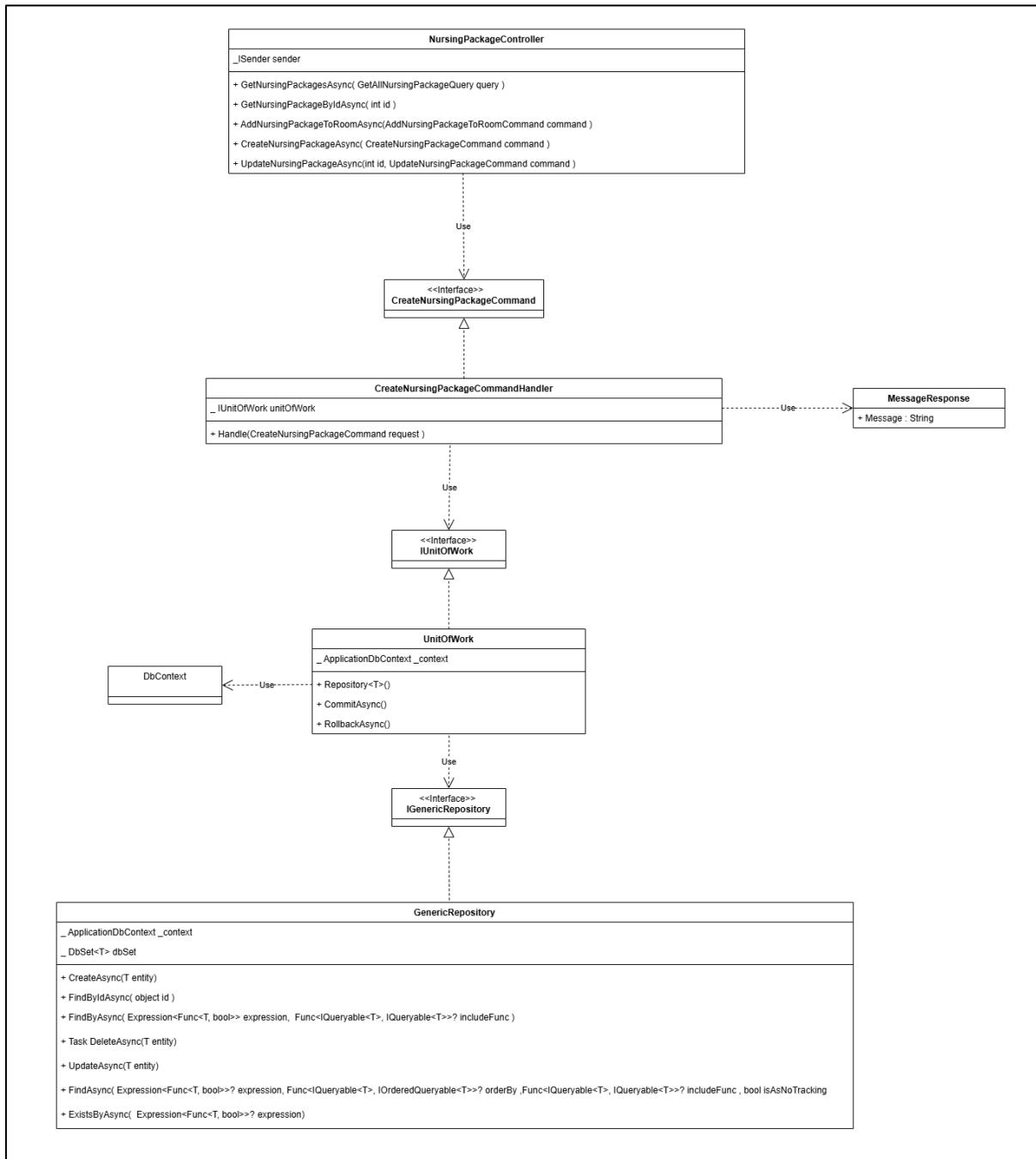


Figure 28 - [Create Nursing Package Class Diagram](#)

### 3.4.2 Sequence Diagram

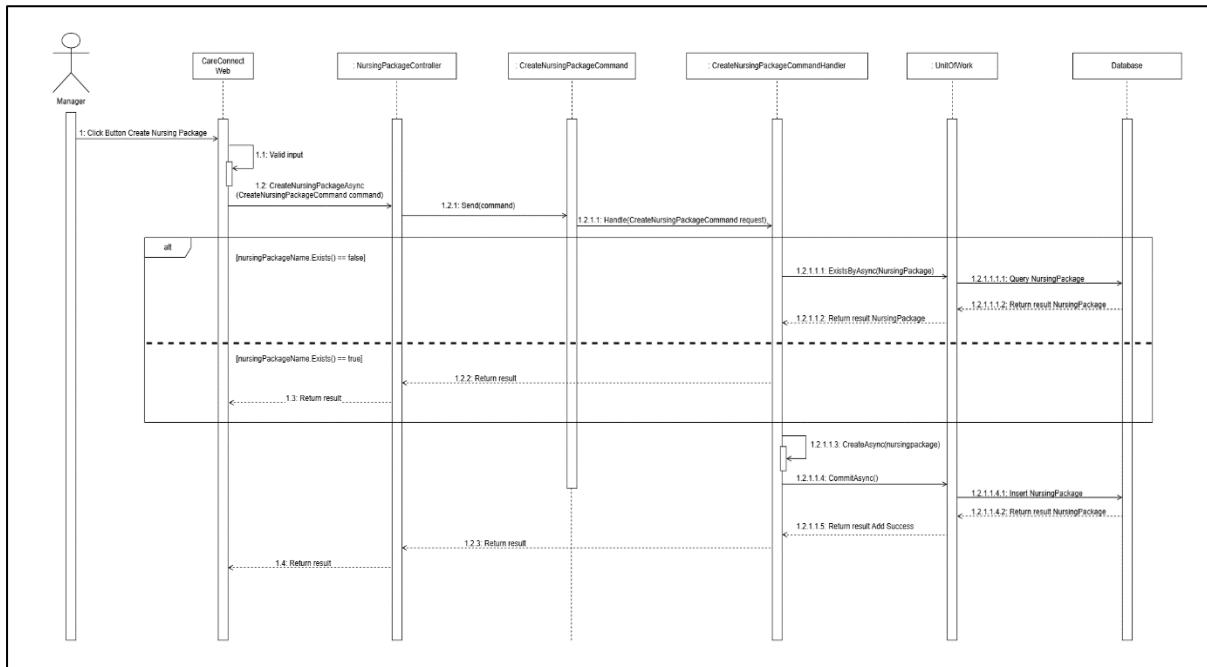


Figure 29 - [Create Nursing Package Sequence Diagram](#)

### 3.4.3 Activity Diagram

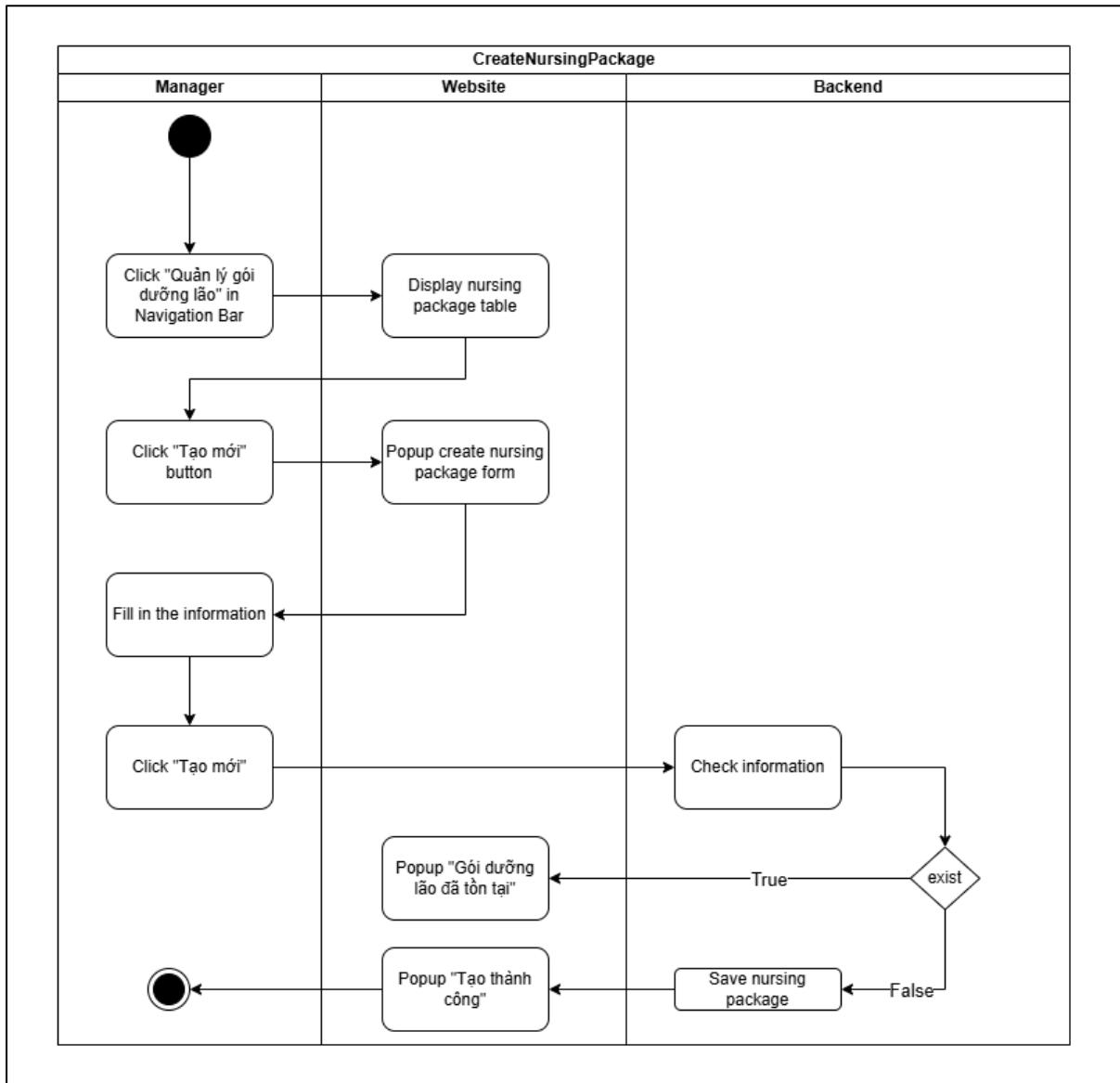


Figure 30 - [Create Nursing Package Activity Diagram](#)

## 3.5 Create service package

### 3.5.1 Class Diagram

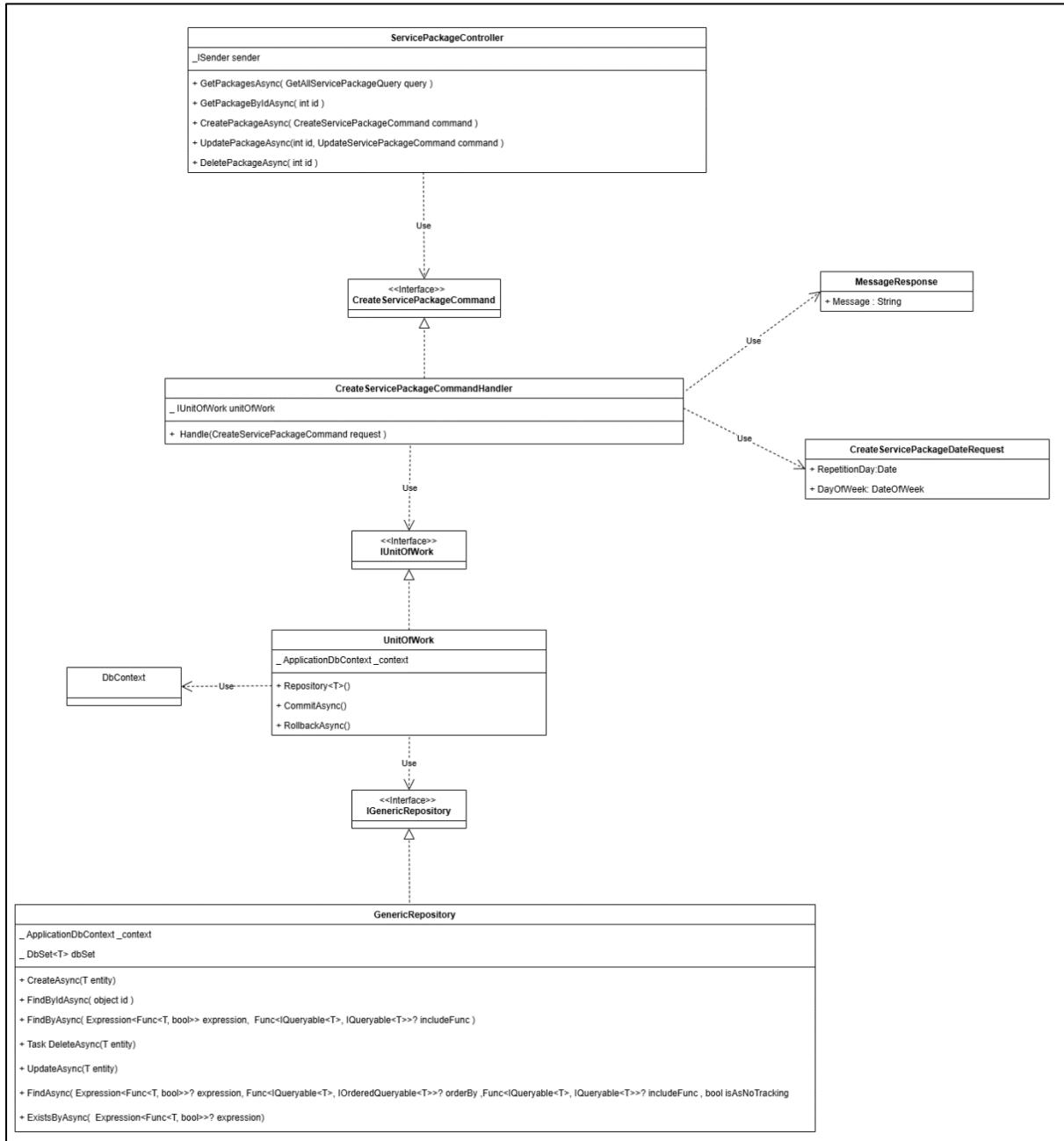


Figure 31 - [Create Service Package Class Diagram](#)

### 3.5.2 Sequence Diagram

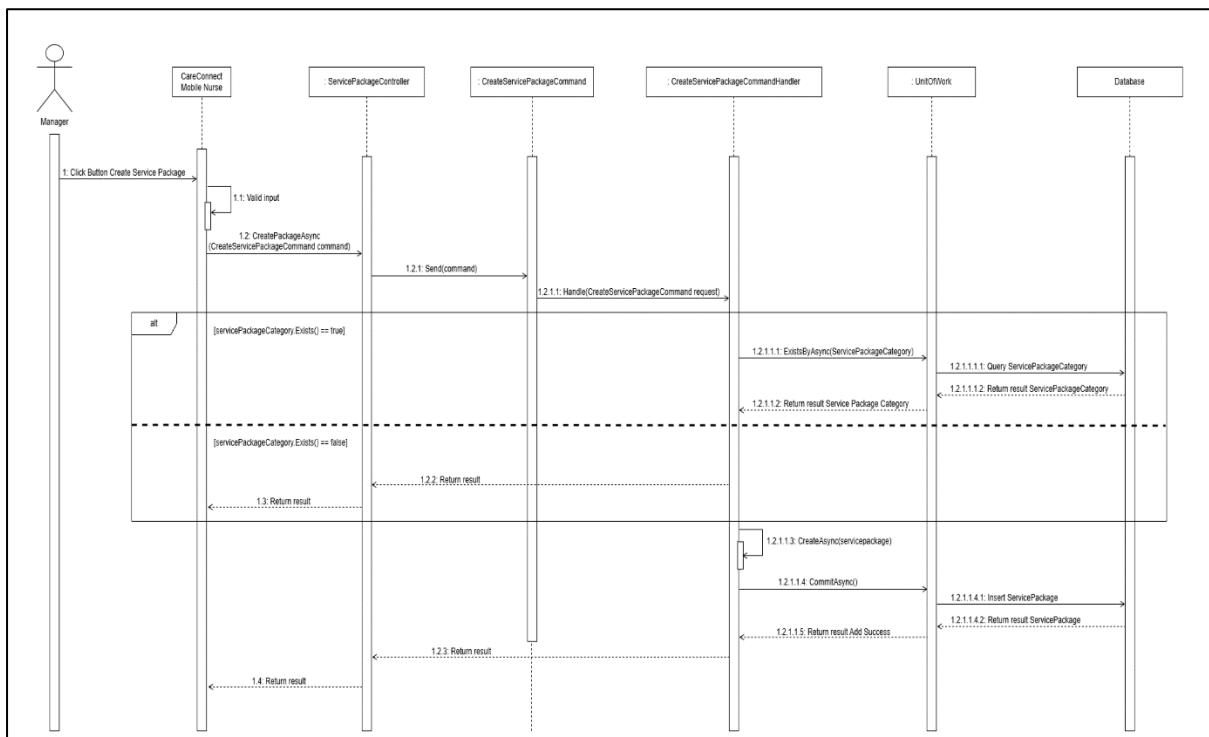


Figure 32 - [Create Service Package Sequence Diagram](#)

### 3.5.3 Activity Diagram

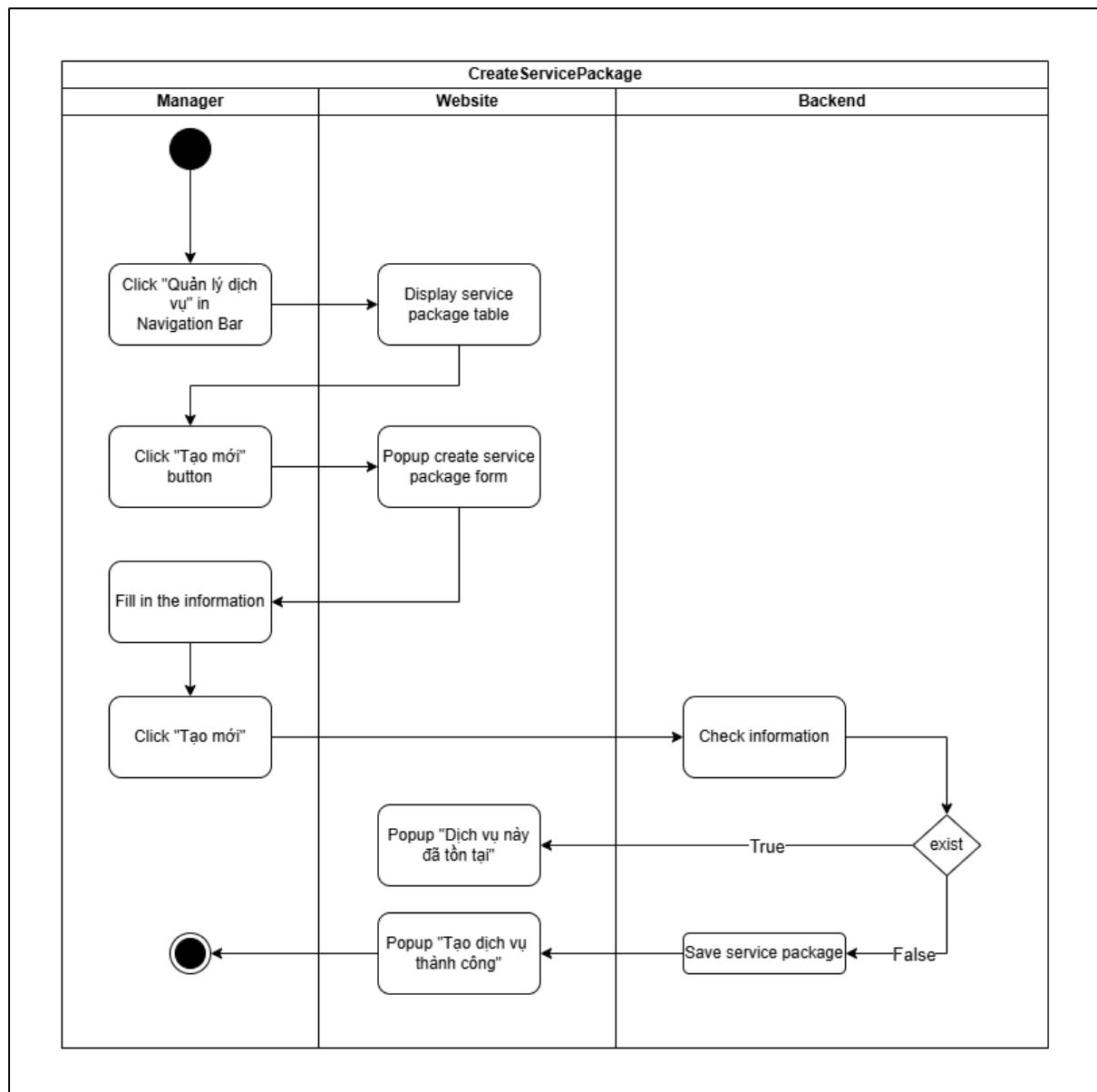


Figure 33 - [Create Service Package Activity Diagram](#)

## 3.6 Create order

### 3.6.1 Class Diagram

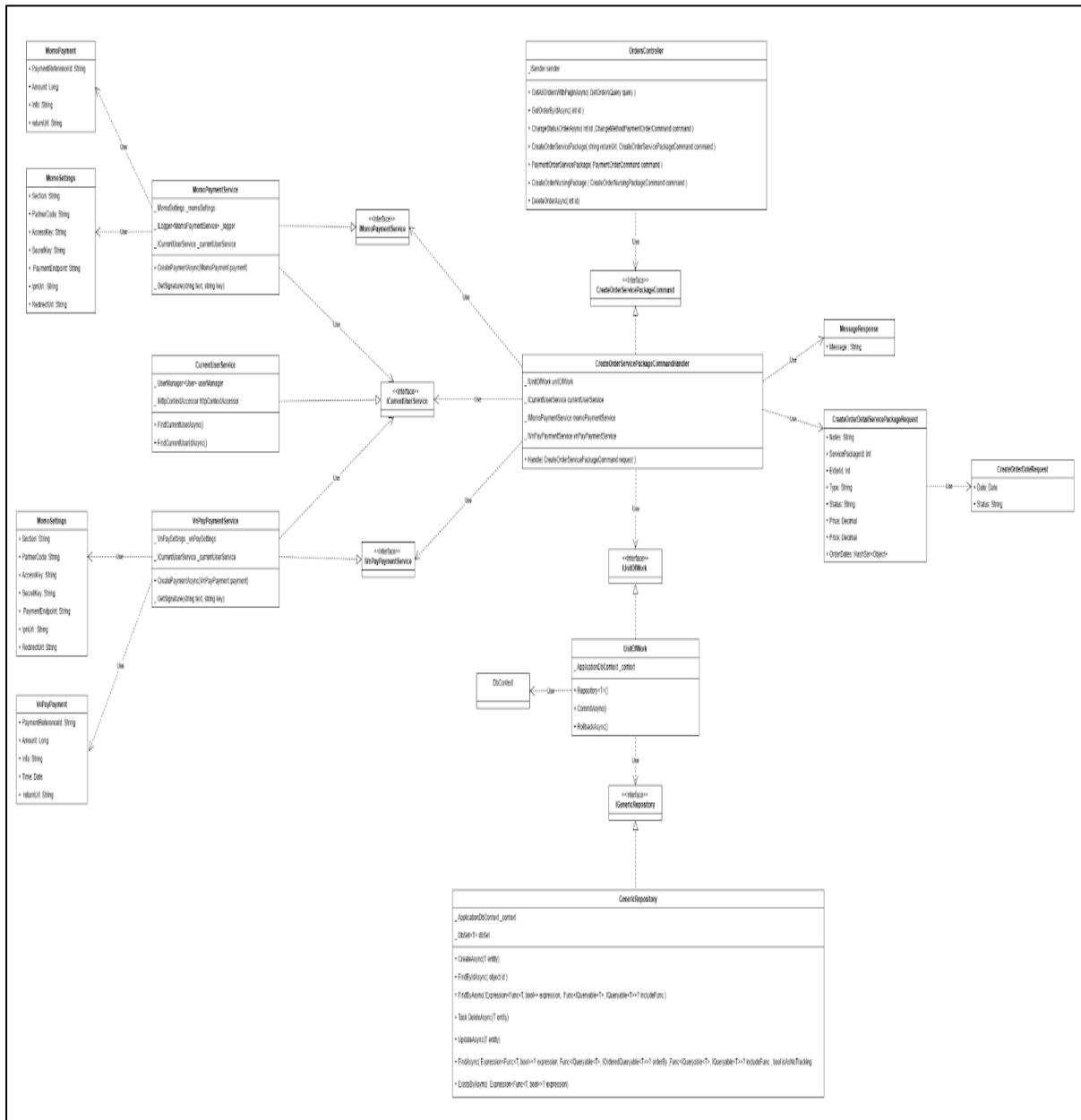


Figure 34 - [Create Order Class Diagram](#)

### 3.6.2 Sequence Diagram

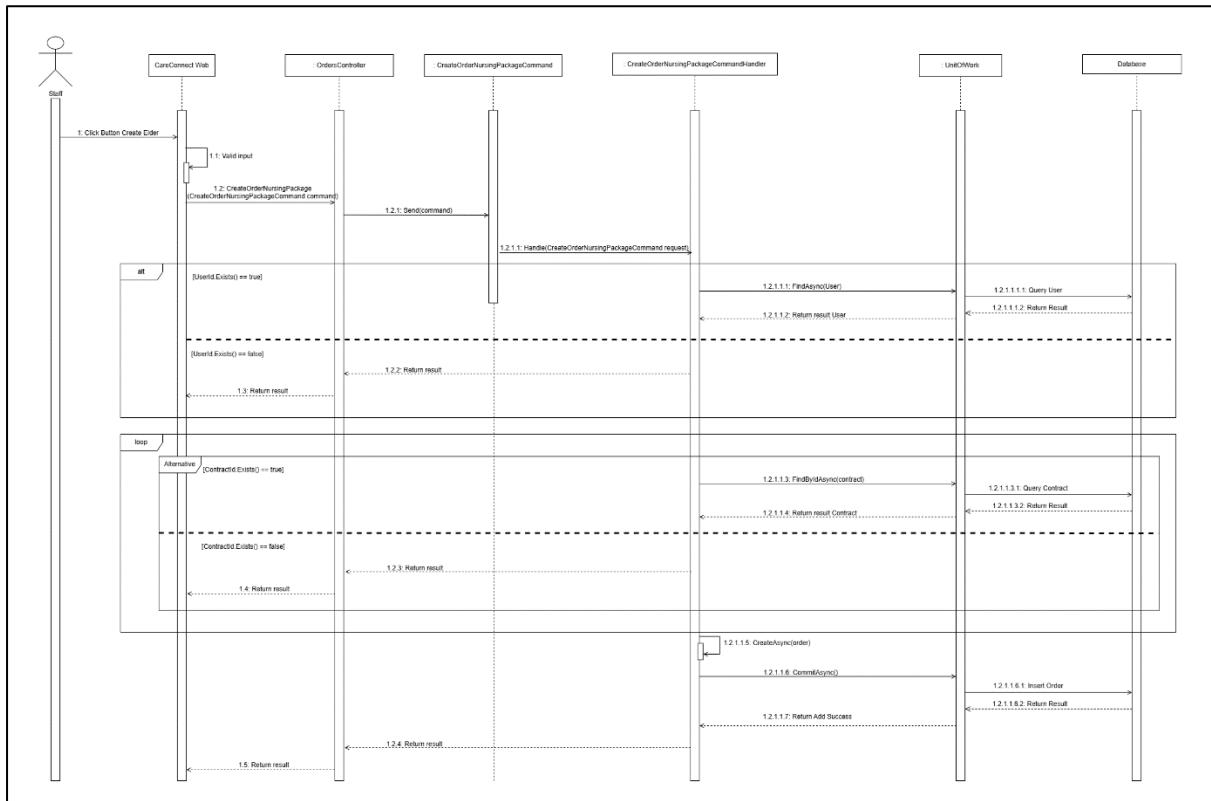


Figure 35 - [Create Nursing Packages Order Sequence Diagram](#)

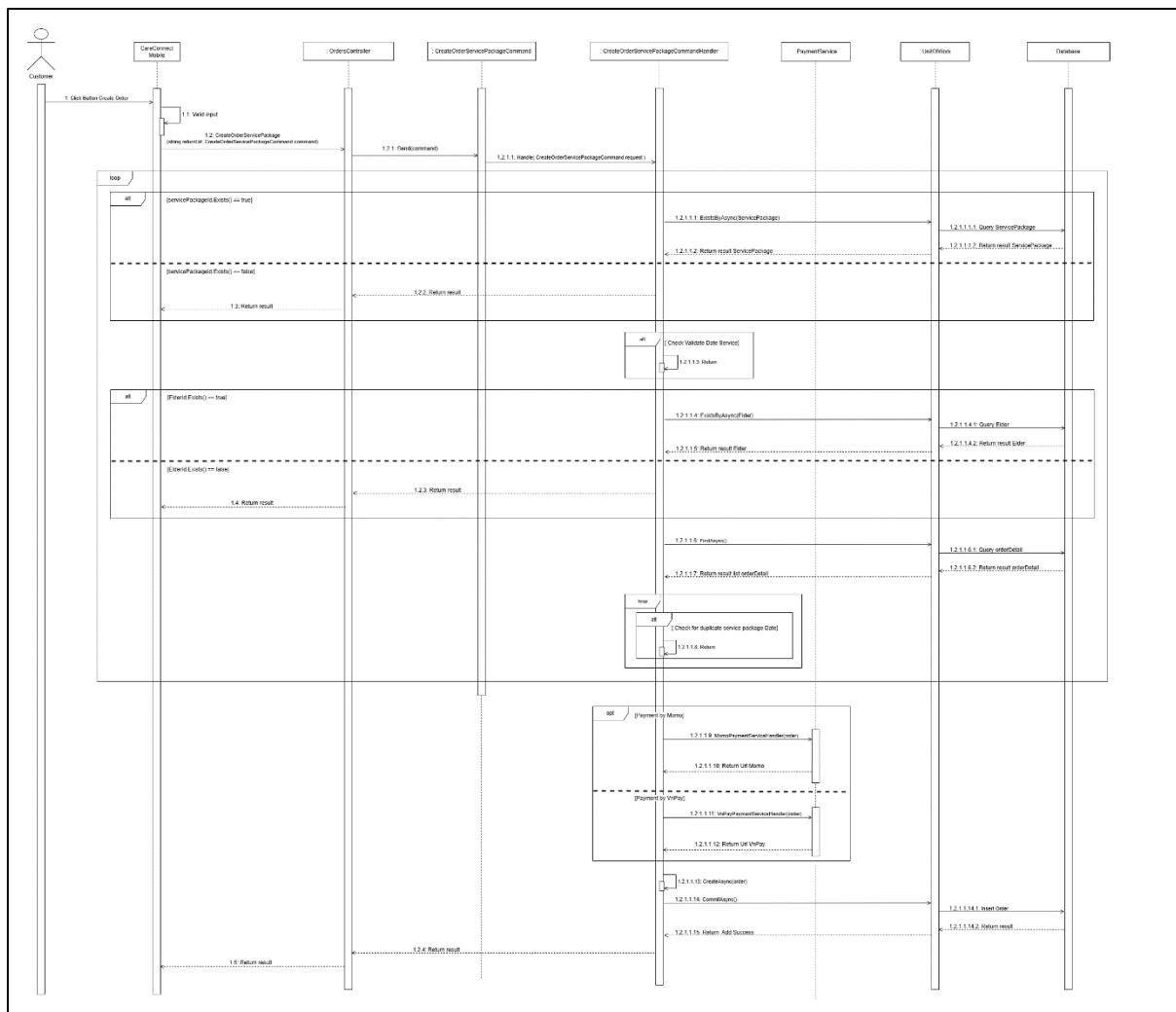


Figure 36 - [Create Service Package Order Sequence Diagram](#)

### 3.6.3 Activity Diagram

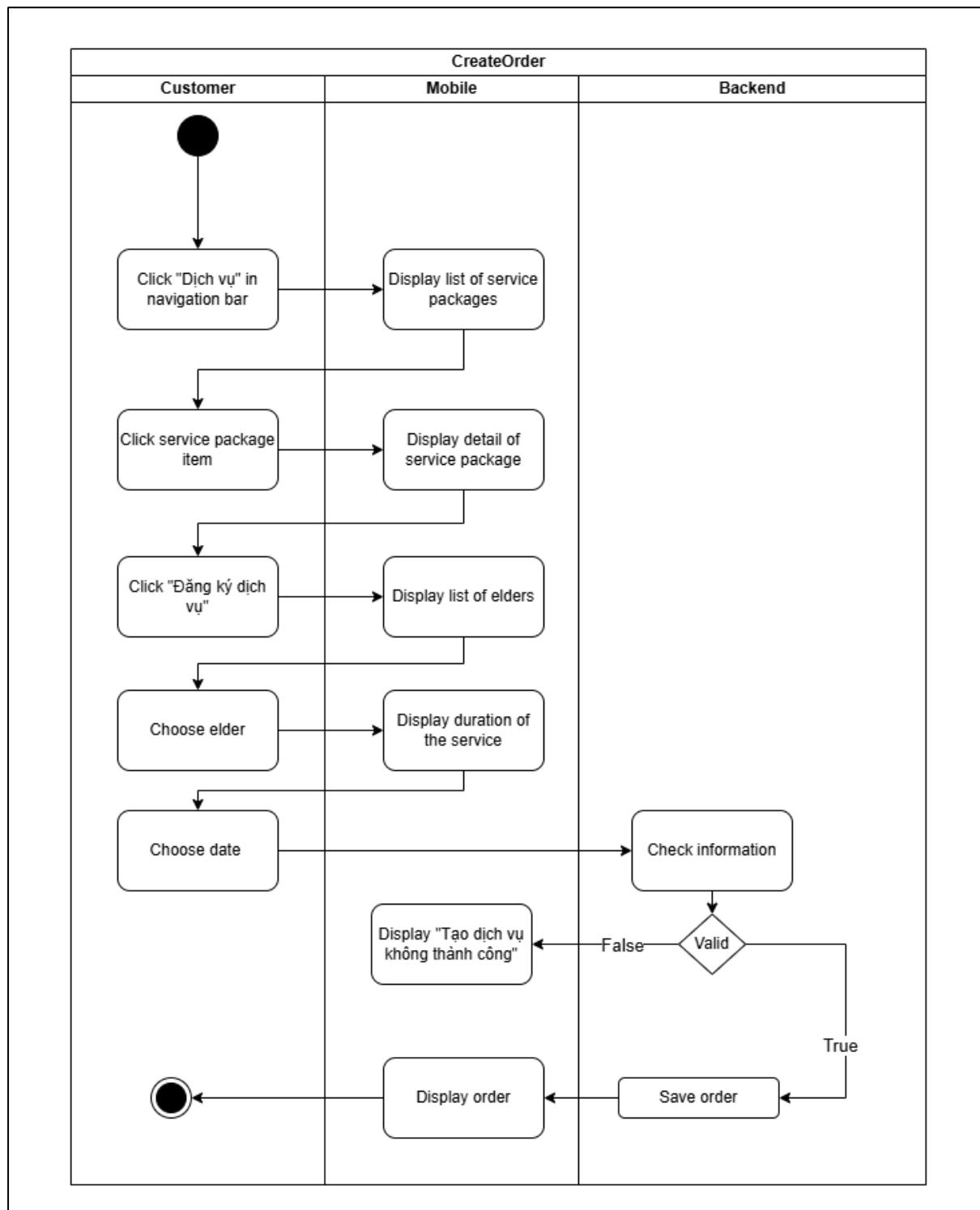


Figure 37 - [Create Service Package Order Activity Diagram](#)

### 3.6.4 State Machine Diagram

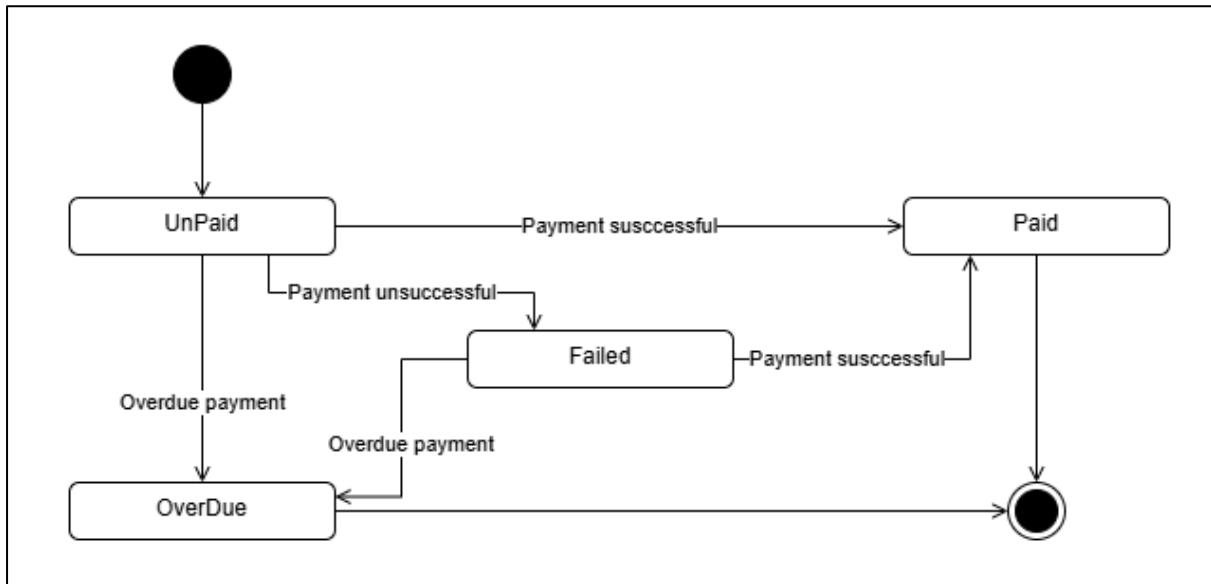


Figure 38 - [Order State Machine Diagram](#)

## 3.7 Create health category

### 3.7.1 Class Diagram

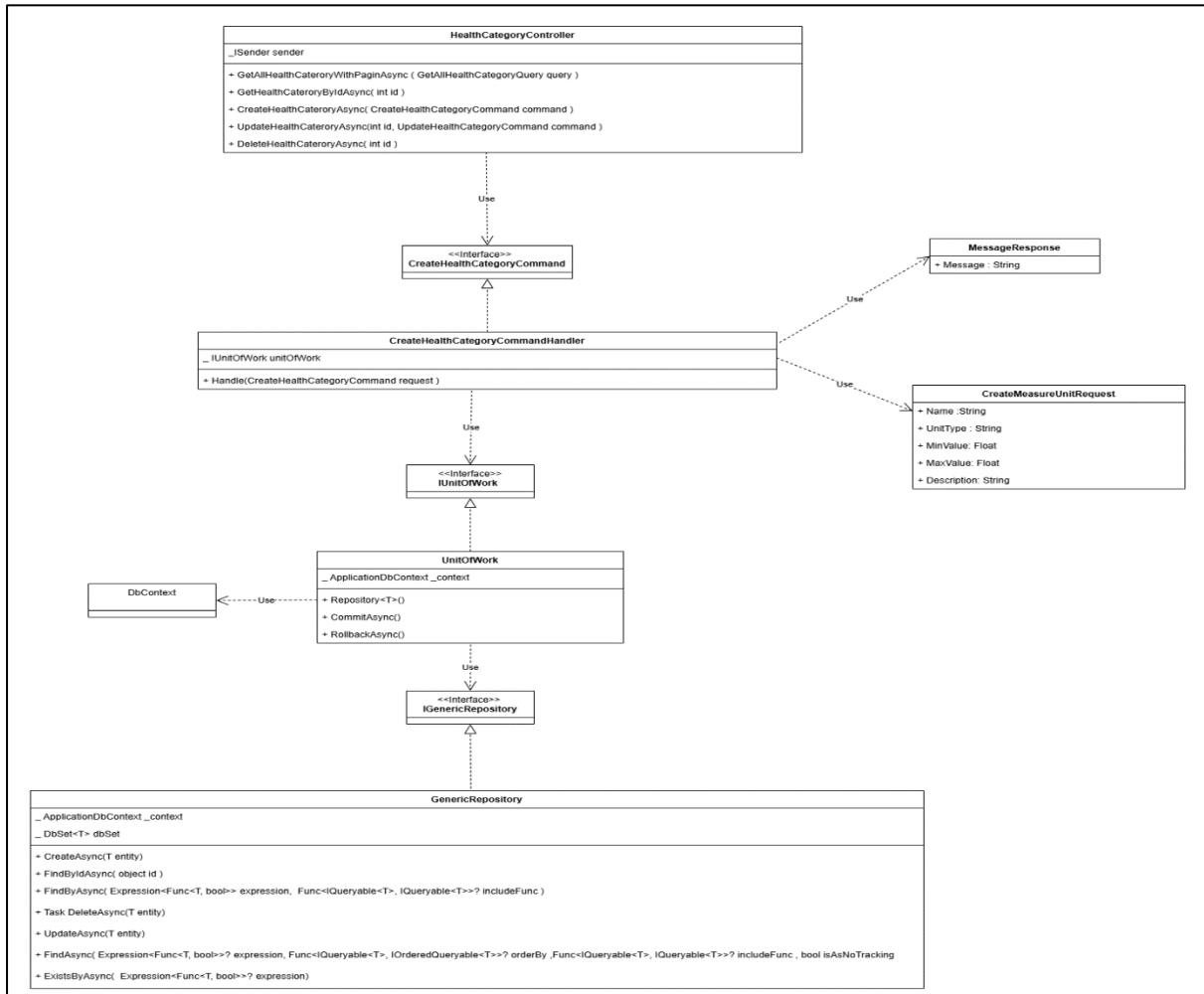


Figure 39 - [Create Health Category Class Diagram](#)

### 3.7.2 Sequence Diagram

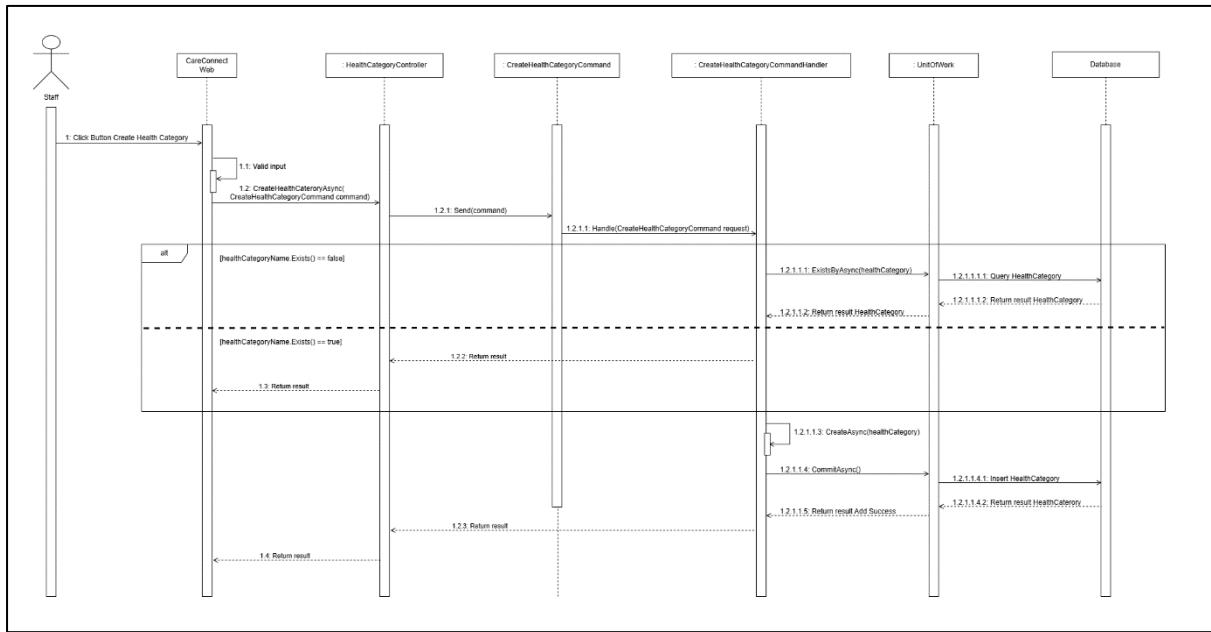


Figure 40 - [Create Health Category Sequence Diagram](#)

### 3.7.3 Activity Diagram

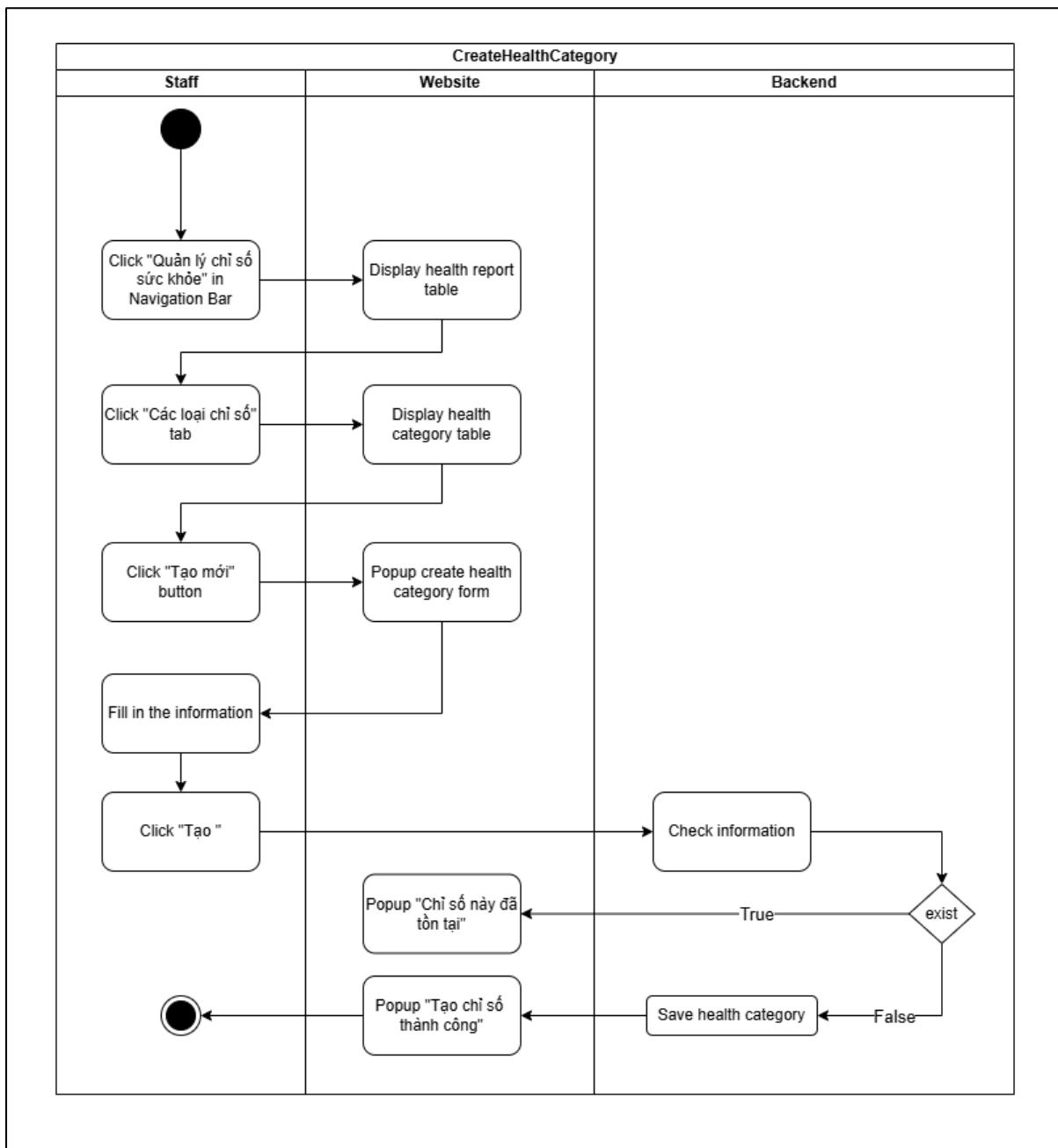


Figure 41 - [Create Health Category Activity Diagram](#)

## 3.8 Create health report

### 3.8.1 Class Diagram

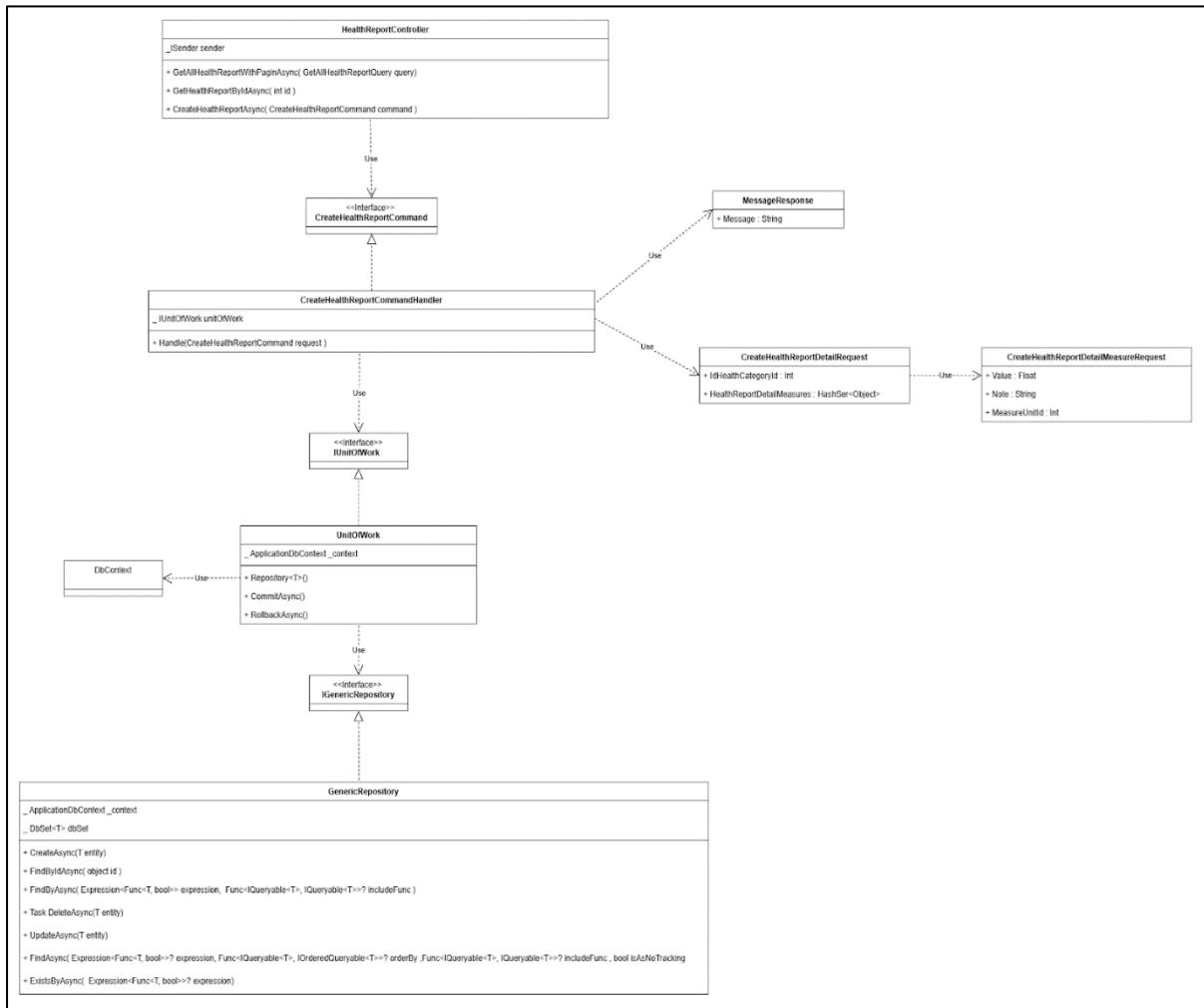


Figure 42 - [Create Health Report Class Diagram](#)

### 3.8.2 Sequence Diagram

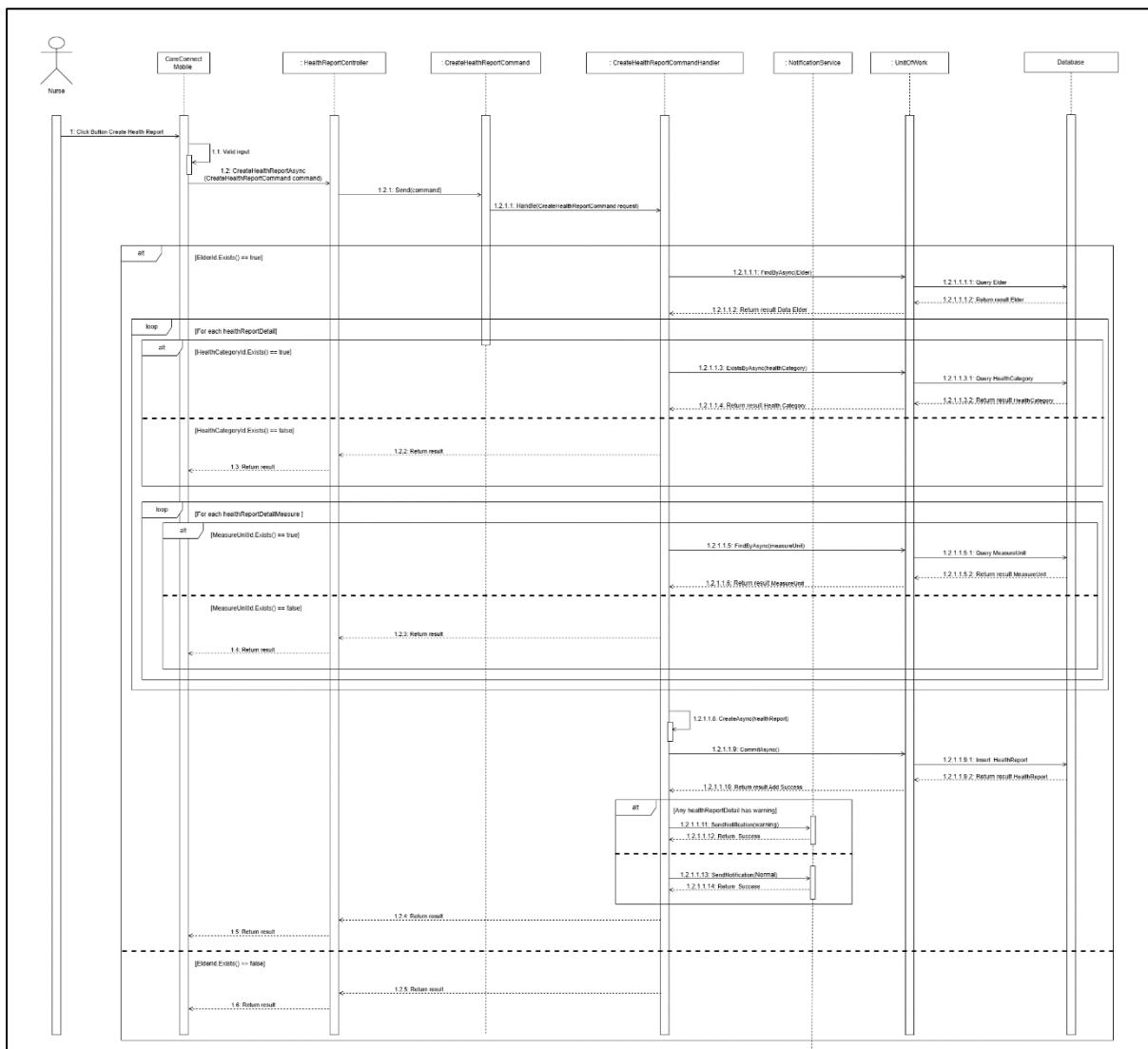


Figure 43 - [Create Health Report Sequence Diagram](#)

### 3.8.3 Activity Diagram

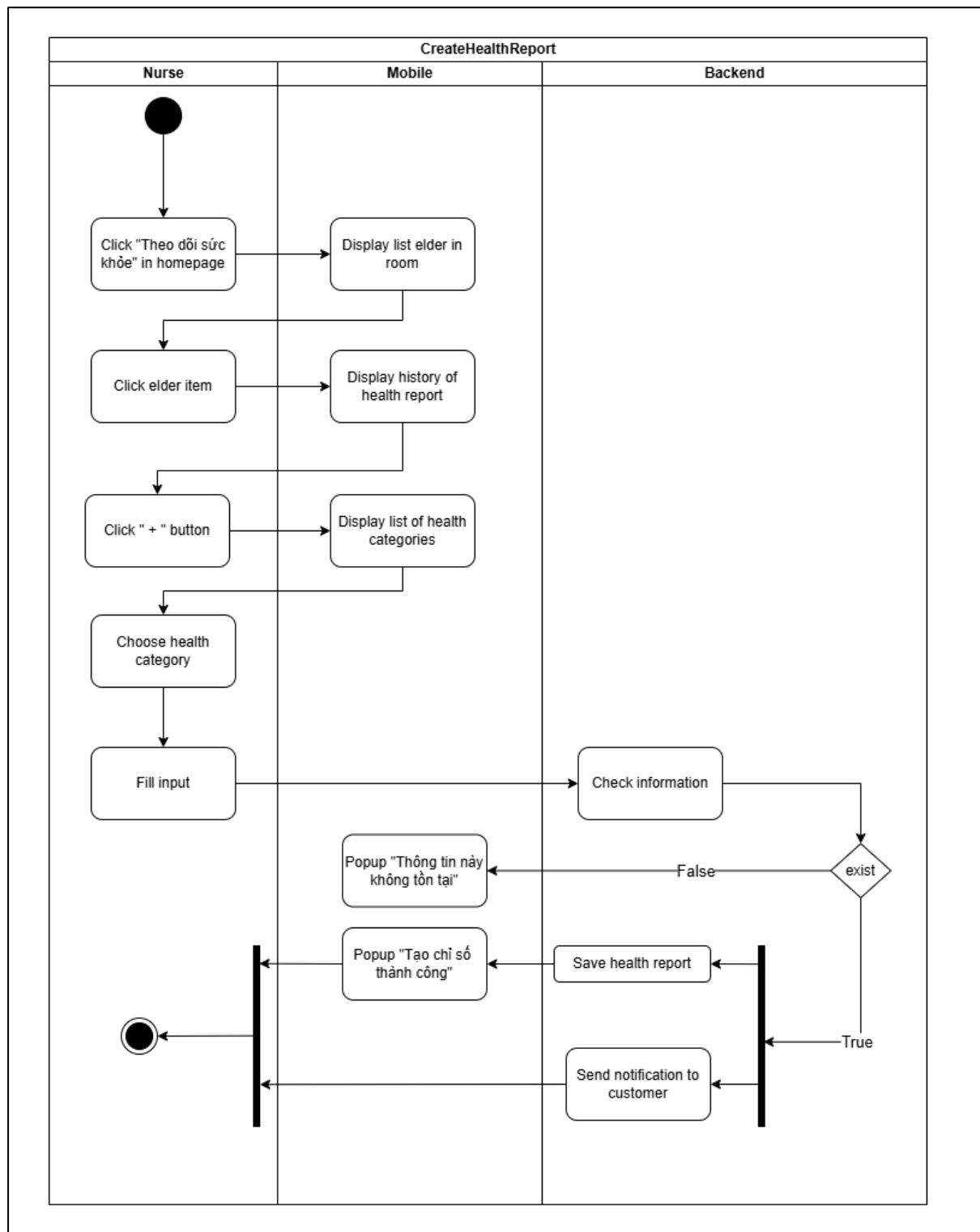


Figure 44 - [Create Health Report Activity Diagram](#)

## V. Software Testing Documentation

### 1. Scope of Testing

*Table 78 - Scope of Testing*

Feature	Function	Role	Description
Account	Register	Customer Director/Manager/ Staff/Customer/Nurse/ Admin	This function allow guest to register with the role customer after providing the required fields
	Login		This function allow users already has an account log in to the system with required fields
	Logout		This function allows log out of system
	Change password		This function allows change password with login system
	Forgot password		This function allows change password with forgot password
	Get list account		This function allows to get all users in system
	Create account		This function allow create account(Director/Manager/Staff/Nurse)
	Delete account		This function allow delete new account into system
	Get account information	Director/Manager/ Staff/Customer/Nurse/	This function allow view their personal information
	Update account information		This function allow update their personal information
Room	Get list rooms	Manager/Staff/Nurse	This function allows the user to get all the rooms in the system
	Get detail of room		This function allows the user to get details about the room in the system

	Create room	Manager	This function allows manager to create room
	Update room		This function allows manager to update room
	Delete room		This function allows manager to delete room
Customer	Get list customers	Manager/Staff	This function allows the user to get all the customers in the system
	Get detail of customer		This function allows the user to get details about the customers in the system
	Create customer	Staff	This function allows staff to create customer
	Update customer		This function allows staff to update customer
Elder	Get list elders	Manager/Staff	This function allows the user to get all the elders in the system.
	Get detail of elder		This function allows the user to get details about the elders in the system
	Create elder	Staff	This function allows staff to create elder
	Update elder		This function allows staff to update elder
Contract information	Get list contracts information	Staff/Customer	This function allows the user to get all the contract information
	Get detail of contract information		This function allows the user to get details about the contract information

	Create contract information	Staff	This function allows the staff to create contract information
	Renew contract information		This function allows the staff to renew contract information
	Cancel contract information		This function allows the staff to cancel contract information
Appointment	Get list appointments	Manager/Staff/ Customer	This function allows the user to get all the appointments
	Get detail appointment		This function allows the user to get details about the appointment
	Create appointment		This function allows the user to create appointment
Nursing package	Get list nursing packages	Manager	This function allows the manager to get all the nursing package
	Get detail nursing package		This function allows the manager to get details about the nursing package
	Create nursing package		This function allows the manager to create nursing package
	Update nursing package		This function allows the manager to update nursing package
	Delete nursing package		This function allows the manager to delete nursing package

Service category	Get list service categories	Manager	This function allows the manager to get all the service category
	Create service category		This function allows the manager to create service category
	Update service category		This function allows the manager to update service category
	Delete service category		This function allows the manager to delete service category
Service package	Get list service packages	Manager	This function allows the manager to get all the service package
	Get detail service package		This function allows the manager to get details about the service package
	Create service package		This function allows the manager to create service package
	Update service package		This function allows the manager to update service package
	Delete service package		This function allows the manager to delete service package
	Get list registered service	Nurse/Customer	This function allows the manager to get all the registered service
Employee	Get list employees	Admin/Manager	This function allows the manager to get all the employee

	Get detail employee		This function allows the manager to get details about the employee
	Create employee	Admin	This function allows the admin to create employee
	Update employee		This function allows the admin to update employee
	Delete employee		This function allows the admin to delete employee
Care schedule	Get list care schedules	Staff/Nurse/Customer	This function allows the user to get all the care schedule
Order	Get list orders	Staff/Customer	This function allows the user to get all the order
	Get detail order		This function allows the user to get details about the order
	Create order		This function allows the user to create order
Feedback	Get list feedbacks	Staff/Customer	This function allows the user to get all the feedback
	Get detail feedback		This function allows the user to get details about the feedback
	Create feedback	Customer	This function allows the user to create feedback
Potential customer	Get list potential customers	Staff	This function allows the staff to get all the potential customers
	Get detail potential customer		This function allows the staff to get details about the potential customer

	Create potential customer	System	This function allows the someone to create potential customer
	Check problem	Staff	This function allows the staff to feedback problem of potential customer
Health category	Get list health categories	Staff/Nurse/Customer	This function allows the staff to get all the health categories
	Get detail health category		This function allows the staff to get details about the health category
	Create health category		This function allows the staff to create health category
	Update health category		This function allows the staff to update health category
	Delete health category		This function allows the staff to delete health category
Health report	Get list health reports	Nurse/Customer	This function allows the user to get all the health reports
	Get detail health report		This function allows the user to get details about the health report
	Create health report	Nurse	This function allows the staff to create health report

## 2. Test Strategy

### 2.1 Testing Types

Table 79 - Tesing Types

Objective	Technique	Completion criteria
Testing the verification and validation of units of code	Unit Testing	Method, class, etc.
Testing the entire software system to ensure its functionality	System Testing	Software requirements, executed test cases, functional requirements, etc.
Testing different components of the system when they are combined together	Integration testing	Modules
Testing application environment in real situations	End-to-end testing	Database, third-party payment, etc.

## 2.2 Test Levels

Table 80 - Test Levels

Type of Tests	Test Lever			
	Unit	Intergration	System	Acceptance
Function testing	x	x	x	
User Interface testing	x		x	

## 2.3 Supporting Tools

Table 81- Supporting Tools

Purpose	Tool	Vendor/In-house	Version
API	Postman	Postman	11.3.0
API	Swagger	Open Source	

## 3. Test Plan

### 3.1 Human Resources

Table 82 - Human Resources

Worker	Role	Specific Responsibilities/Comments
Nguyễn Văn toàn	Leader	Planning, verifying test deliverables, do interface testing as planned
Lương Huỳnh Ngọc Hảo	Member	Planning, verifying test deliverables, do interface testing as planned
Houang Gia Thành	Member	Planning, verifying test deliverables, do interface testing as planned
Lê Thị Thảo My	Member	Planning, verifying test deliverables, do interface testing as planned

### 3.2 Test Environment

Table 83 - Test Environment

Purpose	Tool	Provider	Version
Browser Testing	Google Chrome	Google Chrome	124.0.6367.60
Browser Testing	Internet Explorer	Internet Explorer	11
Mobile Testing			

### 3.3 Test Milestones

Table 84 - Test Milestones

Milestone Task	Start Date	End Date
Register	08/07/2024	08/07/2024
Login	08/07/2024	08/07/2024
Logout	08/07/2024	08/07/2024
Change password	08/07/2024	08/07/2024
Forgot password	08/07/2024	08/07/2024
Get list account	20/07/2024	20/07/2024
Create account	20/07/2024	20/07/2024
Delete account	20/07/2024	20/07/2024
Get account information	08/07/2024	08/07/2024
Update account information	08/07/2024	08/07/2024
Get list rooms	10/07/2024	10/07/2024
Get detail of room	10/07/2024	10/07/2024
Create room	10/07/2024	10/07/2024
Update room	10/07/2024	10/07/2024
Delete room	10/07/2024	10/07/2024
Get list customers	11/07/2024	11/07/2024
Get detail of customer	11/07/2024	11/07/2024
Create customer	11/07/2024	11/07/2024
Update customer	11/07/2024	11/07/2024
Get list elders	11/07/2024	11/07/2024
Get detail of elder	11/07/2024	11/07/2024
Create elder	11/07/2024	11/07/2024
Update elder	11/07/2024	11/07/2024
Get list contracts information	18/07/2024	19/07/2024
Get detail of contract information	18/07/2024	19/07/2024
Create contract information	18/07/2024	19/07/2024
Renew contract information	18/07/2024	19/07/2024
Cancel contract information	18/07/2024	19/07/2024
Get list appointments	13/07/2024	13/07/2024
Get detail appointment	13/07/2024	13/07/2024
Create appointment	13/07/2024	13/07/2024
Get list nursing packages	13/07/2024	13/07/2024
Get detail nursing package	13/07/2024	13/07/2024
Create nursing package	13/07/2024	13/07/2024
Update nursing package	13/07/2024	13/07/2024
Delete nursing package	13/07/2024	13/07/2024
Get list service categories	14/07/2024	14/07/2024

Create service category	14/07/2024	14/07/2024
Update service category	14/07/2024	14/07/2024
Delete service category	14/07/2024	14/07/2024
Get list service packages	14/07/2024	16/07/2024
Get detail service package	14/07/2024	16/07/2024
Create service package	14/07/2024	16/07/2024
Update service package	14/07/2024	16/07/2024
Delete service package	14/07/2024	16/07/2024
Get list registered service	14/07/2024	16/07/2024
Get list employees	17/07/2024	18/07/2024
Get detail employee	17/07/2024	18/07/2024
Create employee	17/07/2024	18/07/2024
Update employee	17/07/2024	18/07/2024
Delete employee	17/07/2024	18/07/2024
Get list care schedules	17/07/2024	18/07/2024
Get list orders	17/07/2024	18/07/2024
Get detail order	17/07/2024	18/07/2024
Create order	17/07/2024	18/07/2024
Get list feedbacks	20/07/2024	20/07/2024
Get detail feedback	20/07/2024	20/07/2024
Create feedback	20/07/2024	20/07/2024
Get list potential customers	20/07/2024	20/07/2024
Get detail potential customer	20/07/2024	20/07/2024
Create potential customer	20/07/2024	20/07/2024
Check problem	20/07/2024	20/07/2024
Get list health categories	21/07/2024	22/07/2024
Get detail health category	21/07/2024	22/07/2024
Create health category	21/07/2024	22/07/2024
Update health category	21/07/2024	22/07/2024
Delete health category	21/07/2024	22/07/2024
Get list health reports	21/07/2024	22/07/2024
Get detail health report	21/07/2024	22/07/2024
Create health report	21/07/2024	22/07/2024
Get list health categories	21/07/2024	22/07/2024

#### 4. Test Cases & Test Reports

Table 85 - Test Case & Test Reports

Unit Test Cases	Test Report
<a href="#">SU24SE035_Unit Test.xlsx</a>	<a href="#">SU24SE035_Test Report.xlsx</a>

## VI. Release Package & User Guides

### 1. Deliverable Package

Table 86 - Deliverable Package

No.	Deliverable Item	Description
01	Project Schedule/Tracking	With the project schedule we use Google Drive in order to track the process of tasks in the project. <a href="#">Project Schedule/Backlog</a>
02	Project Backlog	<a href="#">Project Schedule/Backlog</a>
03	Source Codes	With the source code, we store our code (back-end API, web application and mobile) on github with private access. Front End: <a href="#">CareConnect Frontend</a> Back End: <a href="#">CareConnect Backend</a> Mobile: <a href="#">CareConnect Mobile</a>
04	Database Script(s)	<a href="#">NursingHome.sql</a>
05	Final Report Document	A document file that summarizes the project information.
06	Test Cases Document	<a href="#">SU24SE035 Test Report v1.0</a> <a href="#">SU24SE035 Unit Test v1.0</a>
07	Slide	<a href="#">CareConnect Slide</a>

### 2. Installation Guides

#### 2.1 System Requirements

##### 2.1.1 Hardware requirements

###### 2.1.1.1 Website application

Table 87 - Hardware requirements for Website Application

PC	Minimum	Recommended
Internet connection	Cable, Wi-fi	Cable, Wi-fi
Processor	Intel Core i5	Intel Core i7
Memory	8GB RAM	16GB RAM
Storage	HDD 256GB	SSD 256GB
Web Browser	Google Chrome Internet Explorer	Google Chrome v.124.0.6367.60 Internet Explorer IE.11

### **2.1.1.2 Mobile application**

*Table 88 - Hardware requirements for Mobile Application*

Mobile	Minimum	Recommended
Internet connection	Cable, Wi-fi	Cable, Wi-fi
Processor	Qualcomm SM4250	Qualcomm Snapdragon 680
Memory	8GB	32GB
Storage	105.46MB	120.00MB
Operating System	Android 12	Android 14

### **2.1.2 Software requirements**

*Table 89 - Software requirements for Mobile Application*

Component	Name and Version	Description
Operating System	Windows 10	Operating system for building production
DBMS	MySQL	Used to manage database
.NET	.NET SDK 8.0, .NET Core 8.0 Runtime	Use to run back-end server
ReactJS	ReactJS 18.3.1	Use to run front-end server
ReactNative	ReactNative 0.74.3	Use to run mobile application
IDE	Visual Studio, Visual Studio Code, Android Studio	Use to write, edit and run code

## **2.2 Installation Instruction**

### **2.2.1 Setup Environment**

#### **2.2.1.1 Setup mobile application**

- Install android studio by following guidelines link:  
[Download and install Android Studio](#)
- Install react native by following guidelines link:  
[Get Started with React Native · React Native](#)
- Clone the source code : git clone  
<https://github.com/toannv72/CareConnect>
- Open folder with Android Studio and choose an device to run:

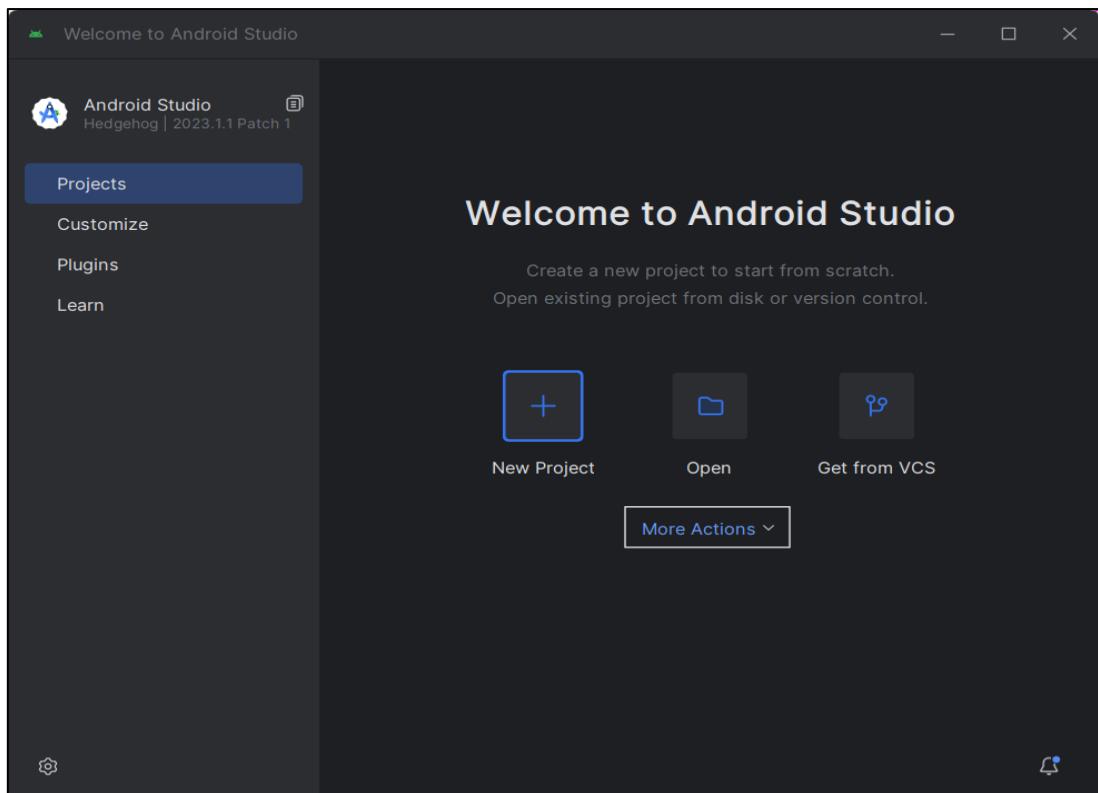
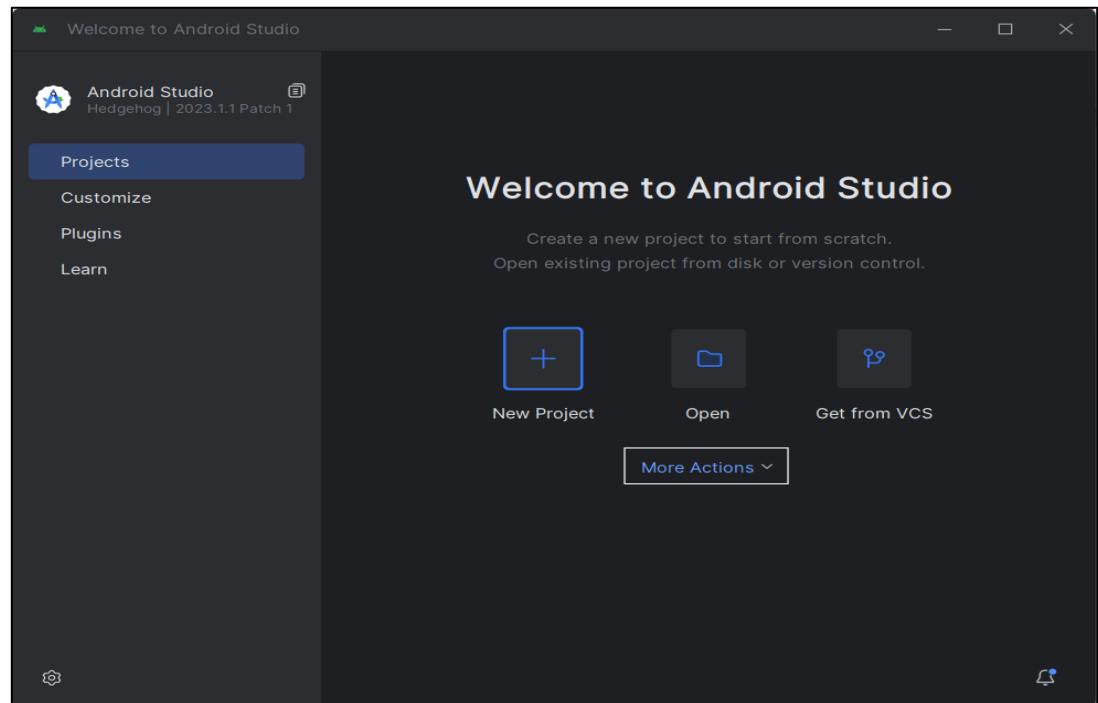


Figure 45 - Open Android studio for Setup Mobile Application



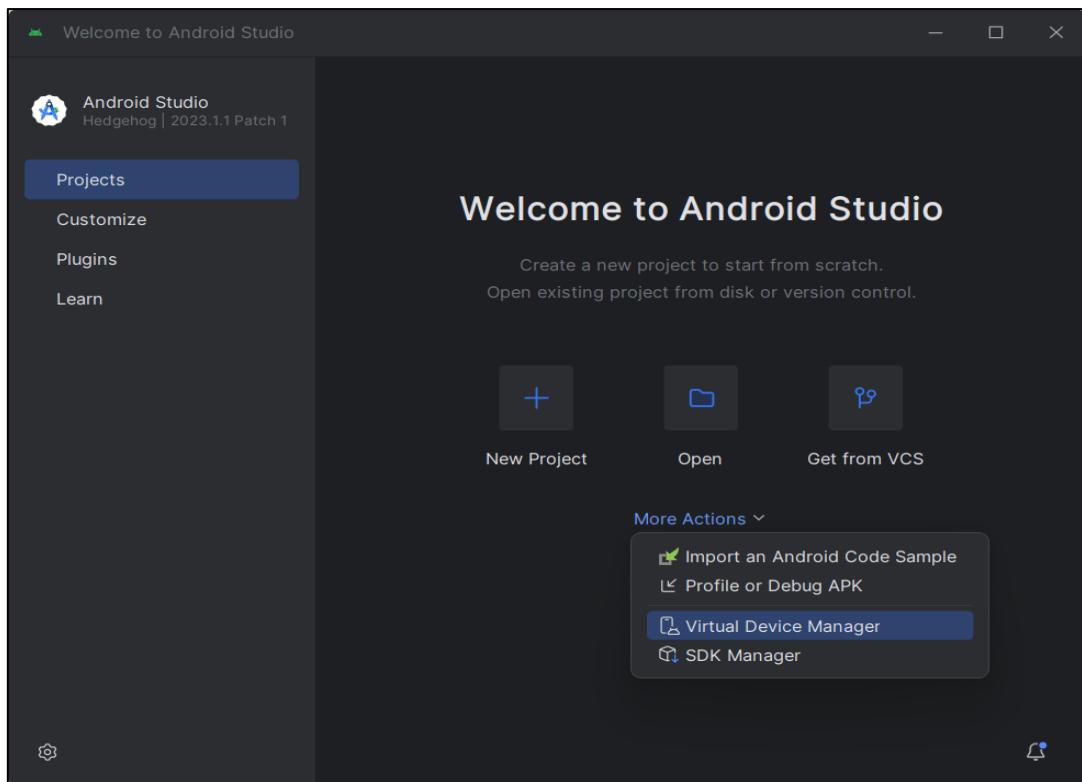


Figure 46 - Open Virtual Device Manager of Android Studio

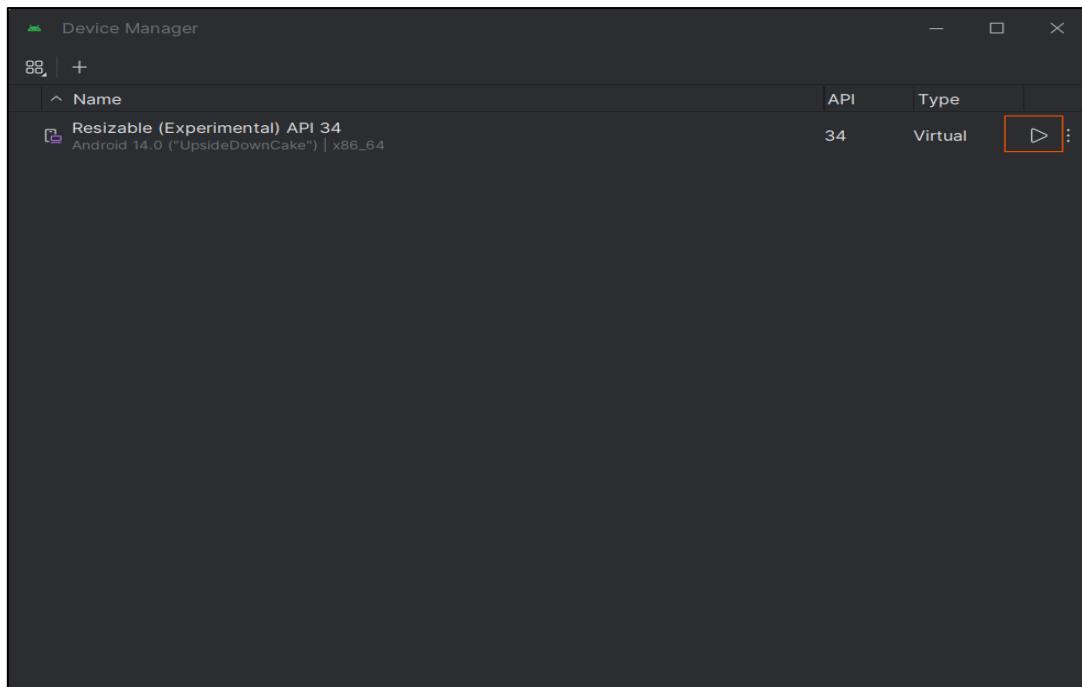


Figure 47 - Choose Virtual Device of Android Studio

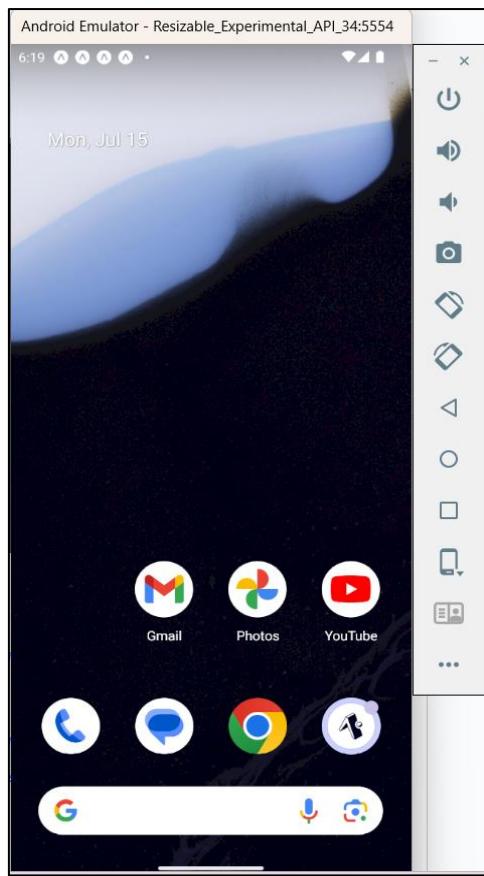


Figure 48 - Open Successful Virtual Device of Android Studio

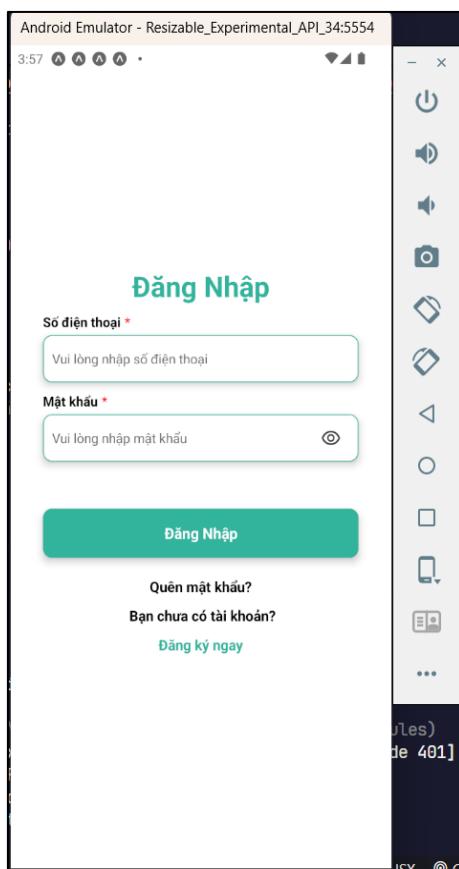
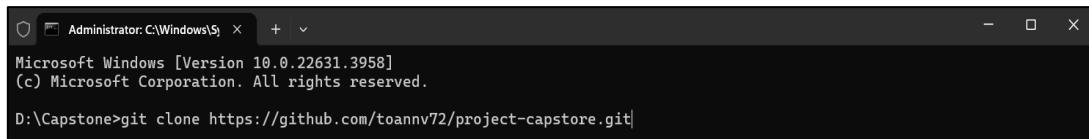


Figure 49 - Run App in Virtual Device of Android Studio

### 2.2.1.2 Setup website application

- Install Visual Studio Code by following guidelines link:  
<https://code.visualstudio.com/docs/setup/windows>
- Install npm through Visual Studio Code or you can install npm via NodeJS:  
<https://nodejs.org/en/>
- Clone the FE source code : git clone  
<https://github.com/toannv72/project-capstore>
- Open terminal enter:



```
Administrator: C:\Windows\... Microsoft Windows [Version 10.0.22631.3958] (c) Microsoft Corporation. All rights reserved. D:\Capstone>git clone https://github.com/toannv72/project-capstore.git|
```

Figure 50 - Git clone code from GitHub

- Open terminal in visual studio:



```
PS D:\Capstone\project-capstore> npm i|
```

Figure 51 - Install code in terminal of visual studio code

- Open terminal in visual studio to start:



```
PS D:\Capstone\project-capstore> npm start|
```

Figure 52 - Start code in terminal of visual studio code

- Open localhost:

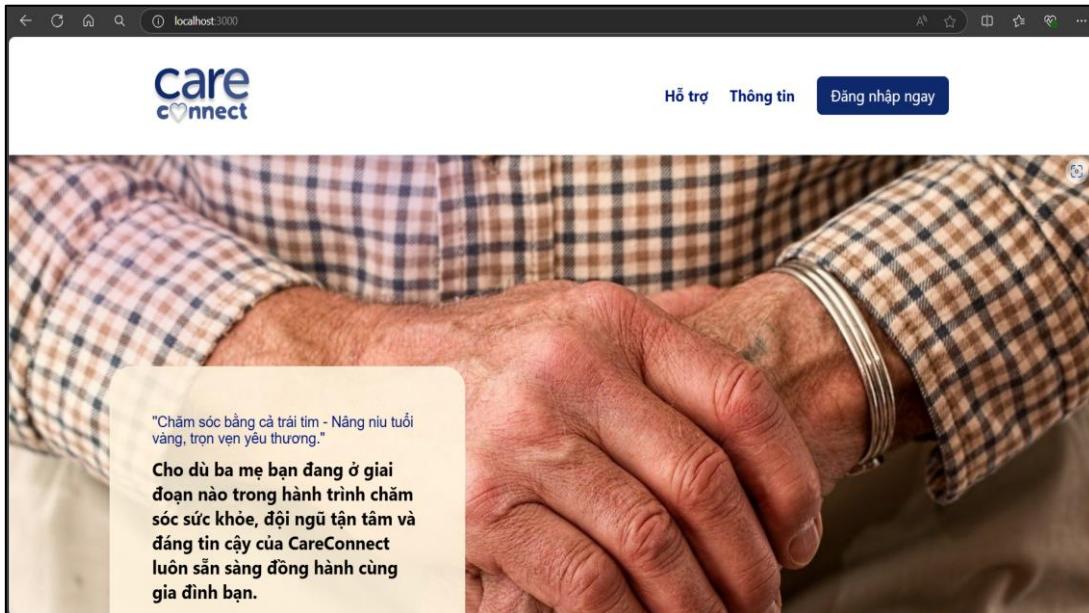


Figure 53 - Open localhost of Website Application

### 2.2.1.3 Setup database

Install MySQL by following guidelines link:

<https://dev.mysql.com/doc/mysql-installation-excerpt/5.7/en/>

#### 2.2.1.4 Setup backend API

- Install Visual Studio by following guidelines link:  
<https://visualstudio.microsoft.com/downloads/>
- Clone the source code : git clone  
<https://github.com/haoluonghuynhngoc/nursing-home-backend>
- Open NursingHome.sln file with Visual Studio:

Name	Date modified	Type	Size
📁 .git	7/22/2024 11:09 AM	File folder	
📁 .github	7/10/2024 8:21 PM	File folder	
📁 docs	7/10/2024 8:21 PM	File folder	
📁 src	7/10/2024 8:21 PM	File folder	
📄 .dockerignore	7/10/2024 8:21 PM	DOCKERIGNORE F...	1 KB
⚙️ .editorconfig	7/10/2024 8:21 PM	Editor Config Sour...	0 KB
⚙️ .gitattributes	7/10/2024 8:21 PM	Git Attributes Sour...	3 KB
⚙️ .gitignore	7/10/2024 8:21 PM	Git Ignore Source ...	8 KB
📄 Directory.Packages.props	7/22/2024 11:09 AM	PROPS File	3 KB
📄 docker-compose.yml	7/10/2024 8:21 PM	Yaml Source File	1 KB
📄 Dockerfile	7/10/2024 8:21 PM	File	2 KB
📄 LICENSE	7/10/2024 8:21 PM	File	2 KB
📄 Note.txt	7/10/2024 8:21 PM	Text Document	1 KB
📄 NursingHome.sln	7/10/2024 8:21 PM	SLN File	4 KB
📄 README.md	7/10/2024 8:21 PM	Markdown Source ...	1 KB

Figure 54 - Folder of Backend

- Test project in browser by go to URL:  
<https://localhost:7127/swagger/index.html>

The screenshot shows the Swagger UI interface for the **NursingHome.WebApi v1**. At the top, there's a navigation bar with a search icon, a refresh icon, and a dropdown menu for selecting a definition. Below the header, the title **NursingHome.WebApi** is displayed along with its version **1.0** and the **OAS3** logo. A sub-link <https://localhost:7127/swagger/v1/swagger.json> is also present. On the right side, there's a green button labeled **Authorize** with a lock icon. The main content area is titled **Appointments**. It lists several API endpoints with their respective HTTP methods and URLs. The **POST /api/appointments** method is highlighted in green, while others like **GET /api/appointments**, **PUT /api/appointments/{id}**, **DELETE /api/appointments/{id}**, and **PUT /api/appointments/ChangeStatus/{id}** are shown in blue, orange, red, and yellow respectively. Each row includes a lock icon indicating security status.

Figure 55 - Localhost of Backend

### 3. User Manual

#### 3.1 Overview

CareConnect is a system that allows storing information such as creating customer information, seniors, contract information and payment invoices. In addition, CareConnect also provides an application for customers to choose services and make payments. Moreover, customers can monitor the health status of the elderly and the status of each health indicator and will receive notifications when there is unstable data.

With this project we have 3 workflow:

Table 90 - Flow of CareConnect

No.	Workflow	Actor
1	Complete the procedure	Customer and staff
2	Choose service and payment	Customer, staff and nurse
3	Health report	Nurse and customer

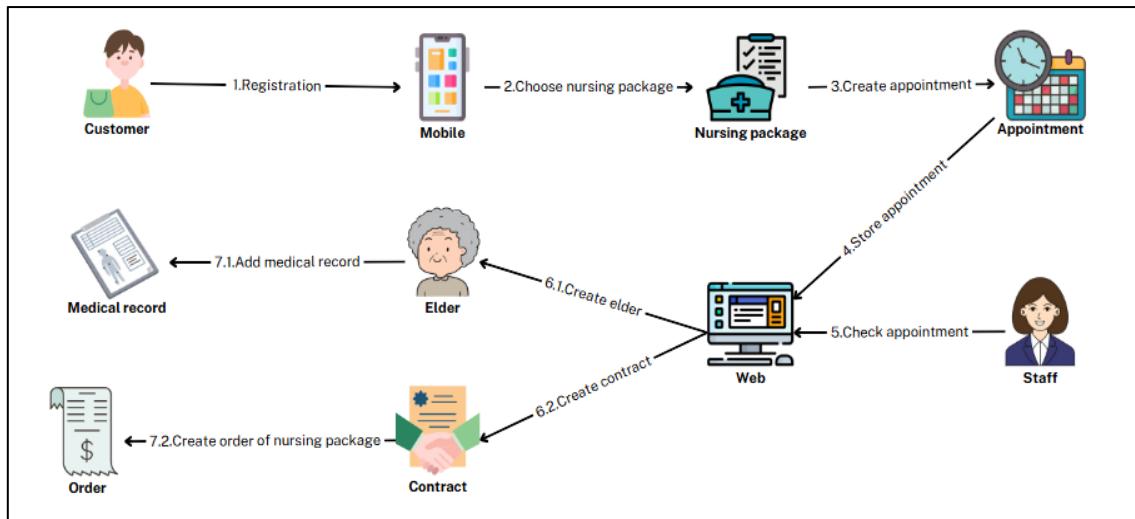


Figure 56 - Flow Elder Registration

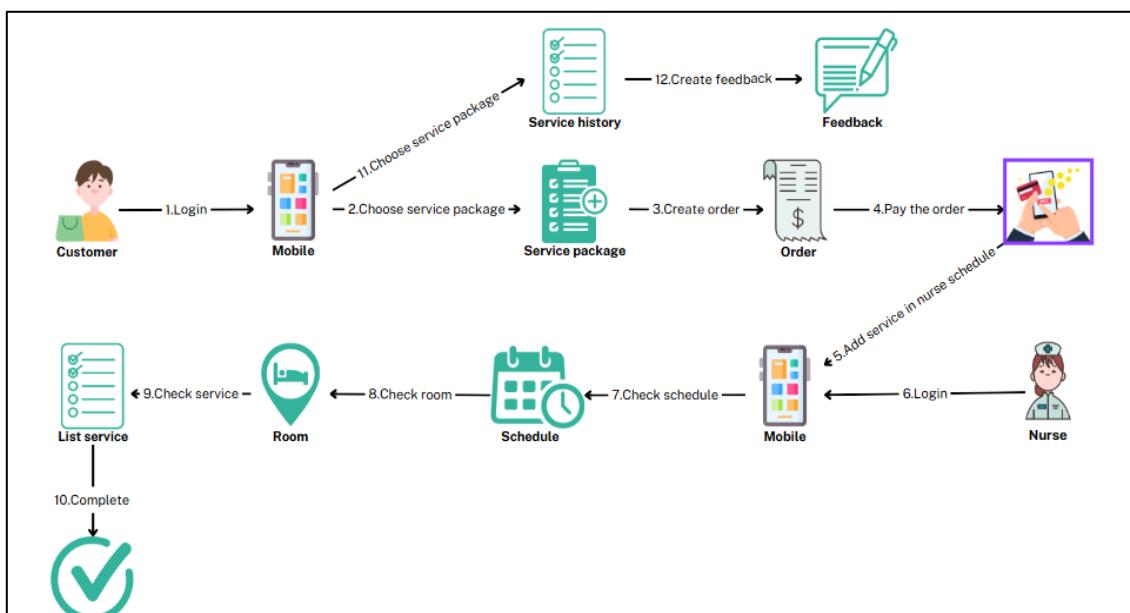


Figure 57 - Flow Service Booking

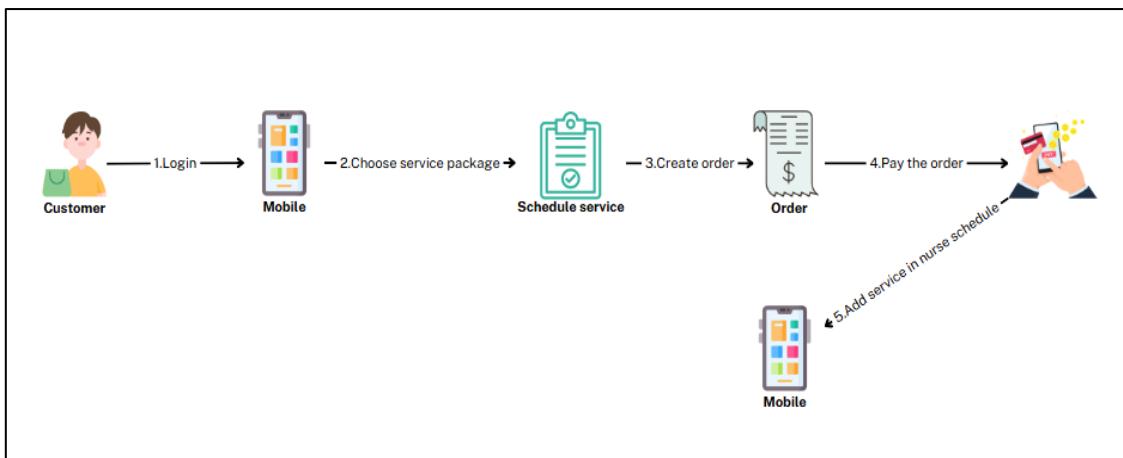


Figure 58 - Flow Service Renewal

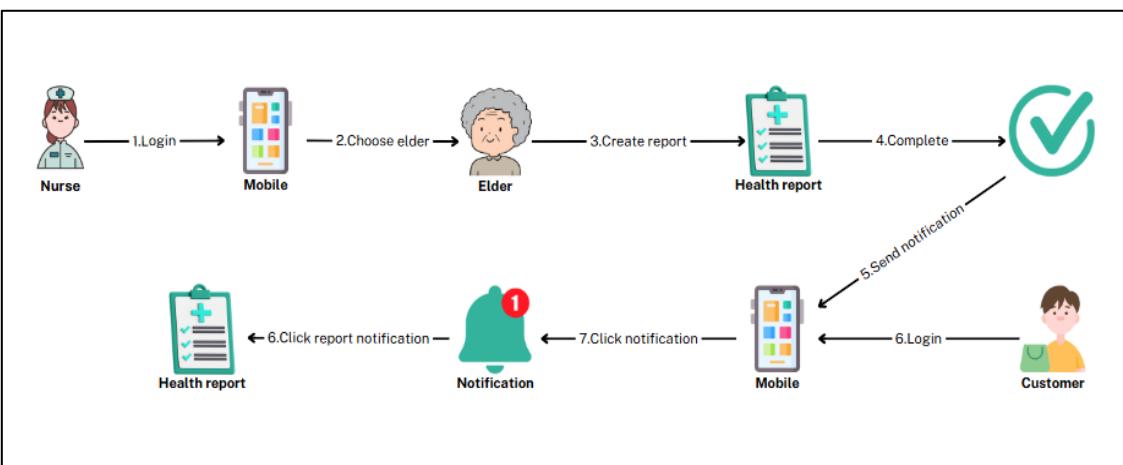


Figure 59 - Flow Elder Health Report

### 3.2 Elder registration

#### 3.2.1 Customer register

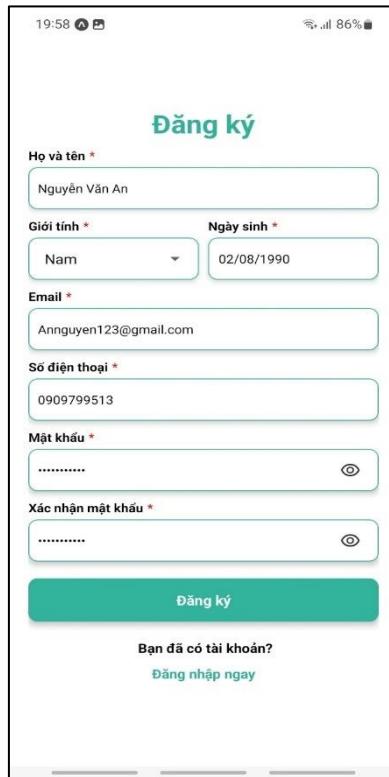


Figure 60 - Register Screen

- At the Login screen, click on “Đăng ký ngay”
- Enter valid user information, click on button “Đăng ký”

#### 3.2.2 Customer view list nursing package



Figure 61 - List Nursing Package Screen

- At the Home screen, click on “Gói dưỡng lão”

### 3.2.3 Customer create appointment

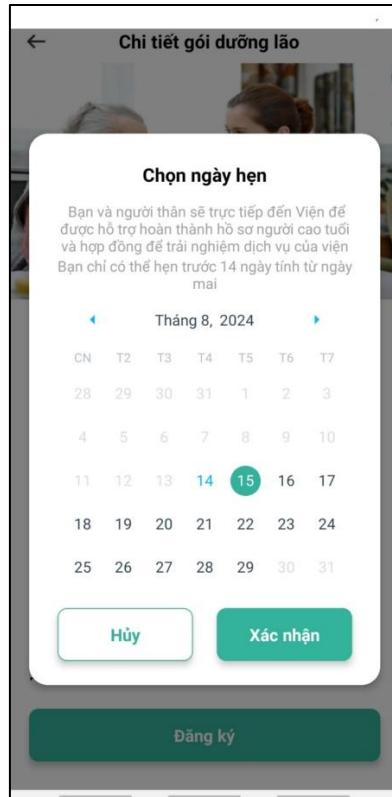


Figure 62 - Create Appointment Screen

- At the list of services, click on a nursing package
- At the nursing package detail, click on button “Đăng ký”
- Choose a date to complete the procedure, that date must be at least tomorrow
- Click on button “Xác nhận”

### 3.2.4 Staff view appointment information

Lịch hẹn							Xin chào! Staff
Lịch thăm nuôi		Lịch hoàn thiện thủ tục		Lịch gia hạn hợp đồng			Lịch hẹn hủy hợp đồng
Người đăng ký	Trạng thái	Thời gian đến	Số điện thoại	Tên loại hẹn	Thao tác		
Nguyễn Văn An	Đang chờ	04-08-2024	090 979 9513	Lịch hẹn hoàn thi	[...]		
Thảo My	Bà hoàn thành	02-08-2024	090 979 9899	Lịch hẹn hoàn thi	[...]		
Thảo My	Đang chờ	03-08-2024	090 979 9899	Lịch hẹn hoàn thi	[...]		
Thảo My	Đang chờ	06-08-2024	090 979 9799	Lịch hẹn hoàn thi	[...]		
Thảo My	Đang chờ	04-08-2024	090 979 9799	Lịch hẹn hoàn thi	[...]		
user	Đã hủy	31-07-2024		Lịch hẹn hoàn thi	[...]		
Thảo My	Bà hoàn thành	03-08-2024	090 979 9799	Lịch hẹn hoàn thi	[...]		

Figure 63 - View Appointment Information in Website

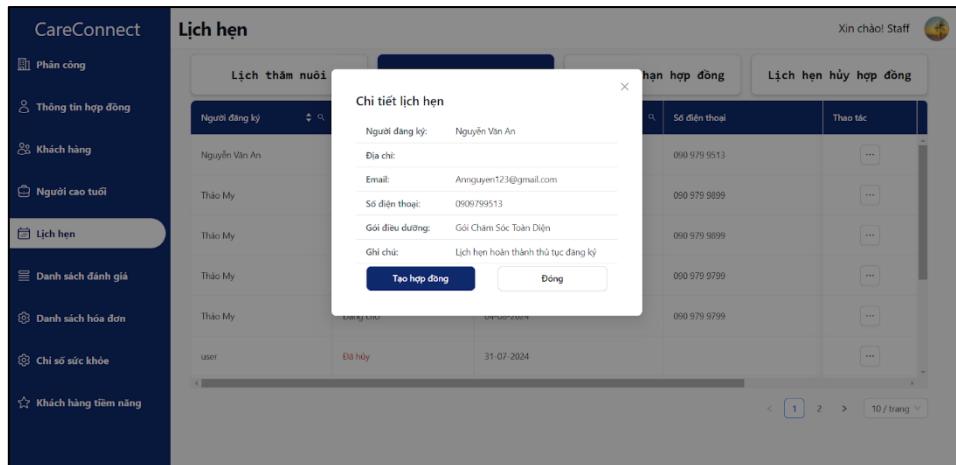


Figure 64 - View Detail of Appointment Information in Website

### 3.2.5 Staff create elder

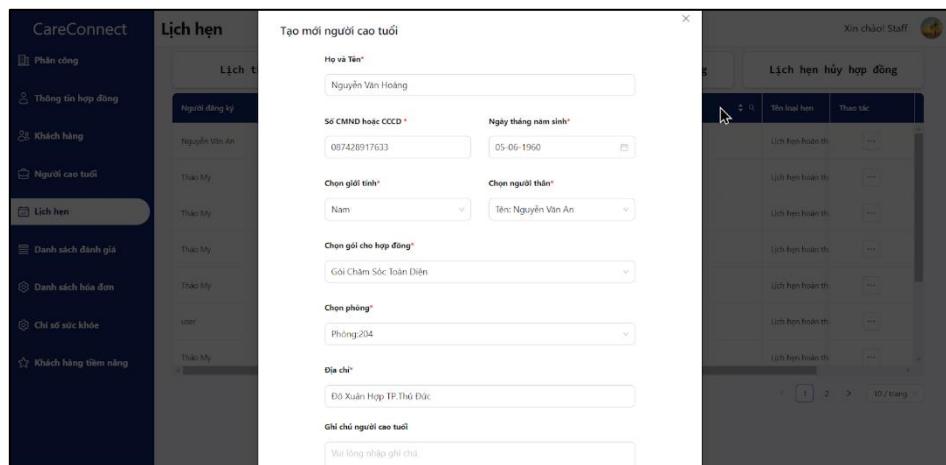


Figure 65 - Create Elder in Website

### 3.2.6 Staff create contract information

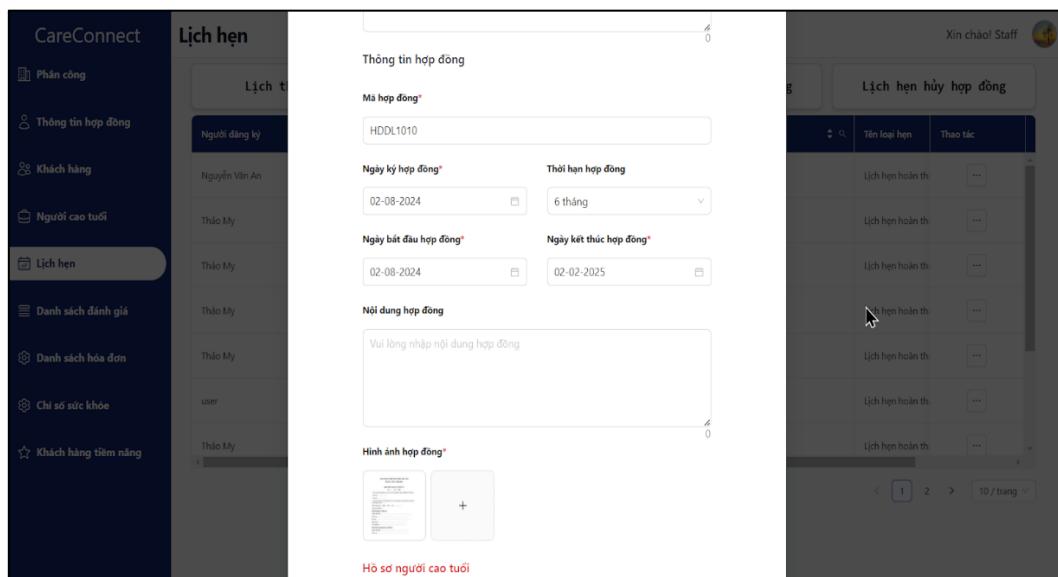


Figure 66 - Create Contract Information in Website

### 3.2.7 Staff create elder health profile

Cập nhật thông tin sức khỏe

Nhóm máu\*

B

Cân nặng(KG)\*

55

Chiều cao(Cm)\*

150

Bệnh lý trước đó

Vui lòng nhập bệnh lý

Ghi chú

Vui lòng nhập Ghi chú

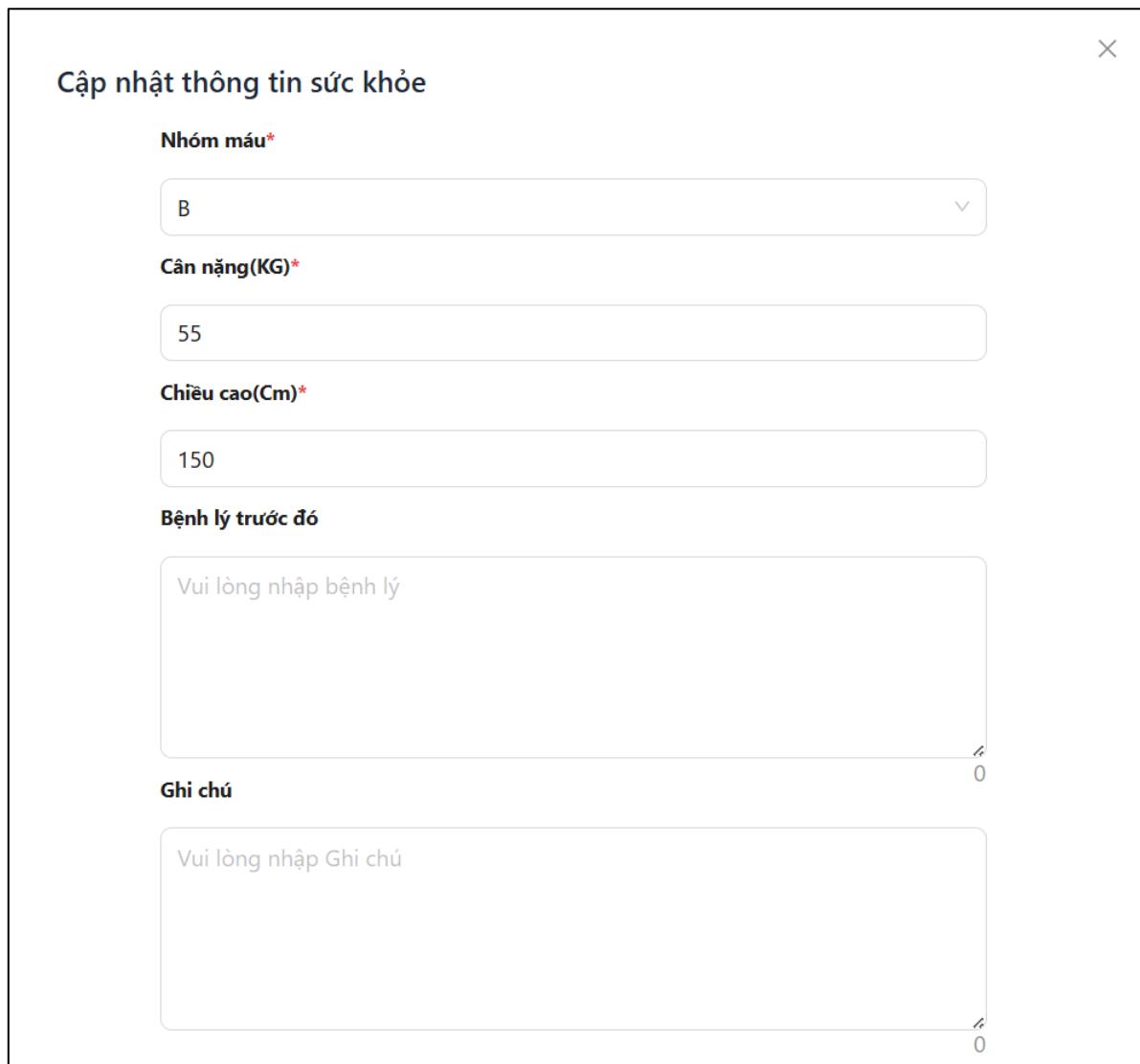


Figure 67 - Create Elder Health Profile in Website

### 3.3 Service booking

#### 3.3.1 Customer book service

##### 3.3.1.1 Customer choose service



Figure 68 - Customer View List Service

- At the Home screen, click on “Service” icon on bottom navigation
- Choose a service to book



Figure 69 - Customer View Detail of Service

- Click on button “Đăng ký dịch vụ”



Figure 70 - Customer Choose Elder

- Choose an elder who will use the service

- Click on button “Tiếp tục”

### **3.3.1.2 Customer choose date**



Figure 71 - Customer Choose Date for Service

- After clicking button “Tiếp tục”, a modal shows up to the customer choosing the time for the booking.
- The booking time must not overlap with previous registrations for the same service for the same elder and the earliest date is tomorrow
- Click on button “Thanh toán ngay”

### **3.3.1.3 Customer pay the service**



Figure 72 - Customer Pay the Service

- After clicking on button “Thanh toán ngay”, a screen shows up where the customer checks the total money and chooses the payment method
- Click on button “Thanh toán”

### **3.3.1.4 Payment successful**

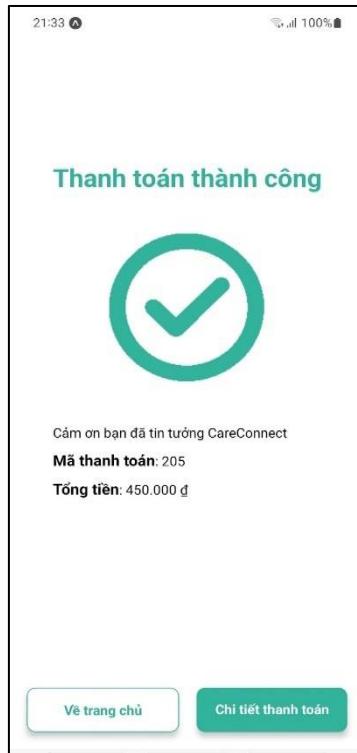


Figure 73 - Payment Successful

- After clicking on button “Thanh toán ngay”, the payment screen will appear depending on the payment method the user has chosen
- Users proceed to pay according to the steps, then return to the app

### **3.3.1.5 Nurse check schedule**

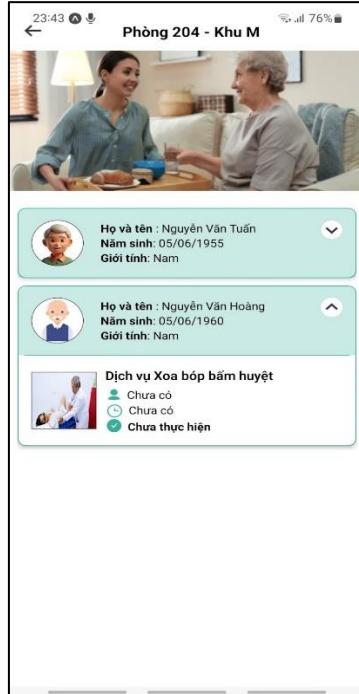


Figure 74 - Schedule of Nurse

- At the Home screen, nurse click on “Các dịch vụ được đăng ký”
- If there is no elder in the room where the nurse needs to perform the service on the current day, this screen will have no data

### **3.3.1.6 Nurse check complete service**

- Nurse choose a service that uncomplete to check



Figure 75 - Detail of service

- Click on button “Xác nhận đã thực hiện”

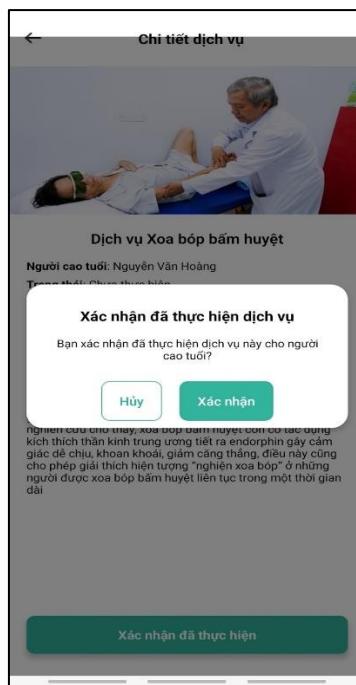


Figure 76 - Complete service

### 3.3.1.7 Customer check registered service

- At the Profile screen, click on “Lịch sử dịch vụ” icon on bottom navigation
- Click on a service in the list

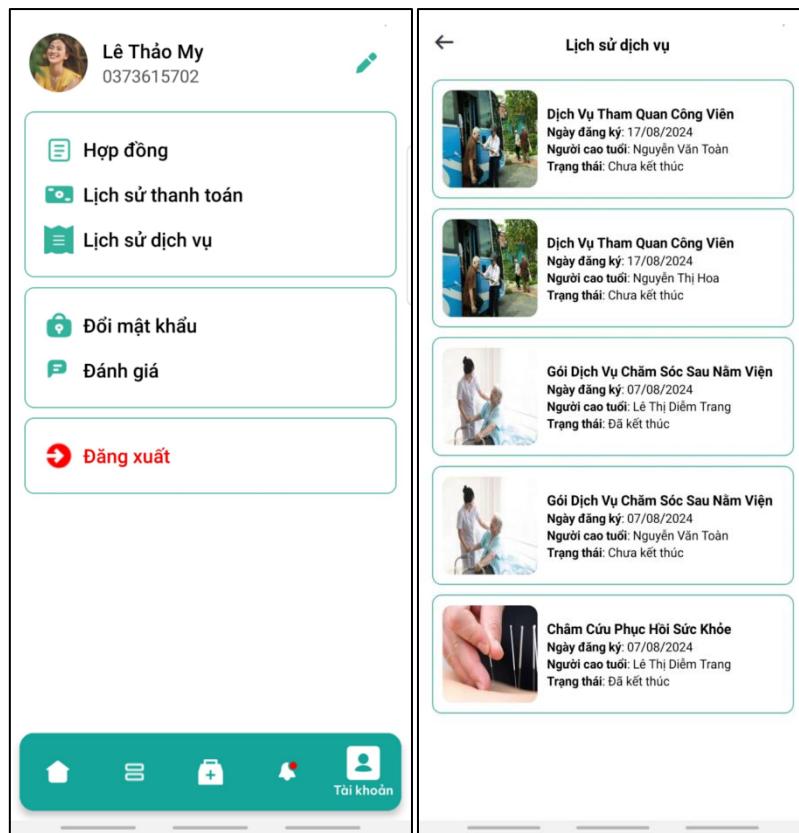


Figure 77 – Check registered service

### 3.3.1.8 Customer feedback service

- At the Profile screen, click on “Lịch sử dịch vụ” icon on bottom navigation
- Click on a service in the list
- Click on button “Đánh giá dịch vụ”
- Enter data and click on “Tạo đánh giá”

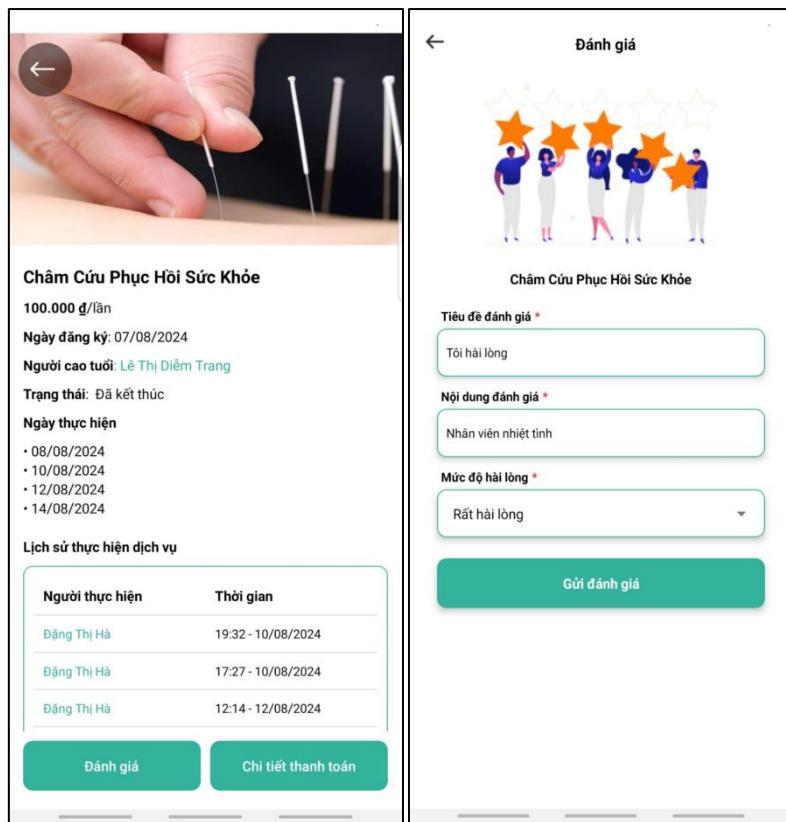


Figure 78 – Feedback service

### 3.3.2 Service renewal

#### 3.3.2.1 System send notification



Figure 79 - Notification for Renew Service

- On the 25th of each month, the system will send a notification so the user can select recurring services that the user has booked in the current month to continue booking for the next month

### **3.3.2.2 Customer confirm service**

- User click on the “Service renewal” notification
- User choose the services to book for the next month



Figure 80 - Choose Service

- User click on button “Xác nhận”

### **3.3.2.3 Confirm successful**

- After clicking on button “Xác nhận”, a screen shows up where the customer checks the total money and chooses the payment method



Figure 81 - Confirm Service

- If user click on “Thanh toán ngay”, users proceed to pay according to the steps of the chosen payment method and then returns to the application

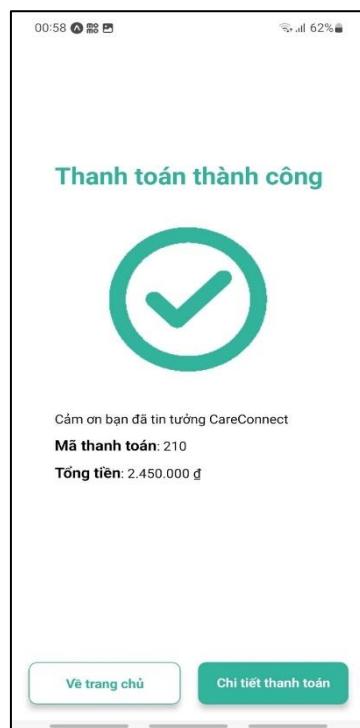


Figure 82 - Confirm Service Successful

- After the user has successfully paid, click on the “Chi tiết thanh toán” button

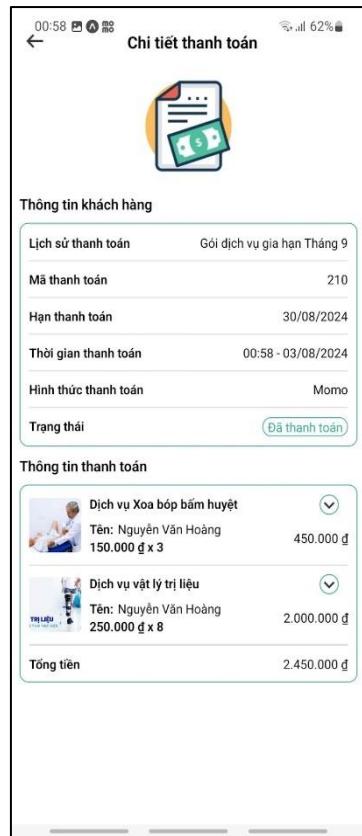


Figure 83 - Payment

#### 3.3.2.3.1 System create unpaid order

- If user click on “Thanh toán sau”, user will be redirected to the list of order



Figure 84 - Confirm Not Pay

- The unpaid order is created

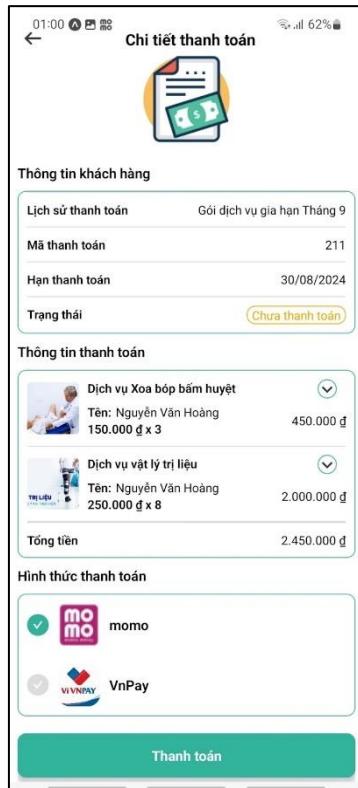


Figure 85 - Create unpaid order

### 3.3.2.3.2 Add unpaid order in list order

Danh sách thanh toán						
Họ và tên	Ảnh	Thanh toán bằng	Trạng thái	Giá tiền	Ghi chú	Thao tác
Nguyễn Văn An		None	UnPaid	2,450,000đ	Gói dịch vụ già hạn Tháng 9	
Nguyễn Văn An		VnPay	Paid	1,000,000đ	Thanh toán dịch vụ Dịch vụ vật lý trị liệu	
Nguyễn Văn An		Momo	Paid	1,000,000đ	Thanh toán dịch vụ Dịch vụ vật lý trị liệu	

Figure 86 - View the Unpaid Order in Website

### 3.3.2.4 Payment method

- At the Account screen, click on “Lịch sử thanh toán”
- Choose a payment with status “Chưa thanh toán” (Unpaid) to pay



Figure 87 - View Unpaid Order in Mobile

- Choose payment method and click on button “Thanh toán”

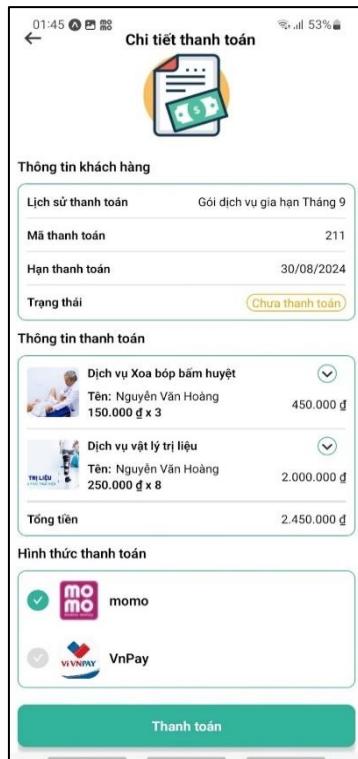


Figure 88 - Pay the order

- Users proceed to pay according to the steps of the chosen payment method and then returns to the application

- After the user has successfully paid, click on the “Chi tiết thanh toán” button

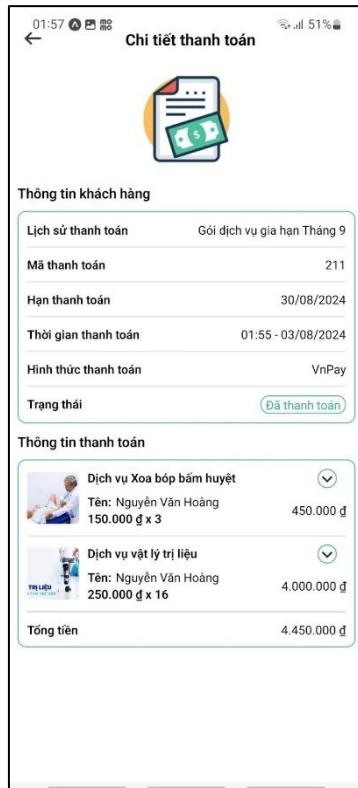


Figure 89 - Change Status of Order

### 3.4 Health report

#### 3.4.1 Nurse create health report

- At the Home screen, nurse click on “Theo dõi sức khỏe”
- Choose an elder to create health report



Figure 90 - View List Elder in room

- Click on button “+”

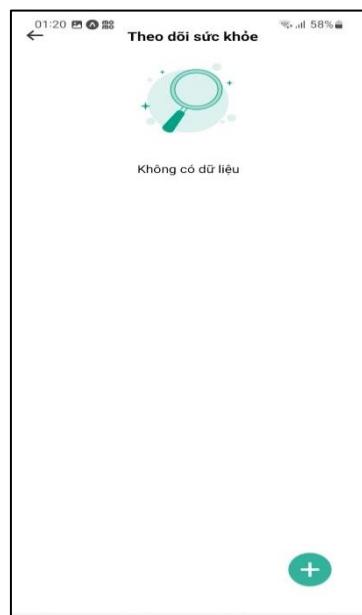


Figure 91 - Health Report of Elder

- Choose the health indexes that need to measure for the elderly

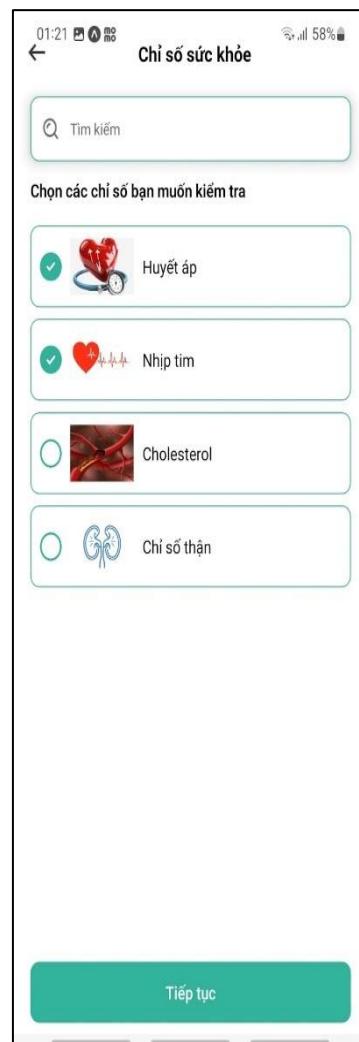


Figure 92 - Choose Health Category

- Click on button “Tiếp tục”
- After clicking on button “Tiếp tục”, a screen is displayed where user enters the result of the health indexes and the notes for that report



Figure 93 - Create Health Report

- Click on button “Xác nhận” on the screen and button “Xác nhận” on the confirm modal

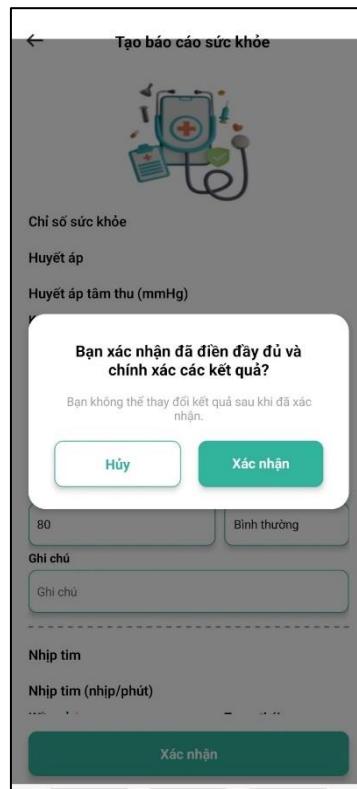


Figure 94 - Confirm Create Health Report

- Click on the report of the date to see the created report and click on any result to see detail of that result

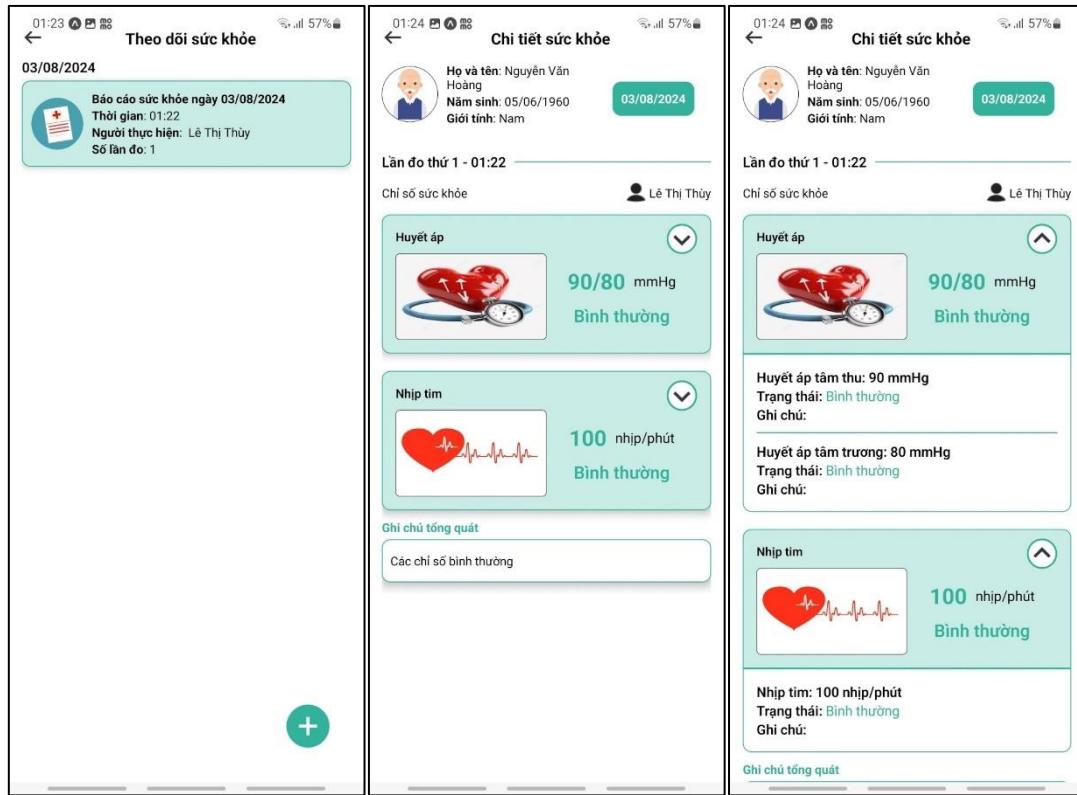


Figure 95 - View Health Report

### 3.4.2 System send notification

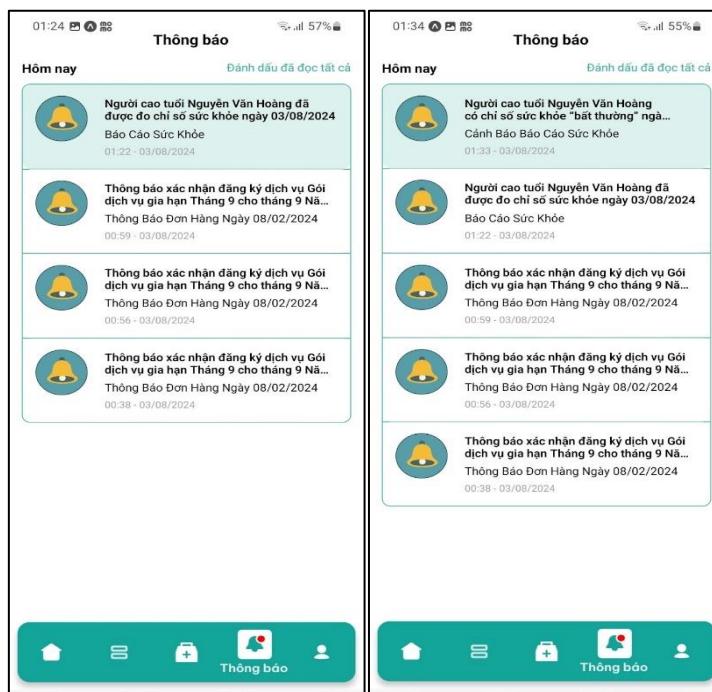


Figure 96 - Notification about Health Report

- As soon as the nurse successfully creates a health report for an elder, a notification will be sent to the responsible user of that elder.
- User click on “Bell” icon on the bottom navigation to view the list of notifications

### 3.4.3 Nurse emergency calling

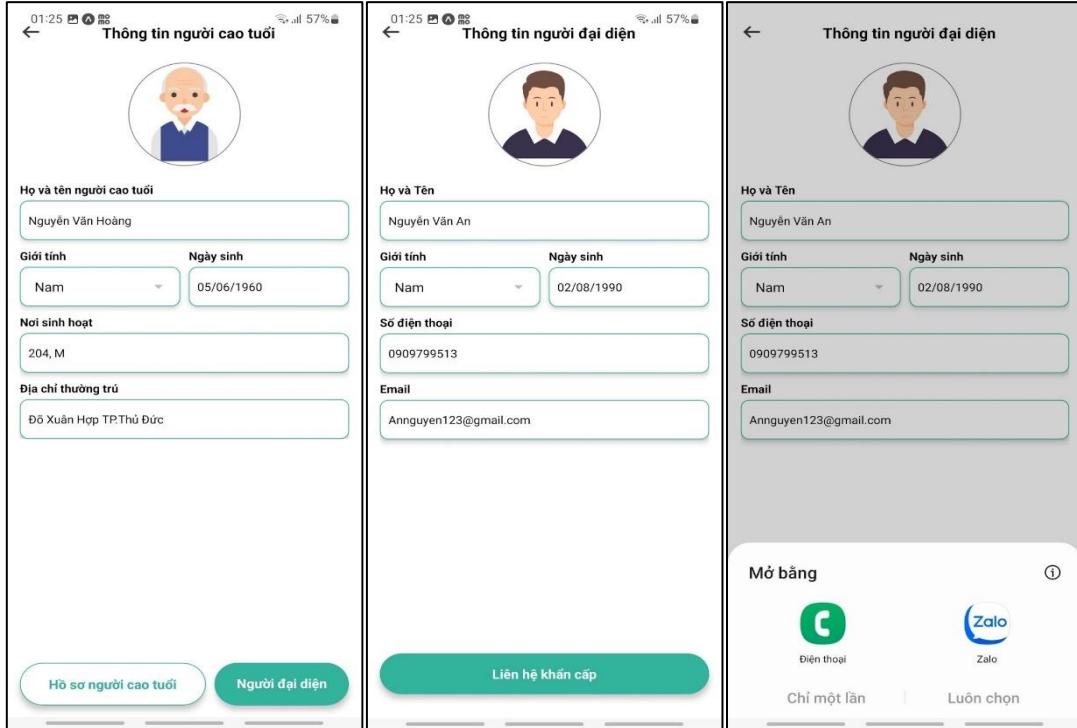


Figure 97 - Elder, Customer Information

- At the detail of health report screen, nurse click on the elder information
- Click on button “Người đại diện”
- Click on button “Liên hệ khẩn cấp”
- Choose calling method and call the responsible user



Figure 98 - View Detail of Health Report

- At the Home screen, click on “Các phòng phụ trách”
  - Choose room that has the elder that you want to call to the responsible user
  - Choose elder
  - Click on button “Người đại diện”
  - Click on button “Liên hệ khẩn cấp”
  - Choose calling method and call the responsible user

### 3.4.4 Customer view health report

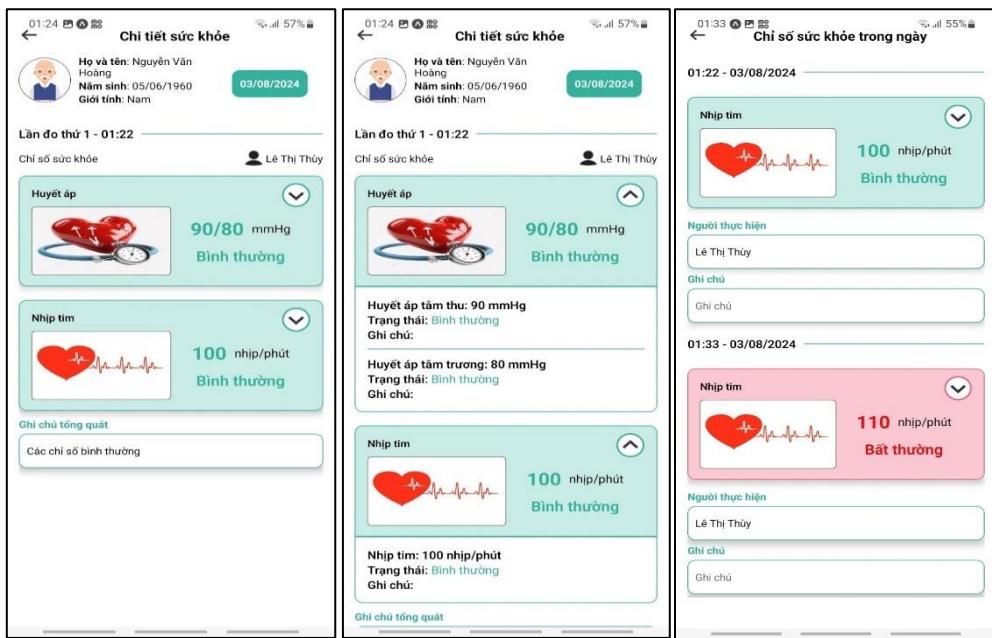


Figure 99 - View History of Health Report

- At the Home screen, click on “Medical” icon on the bottom navigation
  - Choose elder to see the list of health report
  - Choose health report of the date to see the list of health report
  - User can click on any indexes in the list to see the list of result of that index in the selected date
- At the Home screen, click on “Bell” icon on the bottom navigation to view the list of notifications
  - Click on the “Health report” notification
  - User can see the list of report on the date of that notification



Figure 100 - Notification from Health Report