



MINISTRY OF EDUCATION AND TRAINING

TRƯỜNG ĐẠI HỌC FPT

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Capstone Project Document

Elderly Sitting Services Application

GSP23SE50	
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Capstone Project code	SP23SE09

- TP. Ho Chi Minh, April 2023 -

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Our project may have shortcomings and problems due to the limited conditions, time, and experience. We look forward to receiving guidance from lecturers so that we can improve and perform better with real projects in the future.

Best regards!

Definition and Acronyms

Acronym	Definition
BR	Business Rule
ERD	Entity Relationship Diagram
GUI	Graphical User Interface
UC	Use Case
API	Application Program Interface
FE	Feature
LI	Limitation
ELS	Elderly Sitting Services Application

Table 1. Definition and acronyms

I. Project Introduction

1. Overview

1.1 Project Information

- Project name: Elderly Sitting Services Application
- Project code: SP23SE09
- Group name: ELS Team
- Software type: Web Application, Mobile Application

1.2 Project Team

a. Supervisors

Full Name	Role	Email	Mobile
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Table 2. Supervisors

b. Team Members

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Table 3. Team members

2. Product Background

At each age, people will have different needs, wants, and goals in life. Compared to the vibrant youth, when people are old, they are often quieter, they are more likely to fall into depression, loneliness, and vulnerability. Therefore, the elderly need care and love from loved ones. Society is developing day by day, young people are becoming more and more busy. As a result, they will lack time to take care of their family as well as their home. This causes them to lose the balance between work and family. Therefore, the majority of elderly people in today's society do not receive comprehensive care. Understanding the hardships and inconveniences of families with the elderly, ELS has launched an elderly care service at

home with an economical booking process, and users can see the sitter's information before booking or choosing someone that suits their requirements. Save time for your customers.

3. Existing Systems

3.1 bTaskee

The bTaskee is an application technology that provides many convenient services such as home cleaning, air-conditioning, grocery assistance, elderly care,.. the domestic work industry in Vietnam.

- **Advantages:**

- There is a mobile app for booking elderly care.
- Information and service prices are clear and transparent.

- **Disadvantages:**

- The service focuses more on cleaning the house, not on taking care of the elderly.
- Book service through manual posting.
- Customers cannot view employee profiles to ensure they match their requirements.

4. Business Opportunity

In recent years, Vietnam's population is aging at a rapid rate. The proportion of elderly people has increased dramatically, while adults are increasingly busy with careers, housework, and raising children. Rarely does anyone have enough time to both work and take care of their small home while being able to take care of their parents. This has led to an increase in demand for aged care services. ELS helps connect customers in need and reputable, professional sitters and a simple and time-saving booking process for customers.

5. Software Product Vision

The ELS system is an internet-based and smartphone-enabled application that will help customers book a sitter and see how much it costs them. In addition, customers can view details of services, track work progress, and feedback to sitters. In addition, sitters can update their information so that customers know more about them, which will increase job opportunities for sitters. With certificates, knowledge and professional skills in caring for the elderly, it will help in the care process not to make mistakes that seriously affect the health and psychology of the elderly.

6. Project Scope & Limitations

6.1 Major Features

- Administrator

- FE-01:** View, enable, and disable customer account
- FE-02:** View, enable, and disable the sitter account
- FE-03:** Create, view, update, delete staff
- FE-04:** Create, view, update, delete package
- FE-05:** Create, view, update, delete service
- FE-06:** View booking history of Customer/Sitter
- FE-07:** View statistics report
- FE-08:** View feedback of sitter

- Staff

- FE-09:** Create, view, update, delete service
- FE-10:** Create, view, update, delete the package
- FE-11:** Approve, or reject the sitter form
- FE-12:** View, and resolve the reported problem
- FE-13:** Create, view, update, delete promotion

- Customer

- FE-14:** Change and reset password
- FE-15:** View and update profile
- FE-16:** Add, and view payment information
- FE-17:** Create, view, and cancel the booking
- FE-18:** Report sitter
- FE-19:** Confirm completed booking
- FE-20:** Create, view, update, and delete elder
- FE-21:** View booking history
- FE-22:** Change sitter
- FE-23:** Chat with the sitter
- FE-24:** Create and view feedback for the sitter

- Sitter

- FE-25:** Change and reset password
- FE-26:** View and update profile
- FE-27:** Set working time
- FE-28:** Cancel booking

- FE-29:** View booking history
- FE-30:** Report customer
- FE-31:** Track the schedule of work
- FE-32:** View total salary
- FE-33:** Chat with the customer

- **Authenticated User**

- FE-34:** View and update profile
- FE-35:** View notifications
- FE-36:** Logout
- FE-37:** Login

- **Unauthenticated User**

- FE-38:** Sign up

- **System Handler**

- FE-39:** Push notification

6.2 Limitations & Exclusions

- **Limitations**

- LI-01:** Currently, the app's service is only applied in the package, not allowing users to choose the service they want.
- LI-02:** There are no other payment methods other than e-wallets.
- LI-03:** Discount codes have not been applied for each different service package.

II. Project Management Plan

1. Overview

1.1 Scope & Estimation

#	WBS Item	Complexity	Est. Effort (man-days)
1	Specification		30
1.1	Project planning	Simple	3
1.2	Deliver Report 1 - Project Introduction	Simple	5

1.3	Deliver Report 2 - Project Management Plan	Simple	7
1.4	Deliver Report 3 - Software Requirements Specification	Medium	15
2	Design		32
2.1	Design User Interfaces prototypes	Medium	15
2.2	Deliver Report 4 - Software Design Documents	Medium	17
3	Training		16
3.1	Learn git and train the git branching model	Simple	1
3.2	Learn back-end framework	Complex	5
3.3	Learn front-end framework	Complex	5
3.4	Learn mobile framework	Complex	5
4	Implement		114
4.1	Database		
4.1.1	Implement database from document	Medium	6
4.2	Common functions		
4.2.1	Login	Simple	2
4.2.2	Sign up	Simple	2
4.2.3	View profile	Simple	2
4.2.4	Update profile	Simple	2
4.2.5	Reset password	Simple	3
4.2.6	Change password	Simple	2
4.2.7	Get notifications	Simple	2
4.3	Web application for Admin		

4.3.1	Verify a sitter account	Simple	2
4.3.2	View booking history detail	Simple	1
4.3.3	View customer account details	Simple	1
4.3.4	Delete customer account	Simple	1
4.3.5	View sitter account details	Simple	1
4.3.6	Delete sitter account	Simple	1
4.3.7	Create staff	Simple	2
4.3.8	Update staff	Simple	2
4.3.9	Delete staff	Simple	1
4.3.10	View staff details	Simple	1
4.3.11	Create package	Simple	2
4.3.12	Update package	Simple	2
4.3.13	Delete package	Simple	1
4.3.14	View package details	Simple	1
4.3.15	Create service	Simple	2
4.3.16	Update service	Simple	2
4.3.17	Delete service	Simple	1
4.3.18	View service details	Simple	1
4.4	Web application for Staff		
4.4.1	Create promotion	Simple	2
4.4.2	Update promotion	Simple	2
4.4.3	Delete promotion	Simple	1
4.4.4	View promotion details	Simple	1

4.4.5	View booking details	Simple	1
4.4.6	Resolve report	Simple	2
4.4.7	View report details	Simple	1
4.4.8	Assign sitter to booking	Simple	2
4.4.9	Approve sitter registration form	Simple	2
4.4.10	Reject sitter registration form	Simple	2
4.4.11	Create package	Simple	2
4.4.12	Update package	Simple	2
4.4.13	Delete package	Simple	1
4.4.14	View package details	Simple	1
4.4.15	Create service	Simple	2
4.4.16	Update service	Simple	2
4.4.17	Delete service	Simple	1
4.4.18	View service details	Simple	1
4.5	Mobile application for Customer		
4.5.1	Create elder	Simple	2
4.5.2	Update elder	Simple	2
4.5.3	Delete elder	Simple	1
4.5.4	View elder details	Simple	1
4.5.5	Add payment information	Simple	2
4.5.6	Top up	Simple	2
4.5.7	View payment history	Simple	1
4.5.8	Deposit	Simple	2

4.5.9	Payment	Simple	2
4.5.10	Confirm completed booking	Simple	1
4.5.11	Create booking	Simple	2
4.5.12	Cancel booking	Simple	3
4.5.13	View booking details	Simple	1
4.5.14	Feedback	Simple	1
4.5.15	Change sitter	Simple	3
4.5.16	Apply promotion for booking	Simple	1
4.5.17	View report	Simple	1
4.5.18	Create report	Simple	2
4.5.19	View package details	Simple	1
4.5.20	View service details	Simple	1
4.5.21	Chat	Simple	2
4.5.22	View schedule	Simple	2
4.5.23	Request increase booking date	Simple	3
4.5.24	Request decrease booking date	Simple	3
4.5	Mobile application for Sitter		
4.5.1	Cancel booking	Simple	2
4.5.2	Check-in job	Simple	2
4.5.3	Check out job	Simple	2
4.5.4	View booking request details	Simple	1
4.5.5	Set working time	Simple	3
4.5.6	View total salary	Simple	1

4.5.7	View feedback	Simple	1
4.5.8	View report	Simple	1
4.5.9	Create report	Simple	2
4.5.10	View package details	Simple	1
4.5.11	View service details	Simple	1
4.5.12	Chat	Simple	2
4.5.13	View schedule	Simple	1
5	Testing		37
5.1	Create test plan	Simple	4
5.2	Reviewing	Medium	8
5.3	Unit test	Medium	10
5.4	Integration test	Simple	6
5.5	System test	Simple	5
5.6	User acceptance test	Simple	4
6	Closing		19
6.1	Deliver Report 5 - Test report	Simple	5
6.2	Deliver Report 6 - Software user guide	Simple	4
6.3	Deliver Report 7 - Final project report	Medium	6
6.4	Create slide and practice for the thesis defense	Simple	4
Total Estimated Effort (man-days)			248

Table 4. WBS & Estimation

1.2 Project Objectives

- Timeliness (%): 85%
- Allocated Effort (man-days):
4 (members) * 14 (weeks) * 4.5 (days/week) = 252 man-days

#	Testing Stage	No. of Defects	% of Defect	Notes
1	Reviewing	13	20%	
2	Unit Test	26	30%	
3	Integration Test	13	20%	
4	System Test	12	20%	
5	Acceptance Test	6	10%	
Total		70	100%	

Table 5. Project objectives

1.3 Project Risks

#	Risk Description	Impact	Possibility	Response Plans
1	Member drop out of the project	High	Low	Reduce the scope and adjust the project plan.
2	Change business rule	Medium	High	Host a meeting with members and supervisor.
3	Conflict between team members	High	Medium	Ask team leader or supervisor for advice
4	Equipment of members is broken	Medium	Medium	Members use other equipment until the broken one is fixed or buy a new one.

Table 6. Project risks

2. Management Approach

2.1 Project Process

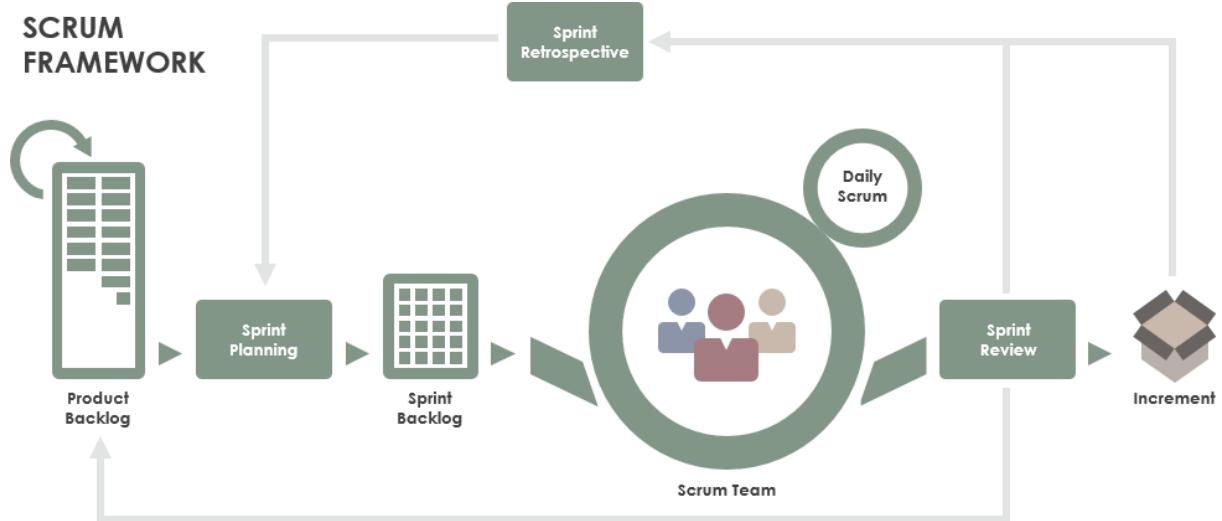


Figure 1. Scrum framework

This project is developed under the Scrum framework of Agile methodology. We choose this process model because of the following reasons:

- Easy to learn and use.
- Allow the team to identify risks early and make it easier to respond to them.
- Through feedback and regular testing, increase the quality of the development process and the quality of the final product.
- The project duration is about 14 weeks.

2.2 Quality Management

To improve the project quality, the ELS team uses the following approach:

- Making rules about clean coding conventions.
- Carefully cross-review and merge code, fixing immediately as well as possible.
- Using unit testing, integration testing, system testing, integration testing, and acceptance testing methodology to avoid defects and ensure the final product quality.

2.3 Training Plan

Training Area	Participants	When, Duration	Waiver Criteria
Java Spring Boot	All members	Week 1, 5 days	Mandatory
ReactJS	All members	Week 2, 5 days	Mandatory
Flutter	All members	Week 3, 5 days	Mandatory
Git, Github	All members	Week 3, 1 day	Mandatory

Table 7. Training plan

3. Project Deliverables

#	Deliverable	Due Date	Notes
1	Project plan	07/01/2022	Make a project goal plan.
2	Report 1 - Project Introduction Document	12/01/2022	Product background, business opportunity, existing products, main features and limitations
3	Report 2 - Project Management Document	16/01/2022	Project objectives, WBS, master schedule, main features, project organization and communication
4	Report 3 - SRS Document	18/02/2022	Software requirement.
5	Report 4 - Software Design Document	04/03/2022	Architecture Design, Detailed Design, Database
6	Report 5 - Software Testing Document	08/04/2022	Test reports.
7	Report 6 - Release Package and User Guides	15/04/2022	Installation guides, user manual guides

8	Report 7 - Appendix	16/04/2022	Summarize the glossary and references used in the project.
9	Code package 1	23/02/2022	Feature for administrator (API, front-end web application) Features for staff(API, front-end web application) Features for customer and sitter(API, mobile application)
10	Code package 2	26/03/2022	Features for administrator (API, front-end web application) Features for staff(API, front-end web application) Features for customer and sitter(API, mobile application)
11	Code package 3	06/04/2022	Features for administrator (API, front-end web application) Features for staff(API, front-end web application) Features for customer and sitter(API, mobile application)
12	Final package	24/04/2022	Final software and documents.

Table 8. Project deliverables

4. Responsibility Assignments

D~Do; R~Review; S~Support; I~Informed; <blank>- Omitted

Responsibility	SonTT	NhuLTC	KhanhPL	AnhNHV
Project Planning & Tracking	D	S	R	R
Prepare Project Introduction Document	S	S	D	R

Prepare Project Management Plan Document	R	R	S	D
Prepare Software Requirement Specification Document	R	D	D	D
Prepare Software Design Document	D	S	R	R
Prepare Software Test Documentation	S	D	R	R
Prepare Software User Guides	R	S	D	R
Prepare Final Project Report	D	D	D	D

Table 9. Responsibility Assignments

5. Project Communications

Communication Item	Who/ Target	Purpose	When, Frequency	Type, Tool, Method(s)
Daily meeting	Team members	Review task progress, discuss problems and help each other.	Every workday	Google Meet
Meeting supervisor	Supervisor and team members	Review project documents and work progress, and support technical problems.	1 time per week	Face to face, Google Meet

Table 10. Project Communication

6. Configuration Management

6.1 Document Management

- Google Drive to save documents, diagrams, images, and relevant files.
- Google Docs, Google Sheets, Google Slides, and Lucid chart for real-time editing.

6.2 Source Code Management

We use GitHub as our main source code management tool. Developers need to perform tasks appropriate to the issues assigned on Jira. Developers need to create branches whose names correspond to the issues. All functionalities must be tested locally by the developers before creating a pull request.

6.3 Tools & Infrastructures

Category	Tools / Infrastructure

Technology	ReactJS (FrontEnd), Flutter (App), Java/SpringBoot (BackEnd)
Database	MySQL
IDEs/Editors	Visual Studio Code, IntelliJ, Android Studio
Diagramming	Lucid chart
Documentation	Ms Office, Google Docs/Sheets/Slides
Version Control	GitHub (Source Codes), Google Drive (Documents)
Deployment server	Digital Ocean
Project management	Jira

Table 11. Tool and Infrastructures

III. Software Requirement Specification

1. Product Overview

Elderly Sitting Services Application (ELS) is a new software system that supports booking elderly care for customers who are busy young people, and families with elderly people in need of care. ELS provides an app that helps customers find and book sitters quickly with an automated booking process that saves customers time and money. It also allows sitters to update their details for clients to reach them, increasing job opportunities.

2. User Requirements

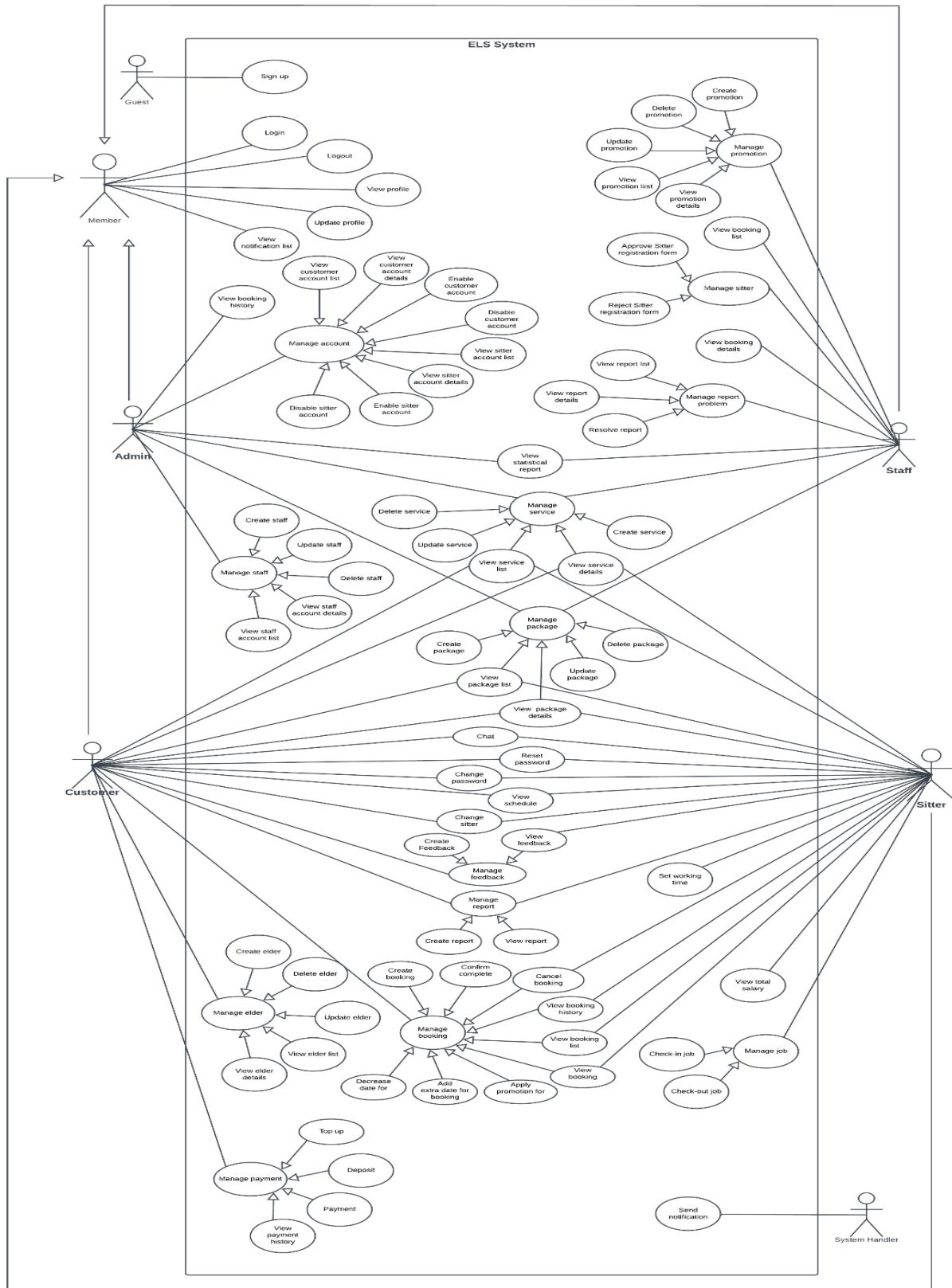
2.1 Actors

#	Actor	Description
1	Guest	A user who does not have an account in the ELS system.
2	Member	A user who has an account in the ELS system.
3	Administrator	A user who manages the ELS system.
4	Staff	A user who has logged in to the ELS system with a role staff.
5	Customer	A user who has logged in to the ELS system with a role customer.
6	Sitter	A user who has logged in to the ELS system with a role sitter.
7	System Handler	ELS system.

Table 12. Actors

2.2 Use Case

2.2.1 Diagram(s)



2.2.2 Descriptions

No	Actors	Use Case	Use Case Description	Pre-condition	Post-condition
01	Guest	Sign up	Guests can register an account to become a customer or a sitter.	The user is not logged in to the system	The member's record is added
02	Member	Login	Members can log in to the system.	The user has not logged in	The system creates a session of member
		Logout	Members can log out from the system.	The member is logged in	The system removes the session of the member
		View profile	Members can view their profile.	The member is logged in	The system outputs the profile of the member
		Update profile	Members can update the information on their profile.	The member is logged in	The system outputs the profile of the member
		View notification list	Members can view the notification list.	-The member is logged in. -The profile's record exists for update.	The profile member record is updated.
03	Administrator	View booking history	Admin can view booking history of Customer/Sitter	The admin is logged in	The system shows a list of booking histories

		Admin can view the statistical report.	The admin is logged in	The system shows a statistical report.
		Admin can view the customer account list.	The admin is logged in	The system shows a list of customer accounts
		Admin can view customer account details.	- The admin is logged in. - The customer's record exists for the disabled.	The system shows detailed information about the customer account.
		Admin can disable customer accounts.	- The admin is logged in. - The customer's record exists for the enable. - The status account is "Active"	The system disables the selected customer account.
		Admin can enable customer accounts.	- The admin is logged in. - The customer's record exists for viewing. - The status account is "Deactive"	The system enables the selected customer account.
		Admin can view the sitter account list.	The admin is logged in	The system shows a list of sitter accounts.

		<p>View sitter account details</p> <p>Admin can view sitter account details.</p>	<ul style="list-style-type: none"> - The admin is logged in. - The sitter's record exists for viewing. 	The system shows detailed information about the sitter account.
		<p>Disable sitter account</p> <p>Admin can disable sitter account</p>	<ul style="list-style-type: none"> - The admin is logged in. - The sitter's record exists for the disabled. - The status account is "Active" 	The system disables the selected sitter account.
		<p>Enable sitter account</p> <p>Admin can enable the sitter account</p>	<ul style="list-style-type: none"> - The admin is logged in. - The sitter's record exists for the enable. - The status account is "Deactive" 	The system enables the selected sitter account.
	<p>Create service</p> <p>Admin can create new services.</p>	<ul style="list-style-type: none"> - The admin is logged in. 	The system creates a new service.	
	<p>Update service</p> <p>Admin can update the service.</p>	<ul style="list-style-type: none"> - The admin is logged in. -The service's record exists for update. 	The service's record is updated.	
	<p>Delete service</p> <p>Admin can delete service.</p>	<ul style="list-style-type: none"> - The admin is logged in. 	The system disables the current service.	

		-The service's record exists for deletion.	
	View service list	Admin can view the service list.	- The admin is logged in. The system shows a list of services.
	View service details	Admin can view service details	- The admin is logged in. -The service's record exists for viewing. The system shows detailed information about the service.
	Create staff	Admin can create a new staff account.	- The admin is logged in. - The staff does not exist in the system. The system creates a new staff account.
	View staff account list	Admin can view the staff account list.	- The admin is logged in. The system shows a list of staff accounts.
	View staff account details	Admin can view staff account details.	- The admin is logged in. -The staff's record exists for viewing. The system shows detailed information about the staff account.
	Delete staff account	Admin can delete the staff account.	- The admin is logged in. - The staff's record exists for deletion. The system disables the current staff account.
	Update staff account	Admin can update the staff account.	- The admin is logged in. The staff's record is updated.

			-The staff's record exists for update.	
	Create package	Admin can create a new package	- The admin is logged in.	The system creates a new package
	Delete package	Admin can delete the package	- The admin is logged in. -The package's record exists for deletion.	The system disables the current package.
	Update package	Admin can update package	- The admin is logged in. -The package's record exists for the update.	The package's record is updated.
	View package list	Admin can view package list	- The admin is logged in.	The system shows a list of packages.
	View package details	Admin can view package details	- The admin is logged in. - The package's record exists for viewing.	The system shows detailed information about the package.
04	Staff	Get statistical report	Staff can view the statistics report.	The admin is logged in The system shows a statistical report.
		Approve sitter registration form	Staff can approve the sitter registration form.	- The staff is logged in. -The registration form's record exists for approval. The registration form's the record status is approved.

	Reject sitter registration form	Staff can reject the sitter registration form.	- The staff is logged in. The registration form's record exists for rejection.	The registration form's record status is rejected.
	Create promotion	Staff can create new promotions	- The staff is logged in.	The system creates a new promotion.
	Update promotion	Staff can delete promotion	- The staff is logged in. -The promotion's record exists for deletion.	The system disables the current promotion.
	Delete promotion	Staff can update promotion	- The staff is logged in. - The promotion's record exists for the update.	The promotion's record is updated.
	View promotion list	Staff can view the promotion list	- The staff is logged in.	The system shows a list of promotions.
	View promotion details	Staff can view promotion details	- The staff is logged in. - The promotion's record exists for viewing.	The system shows detailed information about the promotion.
	View booking list	Staff can view the booking list	- The staff is logged in.	The system shows a list of bookings.

	View booking details	Staff can view booking details	- The staff is logged in. - The booking's record exists for viewing.
	Resolve reports	Staff can resolve reports of customers or sitters.	- The staff is logged in. - The report's record exists for resolution.
	View report list	Staff can view the report list	- The staff is logged in.
	View report details	Staff can view report details	- The staff is logged in. - The report's record exists for view.
	View statistical report	Staff can view the statistical report.	- The staff is logged in.
	Create package	Staff can create a new package	- The staff is logged in.
	Delete package	Staff can delete package	- The staff is logged in. -The package's record exists for deletion.

	Update package	Staff can update package	<ul style="list-style-type: none"> - The staff is logged in. -The package's record exists for update. 	The package's record is updated.
	View package list	Staff can view the package list	<ul style="list-style-type: none"> - The staff is logged in. 	The system shows a list of packages.
	View package details	Staff can view package details	<ul style="list-style-type: none"> - The staff is logged in. - The package's record exists for viewing. 	The system shows detailed information about the package.
	Create service	Staff can create new services.	<ul style="list-style-type: none"> - The staff is logged in. 	The system creates a new service.
	Update service	Staff can update the service.	<ul style="list-style-type: none"> - The staff is logged in. -The service's record exists for update. 	The service's record is updated.
	Delete service	Staff can delete the service.	<ul style="list-style-type: none"> - The staff is logged in. -The service's record exists for deletion. 	The system disables the current service.
	View service list	Staff can view the service list.	<ul style="list-style-type: none"> - The staff is logged in. 	The system shows a list of services.

		View service details	Staff can view service details	- The staff is logged in. -The service's record exists for viewing.	The system shows detailed information about the service.
05	Customer	Create elder	Customers can create new elder information.	- The customer is logged in.	The system creates a new elder.
		Update elder	Customers can update elder information.	- The customer is logged in. -The elder's record exists for update.	The elder's record is updated.
		Delete elder	Customers can delete elder information.	- The customer is logged in. -The elder's record exists for deletion.	The system disables the current service.
		View elder list	Customers can view the list of elder information.	- The customer is logged in.	The system shows a list of elders.
		View elder details	Customers can view elder information details.	- The customer is logged in. - The elder's record exists for view.	The system shows detailed information about elders.
		Top-up	Customers can top up their wallets.	- The customer is logged in.	The system updates the customer's balance.

		Customers can view payment history.	- The customer is logged in.	The system shows a list of payment histories.
	Deposit	Customers can deposit for a booking.	- The customer is logged in. The booking exists for deposit.	The deposit transaction is added.
	Payment	Customers can pay for a booking.	- The customer is logged in. The booking exists for payment.	The booking status has changed.
	Confirm completed booking	Customers can confirm the sitter has finished the job.	- The customer is logged in.	The booking status has changed.
	Create booking	Customers can create a booking service.	- The customer is logged in.	The system creates a new booking.
	Cancel booking	Customers can cancel the booking.	- The customer is logged in. - The booking exists for cancellation.	The booking status has changed.
	View booking list	Customers can view the booking service list.	- The customer is logged in.	The system shows a list of elders.
	View booking details	Customers can view booking service details.	- The customer is logged in.	The system shows detailed information about booking.

			- The booking's record exists for viewing.	
	Change sitter	Customers can request to change sitters.	- The customer is logged in. - The booking exists for request change sitters.	The system changed to a new sitter for booking.
	View booking history	Customers can view their booking history.	- The customer is logged in.	The system shows a list of booking histories.
	Add extra date for booking	Customers can request increase date for booking	- The customer is logged in. - The booking exists for the request increase dates.	The system changed the number of days for booking
	Decrease date for booking	Customers can request decrease date for booking	- The customer is logged in. - The booking exists for the request decrease dates.	The system changed the number of days for booking
	Feedback	Customers can feedback and rate the sitter after completing the job.	- The customer is logged in. - The booking has been completed.	The system updated the sitter's feedback and rating.
	Create report	Customers can create a sitter fault report.	- The customer is logged in.	The system creates a new report.

	View report	Customers can view the report.	- The customer is logged in. - The report's record exists for viewing.
	View package list	Customers can view the package list	- The customer is logged in.
	View package details	Customers can view the package details	- The customer is logged in. - The package's record exists for viewing.
	View service list	Customers can view the service list.	- The customer is logged in.
	View service details	Customers can view service details	- The customer is logged in. - The service's record exists for viewing.
	Chat	Customers can send messages to the sitter.	- The customer is logged in. - Customers and sitters must belong a booking.
	Change password	Customers can change passwords.	- The customer is logged in.

		Reset password	Customers can reset passwords.	- The account's customer already exists.	The system updates a new password for the account's customer.
		Apply promotion for booking	Customers can apply for a promotion for booking.	- The customer is logged in. - The promotion's record exists to apply.	The booking will be decreased from the total price.
		View schedule	Customers can view the schedule of the sitter to book.	- The customer is logged in. - The schedule exists for viewing.	The system shows a list of schedules.
06	Sitter	Cancel booking	Sitters can cancel the booking.	- The sitter is logged in. - The booking exists for cancellation.	The booking status has changed.
		Set working time	Sitter can set the time they want to work.	- The sitter is logged in.	The system updates the working time of the sitter.
		View booking history	Sitter can view booking history.	- The sitter is logged in.	The system shows a list of booking histories.
		Accept job	Sitter can accept a job.	- The sitter is logged in. - The booking is in pending status.	The booking's status has changed.

	Deny job	Sitter can deny a job.	<ul style="list-style-type: none"> - The sitter is logged in. - The booking is in pending status. 	The booking's status has changed.
	Check-in job	Sitter can check in on the job.	<ul style="list-style-type: none"> - The sitter is logged in. - The booking exists for check-in. 	The booking's status has changed.
	Check-out job	Sitter can check out the job after it is completed.	<ul style="list-style-type: none"> - The sitter is logged in. - The booking exists for check-out. 	The booking's status has changed.
	Get total salary	Sitter can get the total salary.	<ul style="list-style-type: none"> - The sitter is logged in. - The booking has been completed. 	The system shows the total salary of a booking.
	Create report	Sitters can create a customer fault report.	<ul style="list-style-type: none"> - The sitter is logged in. 	The system creates a new report.
	View report	Sitters can view the report.	<ul style="list-style-type: none"> - The sitter is logged in. - The report's record exists for viewing. 	The system shows information about the report.
	View schedule	Sitter can view the schedule.	<ul style="list-style-type: none"> - The sitter is logged in. 	The system shows a list of schedules.

		- The schedule exists for viewing.	
Chat	Sitter can send messages to customers.	- The sitter is logged in. - Customers and sitters must have a booking.	The system sends a message and shows a message in the chat box.
View feedback	Sitters can view their feedback.	- The sitter is logged in.	The system shows a list of sitter ratings.
View package list	Sitters can view the package list	- The sitter is logged in.	The system shows a list of packages.
View package details	Sitters can view package details	- The sitter is logged in. - The package's record exists for viewing.	The system shows detailed information about the package.
View service list	Sitters can view the service list.	- The sitter is logged in.	The system shows a list of services.
View service details	Sitters can view service details	- The sitter is logged in. - The service's record exists for viewing.	The system shows detailed information about the service.
Change password	Sitter can change passwords.	- The sitter is logged in.	The system changes the sitter's password.

		Reset password	Sitter can reset passwords.	- The account's sitter already exists.	The system updates a new password for the account's sitter.
07	System handler	Send notification	The system notifies the user via notification.		

Table 13. Use Case Description

3. Functional Requirements

3.1 System Functional Overview

3.1.1 Screens Flow

Admin Web Application Screen Flow

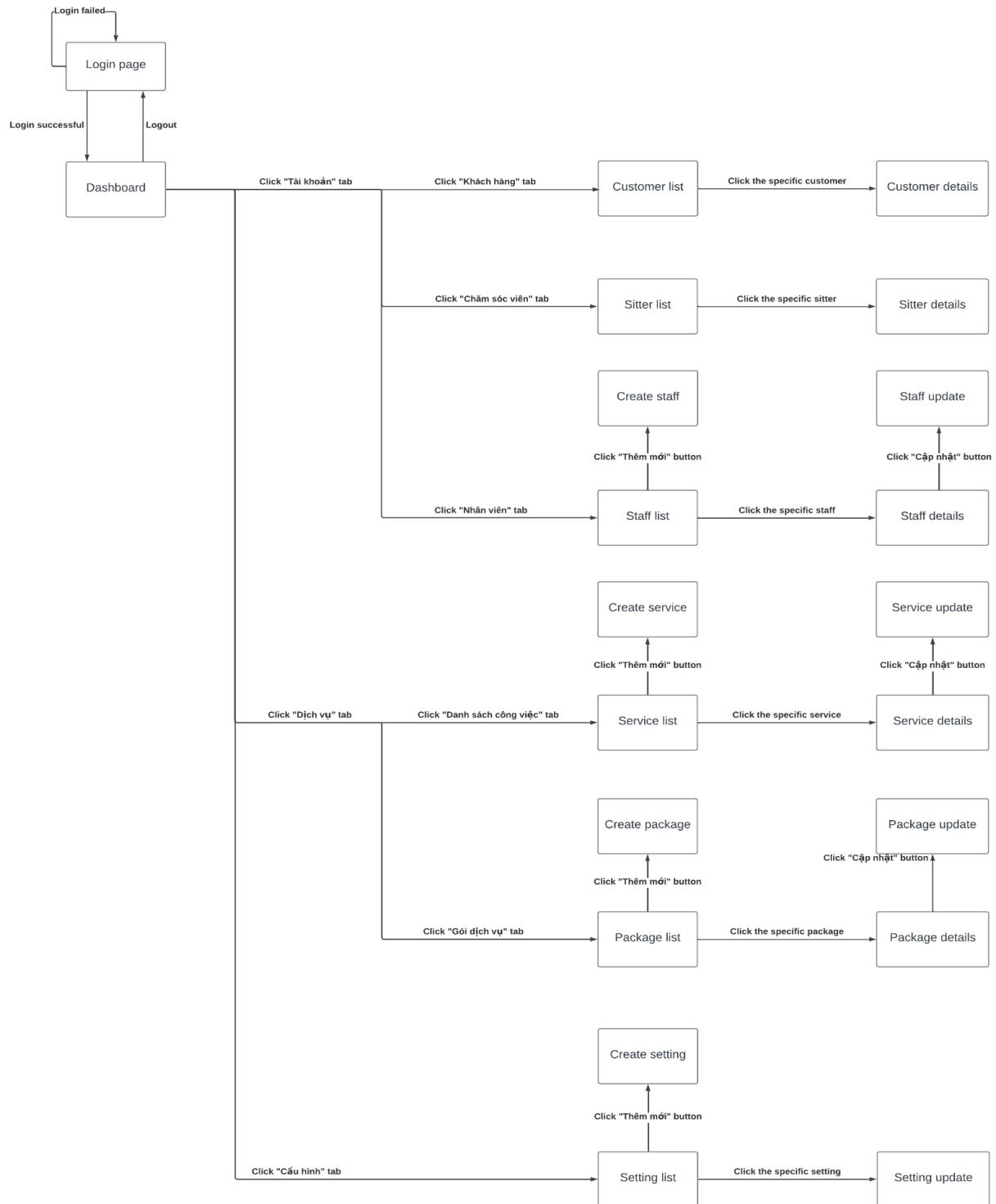


Figure 3. Screen Flow for Admin Web Application

Staff Web Application Screen Flow

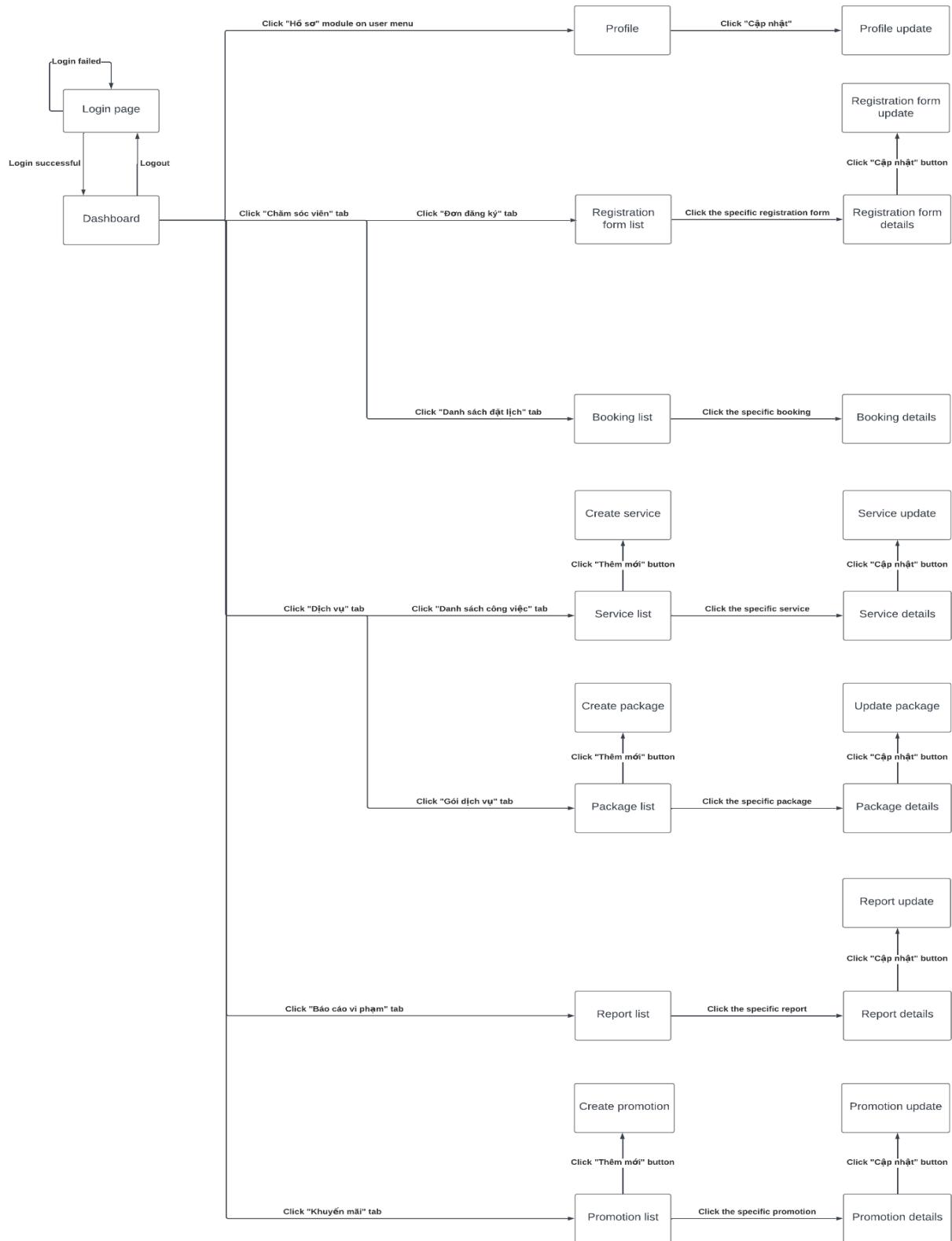


Figure 4. Screen Flow for Staff Web Application

Customer Mobile Application Screen Flow

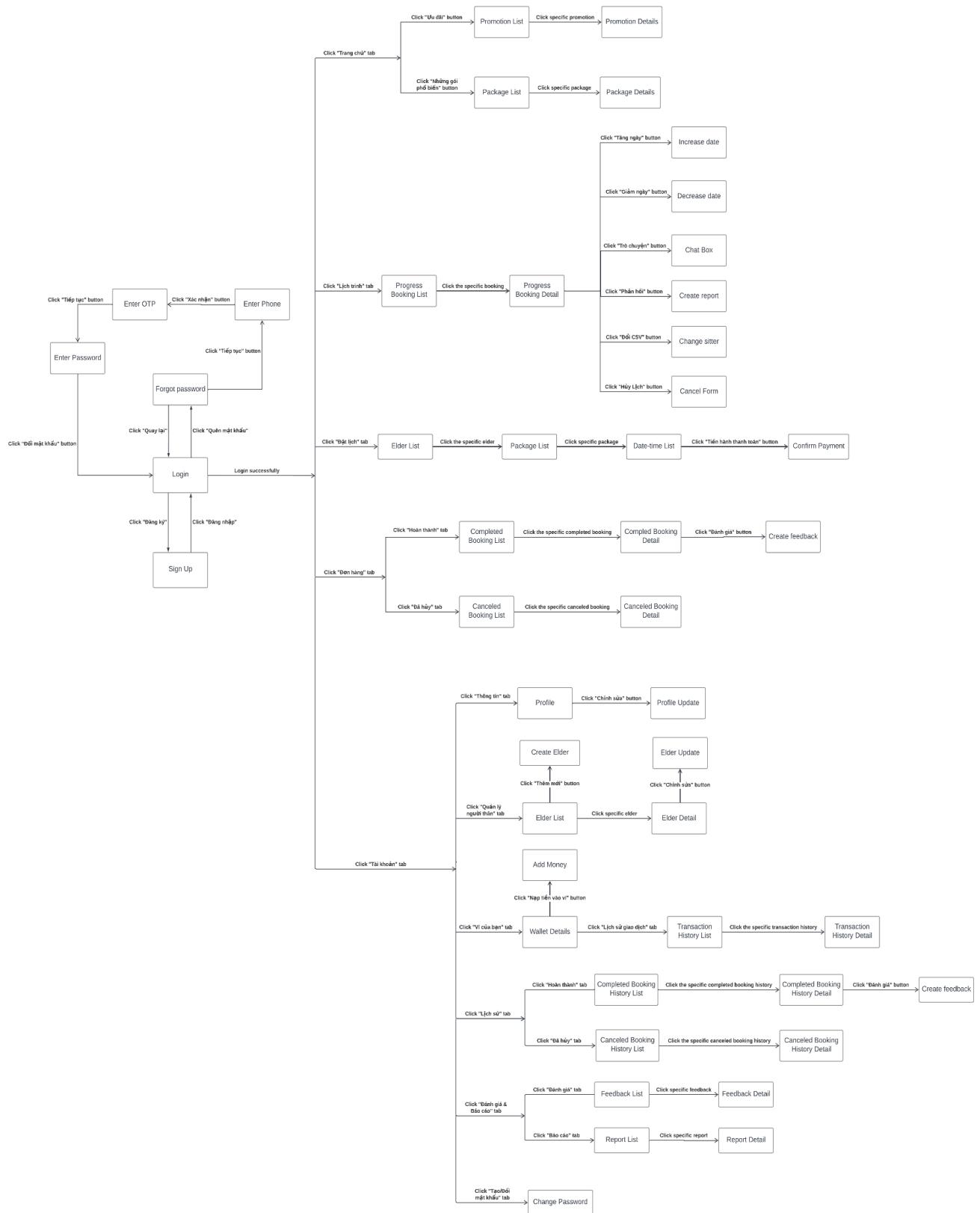


Figure 5. Screen Flow for Customer Mobile Application

Sitter Mobile Application Screen Flow

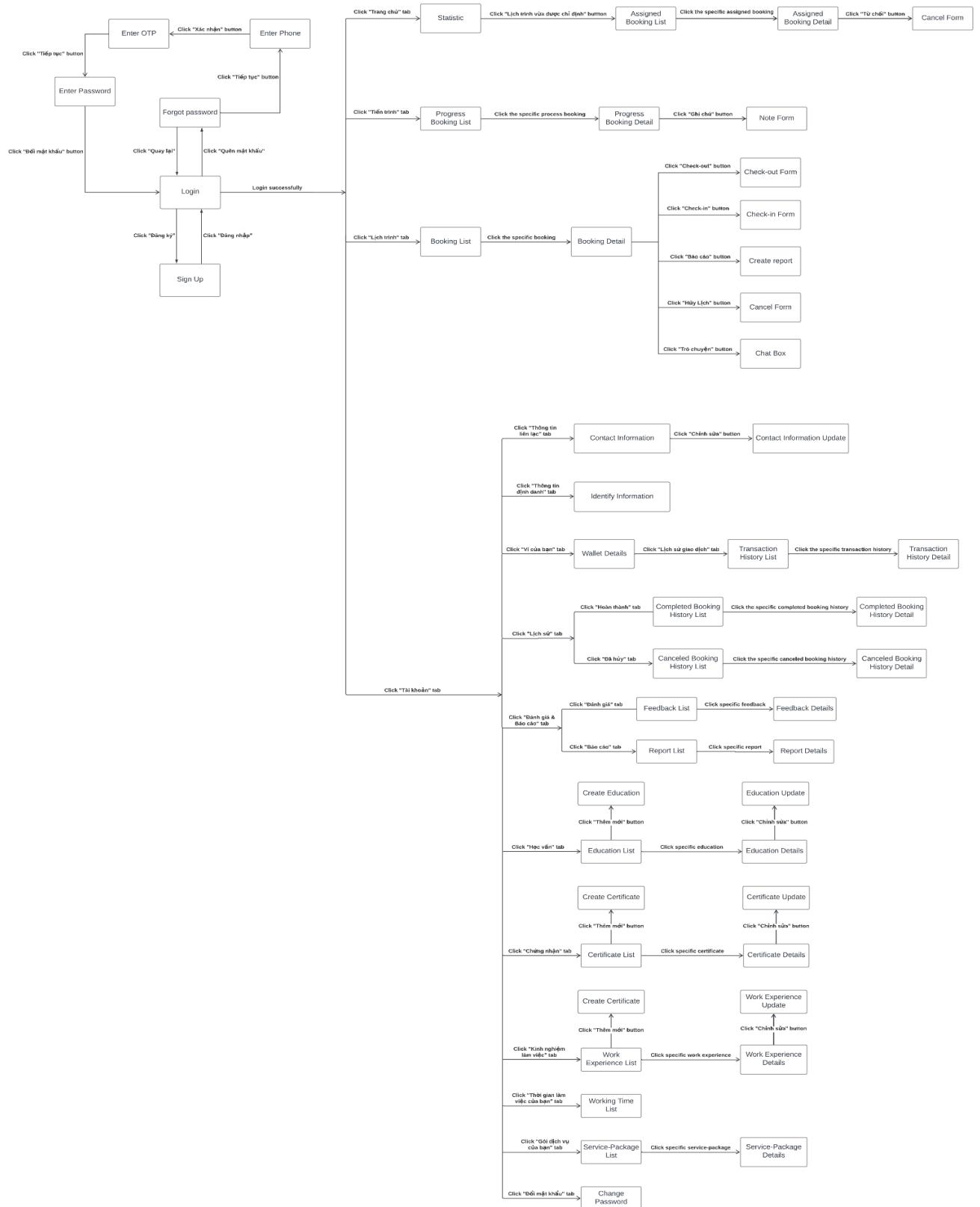


Figure 6. Screen Flow for Sitter Mobile Application

3.1.2 Screen Descriptions

Admin Web Application Screen Descriptions

#	Feature	Screen	Description
1	Authentication	Login	User log into the system with username and password
2	Manage account	Customer list	User can see customer list
3	Manage account	Customer details	User can see customer details
4	Manage account	Sitter list	User can see sitter list
5	Manage account	Sitter details	User can see sitter details
6	Manage staff	Staff list	User can see staff list
7	Manage staff	Create staff	User can create a staff
8	Manage staff	Staff details	User can see staff details
9	Manage staff	Staff update	User can update a staff
10	Manage package	Package list	User can see package list
11	Manage package	Create package	User can create a package
12	Manage package	Package details	User can see package details
13	Manage package	Package update	User can update a package
14	Manage service	Service list	User can see service list

15	Manage service	Create service	User can create a service
16	Manage service	Service details	User can see service details
17	Manage service	Service update	User can update a service
18	Manage setting	Setting list	User can see setting list
19	Manage setting	Setting details	User can see setting details
20	Manage setting	Setting update	User can update a setting

Table 14. Screen Descriptions for Admin Web Application

Staff Web Application Screen Descriptions

#	Feature	Screen	Description
1	Authentication	Login	User log into the system with username and password
2	Manage profile	Profile	User can see their personal information
3	Manage profile	Profile update	User can update their personal information
4	Manage sitter	Registration form list	User can see registration form list
5	Manage sitter	Registration form details	User can see registration form details
6	Manage sitter	Registration form update	User can update a registration form
7	Manage sitter	Booking list	User can see booking list
8	Manage sitter	Booking details	User can see booking details
9	Manage package	Package list	User can see package list

10	Manage package	Create package	User can create a package
11	Manage package	Package details	User can see package details
12	Manage package	Package update	User can update a package
13	Manage service	Service list	User can see service list
14	Manage service	Create service	User can create a service
15	Manage service	Service details	User can see service details
16	Manage service	Service update	User can update a service
17	Manage report	Report list	User can see report list
18	Manage report	Report details	User can see report details
19	Manage report	Report update	User can update a report
20	Manage promotion	Promotion list	User can see promotion list
21	Manage promotion	Create promotion	User can see promotion details
22	Manage promotion	Promotion details	User can see promotion details
23	Manage promotion	Promotion update	User can update a promotion

Table 15. Screen Descriptions for Staff Web Application

Customer Mobile Application Screen Descriptions

#	Feature	Screen	Description
1	Sign up	Sign up	User can sign up new account

2	Authentication	Login	User log into the system with username and password
3	Authentication	Reset password	User can reset password
4	Authentication	Change password	User can change password
5	Manage promotion	Promotion List	User can see promotion list
6	Manage promotion	Promotion Details	User can see promotion details
7	Manage package	Package list	User can see package list
8	Manage package	Package details	User can see package details
9	Manage Booking	Progress Booking List	User can see progress booking list
10	Manage Booking	Progress Booking Detail	User can see progress booking detail
11	Manage Booking	Increase date	User can increase date in booking
12	Manage Booking	Decrease date	User can decrease date in booking
13	Change sitter	Change sitter	User can change sitter in booking
14	Mange elder	Elder list	User can see elder list
15	Manage booking	Date time list	User can see date time list
16	Manage payment	Confirm payment	User can confirm payment information
17	Manage booking	Completed booking list	User can see completed booking list
18	Manage booking	Completed booking details	User can see completed booking details

19	Manage booking	Canceled booking list	User can canceled booking list
20	Manage booking	Canceled booking detail	User can canceled booking detail
21	Chat	Chat box	User can chat
22	Manage report	Create report	User can create report
23	Manage feedback	Create feedback	User can create feedback
24	Manage booking	Cancel form	User can cancel booking
25	Manage profile	Profile	User can see their personal information
26	Manage profile	Profile update	User can update their personal information
27	Manage elder	Create elder	User can create elder
28	Manage elder	Elder detail	User can see elder details
29	Manage elder	Elder update	User can update elder
30	Manage payment	Add Money	User can add money into wallet
31	Manage payment	Wallet details	User can see their wallet
32	Manage payment	Transaction history list	User can see transaction history list
33	Manage payment	Transaction history details	User can see transaction history details
34	Manage booking	Completed booking history list	User can see completed booking history list
35	Manage booking	Completed booking history details	User can see completed booking history details
36	Manage booking	Canceled booking history list	User can see canceled booking history list

37	Manage booking	Canceled booking history details	User can see canceled booking history details
38	Manage feedback	Feedback List	User can see feedback list
39	Manage feedback	Feedback Details	User can see feedback details
40	Manage report	Report List	User can see report list
41	Manage report	Report Details	User can see report details

Table 16. Screen Descriptions for Customer Mobile Application

Sitter Mobile Application Screen Descriptions

#	Feature	Screen	Description
1	Sign up	Sign up	User can sign up new account
2	Authentication	Login	User log into the system with username and password
3	Authentication	Reset password	User can reset password
4	Authentication	Change password	User can change password
5	View total salary	Statistic	User can see statistic
6	Manage booking	Assigned Booking List	User can see assigned booking list
7	Manage booking	Assigned Booking Details	User can see assigned booking details
8	Manage booking	Progress Booking List	User can see progress booking list
9	Manage Booking	Progress Booking Detail	User can see progress booking detail
11	Manage Booking	Note Form	Users can take notes on the tasks in booking
12	Manage booking	Booking List	User can see booking list

13	Manage booking	Booking Details	User can see booking details
14	Chat	Chat box	User can chat
15	Manage report	Create report	User can create report
16	Manage job	Check-in Form	User can check-in
17	Manage job	Check-out Form	User can check-out
18	Manage booking	Cancel form	User can cancel booking
19	Manage profile	Contact Information	User can see their contact information
20	Manage profile	Contact Information Update	User can update their contact information
21	Manage profile	Identify Information	User can see their identify information
22	Manage payment	Wallet details	User can see their wallet
23	Manage payment	Transaction history list	User can see transaction history list
24	Manage payment	Transaction history details	User can see transaction history details
25	Manage booking	Completed booking history list	User can see completed booking history list
26	Manage booking	Completed booking history details	User can see completed booking history details
27	Manage booking	Canceled booking history list	User can see canceled booking history list
28	Manage booking	Canceled booking history details	User can see canceled booking history details
29	Manage feedback	Feedback List	User can see feedback list
30	Manage feedback	Feedback Details	User can see feedback details

31	Manage report	Report List	User can see report list
32	Manage report	Report Details	User can see report details
33	Manage profile	Education List	User can see education list
34	Manage profile	Create Education	User can create education
35	Manage profile	Education Details	User can see education details
36	Manage profile	Education Update	User can update education
37	Manage profile	Certificate List	User can see certificate list
38	Manage profile	Create Certificate	User can create certificate
39	Manage profile	Certificate Details	User can see certificate details
40	Manage profile	Certificate Update	User can update certificate
41	Manage profile	Work Experience List	User can see work experience list
42	Manage profile	Create Work Experience	User can create work experience
43	Manage profile	Work Experience Details	User can see work experience details
44	Manage profile	Work Experience Update	User can update work experience
45	Set working time	Working Time List	User can see working time list
46	Manage package	Service-Package List	User can see service-package list
47	Manage package	Service-Package Details	User can see service-package details

Table 17. Screen Descriptions for Sitter Mobile Application

3.1.3 Screen Authorization

Screen	Admin	Staff
Login	X	X
Dashboard	X	X

Profile		X
Profile update		X
Customer list	X	
Customer details	X	
Sitter list	X	
Sitter details	X	
Staff list	X	
Create staff	X	
Staff details	X	
Staff update	X	
Package list	X	X
Create package	X	X
Package details	X	X
Package update	X	X
Service list	X	X
Create service	X	X
Service details	X	X
Service update	X	X
Booking list	X	X
Booking details	X	X
Booking update		X
Booking history list	X	
Booking history details	X	
Registration form list		X

Registration form details		X
Registration form update		X
Report list		X
Report details		X
Report update		X
Promotion list		X
Create promotion		X
Promotion details		X
Promotion update		X

Table 18. Web Screen Authorization

Screen	Guest	Customer	Sitter
Sign up	X		
Login	X		
Forgot password	X		
Enter OTP	X		
Enter phone	X		
Enter password	X		
Home		X	X
Package list		X	
Package details		X	
Elder list		X	
Date time list		X	
Confirm payment		X	
Calendar		X	

Booking list		X	X
Booking details		X	X
Chat box		X	X
Report form		X	X
Feedback form		X	
Cancel form		X	X
Profile		X	
Profile details		X	
Profile update		X	
Elder detail		X	
Elder update		X	
Wallet details		X	X
Transaction history list		X	X
Transaction history details		X	X
History		X	X
Completed booking history list		X	X
Completed booking history details		X	X
Canceled booking history list		X	X
Canceled booking history details		X	X
Report list		X	X
Report details		X	X
Change password form		X	
Statistics list			X
Waiting booking list			X

Waiting booking details			X
Check in form			X
Check out form			X
Contact information details			X
Contact information update			X
Identify information details			X
Feedback and report			X
Feedback list			X
Feedback details			X
Education list			X
Education details			X
Change form			X
Education update			X
Certificate list			X
Certificate details			X
Certificate update			X
Work experience list			X
Work experience details			X
Work experience update			X
Work time list			X
Service-package list			X
Service-package details			X

Table 19. Mobile Screen Authorization

3.1.4 Non-Screen Functions

#	System Function	Description
1	Push notification	ELS sends notifications to users on a specific event.

Table 20. Non-screen functions

3.1.5 Entity Relationship Diagram

3.1.5.1 Non-attributes Entity Relationship Diagram (Crow's foot notation)

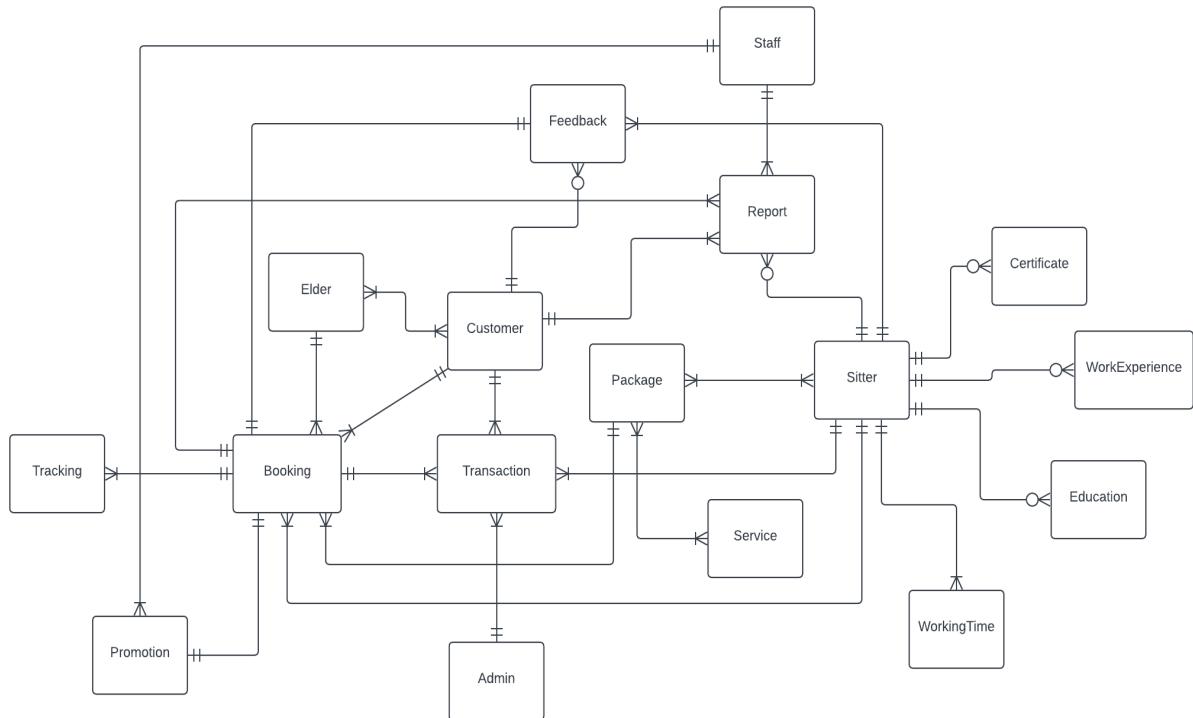


Figure 7. Non-attributes Entity Relationship Diagram

3.1.5.2 Entity Relationship Diagram (Crow's foot notation)

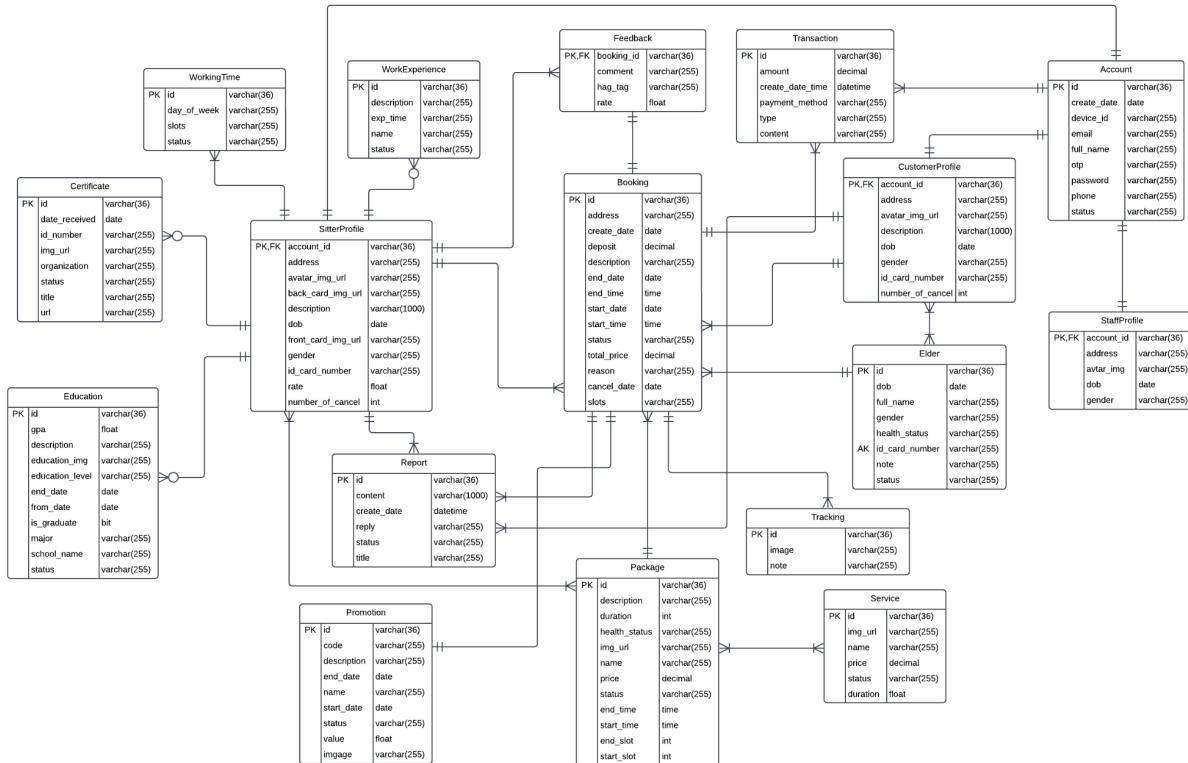


Figure 8. Entity Relationship Diagram

Entities Description

#	Entity	Description
1	Staff	The user who already has an account in the system as a staff
2	Admin	The user who manages the system
3	Booking	Information of the booking
4	Elder	Information of the elder
5	Customer	The user who already has an account in the system as a customer
6	Sitter	The user who already has an account in the system as a sitter
7	Transaction	Information of transaction
8	Package	Information of package

9	Service	Information of service
10	Certificate	Certificate information of sitter
11	WorkingTime	The time sitter must work
12	WorkExperience	Work experience of sitter
13	Education	Education information of sitter
14	Report	Information about a report violation of customer or sitter
15	Feedback	Information of feedback
16	Tracking	The sitter update work progress after completed a service
17	Promotion	Information of the promotion

Table 21. Entities Description

3.2 Functional Requirement

3.2.1 Authentication

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Admin, Staff, Customer, Sitter	Login	Login to portal website	Username Password	Username: + Type: text field(string) + Min Length = 6 + Max Length= 50 Password: + Type: text field(string) + Min Length = 8 + Max Length= 25	BR-01 BR-02 BR-03 BR-04 BR-05 BR-06 BR-07 BR-16 BR-17 BR-20
2	Customer, Sitter	Reset password	Reset password of account	Email Verify Code Password Confirm Password	Email: + Type: text field(string) + Format email must match + Max Length= 100 Password:	BR-04 BR-05 BR-06 BR-07

					<ul style="list-style-type: none"> + Type: text field(string) + Min Length = 8 + Max Length= 25 <p>Confirm Password:</p> <ul style="list-style-type: none"> + Type: text field(string) + Min Length = 8 + Max Length= 25 <p>Verify Code:</p> <ul style="list-style-type: none"> + Type: text field(number) + Max Length= 4 	BR-09 BR-11
3	Customer, Sitter	Change password	Change password of account	Email Old Password New Password	<p>Email:</p> <ul style="list-style-type: none"> + Type: text field(string) + Format email must match + Max Length= 100 <p>Old Password:</p> <ul style="list-style-type: none"> + Type: text field(string) + Min Length = 8 + Max Length= 25 <p>New Password:</p> <ul style="list-style-type: none"> + Type: text field(string) + Min Length = 8 	BR-04 BR-05 BR-06 BR-07 BR-09

				+ Max Length= 25	
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Table 22. Authentication Function

3.2.2 Manage Account

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Admin	View customer account list	View list customer account	List customer account: account table		BR-22 BR-23
2	Admin	View customer account details	View detail of customer account	Account Id		BR-22
3	Admin	Disable customer account	Disable customer account	Account Id		BR-22 BR-14 BR-25
4	Admin	Enable customer account	Enable customer account	Account Id		BR-22 BR-14
5	Admin	View sitter account list	View list sitter account	List sitter account: user table		BR-22 BR-23

6	Admin	View sitter account details	View detail of sitter account	Account Id		BR-22
7	Admin	Disable sitter account	Disable sitter account	Account Id		BR-22 BR-14 BR-25
8	Admin	Enable sitter account	Enable sitter account	Account Id		BR-22 BR-14

Table 23. Manage Account Function

3.2.3 Manage Staff

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Admin	Create staff	Create a new staff	Email Full Name Date Of Birth Address Phone Number	Email: + Type: text field (string) + Format email must match + Max Length= 100 Full Name: + Type: text field (string) + Max Length= 50 Date Of Birth: + Type: date picker + Date Time format	BR-08 BR-09 BR-10 BR-15 BR-22 BR-24

					Address: + Type: text field (string) + Max Length= 256 Phone Number: + Type: text field (number) + Length = 10	
2	Admin	Update staff	Update new data for a staff	Full Name Date Of Birth Address Phone Number	Full Name: + Type: text field (string) + Max Length= 50 Date Of Birth: + Type: date picker + Date Time format Address: + Type: text field (string) + Max Length= 256 Phone Number: + Type: text field (number) + Length = 10	BR-08 BR-09 BR-10 BR-22
3	Admin	Delete staff	Disable staff	Staff Id		BR-22 BR-14
4	Admin	View staff list	View list staff	List staff: staff table		BR-22
5	Admin	View staff details	View detail of staff	Staff Id		BR-22

Table 24. Manage Staff Function

3.2.4 Manage Package

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Staff	Create package	Create a new package	Name Photo Start Time End Time Description Service Id	Name: + Type: text field (string) + Max Length= 100 Photo: + Type: file Start Time: + Type: date picker + Date Time format End Time: + Type: date picker + Date Time format Description: + Type: text area (string) + Max Length= 1000	BR-49
2	Staff	Update package	Update new data for a package	Name Photo Start Time End Time Description Service Id	Name: + Type: text field (string) + Max Length= 100 Photo: + Type: file Start Time: + Type: date picker + Date Time format	BR-49

					End Time: + Type: date picker + Date Time format Description: + Type: text area (string) + Max Length= 1000	
3	Staff	Delete package	Disable package	Package Id		
4	Staff, Sitter, Customer	View list package	View list package	List package: package table		
5	Staff, Sitter, Customer	View package details	View detail of package	Package Id		

Table 25. Manage Package Function

3.2.5 Manage Service

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Staff	Create service	Create a new service	Name Price Duration	Name: + Type: text field (string) + Max Length= 100 Price: + Type: text field (number) Duration: + Type: text field (number)	
2	Staff	Update service	Update new data	Name	Name:	

			for a service	Price Duration	+ Type: text field (string) + Max Length= 100 Price: + Type: text field (number) Duration: + Type: text field (number)	
3	Staff	Delete service	Disable service	Service Id		
4	Staff	View list service	View list service	List service: service table		
5	Staff	View service details	View detail of service	Service Id		

Table 26. Manage Service Function

3.2.6 Manage Profile

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Customer, Sitter	View profile	View profile	User Id		
2	Customer, Sitter	Update profile	Update new data for profile	Email Full name Phone Number Address Date Of Birth Image	Email: + Type: text field (string) + Format email must match + Max Length= 100 Full Name: + Type: text field (string)	

					+ Max Length= 50 Date Of Birth: + Type: date picker + Date Time format Address: + Type: text field (string) + Max Length= 256 Phone Number: + Type: text field (number) + Length = 10 Image: + Type: file	
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Table 27. Manage Profile Function

3.2.7 Manage Promotion

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Staff	Create promotion	Create a new promotion	Name Start Date End Date Description Value Code	Name: + Type: text field (string) + Max Length= 100 Start Time: + Type: date picker + Date Time format End Time: + Type: date picker + Date Time format Description:	BR-64 BR-49

					+ Type: text area (string) + Max Length= 1000 Value: + Type: text field (number) Code: + Type: text field (string)	
2	Staff	Update promotion	Update new data for a promotion	Name Start Date End Date Description Value Code	Name: + Type: text field (string) + Max Length= 100 Start Time: + Type: date picker + Date Time format End Time: + Type: date picker + Date Time format Description: + Type: text area (string) + Max Length= 1000 Value: + Type: text field (number) Code: + Type: text field (string)	BR-64 BR-49
3	Staff	Delete promotion	Disable promotion	Promotion Id		BR-64
4	Staff	View list promotion	View list promotion	List promotion: promotion table		BR-64

5	Staff	View promotion details	View detail of promotion	Promotion Id		BR-64
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Table 28. Manage Promotion Function

3.2.8 Manage Sitter

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Staff	Approve sitter registration form	Approve sitter registration form	Sitter registration form Id		BR-26
2	Staff	Reject sitter registration form	Reject sitter registration form	Sitter registration form Id		BR-26 BR-27

Table 28. Manage Sitter Function

3.2.9 Manage Booking

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Customer	Create booking	Create a new booking	Address Start Date End Date Start Slot Day Of Week Description	Address: + Type: text field (string) + Max Length= 255 Start Date: + Type: date picker + Date Time format	BR-49 BR-62 BR-47

				Customer Id Elder Id Sitter Id	End Date: + Type: date picker + Date Time format Start Slot: + Type: text field (string) Day Of Week: + Type: text field (string) Description: + Type: text area (string) + Max Length= 1000	
2	Customer, Sitter	Cancel booking	Cancel a booking	Booking Id Reason	Reason: + Type: text field (string) + Max Length= 255	BR-55 BR-57
3	Customer	Confirm complete booking	Confirm complete booking	Booking Id		
4	Customer, Admin, Sitter	View booking history	View booking history	List booking: booking table		BR-74
5	Customer, Admin, Staff, Sitter	View booking list	View booking list	List booking: booking table		
6	Customer, Admin, Staff, Sitter	View booking details	View detail of booking	Booking Id		

7	Customer	Apply promotion for booking	Apply promotion for booking	Booking Id Promotion Id		BR-65
8	Customer	Add extra date for booking	Request increase date for booking	Booking Id		BR-82 BR-83 BR-84
9	Customer	Decrease date for booking	Request decrease date for booking	Booking Id		BR-75 BR-76 BR-77

Table 29. Manage Booking Function

3.2.10 Manage Elder

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Customer	Create elder	Create a new elder	Full Name Date Of Birth Gender Health Status Citizen ID Card Description	Full Name: + Type: text field (string) + Max Length= 50 Date Of Birth: + Type: date picker + Date Time format Gender: + Type: dropdown Health Status: + Type: dropdown (string) Citizen ID Card: + Type: text field (number) + Length: 9 or 12	BR-12 BR-13 BR-46

					Description: + Type: text area (string) + Max Length= 256	
2	Customer	Update elder	Update new data for a elder	Full Name Date Of Birth Health Status Description	Full Name: + Type: text field (string) + Max Length= 50 Date Of Birth: + Type: date picker + Date Time format Health Status: + Type: dropdown (string) Description: + Type: text area (string) + Max Length= 256	BR-12 BR-13
3	Customer	Delete elder	Disable elder	Elder Id		
4	Customer	View list elder	View a list of elders	List elder: elder table		
5	Customer	View elder details	View detail of elder	Elder Id		

Table 30.Manage Elder Function

3.2.11 Manage Report

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules

1	Customer, Sitter	Create report	Create a new report	Booking Detail Id Title Content Reporter Id Reported User Id	Title: + Type: text field (string) + Max Length= 100 Content: + Type: text area (string) + Max Length= 256	BR-32 BR-33
2	Customer, Sitter, Staff	View list report	View a list of reports	List report: report table		BR-34
3	Customer, Sitter, Staff	View report details	View detail of report	Report Id		BR-34
4	Staff	Resolve report	Resolve a report violation of sitter or customer	Report Id Resolve Content	Resolve Content: + Type: text area (string) + Max Length= 256	BR-34 BR-35

Table 31. Manage Report Function

3.2.12 Manage Payment

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Customer	Top up	Tops up their account via Momo wallet	Customer Id Amount	Amount: + Type: text field(number)	BR-39 BR-40
2	Customer	Deposit	Pay a part of the total price of	Booking Id Amount	Amount: + Type: text field(number)	BR-67

			booking			
3	Customer	Payment	Pay full total price of booking	Booking Id Amount	Amount: + Type: text field(number)	
4	Customer	View payment history	View a list of payment histories	List payment history: transaction table		

Table 32. Manage Payment Function

3.2.13 Manage Feedback

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Customer	Create feedback	Create a new feedback	Booking Id Comment Rate	Comment: + Type: text area (string) + Max Length= 256	BR-36 BR-38
2	Customer, Sitter	View list feedback	View a list of feedbacks	List feedback: feedback table		BR-37

Table 33. Manage Feedback Function

3.2.14 Register member

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Customer, Sitter	Sign up	Register a new account with the customer or sitter	Email Phone Number Password	Email: + Type: text field (string) + Format email must match	BR-18 BR-19

			role		+ Max Length= 100 Email: + Type: text field (number) + Max Length= 10 Password: + Type: text field (string) + Min Length = 8 + Max Length= 25	
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Table 34. Register Member Function

3.2.15 Change Sitter

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Customer, Sitter	Change sitter	Send a request to change sitter	Booking Id Sitter Id		BR-59 BR-60 BR-61 BR-62

Table 35. Change Sitter Function

3.2.16 Chat

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Customer,	Chat	Conversation	Booking Id		BR-72

	Sitter		between the customer and the sitter			BR-81
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Table 36. Chat Function

3.2.17 View schedule

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Customer, Sitter	View schedule	View the work and upcoming schedule	Booking Id		BR-73

Table 37. View Schedule Function

3.2.18 Set working time

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Sitter	Set working time	Sitter choose to time their want to work	Sitter Id Day Of Week	Date Of Week: + Type: dropdown (string)	BR-64

Table 38. Set Working Time Function

3.2.19 View total salary

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Sitter	View total salary	Sitter view total salary after completed booking	Sitter Id		BR-31

Table 39. View Total Salary Function

3.2.20 Manage Job

No	Actor	Function Name	Purpose	Data requirements	Data validation	Business Rules
1	Sitter	Check in job	The act of reporting that the sitter is starting a job	Booking Id Start Time Location	Start Time: + Type: date picker + Date Time format Location: + Location format	
2	Sitter	Check out job	The act of reporting that the sitter is ending a job	Booking Id End Time	End Time: + Type: date picker + Date Time format	

Table 40. Manage Job Function

4. Non-Functional Requirements

4.1 External Interfaces

4.1.1 User Interfaces

UI-01. The user interfaces should be consistent and usable.

UI-02. The language used in the application is Vietnamese.

UI-03. The user interfaces should show explicit error notifications together with hints for solving problems.

UI-04. The mobile application follows the Figma design.

UI-05. Information on the page should be clear, and concise so that users can focus.

4.1.2 Communication Interfaces

The system uses HTTP protocol with RESTful standards for communication between components (mobile device, web browser, server).

4.2 Quality Attributes

4.2.1 Usability

- Users do not require technical knowledge before using.
- Users do not need much time training to be productive with the system.
- The user interface is designed to be easy to use, even for non-IT staff.
- Have a guide for users to use the website easily.

4.2.2 Reliability

- ELS failure is less than 5% and availability of the system is over 80%.
- Mean time to hotfix and deploy is less than 4 hours.

4.2.3 Performance

All common response time is under 5 seconds.

4.2.4 Dependability

Security

- JWT (JSON Web Token) is used for authentication and authorization.
- Each user role has specific permission to interact with the system.
- All inputs are validated before saving data to the database.

4.2.5 Supportability

- Should apply the RESTful Web API standard.
- Should follow the coding convention.
- All development tools and starting guidelines should be listed in the attached documents.

4.2.6 Design Constraints

- The mobile application is built using the Flutter framework and Dart.
- The web application is built from ReactJS.
- The back-end server is built using Java Spring Boot.

5. Requirement Appendix

5.1 Business Rules

ID	Rule Definition
BR-01	Usernames are not case-sensitive.
BR-02	Username must be at least 6 characters.
BR-03	Username must not be over 30 characters.
BR-04	Passwords must be at least 8 characters.
BR-05	Passwords must contain at least one lowercase letter.
BR-06	Passwords must contain at least one uppercase letter.
BR-07	Passwords must contain at least one number.
BR-08	Phone numbers must contain only numbers.
BR-09	Email must be valid email address format.
BR-10	Phone numbers must have 10 digits.
BR-11	OTP must have 4 digits.
BR-12	The elder must not be more than 100 years old.
BR-13	The elder must be at least 60 years old.
BR-14	Account after being disabled cannot be used to access the ELS system until it is re-enabled.
BR-15	ID will be generated by the system.

BR-16	Accounts with the role "Admin" or "Staff" are allowed to log in to the web while other roles such as "Sitter" or "Customer" are to mobile apps.
BR-17	The user cannot access the system after logout without re-logging in.
BR-18	The user must accept the privacy to register an account.
BR-19	Guests can register to the system to become customers or sitters.
BR-20	After logging out successfully, any member becomes a "guest" before being directed to the login page.
BR-21	Users can only view their own notifications.
BR-22	Only the admin can manage accounts.
BR-23	Accounts can be filtered by status as well as be searched by full name or email.
BR-24	Admin can create an account with the role "Staff". Roles are permanent.
BR-25	The admin can ban sitter accounts and customer accounts.
BR-26	Only the staff can be approved or reject the registration form of sitters.
BR-27	Staff refuses to approve the registration form of the sitter for a reason.
BR-28	When registering, sitters must identify that they are 18 or older.
BR-29	The sitter can scan the Identity Card QR code to autofill information.
BR-30	The sitter must not be more than 50 years old.
BR-31	A sitter can view the total salary received when completing a service.
BR-32	A sitter can report violated customers for a reason.

BR-33	A customer can report violated sitters for a reason.
BR-34	Only staff can manage reports.
BR-35	Only staff can resolve reports.
BR-36	Customers can give feedback to sitters after a booking has been completed.
BR-37	A customer can view the list of feedback for a sitter.
BR-38	When the booking is finished, customers can only give feedback within 48 hours after the booking's end time.
BR-39	Customers can top up their accounts via Momo wallet.
BR-40	The minimum top-up amount per time is 50,000VND and the maximum is 5,000,000VND.
BR-41	Only the sitter who has active status will be assigned to the booking.
BR-42	The booking list can be filtered by status.
BR-43	If the customer account is locked, you cannot use it to book service.
BR-44	If the customer account is locked, all existing bookings will be canceled.
BR-45	The package time in the system is an estimate only, and not completely accurate.
BR-46	Sitters can only check out as early as the maximum of 30 minutes before the end time of the package.
BR-47	An elderly can only be registered by four customer accounts.
BR-48	Customers can only book one package for one elderly at a time.

BR-49	Customers must book at least 2 days before the start time of booking.
BR-50	The start time must be less than the end time.
BR-51	A sitter cannot be assigned to many bookings at the same time.
BR-52	<p>The customers will be refunded 100% deposit if:</p> <ul style="list-style-type: none"> - Sitters have not been assigned to the booking. - The sitter cancels the booking. - The sitter does not check in after 30 minutes of the booking start time.
BR-53	<p>The customer cancels the booking that has been assigned a sitter:</p> <ul style="list-style-type: none"> - 36 hours before the start time of the booking: 100% deposit refund. - 24 hours before the start time of the booking: 70% deposit refund. - 12 hours before the start time of the booking: 50% deposit refund. - Within 12 hours until booking starts: lose the deposit. - Cancel 3 times per year will receive a warning from the system. - Cancel 7 times per year will permanently lock the account.
BR-54	Sitters who do not check in 3 times per month will be permanently locked out of their accounts.
BR-55	Sitters who are booked but have their accounts permanently locked, the system will replace another sitter for the customer.
BR-56	Sitters can cancel a booking 12 hours before the booking starts time after that will not be canceled.
BR-57	If the sitter account is locked, all existing bookings will be canceled.
BR-58	<p>The number of times the sitter cancels the booking per month will affect the priority to be assigned to the booking:</p> <ul style="list-style-type: none"> - Low: 1 time - Medium: 2-3 times - High: 4-5 times - 5 times or more: permanently lock the account

BR-59	Customers are only requested to change the sitter for bookings of more than 1 day, and have completed the work for at least 1 day.
BR-60	For each booking, the customer only requests to change the sitter once.
BR-61	Each request to change sitters will change all remaining days of booking.
BR-62	Customers must request to change sitters 12 hours before booking start time.
BR-63	In the ELS system, each day will be divided into 12 slots, and each slot is 2 hours.
BR-64	On registered working days, sitters must register at least 2 slots adjacent a day.
BR-65	Only staff can manage promotions.
BR-66	Customers cannot use the same promo code twice.
BR-67	Customers must deposit for booking: <ul style="list-style-type: none"> - A day: 50% deposit - More than a day: 100% deposit.
BR-68	The number of days customers have to book: <ul style="list-style-type: none"> - Day booking: 1 day. - Multi-day booking: minimum 2 days and maximum 30 days.
BR-69	Package prices change from time to time: <ul style="list-style-type: none"> - Night: increase 10% price (from 22h to 6h) - Saturday and Sunday: increase 10% price - Holiday: increase 20% price
BR-70	Packages with time from the previous day to the next day, the package price will be calculated according to the next day. Prioritize holidays, then Saturday and Sunday, and finally night.

BR-71	A suitable package will be suggested based on the elderly's health status.
BR-72	Customers and sitters can only chat when there is an active booking between them.
BR-73	The status of the booking in the schedule is "Active", "Pending", and "Completed".
BR-74	Address of the customer and sitter is required.
BR-75	The status of the booking history is "Paid", or "Cancel".
BR-76	Customers are only requested to reduce the number of days for bookings over 5 days.
BR-77	Customers are only requested to reduce up to 20% of the number of days of booking.
BR-78	Customers are only requested to reduce the number of days before 12 hours of the booking start time.
BR-79	Sitter identification information cannot be changed.
BR-80	Contact information, education, certifications and permits, and work experience will allow the sitter to update or add up to 3 times per year for each section.
BR-81	The working time of the sitter can be changed 2 times per month.
BR-82	Sitters who want to change packages must be approved by the staff.
BR-83	If the customer wants to increase the number of days, the selected date must be within 30 days from the start date of the booking.
BR-84	Customers are only requested to increase the number of days before 24 hours of the booking starts time.
BR-85	The number of days the customer requests to increase must not exceed 29

	days.
BR-86	The ELS system is only applicable in Ho Chi Minh City.
BR-87	Only the admin can change the commission.
BR-88	The sitter can accept or reject the booking within 2 minutes.

Table 41. Business Rules

5.3 Application Messages List

#	Message code	Message Type	Context	Content
1	MSG01	In line	There is not any search result	Không tìm thấy kết quả tìm kiếm.
2	MSG02	In red, under the text box	Input-required fields are empty	Mục này không được để trống.
3	MSG03	Toast message	Updating profile information successfully	Cập nhật thông tin thành công.
4	MSG04	In line	Login failed	Tài khoản và mật khẩu không đúng.
5	MSG05	In red, under the text box	The phone number is not validated	Số điện thoại không hợp lệ.
6	MSG06	In red, under the text box	Enter the wrong old password	Mật khẩu cũ không đúng.
7	MSG07	In red, under the text box	New password and confirm password do not match	Mật khẩu mới và mật khẩu xác nhận không trùng nhau.
8	MSG08	In red, under the text box	Input value length > max length	Exceed max length of {max_length}.

9	MSG09	In line	Username or password is not correct when clicking sign-in	Tên đăng nhập hoặc mật khẩu không chính xác. Vui lòng thử lại.
10	MSG10	Toast message	Adding new asset successfully	Thêm {entity name} thành công.
11	MSG11	Toast message	Resetting asset information successfully	Cập nhật {entity name} thành công.
12	MSG12	Toast message	Deleting asset information successfully	Xóa {entity name} thành công.

Table 42. Application Messages

IV. Software Design Description

1. System Design

1.1 Overall Architecture

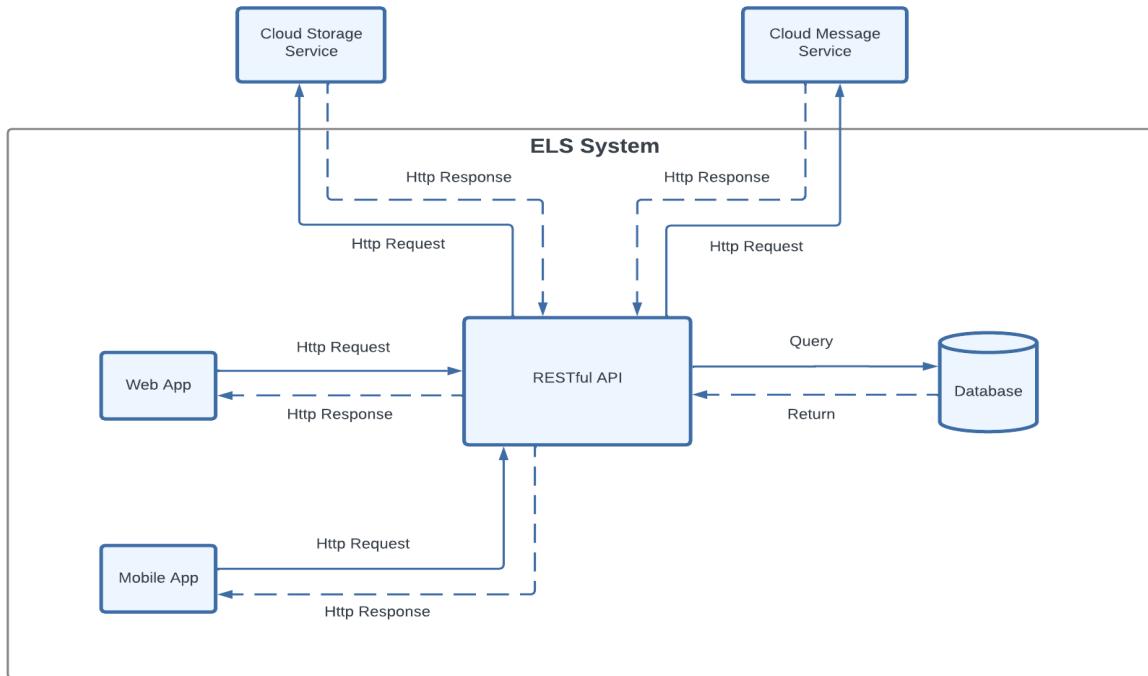


Figure 9. Overall Architecture

1.2 System Architecture

1.2.1 Backend Architecture

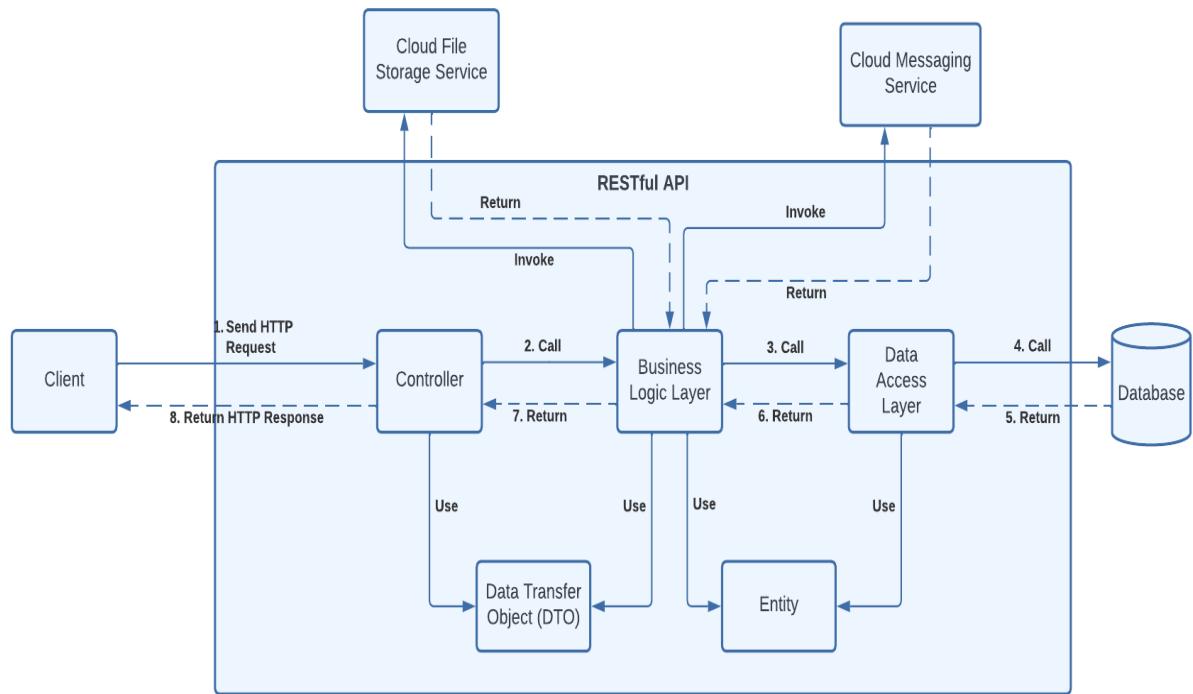


Figure 10. Backend Architecture

1.2.2 Web Application Architecture

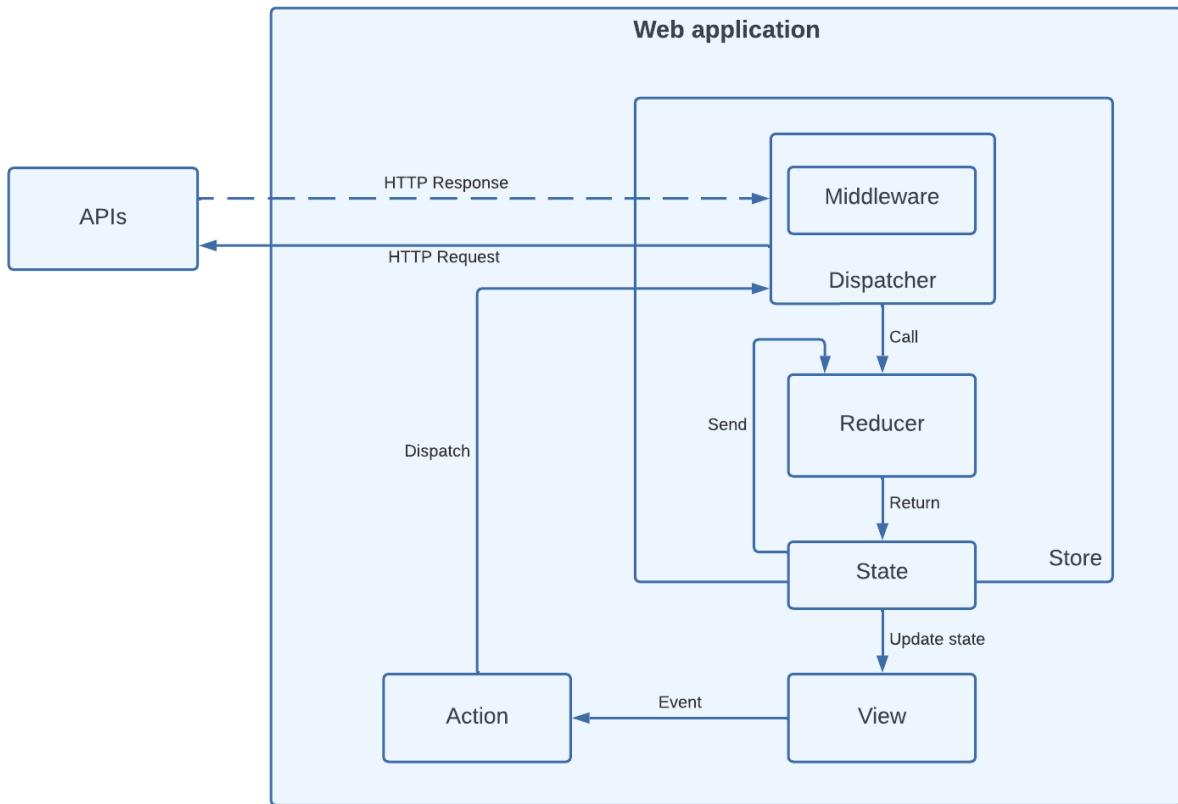


Figure 11. Web Application Architecture

1.2.3 Mobile Application Architecture



Figure 12. Mobile Application Architecture

1.3 Package Diagram

1.3.1 Backend Package Diagram

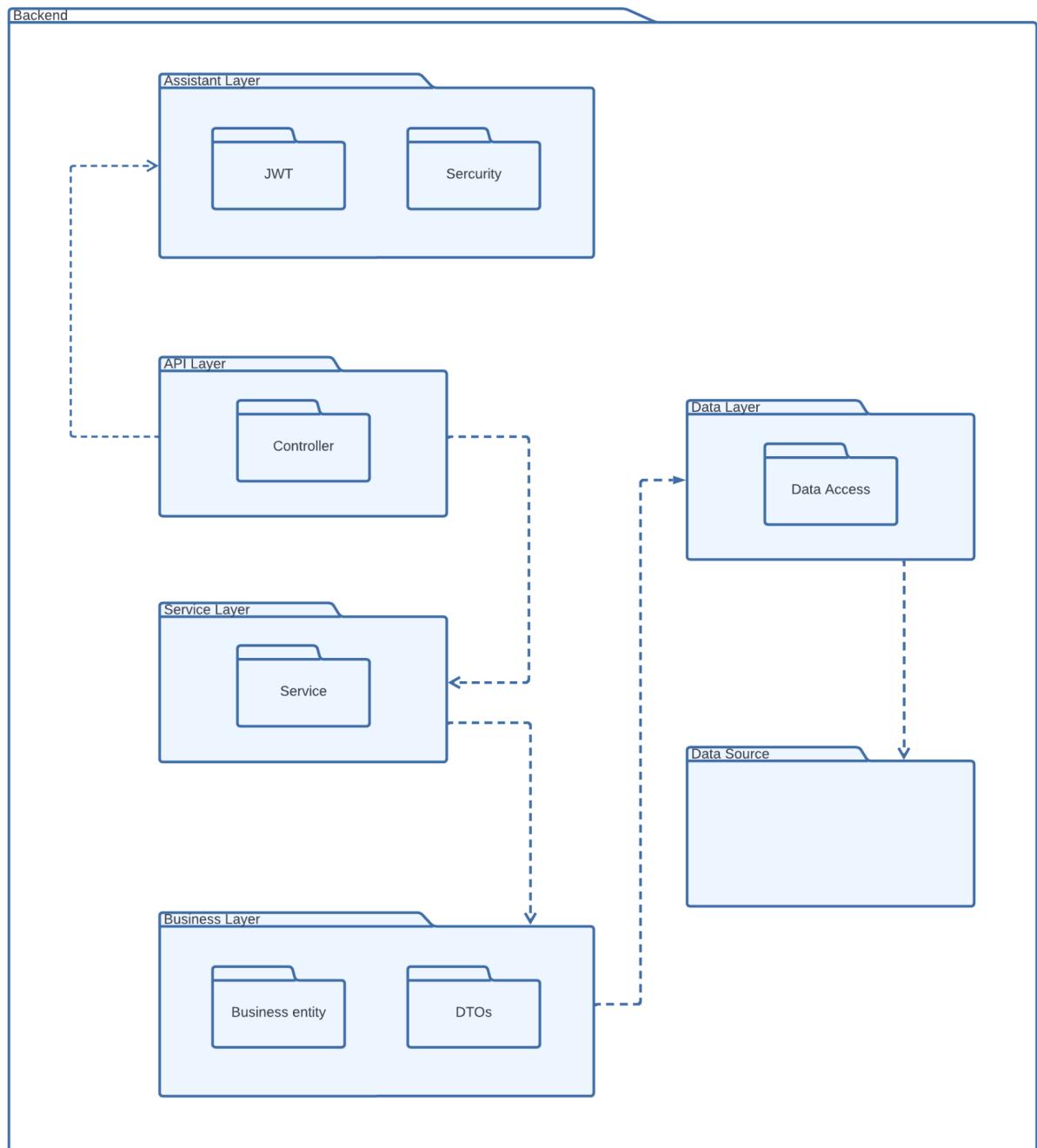


Figure 13. <Package Diagram> Back-end

No	Package	Description
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01	Controller	The package defines API gateway for communicating
02	Security	The package contains classes to secure our app
03	JWT	The package contains classes to secure JWT token our app
04	Service	The package contains classes for processing business logic
05	Business entity	The package contains business classes
06	DTOs	The package contains classes map object JSON strings in the API
07	Data Access	The package helps connect and get data

Table 43. Back-end Package Diagram Description

1.3.2 Frontend Package Diagram

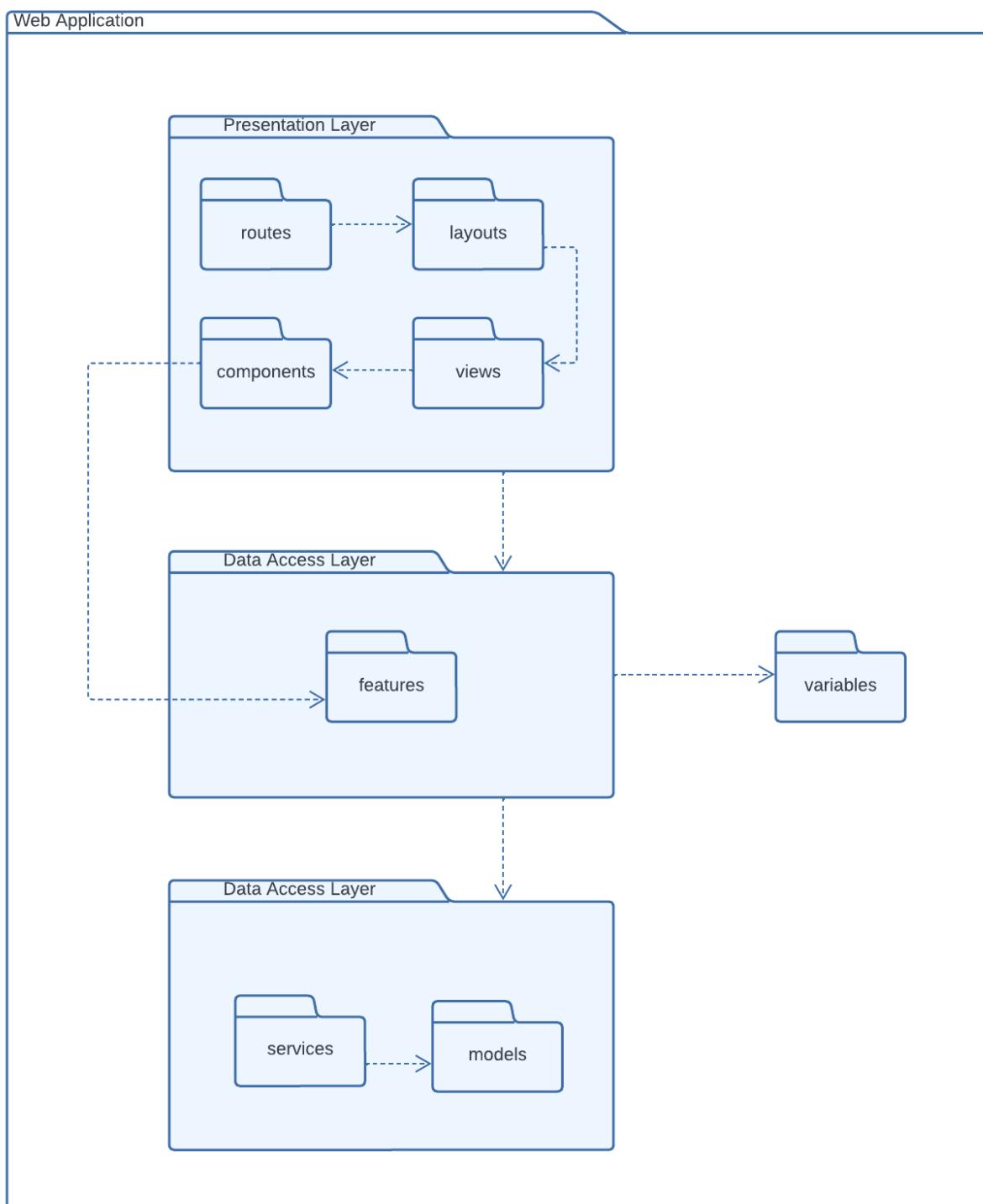


Figure 14. <Package Diagram> Front-end

No	Package	Description
01	components	The package contains components for specific use.
02	layouts	The package contains a theme for an account by role.
03	views	The package contains screens of this module.
04	models	The package contains model classes for data binding.
05	services	The package contains classes responsible for handling data between REST APIs and a web application.
06	variables	The package contains variables for the app.
07	routes	The package contains routing files.

Table 44. Front-end Package Diagram Description

1.3.3 Mobile Package Diagram

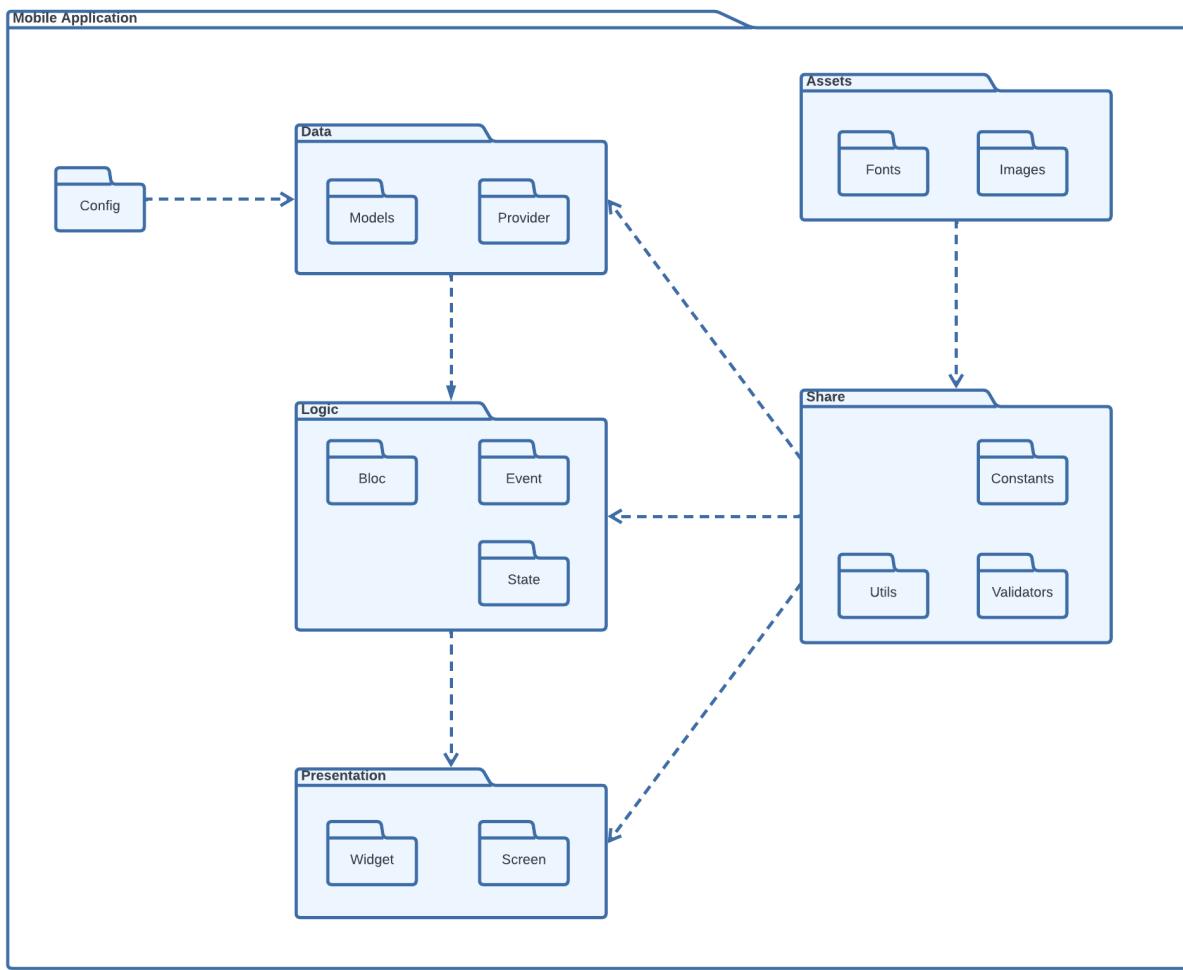


Figure 15. <Package Diagram> Mobile

No	Package	Description
1	Images	This package contains images used in the app.
2	Fonts	This package contains fonts used in the app.
3	Config	This package contains configurations of environment variables used to run the application.
4	Data	This package contains folders about data of the app.
5	Models	The package contains data models retrieved from the API

6	Providers	The package contains services provided by Firebase
7	Constants	The package contains constant variables
8	Utils	The package contains custom variables and functions
9	Validators	This package contains folders about the variable constant.
10	Logic	This package contains folders about the processing logic of the app.
11	Bloc	This package contains classes for the bloc process.
12	Event	This package contains classes for the event process.
13	State	This package contains classes for the state process.
14	Presentation	This package contains folders about the UI of the app.
15	Screens	This package contains classes for screen UI.
16	Widgets	This package contains classes for widget use on the screen.

Table 45. Mobile Package Diagram Description

2. Database Design

2.1 Database Diagram

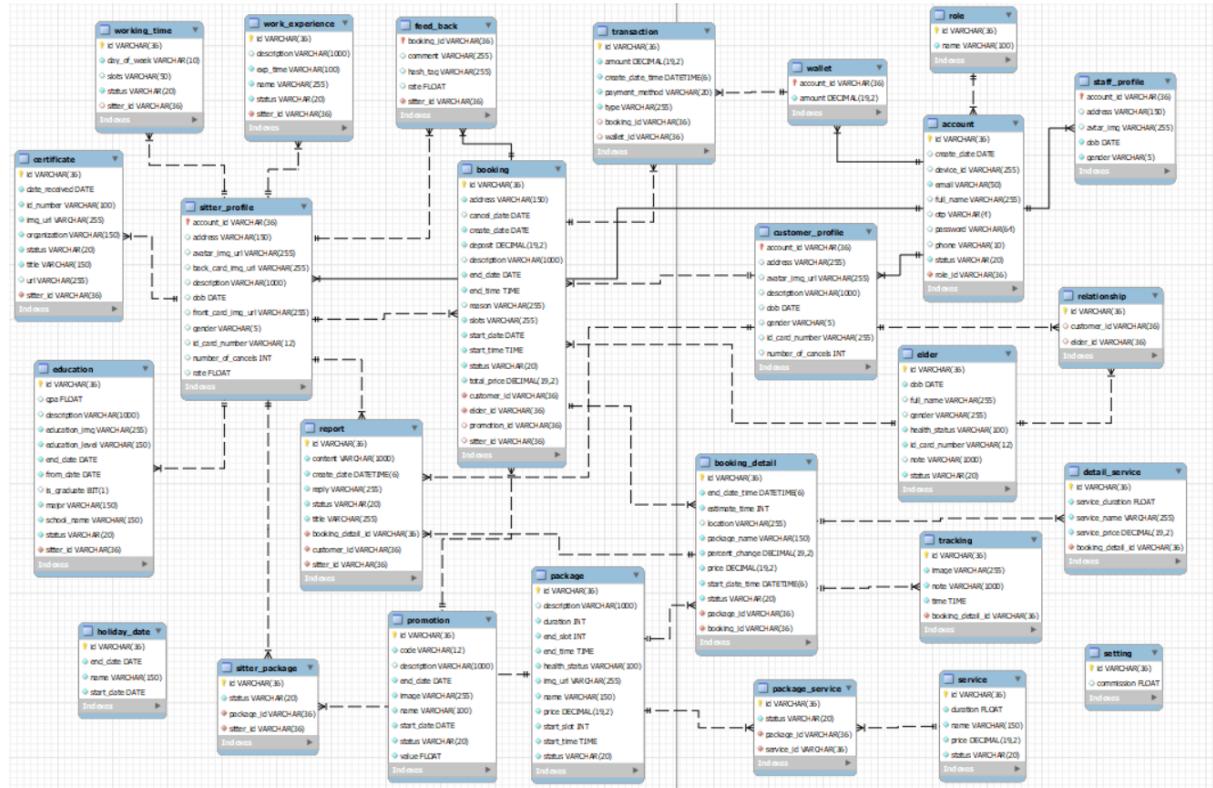


Figure 16. Database Diagram

2.2 Data Dictionary

2.2.1 Role

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the role
name	varchar	100		x		Name of role

Table 46. Role table

2.2.2 Account

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the account
create_date	date					Created date of the user
device_id	varchar	255				Token of the account

email	varchar	50	x	x		Email of the user
full_name	varchar	255				Full name of the user
otp	varchar	4				OTP code to reset password
password	varchar	64				The password of the account
phone	varchar	10	x	x		Phone number of user
status	varchar	20		x		Status of account
role_id	varchar	36		x	FK	Unique identifier of the role

Table 47. Account table

2.2.3 StaffProfile

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
account_id	uuid		x	x	PK	Unique identifier of the staff
address	varchar	150				Address of the staff
avatar_img	varchar	255				URL to the profile picture of the staff
dob	date			x		Birthdate of the staff
gender	varchar	5		x		Gender of staff

Table 48. Staff Profile table

2.2.4 SitterProfile

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
account_id	uuid		x	x	PK	Unique identifier of the sitter
address	varchar	150				Address of the sitter
avatar_img_url	varchar	255				URL to the profile picture of the sitter

back_card_img_url	varchar	255				Image URL of backside citizen card
description	varchar	1000				Description of the sitter
dob	date					Birthdate of the sitter
front_card_img_ur l	varchar	255				Image URL of frontside citizen card
gender	varchar	5				Gender of staff
id_card_number	varchar	12	x			Citizen ID number of sitter
rate	float					Rate of the staff
number_of_cancel	int					Number of booking canceled
latitude	double					Latitude of sitter
longitude	double					Longitude of sitter

Table 49. Sitter Profile table

2.2.5 CustomerProfile

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
account_id	uuid		x	x	PK	Unique identifier of the customer
address	varchar	150				Address of the customer
avatar_img_url	varchar	255		x		URL to the profile picture of the customer
description	varchar	1000				Description of the customer
dob	date			x		Birthdate of the customer
gender	varchar	5				Gender of customer
id_card_number	varchar	12		x		Citizen ID number of customer

number_of_cancel	int					Number of booking canceled
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Table 50. Customer Profile table

2.2.6 Elder

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the elder
dob	date			x		Birthdate of the elder
full_name	varchar	255		x		Full name of the elder
gender	varchar	5		x		Gender of elder
health_status	varchar	100		x		Health status of elder
id_card_number	varchar	12	x	x		Citizen ID number of elder
note	varchar	1000				Extra note of the elder
status	varchar	20		x		Status of elder

Table 51. Elder table

2.2.7 Relationship

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the relationship
customer_id	uuid		x	x	FK	Unique identifier of the customer
elder_id	uuid		x	x	FK	Unique identifier of the elder

Table 52. Relationship table

2.2.8 WorkExperience

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the work experience

description	varchar	1000				Description of the customer
exp_time	varchar	100		x		Time of work experience
name	varchar	255		x		Name of work experience
status	varchar	20		x		Status of work experience
sitter_id	uuid			x	FK	Unique identifier of the sitter

Table 53. Work Experience table

2.2.9 WorkingTime

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the working time
day_of_week	varchar	10		x		The sitter must work in days
slots	varchar	50				The sitter must work in slots
status	varchar	20		x		Status of work working time
sitter_id	uuid			x	FK	Unique identifier of the sitter

Table 54. Work Time table

2.2.10 Certificate

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the certificate
date_received	date			x		Date received of the certificate
id_number	varchar	100	x			ID Number of the certificate
img_url	varchar	255		x		Image URL of the certificate
organization	varchar	150		x		Organization of the certificate
status	varchar	20		x		Status of the certificate

title	varchar	150		x		Title of the certificate
url	varchar	255				URL of the certificate
sitter_id	uuid			x	FK	Unique identifier of the sitter

Table 55. Certificate table

2.2.11 Education

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the education
gpa	float					GPA score of the education
description	varchar	1000				Description of the education
education_img	varchar	255		x		Image URL of the education
education_level	varchar	150		x		Level of educational qualification
end_date	date			x		End date of education
from_date	date			x		Start date of education
is_graduate	bit					Check if the sitter has graduated
major	varchar	150		x		Major of the education
school_name	varchar	150		x		School name of the education
status	varchar	20		x		Status of the education
sitter_id	uuid		x	x	FK	Unique identifier of the work experience

Table 56. Education table

2.2.12 Booking

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes

id	uuid		x	x	PK	Unique identifier of the booking
address	varchar	150		x		Address of the booking
create_date	date			x		Create date of the booking
deposit	decimal			x		Customer deposit amount
description	varchar	1000				Description of the booking
end_date	date			x		End date of the booking
end_time	time			x		End time of the booking
start_date	date			x		Start date of the booking
start_time	time			x		Start time of the booking
status	varchar	20		x		Status of the booking
total_price	decimal			x		Total amount the customer must pay for the booking
customer_id	uuid			x	FK	Unique identifier of the customer
elder_id	uuid			x	FK	Unique identifier of the elder
sitter_id	uuid			x	FK	Unique identifier of the sitter
reason	varchar	255				Cancel reason of the booking
cancel_date	date					Cancel date of booking
slots	varchar	50		x		The booking is available in slots
promotion_id	uuid				FK	Unique identifier of the promotion
latitude	double					Latitude of booking
longitude	double					Longitude of booking

Table 57. Booking table

2.2.13 BookingDetail

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the booking detail
end_date_time	datetime	6		x		End date time of booking detail
estimate_time	int			x		Estimate time of booking detail
location	varchar	255				Location of booking detail
package_name	varchar	150		x		Package name in booking details
price	decimal			x		Price of booking detail
start_date_time	datetime	6				Start date time of booking detail
status	varchar	20		x		Status of the booking detail
percent_change	decimal			x		Percent change of the booking detail
package_id	uuid			x	FK	Unique identifier of the package
booking_id	uuid			x	FK	Unique identifier of the booking

Table 58. Booking Detail table

2.2.14 DetailService

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the service detail
service_duration	float			x		Save the service duration which was done

service_name	varchar	255		x		Save the service name which was done
service_price	decimal			x		Save the service price which was done
booking_detail_id	uuid			x	FK	Unique identifier of the booking detail

Table 59. Detail Service table

2.2.15 Package

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the package
description	varchar	1000				Description of the package
duration	int			x		Duration of the package
health_status	varchar	100		x		Health status of the package
img_url	varchar	255		x		Image URL of package
name	varchar	150		x		Name of the package
price	decimal			x		Price of package
status	varchar	20		x		Status of package
end_time	time			x		End time of package
start_time	time			x		Start time of package
end_slot	int			x		End slot of package
start_slot	int			x		Start slot of package

Table 60. Package table

2.2.16 PackageService

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes

id	uuid		x	x	PK	Unique identifier of the package service
status	varchar	20		x		Status of the package service
package_id	uuid		x	x	FK	Unique identifier of the package
service_id	uuid		x	x	FK	Unique identifier of the service

Table 61. Package Service table

2.2.17 Service

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the service
name	varchar	150		x		Name of the service
price	decimal			x		Price of the service
status	varchar	20		x		Status of the service
duration	float			x		Duration of the service

Table 62. Service table

2.2.18 SitterPackage

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the sitter package
status	varchar	20		x		Status of the sitter package
package_id	uuid		x	x	FK	Unique identifier of the package
sitter_id	uuid		x	x	FK	Unique identifier of the sitter

Table 63. Sitter Package table

2.2.19 Promotion

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the promotion
code	varchar	8	x	x		Code of the promotion
description	varchar	1000				Description of the promotion
end_date	date			x		The promotion code is not available after this time
name	varchar	100		x		Name of promotion
start_date	date			x		The promotion code is available from this time
status	varchar	20		x		Status of the promotion
value				x		Value of the promotion
image	varchar	255		x		Attached image url of the promotion

Table 64. Promotion table

2.2.20 Report

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the report
content	varchar	1000		x		Content of the report
create_date	datetime			x		Created date of the report
reply	varchar	255		x		Solution of the report resolved by staff
status	varchar	20		x		Status of the report

title	varchar	255		x		Title of the report
booking_detail_id	uuid			x	FK	Identifier of the booking detail
customer_id	uuid			x	FK	Identifier of the customer
sitter_id	uuid			x	FK	Identifier of the sitter

Table 65. Report table

2.2.21 Feedback

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
booking_id	uuid		x	x	PK	Unique identifier of the booking
sitter_id	uuid			x	FK	Unique identifier of the sitter
comment	varchar	255				User's comments in feedback
hash_tag	varchar	255				User's hashtag with number of rate
rate	float					Rate of the feedback

Table 66. Feedback table

2.2.22 Tracking

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the tracking
image	varchar	255				Attached image url
note	varchar	1000				Extra note of the tracking
time	time			x		Time of the tracking
booking_detail_id	uuid			x	FK	Identifier of the booking detail

Table 67. Tracking table

2.2.23 Wallet

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
account_id	uuid		x	x	PK	Unique identifier of the wallet
amount	decimal			x		Amount in wallet

Table 68. Wallet table

2.2.24 Transaction

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the wallet transaction
amount	decimal			x		Amount per transaction
create_date_time	datetime			x		Date of the transaction
payment_method	varchar	20		x		Payment method of transaction
type	varchar	50		x		Type of transaction
booking_id	uuid				FK	Identifier of the booking
wallet_id	uuid			x	FK	Identifier of the wallet

Table 69. Transaction table

2.2.25 HolidayDate

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the holiday
end_date	date			x		End date of the holiday
name	varchar	150		x		Name of the holiday

start_date	date			x		Start date of the holiday
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Table 70. Holiday Date table

2.2.26 Setting

Field Name	Type	Size	Unique	Not Null	PK/FK	Notes
id	uuid		x	x	PK	Unique identifier of the setting
commission	float			x		Commission of sitter

Table 71. Setting table

3. Detailed Design

3.1 Manage Booking Features

3.1.1 Class Diagram

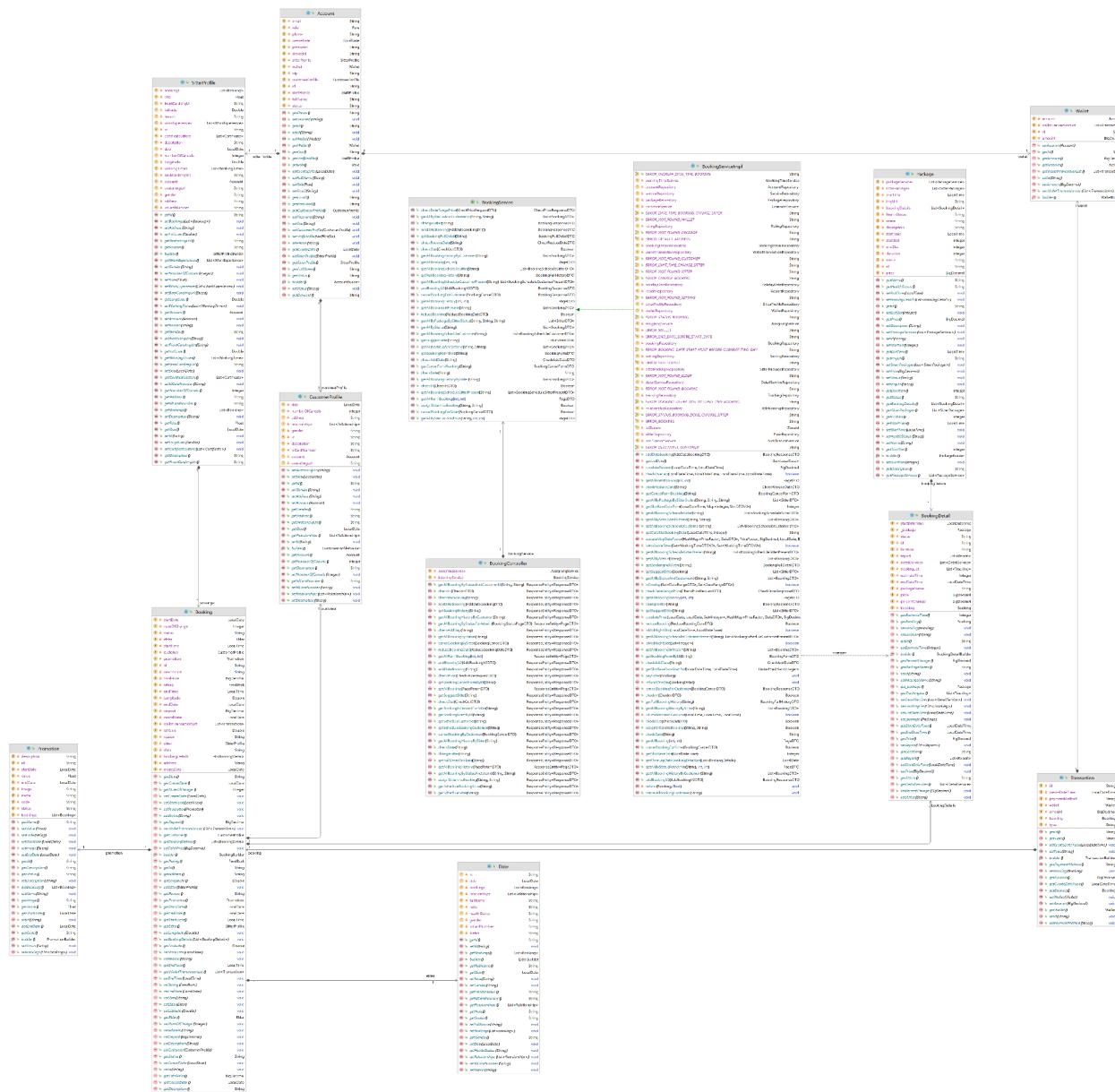


Figure 17. <Class Diagram> Manage booking

3.1.2 Class Specification

3.1.2.1 Account Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Unique identifier of an account.

2	email	String	Private	Unique email of an account.
3	fullName	String	Private	Full name of account
4	phone	String	Private	Phone of account
5	createDate	LocalDate	Private	Create date of account
6	password	String	Private	Password of account
7	deviceId	String	Private	Device id of account
8	status	String	Private	Status of account
9	otp	String	Private	Opt of account
10	customerProfile	String	Private	Customer profile id of account
11	sitterProfile	String	Private	Sitter profile id of account
12	staffProfile	String	Private	Staff profile id of account
13	wallet	String	Private	Wallet id of account
14	role	String	Private	Role id of account

Table 72. The attributes of Account Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 73. The methods of Account Class

3.1.2.2 SitterProfile Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of sitter
2	address	String	Private	Address of sitter
3	idCardNumber	String	Private	idCardNumber of sitter
4	gender	String	Private	Gender of sitter
5	rate	Float	Private	Rate of sitter
6	latitude	Double	Private	Latitude of sitter
7	longitude	Double	Private	Longitude of sitter
8	Reason	String	Private	Reason reject of sitter
9	dob	LocalDate	Private	Date of birth of sitter
10	description	String	Private	Description of sitter
11	numberOfCancel s	Int	Private	Number of cancel of sitter
12	avatarImgUrl	String	Private	Avatar image of sitter
13	frontCardImgUrl	String	Private	Form IdCard image of sitter
14	backCardImgUrl	String	Private	Back IdCard image of sitter

Table 74. The attributes of SitterProfile Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 75. The methods of SitterProfile Class

3.1.2.3 CustomerProfile Class

No	Attribute	Data Type	Visibility	Description
1	id	String	private	Id of customer
2	address	String	private	Address of customer
3	gender	String	private	Gender of customer
4	dob	LocalDate	private	Dob of customer
5	description	String	private	Description of customer
6	idCardNumber	String	private	IdCardNumber of customer
7	avatarImgUrl	String	private	Avatar image of customer

Table 76. The attributes of CustomerProfile Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 77. The methods of CustomerProfile Class

3.1.2.4 Promotion Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of promotion
2	name	String	Private	Name of promotion
3	Code	String	Private	Code of promotion
4	Value	Float	Private	Value of promotion
5	Description	String	Private	Description of promotion
6	startDate	LocalDate	Private	Start date of promotion
7	endDate	LocalDate	Private	End date of promotion
8	Image	String	Private	Image of promotion
9	status	String	Private	Status of promotion

Table 78. The attributes of Promotion Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 79. The methods of Promotion Class

3.1.2.5 Elder Class

No	Attribute	Data Type	Visibility	Description

1	id	String	Private	Id of elder
2	fullName	String	Private	fullName of elder
3	gender	String	Private	Gender of elder
4	dob	LocalDate	Private	Date of birth of elder
5	idCardNumber	String	Private	IdCardNumber of elder
6	healthStatus	String	Private	Health status of elder
7	note	String	Private	Note status of elder
8	status	String	Private	Status of elder

Table 80. The attributes of Elder Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 81. The methods of Elder Class

3.1.2.6 Booking Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of booking
2	address	String	Private	Address of booking

3	numOfChange	Integer	Private	Number of change of booking
4	startDate	LocalDate	Private	Start date of booking
5	endDate	LocalDate	Private	End date of booking
6	startTime	LocalDate	Private	Start time of booking
7	endTime	LocalDate	Private	End time of booking
8	status	String	Private	Status of booking
9	deposit	BigDecimal	Private	Deposit of booking
10	reason	String	Private	Reason cancel of booking
11	promotion	String	Private	Promotion of booking
12	description	String	Private	Description of booking
13	totalPrice	BigDecimal	Private	Total price of booking
14	latitude	Double	Private	Latitude of booking
15	Longitude	Double	Private	Longitude of booking
16	createDate	LocalDate	Private	Create date of booking
17	cancelDate	LocalDate	Private	Cancel date of booking
18	slots	String	Private	Slots of booking

19	sitter	String	Private	Sitter id of booking
20	Rating	String	Private	Rating of booking
21	elder	String	Private	Elder id of booking
22	customer	String	Private	Customer id of booking

Table 82. The attributes of Booking Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 83. The methods of Booking Class

3.1.2.7 Package Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of package
2	name	String	Private	Name of package
3	price	BigDecimal	Private	Price of package
4	description	String	Private	Description of package
5	startTime	LocalTime	Private	Start time of package
6	endTime	LocalTime	Private	End time of package

7	startSlot	Integer	Private	Start slot of package
8	endSlot	Integer	Private	End slot of package
9	duration	Integer	Private	Duration of package
10	imgUrl	String	Private	Image of package
11	healthStatus	String	Private	Health status of package
12	status	String	Private	Status of package

Table 84. The attributes of Package Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 85. The methods of Package Class

3.1.2.8 Wallet Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of wallet
2	amount	BigDecimal	Private	Amount of wallet
3	Account	String	Private	Account if of wallet

Table 86. The attributes of Wallet Class

No	Method	Data Type	Visibility	Description

1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 87. The methods of Wallet Class

3.1.2.9 BookingDetail Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of BookingDetail.
2	_package	String	Private	Package id of Booking Detail.
3	Location	String	Private	Location of Booking Detail.
4	estimateTime	Integer	Private	Estimate time of Booking Detail.
5	startDateTime	LocalDateTime	Private	Start date time of Booking Detail
6	endDateTime	LocalDateTime	Private	End date time of Booking Detail
7	status	String	Private	Status of Booking Detail
8	packageName	String	Private	Package name of Booking Detail
9	price	BigDecimal	Private	Price of Booking Detail
10	percentChange	BigDecimal	Private	Percent Change of Booking Detail
11	Booking	String	Private	Booking id of Booking Detail

Table 88. The attributes of BookingDetail Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 89. The methods of BookingDetail Class

3.1.2.10 Transaction Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of Transaction
2	createDateTime	LocalDateTime	Private	Create date time of transaction
3	paymentMethod	String	Private	Payment method of transaction
4	wallet	String	Private	Wallet of transaction
5	amount	BigDecimal	Private	Amount of transaction
6	booking	String	Private	Booking id of transaction
7	type	String	Private	Type of transaction

Table 90. The attributes of Transaction Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 91. The methods of Transaction Class

3.1.2.11 Booking Service

No	Method	Description
1	addBooking(AddBookingDTO addBookingDTO)	handle create new booking
2	addBookingV2(AddBookingV2DTO addBookingDTO)	handle create new booking with wallet
3	getAllFormBooking(int pageNumber, int pageSize)	handle get all form booking with paging
4	getAllBooking(int pageNumber, int pageSize)	handle get all booking with paging
5	getAllByStatusForAdmin(String status, int pageNumber, int pageSize)	handles get all booking by status for admin
6	getAllByStatus(String status)	handles get all booking by status for admin
7	getAllByStatusAndCustomerId(String status, String customerId)	handles get all booking by status for customer with customer id
8	getAllBookingHistory(int pageNumber, int pageSize)	handles get all history booking and paging
9	getAllBookingHistoryByCustomer(String customerId)	handles get all history booking by customer id
10	getAllBookingHistoryBySitter(String sitterId)	handles get all history booking by sitter id
11	getFullBookingHistory(String id)	handles get history booking by id
12	getAllByStatusAndSitterId(String status, String sitterId)	handles get all booking by status and sitter id

13	getAllByPackageBySitterStatus(String packageId, String status, String sitterId);	handles get all booking by status and package id and sitter id
14	getBookingFormById(String bookingId)	handles get form booking by booking id
15	getBookingFullDetail(String bookingId)	handles get booking full detail by booking id
16	getAllBookingScheduleCustomer(String customerId)	handles get all schedule booking for customer by customer id
17	getAllBookingScheduleCustomerPresent(String customerId)	handles get all schedule present booking for customer by customer id
18	getAllBookingScheduleSitterPresent(String sitterId)	handles get all schedule present booking for sitter by sitter id
19	getAllBookingScheduleSitter(String sitterId)	handles get all schedule booking for sitter by sitter id
20	getSuggestSitter(String bookingId)	handles get suggest sitter for booking by booking id
21	assignSitterIntoBooking(String sitterId, String bookingId)	handles assign sitter into booking
22	checkIn(CheckInDTO checkInDTO)	handles check-in in booking
23	checkOut(CheckInDTO checkInDTO)	handles check-out in booking
24	reduceBooking(ReduceBookingDateDTO reduceBookingDateDTO)	handles reduce date in booking
25	cancelBookingForCustomer(BookingCancelDTO bookingCancelDTO);	handles cancel booking for customer

26	cancelBookingDetail(String bookingDetailId, String bookingId)	handles cancel booking detail
27	cancelBookingForSitter(BookingCancelDTO bookingCancelDTO)	handles cancel the booking for sitter
28	getCancelFormBooking(String bookingId)	handles get cancel form booking
29	checkDateRangePrice(CheckPriceRequestDTO checkPriceRequestDTO)	handles get total price and return holiday and night or normal day
30	checkReduceDate(String bookingId)	handles check Reduce Date for booking

Table 92. Booking Service Class Specification

3.1.3 Sequence Diagram

3.1.3.1 Create Booking Sequence Diagram

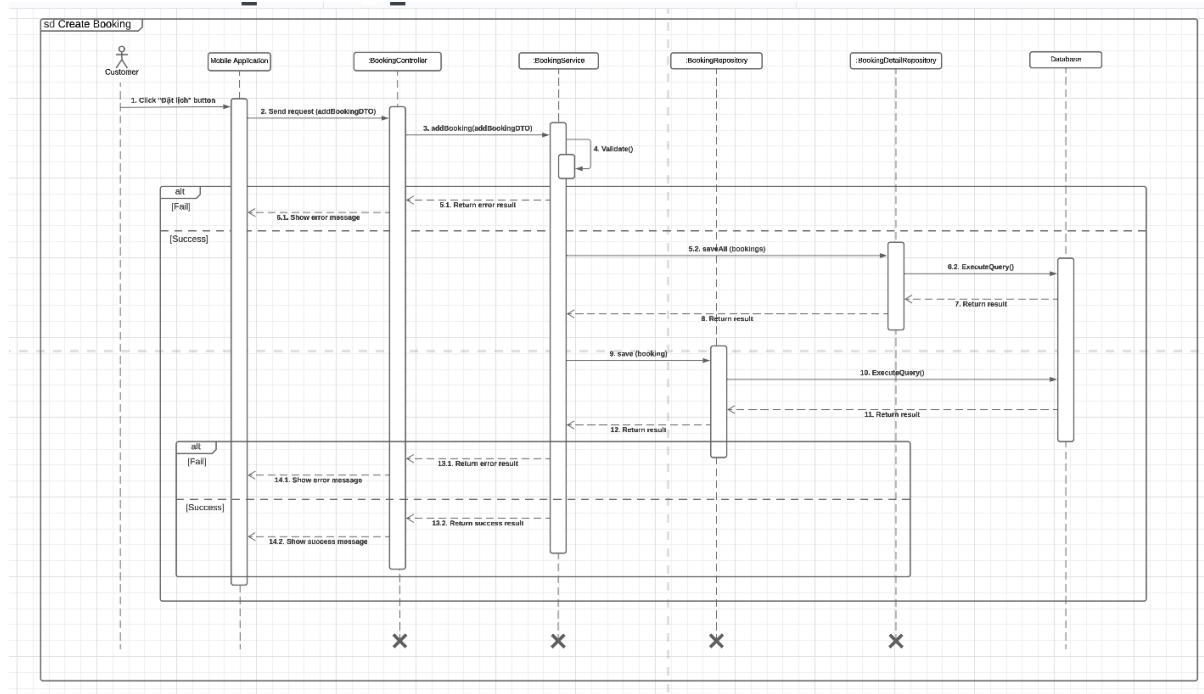


Figure 18. Create Booking Sequence Diagram

3.1.3.2 Cancel Booking Sequence Diagram

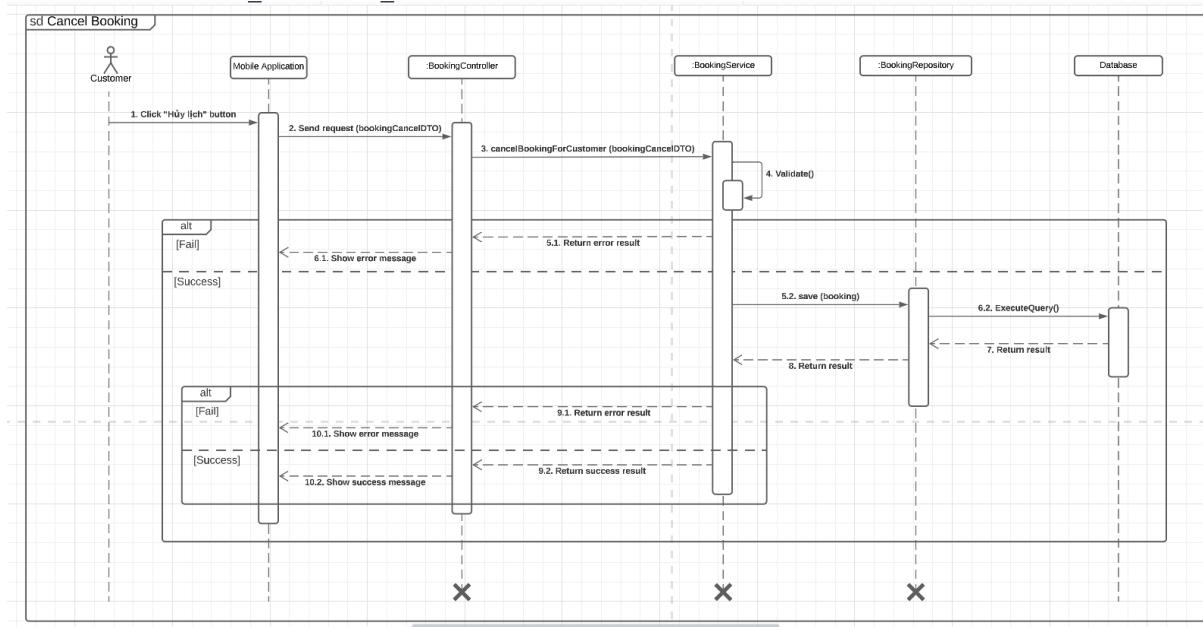


Figure 19. Cancel Booking Sequence Diagram

3.2 Create Sitter Account Features

3.2.1 Class Diagram



Figure 20. Create Sitter Account Features

3.2.2 Class Specification

3.2.2.1 SitterProfile Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of sitter
2	address	String	Private	Address of sitter
3	idCardNumber	String	Private	idCardNumber of sitter
4	gender	String	Private	Gender of sitter
5	rate	Float	Private	Rate of sitter
6	latitude	Double	Private	Latitude of sitter
7	longitude	Double	Private	Longitude of sitter
8	Reason	String	Private	Reason reject of sitter
9	dob	LocalDate	Private	Date of birth of sitter
10	description	String	Private	Description of sitter
11	numberOfCancels	Int	Private	Number of cancel of sitter
12	avatarImgUrl	String	Private	Avatar image of sitter
13	frontCardImgUrl	String	Private	Front IdCard image of sitter
14	backCardImgUrl	String	Private	Back IdCard image of sitter

Table 93. The attributes of SitterProfile Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 94. The methods of SitterProfile Class

3.2.2.2 Account Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Unique identifier of an account.
2	email	String	Private	Unique email of an account.
3	fullName	String	Private	Full name of account
4	phone	String	Private	Phone of account
5	createDate	LocalDate	Private	Create date of account
6	password	String	Private	Password of account
7	deviceId	String	Private	Device id of account
8	status	String	Private	Status of account
9	otp	String	Private	Opt of account
10	customerProfile	String	Private	Customer profile id of account
11	sitterProfile	String	Private	Sitter profile id of account

12	staffProfile	String	Private	Staff profile id of account
13	wallet	String	Private	Wallet id of account
14	role	String	Private	Role id of account

Table 95. The attributes of Account Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 96. The methods of Account Class

3.2.2.3 Education Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Unique identifier of an education.
2	educationLevel	String	Private	Education Level
3	isGraduate	Boolean	Private	Is graduate of education
4	major	String	Private	Major of education
5	status	LocalDate	Private	Status of education
6	schoolName	String	Private	School name of education
7	GPA	float	Private	GPA of education

8	sitter	String	Private	Sitter id
9	fromDate	LocalDate	Private	fromDate of education
10	endDate	LocalDate	Private	endDate of education
11	description	String	Private	Description of education
12	educationImg	String	Private	Education image

Table 97. The attributes of Account Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 98. The methods of Account Class

3.2.2.4 Certificate Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of certificate
2	dateReceived	String	Private	Date received of certificate
3	status	Boolean	Private	Status of certificate
4	title	String	Private	Title of certificate
5	organization	LocalDate	Private	Organization of certificate

6	idNumber	String	Private	Id number of certificate
7	imgUrl	float	Private	Image of certificate
8	sitterProfile	String	Private	Sitter profile id

Table 99. The attributes of Account Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 100. The methods of Account Class

3.2.2.5 Sitter package Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of sitter package
2	status	String	Private	Status of sitter package
3	sitterProfile	String	Private	Sitter Profile
4	package	String	Private	Package

Table 101. The attributes of Account Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 102. The methods of Sitter Package Class

3.1.2.6 Working time Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of working time
2	status	String	Private	Status of working time
3	sitter	String	Private	Sitter id
4	slots	String	Private	Slots of working time

Table 103. The attributes of Account Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 104. The methods of Account Class

3.2.2.7 Sitter Service

No	Method	Description
1	findAllSitter(int pageNumber, int pageSize)	handle get all sitter with paging
2	findAllSitterByKeyWord(String keyWord, int pageNumber, int pageSize)	handle search sitter by keyWord and paging
3	banSitter(String id)	handle ban sitter
4	unBanSitter(String id)	handle unban sitter

5	updateContact(UpdateSitterContactDTO updateSitterContactDTO)	handles update contact for sitter
6	getContact(String sitterId)	handles get contact for sitter
7	updateInformation(SitterInformationDTO sitterInformationDTO)	handles update information for sitter
8	getInformation(String sitterId)	handles get information for sitter
9	findAllSitterForAdmin(int pageNumber, int pageSize)	handles get all sitter for admin with paging
10	getAllFormSitter(int pageNumber, int pageSize)	handles get form sitter with paging
11	findSitterById(String id)	handles get sitter by id
12	acceptSitter(String id);	handles accept sitter change status to active
13	rejectSitter(RejectSitterDTO rejectSitterDTO)	handles reject sitter change status to deactivate
14	sendForm(String id)	handles sitter send form register
15	getAllMessageBySitterId(String sitterId)	handles to get all message 's sitter with customer

Table 105. Sitter Service Class Specification

3.2.2.8 Working Time Service

No	Method	Description
1	addWorkingTimeByWeek(AddWorkingTimeWeek DTO addWorkingTimeWeekDTO)	handle create new working time for sitter

2	getAllWorkingTime(String sitterId)	handle to get all working time for sitter by sitter identify
3	deactivateWorkingTime(String workingTimeId)	handle deactivate sitter 's working time
4	activateWorkingTime(String workingTimeId)	handle activate sitter's working time

Table 106. Working Time Service Class Specification

3.2.2.9 Working Experience Service

No	Method	Description
1	addWorkExp(AddWorkExpDTO addWorkExpDTO)	handle create new working experience
2	updateWorkExp(UpdateWorkExpDTO updateWorkExpDTO)	handle update working experience
3	removeWorkExp(String id)	handle remove Working experience
4	getAllWorkExp(String sitterId)	handle get all working experience
5	getWorkExp(String id)	handle get working experience

Table 107. Working Experience Service Class Specification

3.2.2.10 Sitter Package Service

No	Method	Description
1	addSitterInPackage(AddSitterPackageDTO addSitterPackageDTO)	handle add sitter in package
2	findAllPackageBySitterId(String sitterId)	handle get all package by sitter identify

3	findAllPackageSitterNotHave(String sitterId)	handle get all package sitter not have by sitter identify
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Table 108. Sitter Package Service Class Specification

3.2.2.11 Education Service

No	Method	Description
1	addEducation(AddEducationDTO addEducationDTO)	handle create new education
2	updateEducation(UpdateEducationDTO updateEducationDTO)	handle update education
3	findAllBySitterId(String id)	handle to get all education by sitter identify
4	findById(String id)	handle get education
5	removeEducation(String id)	handle remove education

Table 109. Education Service Class Specification

3.2.2.12 Certificate Service

No	Method	Description
1	addCertificate(SitterCertificateDTO sitterCertificateDTO)	handle create a new certificate for a sitter
2	getAllCertificateBySitterId(String sitterId)	handle to get all certificate for a sitter by sitter id
3	getCertificate(String id)	handle get certificate
4	updateCertificate(CertificateDTO certificateDTO)	handle update certificate

5	removeCertificate(String id)	handle remove certificate
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Table 110. Certificate Service Class Specification

3.2.3.1 Sequence Diagram

3.2.3.2 Sitter Register Sequence Diagram

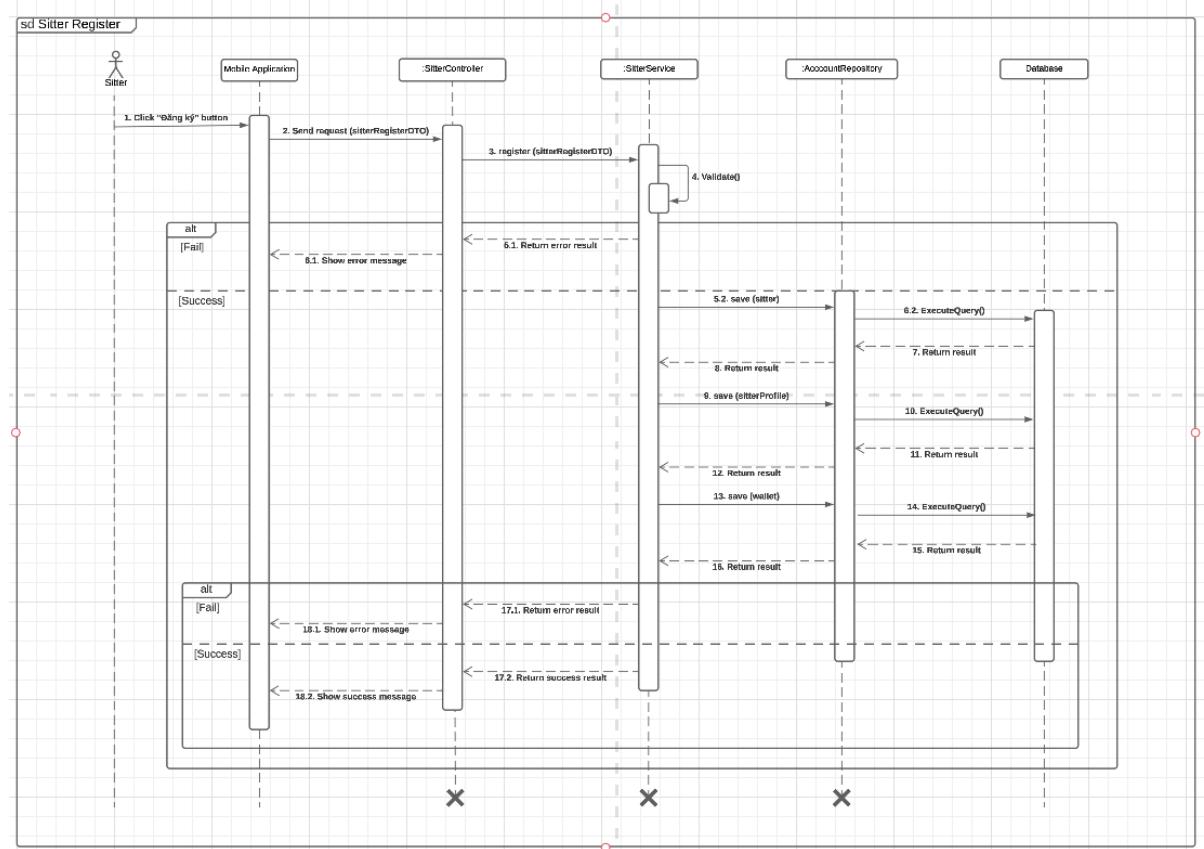


Figure 21. Sitter Register Sequence Diagram

3.2.3.3 Sitter Send Form Sequence Diagram

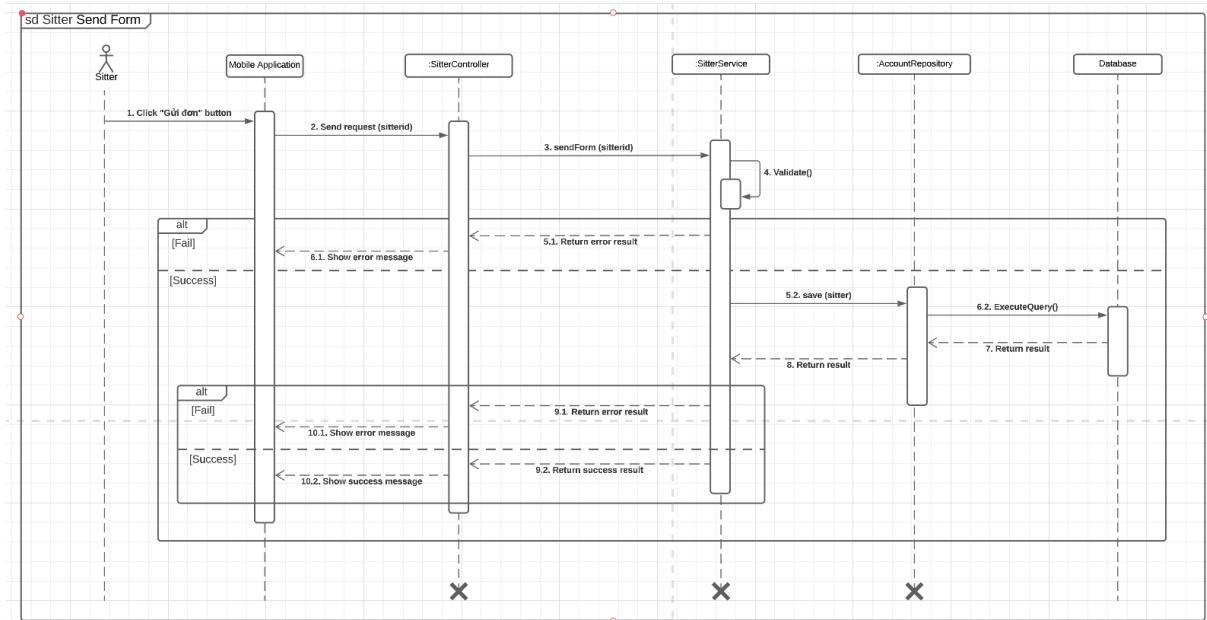


Figure 22. Sitter Send Form Sequence Diagram

3.3 Customer Features

3.3.1 Class Diagram

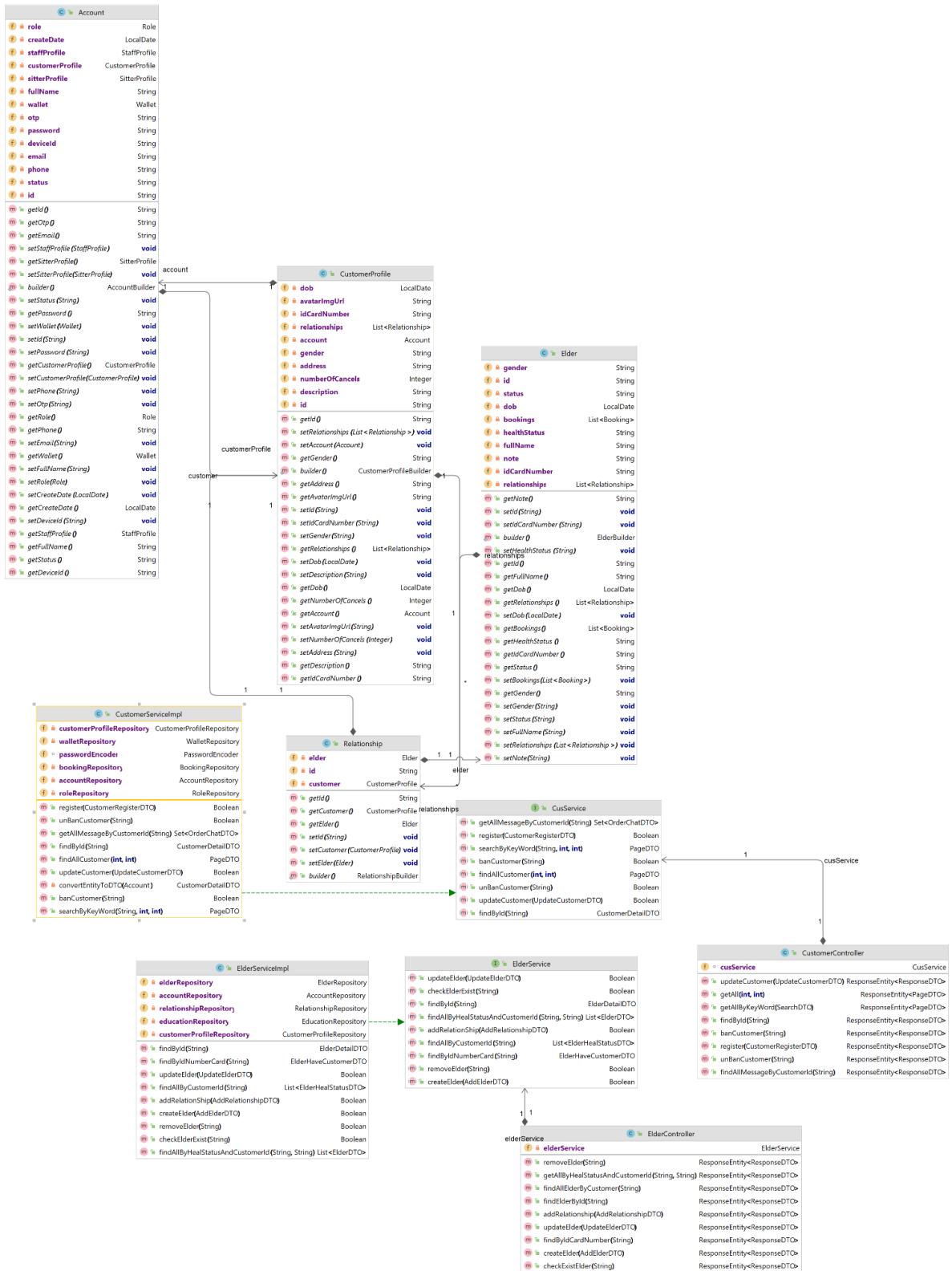


Figure 23. Customer Features

3.3.2 Class Specification

3.1.2.1 Account Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Unique identifier of an account.
2	email	String	Private	Unique email of an account.
3	fullName	String	Private	Full name of account
4	phone	String	Private	Phone of account
5	createDate	LocalDate	Private	Create date of account
6	password	String	Private	Password of account
7	deviceId	String	Private	Device id of account
8	status	String	Private	Status of account
9	otp	String	Private	Opt of account
10	customerProfile	String	Private	Customer profile id of account
11	sitterProfile	String	Private	Sitter profile id of account
12	staffProfile	String	Private	Staff profile id of account
13	wallet	String	Private	Wallet id of account

14	role	String	Private	Role id of account
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Table 111. The attributes of Account Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 112. The methods of Account Class

3.1.2.2 CustomerProfile Class

No	Attribute	Data Type	Visibility	Description
1	id	String	private	Id of customer
2	address	String	private	Address of customer
3	gender	String	private	Gender of customer
4	dob	LocalDate	private	Dob of customer
5	description	String	private	Description of customer
6	idCardNumber	String	private	IdCardNumber of customer
7	avatarImgUrl	String	private	Avatar image of customer

Table 113. The attributes of CustomerProfile Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.

2	setter	Void	Public	Set value of attribute.
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Table 114. The methods of CustomerProfile Class

3.1.2.3 Elder Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of elder
2	fullName	String	Private	fullName of elder
3	gender	String	Private	Gender of elder
4	dob	LocalDate	Private	Date of birth of elder
5	idCardNumber	String	Private	IdCardNumber of elder
6	healthStatus	String	Private	Health status of elder
7	note	String	Private	Note status of elder
8	status	String	Private	Status of elder

Table 115. The attributes of Elder Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 116. The methods of Elder Class

3.3.2.4 Elder Service

No	Method	Description
1	createElder(AddElderDTO addElderDTO)	handle create new elder
2	updateElder(UpdateElderDTO updateElderDTO)	handle update elder
3	removeElder(String id)	handle remove elder
4	checkElderExist(String idCardNumber)	handle check elder exist
5	findAllByCustomerId(String id)	handles to get all elder by customer id
6	findById(String id)	handles get elder
7	findAllByHealStatusAndCustomerId(String id, String status)	handles to get all elder by health status and customer id
8	findByIdNumberCard(String idNumberCard)	handles get elder by id card number
9	addRelationship(AddRelationshipDTO addRelationshipDTO)	handles add new relationship

Table 117. Elder Service Class Specification

3.3.2.5 Customer Service

No	Method	Description
1	findAllCustomer(int pageNumber, int pageSize)	handle get all customer with paging
2	findById(String id)	handle get customer
3	updateCustomer(UpdateCustomerDTO updateCustomerDTO)	handle update customer

4	banCustomer(String id)	handle ban customer
5	unBanCustomer(String id)	handles unban customer
	register(CustomerRegisterDTO customerRegisterDTO);	handles create new customer
	searchByKeyWord(String keyWord,int pageNumber, int pageSize)	handles to get all customer and search by key work with paging
	getAllMessageByCustomerId(String customerId)	handles to get all message of the customer with sitter

Table 118. Customer Service Class Specification

3.2.3 Sequence Diagram

3.2.3.1 Create Elder Sequence Diagram

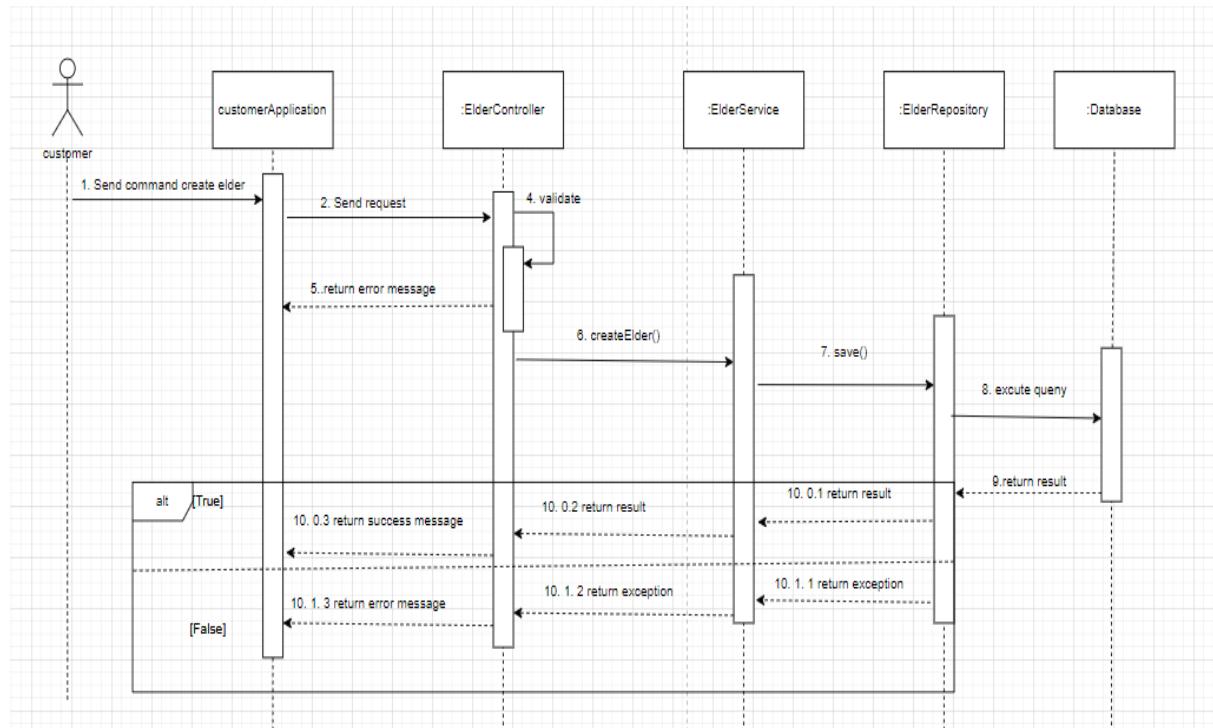


Figure 24. Create Elder Sequence Diagram

3.2.4.2 Customer Register Sequence Diagram

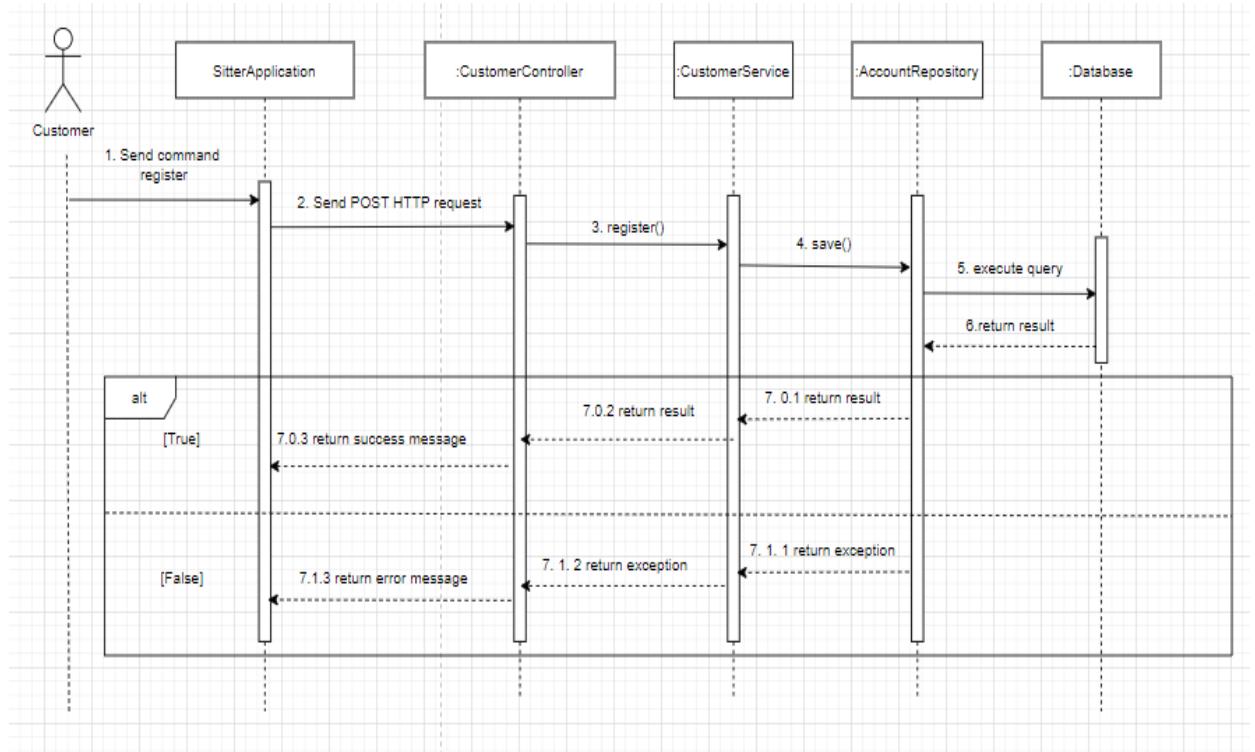


Figure 25. Customer Register Sequence Diagram

3.4 Admin Features

3.4.1 Class Diagram



Figure 26. Admin Features

3.4.2 Class Specification

3.4.2.1 Account Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Unique identifier of an account.
2	email	String	Private	Unique email of an account.
3	fullName	String	Private	Full name of account
4	phone	String	Private	Phone of account
5	createDate	LocalDate	Private	Create date of account
6	password	String	Private	Password of account
7	deviceId	String	Private	Device id of account
8	status	String	Private	Status of account
9	otp	String	Private	Opt of account
10	customerProfile	String	Private	Customer profile id of account
11	sitterProfile	String	Private	Sitter profile id of account
12	staffProfile	String	Private	Staff profile id of account
13	wallet	String	Private	Wallet id of account
14	role	String	Private	Role id of account

Table 119. The attributes of Account Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 120. The methods of Account Class

3.4.2.2 SitterProfile Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of staff
2	address	String	Private	Address of staff
9	dob	LocalDate	Private	Date of birth of staff
12	avatarImgUrl	String	Private	Avatar image of staff
14	gender	String	Private	Gender of staff

Table 121. The attributes of SitterProfile Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 122. The methods of SitterProfile Class

3.4.2.3 Account Class

No	Attribute	Data Type	Visibility	Description

1	id	String	Private	Unique identifier of an account.
2	email	String	Private	Unique email of an account.
3	fullName	String	Private	Full name of account
4	phone	String	Private	Phone of account
5	createDate	LocalDate	Private	Create date of account
6	password	String	Private	Password of account
7	deviceId	String	Private	Device id of account
8	status	String	Private	Status of account
9	otp	String	Private	Opt of account
10	customerProfile	String	Private	Customer profile id of account
11	sitterProfile	String	Private	Sitter profile id of account
12	staffProfile	String	Private	Staff profile id of account
13	wallet	String	Private	Wallet id of account
14	role	String	Private	Role id of account

Table 123. The attributes of Account Class

No	Method	Data Type	Visibility	Description

1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 124. The methods of Account Class

3.4.2.3 Report Service

No	Method	Description
1	addReportCustomerToSitter(AddReportDTO reportDTO)	handle create new Report form customer to sitter
2	addReportSitterToCustomer(AddReportDTO reportDTO)	handle create new Report form sitter to customer
3	replyReport(ReportReplyDTO reportReplyDTO)	handle reply report
4	getAllReportForCustomer(String customerId)	handle get all report for customer
5	getAllReportForSitter(String customerId)	handles get all report for sitter6
6	getAllFormReport(int pageNumber, int pageSize)	handles to get all report with paging
7	getReportDetail(String id)	handles get report

Table 125. Report Service Class Specification

3.4.2.4 Admin Service

No	Method	Description
1	createStaffAccount(StaffAccountDTO staffAccountDTO)	handle create new Report form customer to sitter
2	banStaff(String staffId)	handle ban a staff

3	unBanStaff(String staffId)	handle unban a staff
4	updateStaff(UpdateStaffDTO updateStaffDTO)	handle update a staff
5	getStaffById(String id)	handles get staff
6	getRevenueForDateInMonth(Integer month, Integer year)	handles get all revenue for the date in mont
7	getRevenueForAllMonthInYear(Integer year)	handles get revenue for all month in year
8	getInformationDashBoard()	handles get information in dashboard

Table 126. Admin Service Class Specification

3.2.3 Sequence Diagram

3.2.3.1 Create Staff Sequence Diagram

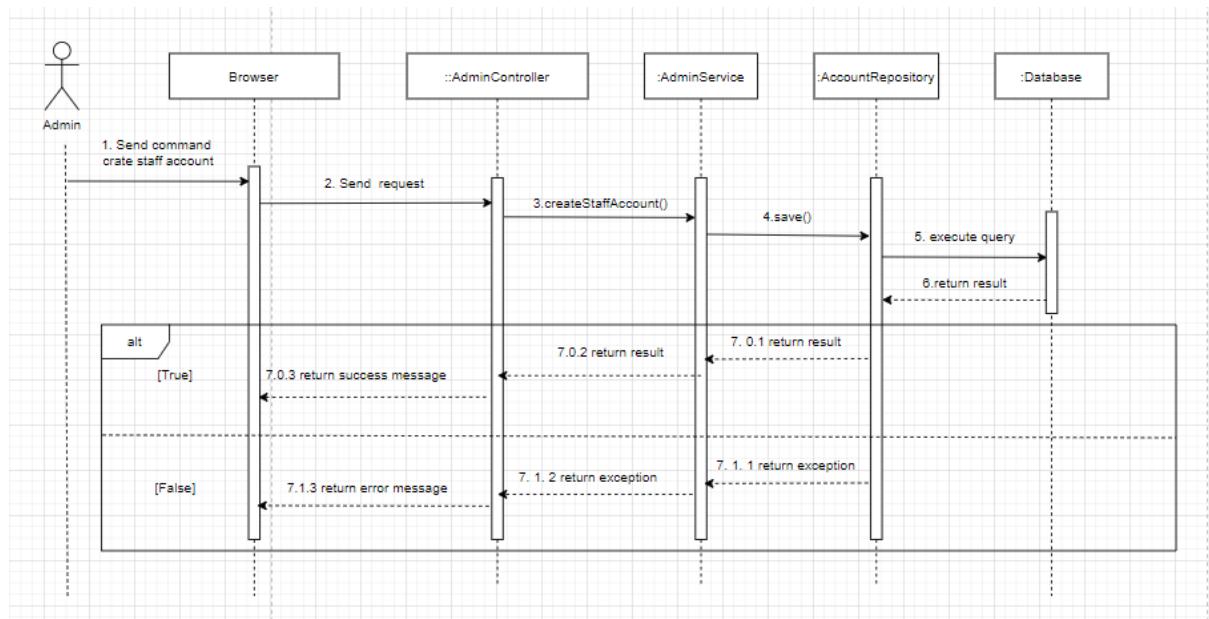


Figure 27. Create Staff Sequence Diagram

3.2.3.2 Accept Sitter Form Sequence Diagram

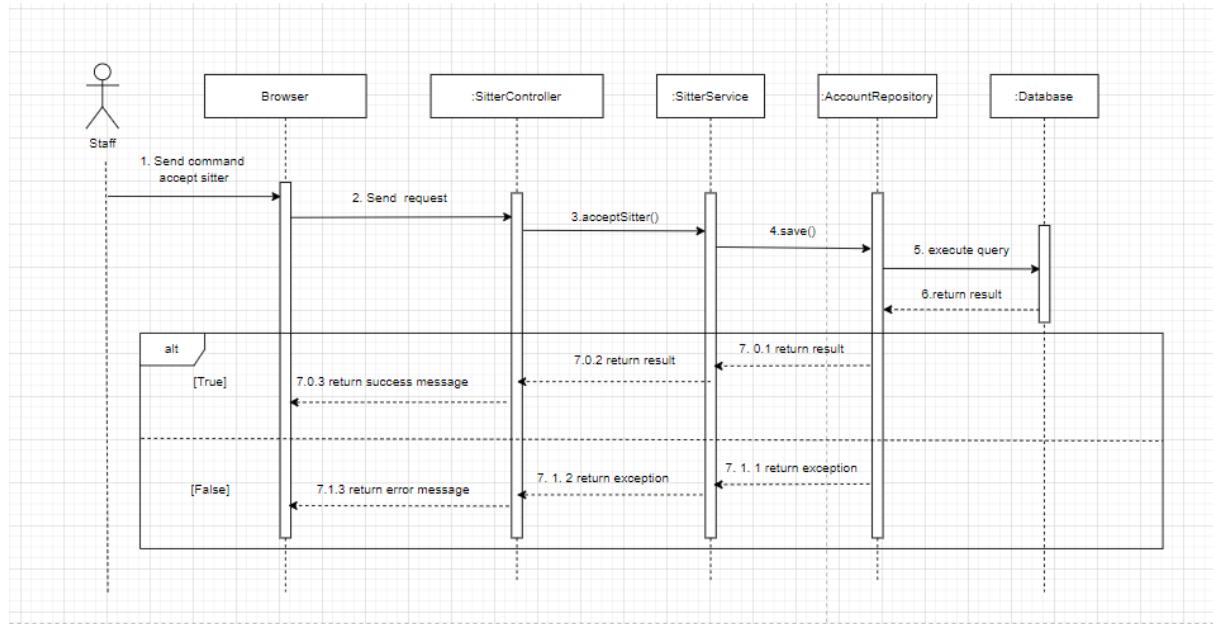


Figure 28. Accept Sitter Form Sequence Diagram

3.5 Package Management Features

3.4.1 Class Diagram



Figure 29. Package Management Features

3.5.2 Class Specification

3.5.2.1 Package Class

No	Attribute	Data Type	Visibility	Description
1	id	String	Private	Id of package
2	name	String	Private	Name of package
3	price	BigDecimal	Private	Price of package

4	description	String	Private	Description of package
5	startTime	LocalTime	Private	Start time of package
6	endTime	LocalTime	Private	End time of package
7	startSlot	Integer	Private	Start slot of package
8	endSlot	Integer	Private	End slot of package
9	duration	Integer	Private	Duration of package
10	imgUrl	String	Private	Image of package
11	healthStatus	String	Private	Heath status of package
12	status	String	Private	Status of package

Table 127. The attributes of Package Class

No	Method	Data Type	Visibility	Description
1	getter	Data Type	Public	Get attribute value.
2	setter	Void	Public	Set value of attribute.

Table 128. The methods of Package Class

3.5.2.2 Package Service

No	Method	Description
1	getAllPackageByWorkingTimeSitter(String sitterId)	handle get all package by working time of sitter

2	createPackage(AddPackageDTO addPackageDTO)	Handle create new package
3	updatePackage(UpdatePackageDTO updatePackageDTO)	handle update package
4	removePackage(String id)	handle remove package
5	activePackage(String id)	handles active package
6	findAll(int pageNumber, int pageSize)	Handles get all package with paging
7	findAllActivatePackage()	handles get all activate package
8	findAllActivatePackageHaveSitter()	handles find all active package have sitter
9	findAllActivatePackageHaveSitter(String keyword)	handles find all active package have sitter
10	getAllPackageDetailByHealthStatus(String healthStatus)	handles find all active package healstatus
11	addServiceToPackage(ServicePackageDTO addServiceToPackageDTO)	handles add service to package
12	removeServiceInPackage(ServicePackageDTO removeServiceInPackageDTO)	handles remove service in package
13	activeServiceInPackage(ServicePackageDTO activeServiceInPackageDTO)	handles activate service in package
14	findById(String id)	handles get by id package

15	findByIdWithServiceActive(String id)	handles get by id package with active service
16	getRandomPackage(Integer count)	handles get random active package
17	getAllPackageByHealthStatus(String healthStatus)	Handles get all package by health status

Table 129. Admin Package Service Class Specification

3.5.3 Sequence Diagram

3.5.3.1 Create Package Sequence Diagram

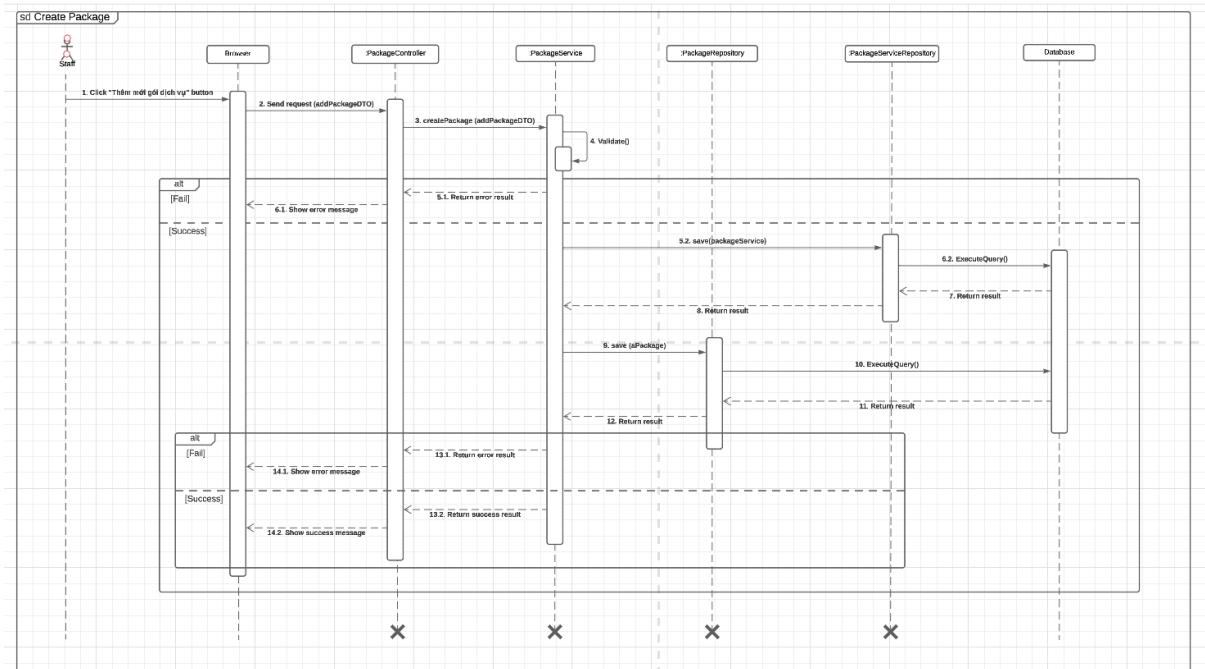


Figure 30. Create Package Sequence Diagram

3.6 State Machine Diagram

3.6.1 Sitter Registration State Machine Diagram

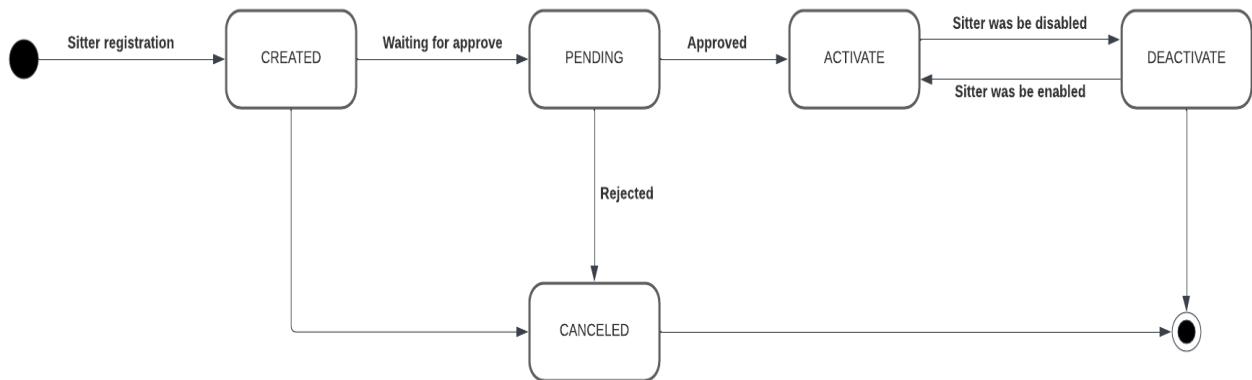


Figure 31. Sitter Registration State Machine Diagram

3.6.2 Booking State Machine Diagram

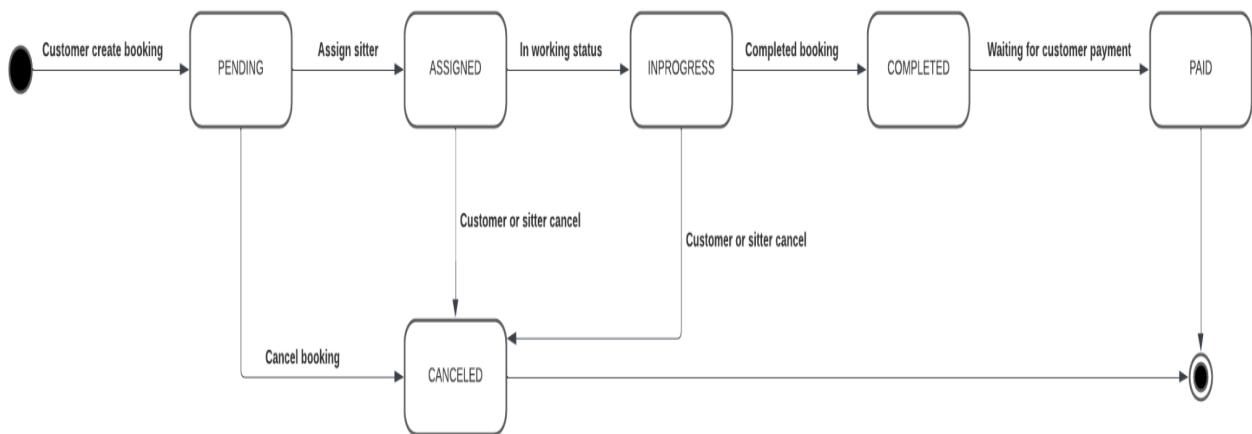


Figure 32. Booking State Machine Diagram

3.7 Algorithm

3.7.1 Input: Request a sitter (Time, Location)

3.7.2 Output: Assign a request to a sitter or cancel request

3.7.3 Constant declaration

```
Const KM = 5;
```

```
Const AVERAGERATING = 2.5; // rating's max = 5, rating's min value 1
```

```
Const MAXRATING = 5;
```

```
Const CANCELCOUNT = 5;
```

3.7.4 Algorithm implementation

Step 1. Check list of available sitter (online)

 Return listOnlineSitters;

Step 2. Foreach (sitterTmp in listOnlineSitters)

 Check (Time(sitter in listOnlineSitters) == true)

 Begin

 Priority = 0;

 If (Sitter's Location – Request Location) < KM)

 Priority ++

 If (AVERAGERATING <= Sitter's Rating <= MAXRATING)

 Priority ++

 Else Priority -= 0.5

 If (Sitter's Rating <= CANCELCOUNT)

 Priority ++

 Else Priority -= 0.5

listAvailableSitter ++

 Foreach (sitterTmp in listAvailableSitter)

 Put to queueAvailableSitter

Step 3. Send booking request to Sitter in the first of priority queue

Display booking request notification in Sitter App

If (Sitter choose "CANCEL" option)

 Dequeue sitter

 If (Sitter is not responding in 1 minutes)

 Send booking request to next sitter in the priority queue

 Else

 Store data (booking with the specific sitter) to DB

V. Software Testing Documentation

1. Scope of Testing

Tests at different scope complement each other's strengths and weaknesses. A good mix of tests can create a great testing plan that allows us to make changes with confidence and catches real bugs quickly and efficiently.

- With the backend API, we applied Unit Testing then Integration Testing.
- With the Front-End and Mobile we applied System Testing with functional requirements.

2. Test Strategy



Figure 33. Agile testing

Since the ELS team uses the SCRUM workflow, the agile testing approach is suitable for changing requirements. Each cycle is a completely new test phase, allowing the testing team to spot bugs easily and prevent the development team from repeating a bug type too many times. Additionally, the agile testing model has the following advantages:

- Suitable in small or medium projects.
- Provide a common ground for stakeholders to communicate incrementally.

2.1 Testing Types

- Functional testing:** To ensure the system's functionalities follow the actual business functional requirements.
- Non-functional testing:** To ensure the system's user interface, performance, and user experience follow the actual business non-functional requirements with the provided hardware and internet transmission speed.

2.2 Test Levels

Type of Tests	Test Level			
	Unit	Integration	System	Acceptance
Function testing	X	X	X	X
User interface testing		X	X	X
API testing	X	X		

Table 130. Test Levels

3. Test Plan

3.1 Human Resources

Worker/Doer	Role	Specific Responsibilities/Comments
Tran Thanh Son	Test Leader	Write test plans, and test cases, run tests, write reports and verify test deliverables.
Le Thi Cam Nhu	Tester	Write test cases, run tests, and report for detection.
Phan Luu Khanh	Tester	Write test cases, run tests, and report as planned.
Nguyen Huynh Van Anh	Tester	Write test cases, run tests, and report as planned.

Table 131. Human Resources

3.2 Test Environment

Purpose	Tool	Provider	Version
Integration test web app with UI/UX	Chrome	Google	112.0.5615.121
Run server side	IntelliJ	JetBrains	2022.2.1
Integration test mobile app with UI/UX	Samsung S20	Samsung	Android 11

Table 132. Test Environment

3.3 Test Milestones

Milestone Task	Start Date	End Date
Setup environment	10/02/2022	16/02/2022
Unit test for backend functions	14/03/2022	13/04/2022
System test	14/03/2022	17/04/2022

Write final report test	23/02/2022	22/04/2022
-------------------------	------------	------------

Table 133. Test Milestones

4. Test Cases

Table 1

TEST CASE LIST				
Project Name		Elderly Sitting Services Application		
Project Code		SP23SE09		
Test Environment Setup Description		1. Windows 10 (Professional edition version 1903 or higher) or Ubuntu 20.0.4 2. .Net SDK (6.0) 4. Mobile: Android 12 or higher 5. Database: MS SQL Server 2016 6. Web Browser: Chrome (version 87.0.4280 or higher) 7. Hardware: + CPU: Intel Core i5 8th Generation processor or higher + Ram: minimum 8 GB, 16 GB or higher is recommended		
No	Function Name	Sheet Name	Description	Pre-Condition
1	Web_Authentication	Web_Authentication		
2	WA_ManageCustomer	WA_ManageCustomer		
3	WA_ManageSitter	WA_ManageSitter		
4	WA_ManageStaff	WA_ManageStaff		
5	Web_ManageService	Web_ManageService		
6	Web_ManagePackage	Web_ManagePackage		
7	Web_ManageReport	Web_ManageReport		
8	WS_ManagePromotion	WS_ManagePromotion		
9	WS_ManageRegistrationForm	WS_ManageRegistrationForm		
10	M_Authentication	M_Authentication		

11	MC_ManageBooking	MC_ManageBooking		
12	MC_Profile	MC_Profile		
13	MS_Profile	MS_Profile		
14	MC_ManageElder	MC_ManageElder		
15	MS_ManageBooking	MS_ManageBooking		

Table 134. Test Cases

5. Test Reports

TEST STATISTICS

Project Name	Elderly Sitting Services Application		Lê Thị Cẩm Như
Project Code	SP23SE09		Trần Thành Sơn
Document Code	SP23SE09		23/03/2023
Notes			

No	Module code	Passed	Failed	Pending	N/A	Number of test cases
1	Web.Authentication	57	0	0	0	57
2	WA_ManageCustomer	19	0	0	0	19
3	WA_ManageSitter	19	0	0	0	19
4	WA_ManageStaff	32	0	0	0	32
5	Web_ManageService	38	0	0	0	38
6	Web_ManagePackage	39	0	0	0	39
7	WS_ManagePromotion	33	0	0	0	33
8	WS_ManageReport	11	0	0	0	11
9	WS_ManageRegistrationForm	12	0	0	0	12
10	M_Authentication	98	0	0	0	98
11	MC_ManageBooking	26	0	0	0	26
12	MC_Profile	28	0	0	0	28
13	MS_Profile	28	0	0	0	28
14	MC_ManageElder	26	0	0	0	26
15	MS_ManageBooking	3	0	0	0	3
Sub total		469	0	0	0	469

Test coverage **100,00 %**
 Test successful coverage **100,00 %**

Figure 34. Test Report

VI. Release Package & User Guides

1. Deliverable Package

No.	Items	Sub-Items	Type	Version
Code Package				
1	APIs Server	API.zip	New	1.0
2	Web Application	WEB.zip	New	1.0

No.	Items	Sub-Items	Type	Version
3	Mobile application	Elscustomer.apk Elssitter.apk	New	1.0
Documents				
1	Final Project Report	Report7_FinalProjectReport.docx	New	1.0
2	Sprint Backlog	SprintBacklog.docx	New	1.0

Table 135. Test Milestones

2. Installation Guides

2.1 System Requirements

2.1.1 Hardware Requirement

For Mobile Application

Operation System	Android 11 or higher
Memory	1GB of RAM or higher
Internet	The application required the internet to be used

Table 136. Test Milestones

For Database

Operation System	Windows 10 Pro, Windows Server 2019 R2
Memory	8GB of RAM or higher
Hard drive	256GB or higher
DBMS	MySQL

Table 137. Test Milestones

For APIs Server

Operation System	Windows 10 Pro, Windows Server 2019 R2
Processor	Intel Core i5 8 th Generation processor or higher

Memory	8GB of RAM or higher
Internet	The application required the internet to be used
Hard drive	256GB or higher

Table 138. Test Milestones

For Web Application

Operation System	Windows 10 Pro, Windows Server 2019 R2
Memory	8GB of RAM or higher
Internet	The application required the internet to be used
Browser	Chrome (version 87 or higher), IE (version 11 or higher), or any browser that supports HTML5 and CSS3

Table 139. Test Milestones

2.1.2 Software Requirements

For APIs Server

Component	Software and version
Operating System	Window 11
DBMS	MySQL
Server Environment	JDK 11.0.12
Front-end Environment	NodeJS 14.15.1
Android Environment	Android 11

Table 140. Test Milestones

2.2 Installation Instruction

2.2.1. Setup Environments

2.2.1.1. Setup database

- a. Download and install MySQL follow these guidelines:

Link: [Cài đặt cơ sở dữ liệu MySQL trên Windows | openplanning.net](#)

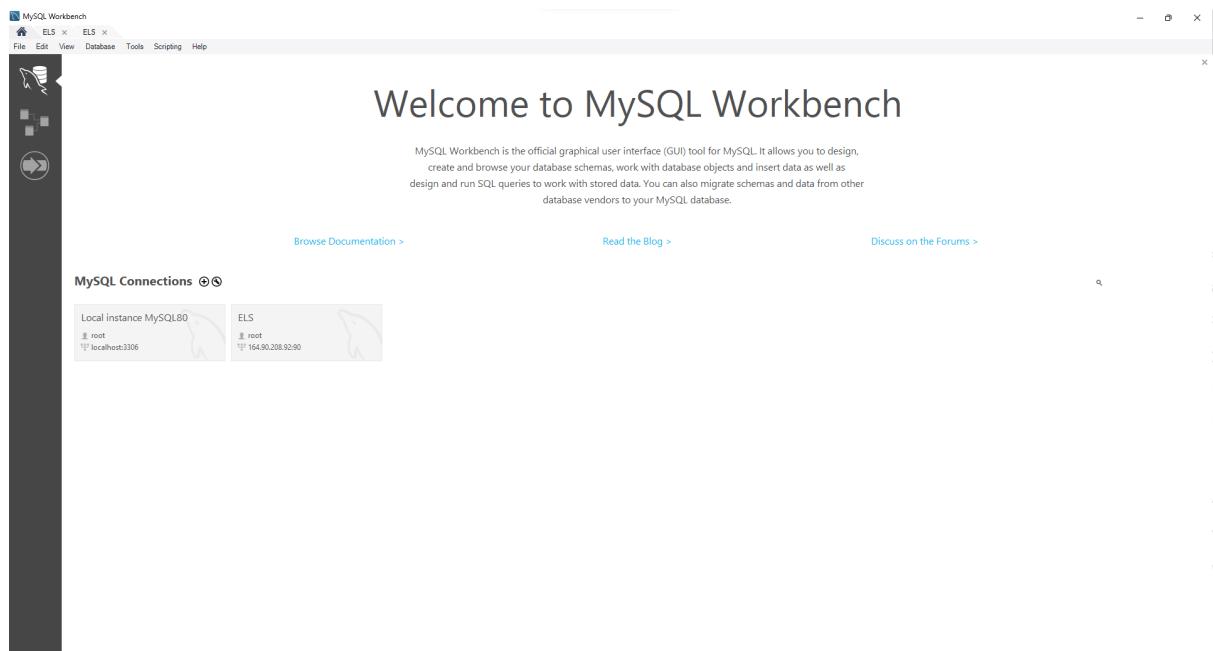


Figure 35. <Application> MySQL installation

b. Run MySQL

c. Init database

c1. Open els.sql in MySQL and execute the script

```

MySQL Workbench
File Edit View Query Database Server Tools Scripting Help
Navigator
SCHEMAS
Q Filter objects
Not connected
1 -- MySQL Workbench Forward Engineering
2
3 * SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0;
4 * SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0;
5 * SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION';
6
7 --
8 -- Schema sysdb
9 --
10 --
11 -- Schema fu_arts
12 --
13 --
14 -- Schema fu_arts
15 --
16 -- Schema fu_arts
17 * CREATE SCHEMA IF NOT EXISTS `fu_arts` DEFAULT CHARACTER SET utf8mb4 COLLATE utf8mb4_0900_ai_ci;
18 * USE `fu_arts`;
19
20 --
21 -- Table `fu_arts`.`role`
22 --
23 * CREATE TABLE IF NOT EXISTS `fu_arts`.`role` (
24     `id` INT NOT NULL AUTO_INCREMENT,
25     `name` VARCHAR(255) CHARACTER SET utf8mb3 NULL DEFAULT NULL,
26     PRIMARY KEY (`id`),
27     ENGINE = InnoDB
28     AUTO_INCREMENT = 4
29     DEFAULT CHARACTER SET = utf8mb4
30     COLLATE = utf8mb4_0900_ai_ci
31
32 --
33 -- Table `fu_arts`.`account`
34 --
35 --
36 * CREATE TABLE IF NOT EXISTS `fu_arts`.`account` (

```

Figure 36. <Application> MySQL execute the script

c2. Check to see if database is successfully created

2.3.1.2. Setup local backend API

a. Download and install IntelliJ follow these guidelines:

Link: [Hướng dẫn cài đặt và sử dụng IntelliJ IDEA – Cùng dev \(cungdev.com\)](https://cungdev.com/huong-dan-cai-dat-va-su-dung-intelli-j-idea)

b. Run IntelliJ

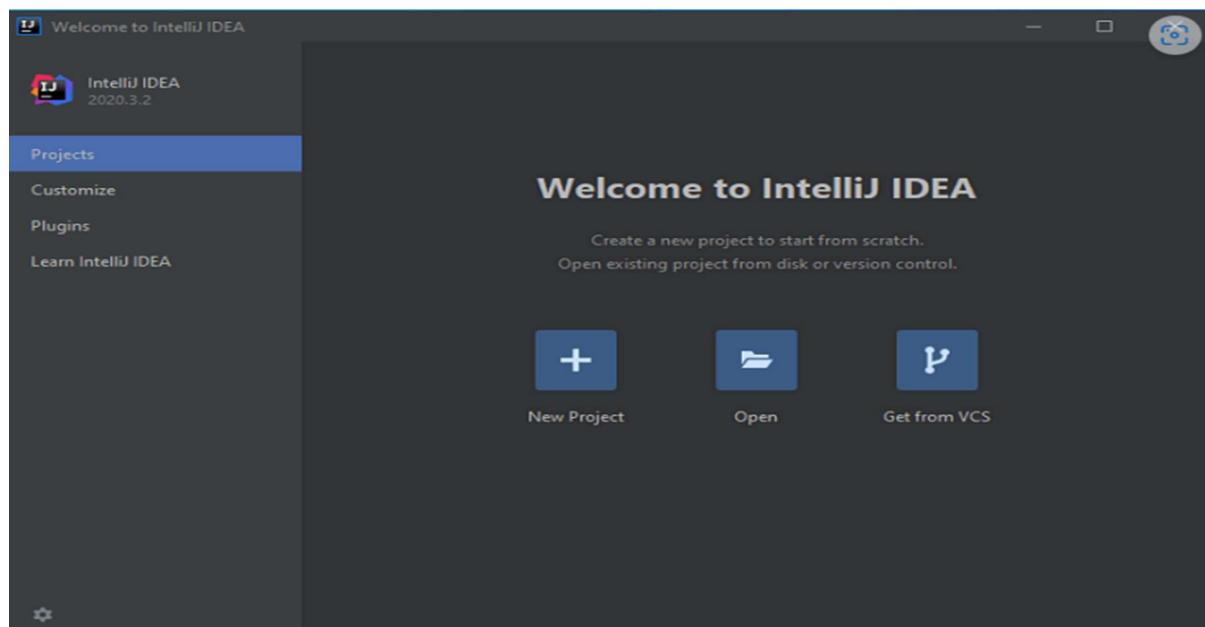


Figure 37. <Application> Run IntelliJ

c. Open and extract els.zip

d. Open application.properties and edit database connection configuration:

```
spring.datasource.url=jdbc:mysql://localhost:3306/your_database?allowPublicKeyRetrieval=true&useSSL=false
spring.datasource.username=your_username
spring.datasource.password=your_password
```

Figure 38. <Application> Edit database connection configuration

e. Run project els_be-master with IntelliJ

2.3.1.3 For Web Application

- Install NodeJS 14.15.1 LTS. ([Download link](#))

- Install NodeJS 14.15.1 LTS. ([Download link](#))

node-v14.15.1-win-x86.7z	16-Nov-2020 11:35	162666341
node-v14.15.1-win-x86.zip	16-Nov-2020 11:35	27205082
node-v14.15.1-x64.msi	16-Nov-2020 11:33	30556160
node-v14.15.1-x86.msi	16-Nov-2020 11:35	28876800
node-v14.15.1.pkg	16-Nov-2020 12:51	32130242
node-v14.15.1.tar.gz	16-Nov-2020 13:57	63136820
node-v14.15.1.tar.xz	16-Nov-2020 14:02	33437304

Figure 39. <Application> Install NodeJS

- Open the setup file and select installation location, then click **Next**.

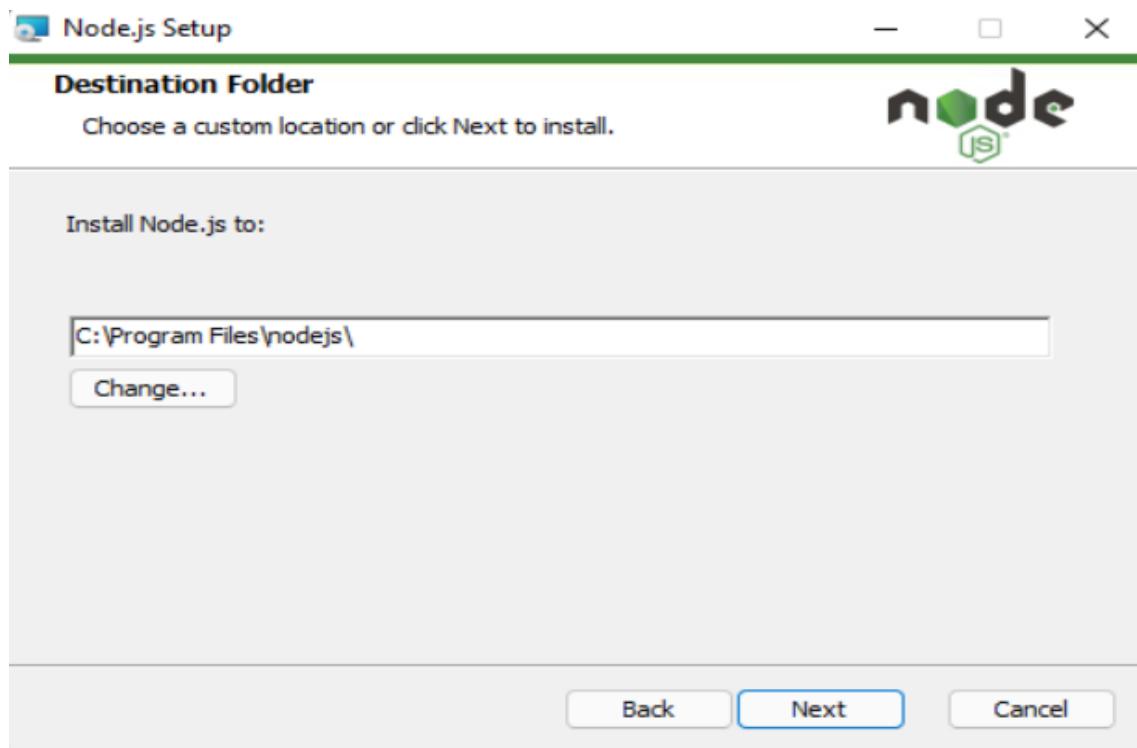


Figure 40. <Web Application> NodeJS destination folder

- Select all components and then click **Next**.

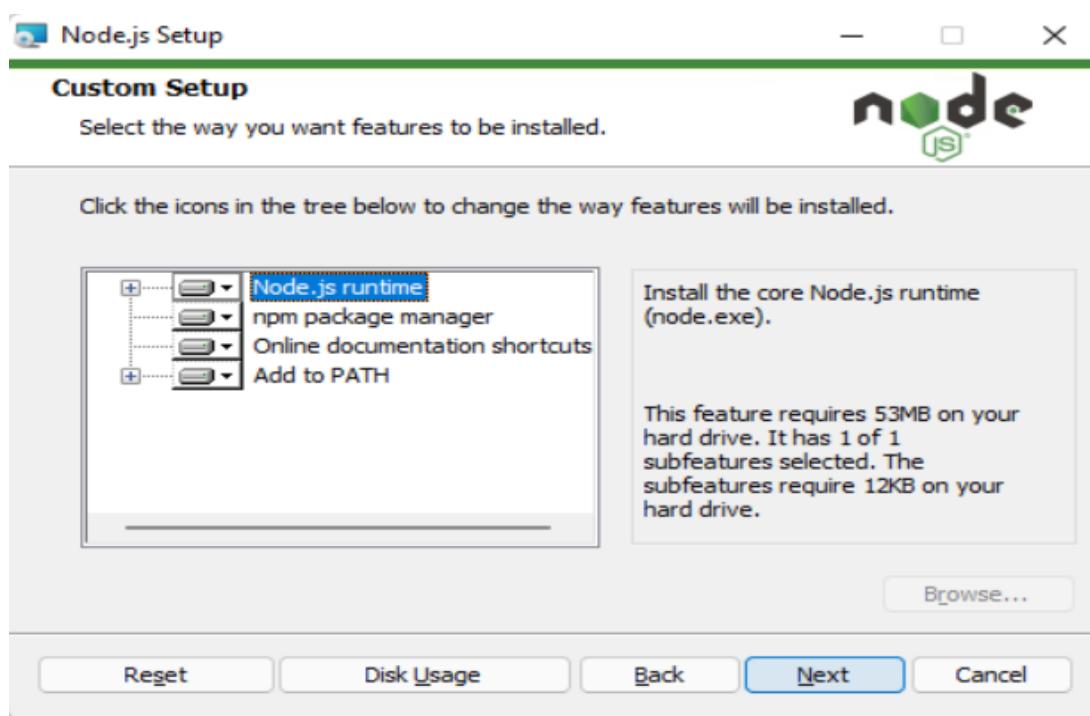


Figure 41. <Web Application> NodeJS custom setup

- Click **Install** and wait for the installation to complete.

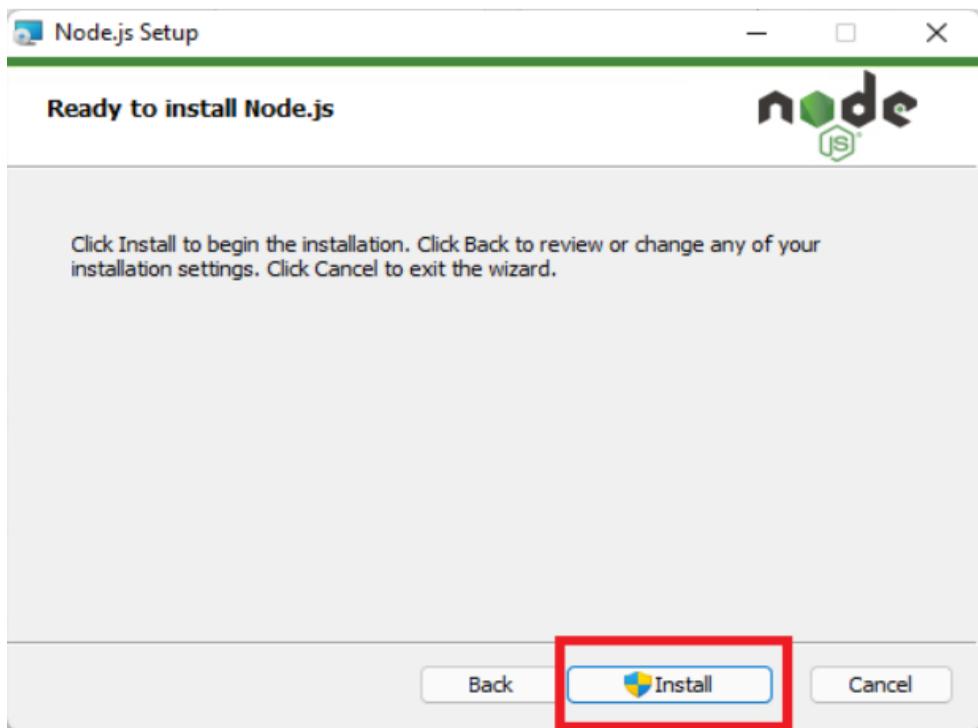


Figure 42. <Web Application> NodeJS installation

- Extract MYRAY-WEB.zip, and open the extracted folder in your IDE.

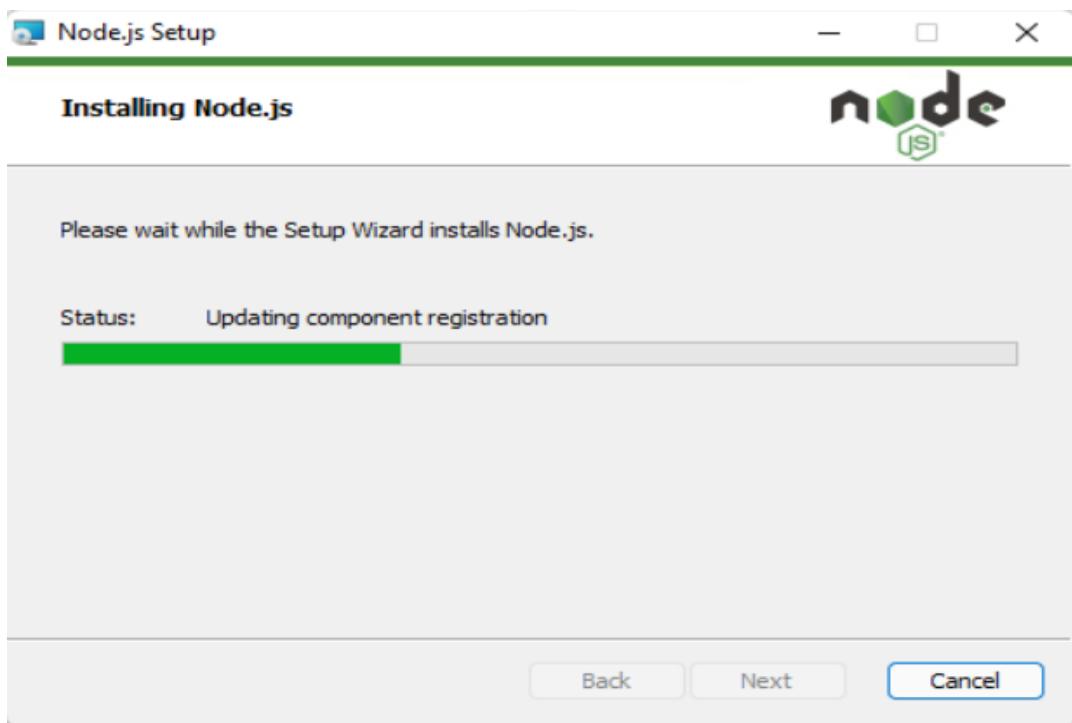


Figure 43. <Web Application> NodeJS extract folder

- Run **npm install** to install a package and any packages that it depends on.

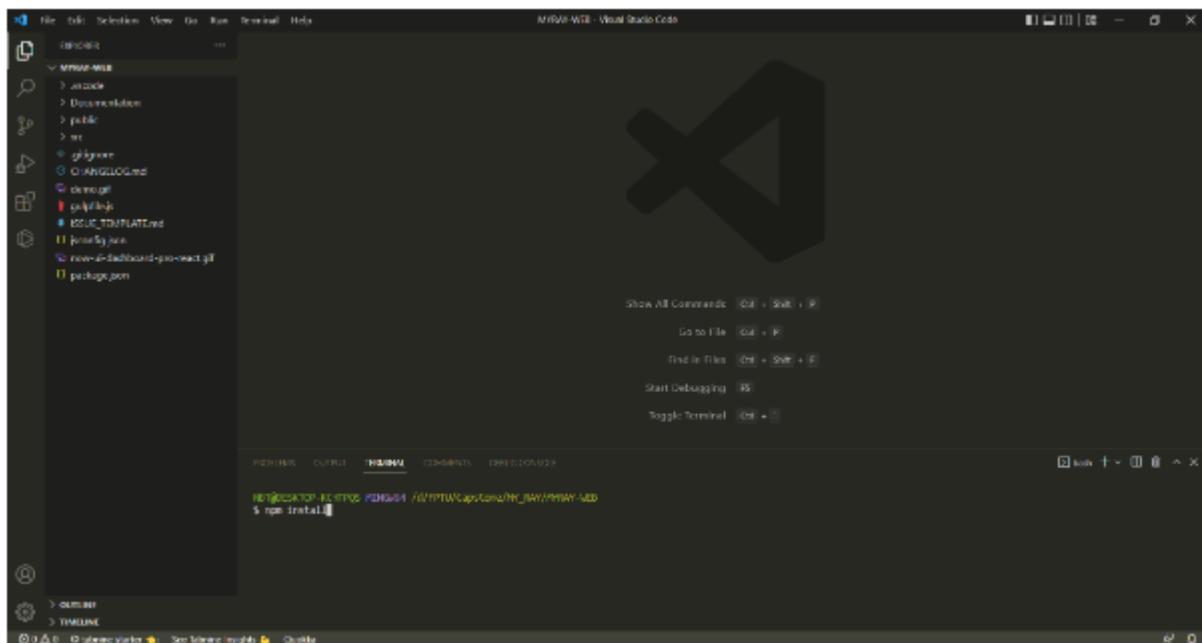


Figure 44. <Web Application> NodeJS Installation package

This screenshot shows the VS Code terminal tab active. The command '\$ npm install' is typed into the terminal. The output shows the command being run on a Windows machine ('NBT@DESKTOP-KCHTPQ8 MINGW64 /d/FPTU/Capstone/MY_RAY/MYRAY-WEB').

```
NBT@DESKTOP-KCHTPQ8 MINGW64 /d/FPTU/Capstone/MY_RAY/MYRAY-WEB
$ npm install
```

Figure 45. <Web Application> NodeJS Installation package syntax

- Run **npm start** to start the project.

This screenshot shows the VS Code terminal tab active. The command '\$ npm start' is typed into the terminal. The output shows the command being run on a Windows machine ('NBT@DESKTOP-KCHTPQ8 MINGW64 /d/FPTU/Capstone/MY_RAY/MYRAY-WEB').

```
NBT@DESKTOP-KCHTPQ8 MINGW64 /d/FPTU/Capstone/MY_RAY/MYRAY-WEB
$ npm start
```

Figure 46. <Web Application> NodeJS start project

- Result:

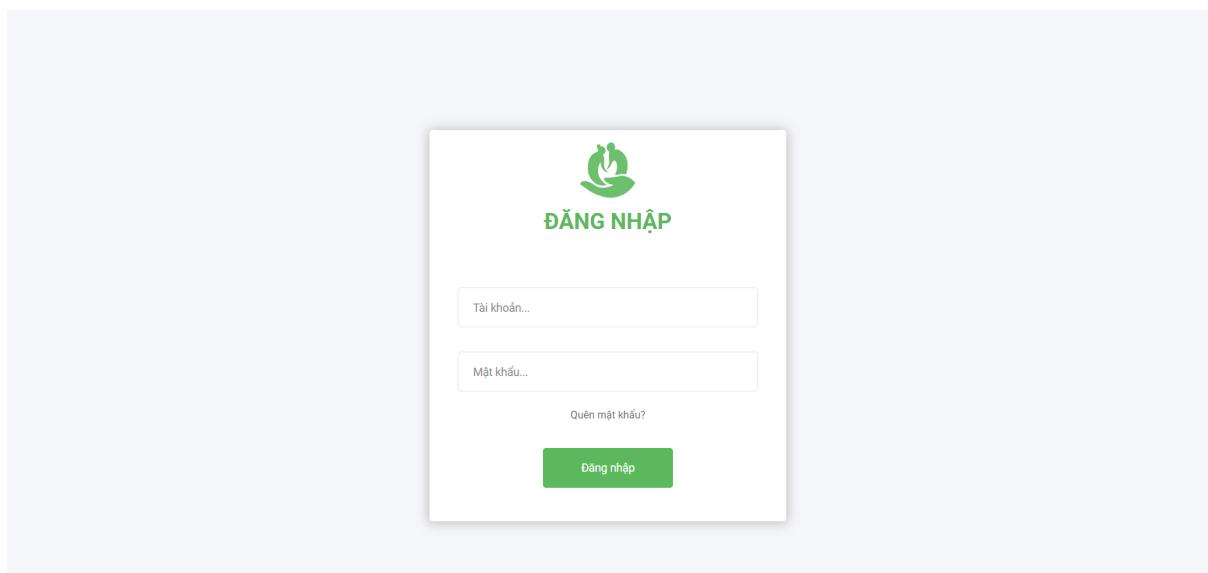


Figure 47. <Web Application> Result after start project

2.3.1.4 Mobile Application

- For Android devices:
 - Copy the APK file to the storage of your mobile phone.



Figure 48. <Mobile Application> Customer Application APK



Figure 49. <Mobile Application> Sitter Application APK

- Press “Cài đặt” to install the application.

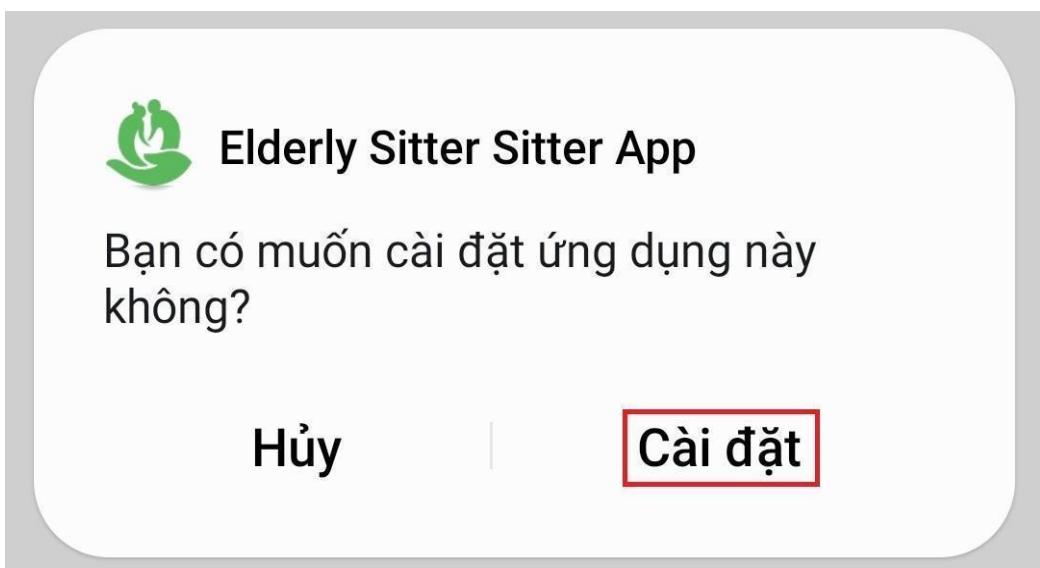


Figure 50. <Mobile Application> Sitter Application Installation

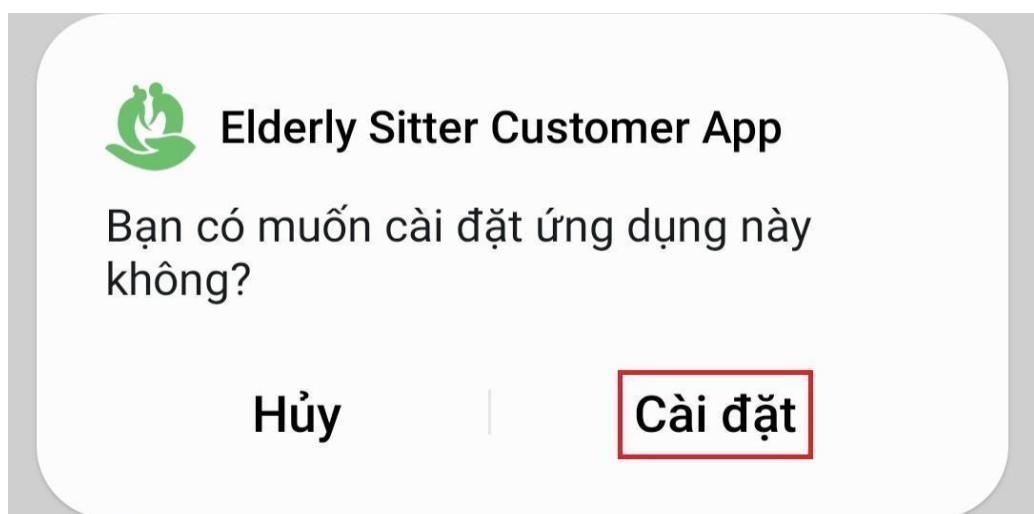


Figure 51. <Mobile Application> Customer Application Installation

- Press “Tiếp tục cài đặt” to continue install the application.

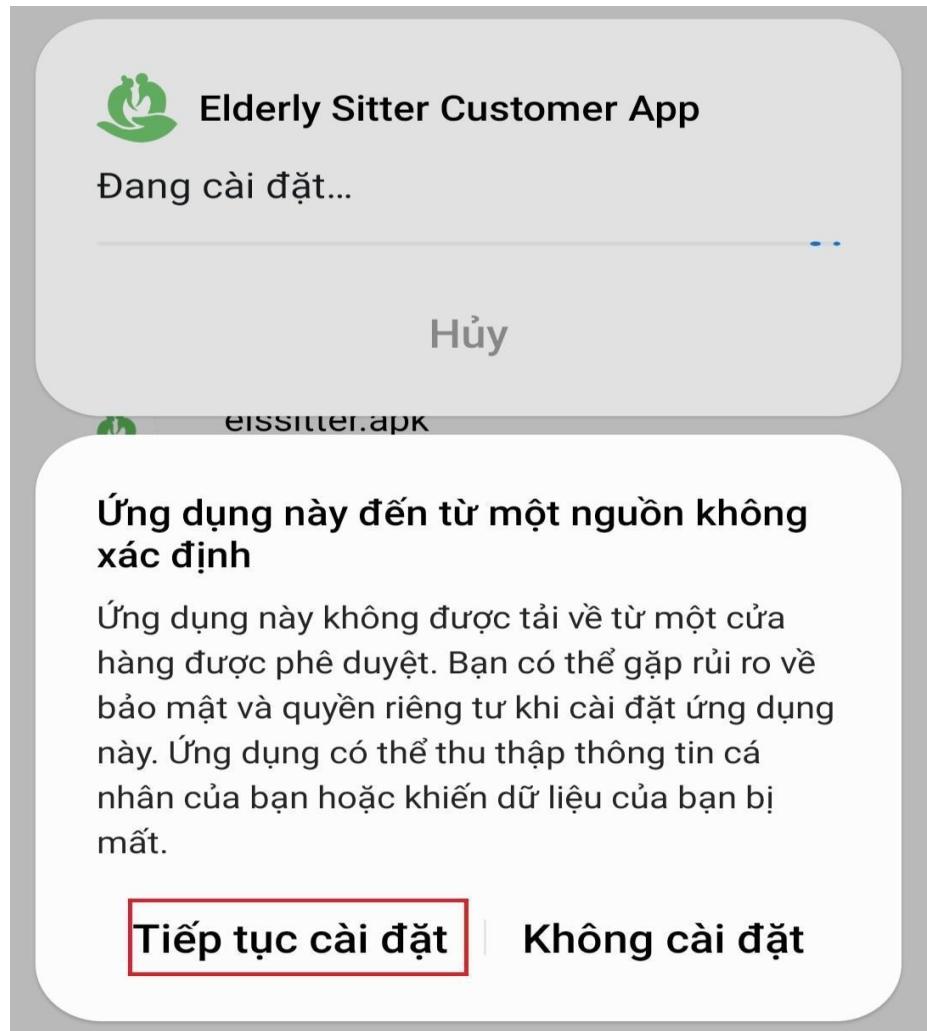


Figure 52.

<Mobile

Application> Customer Application Installation Confirm



Figure 53. <Mobile Application> Sitter Application Installation Confirm

- Press “Mở” or tap to icon in screen to open app.

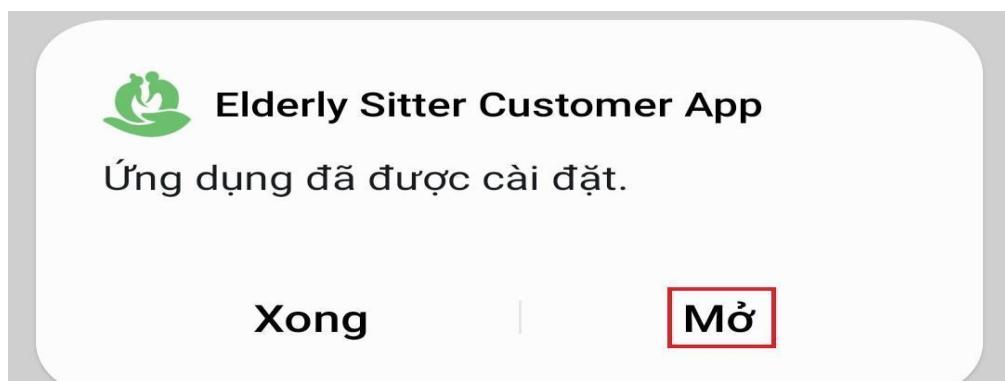


Figure 54. <Mobile Application> Start Customer Application

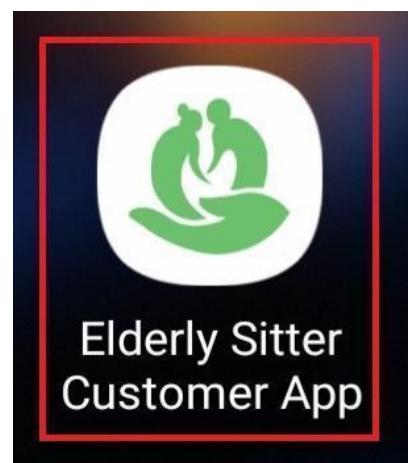


Figure 55. <Mobile Application> Customer Application

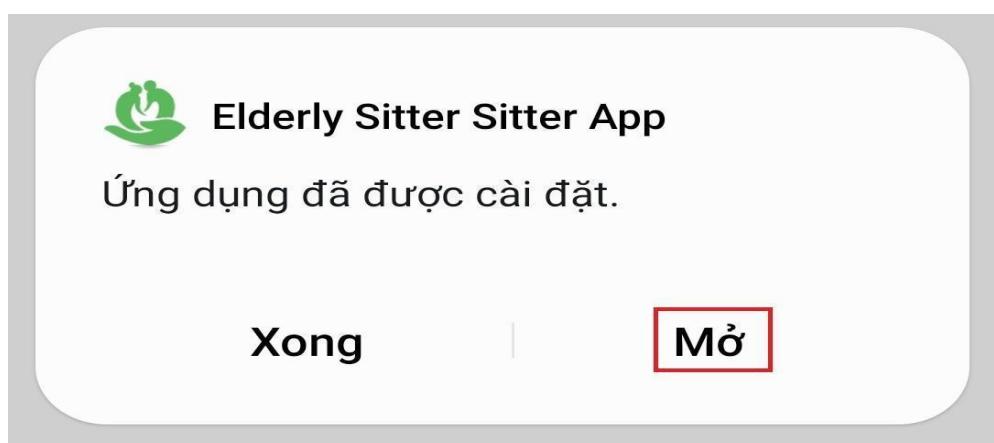


Figure 56. <Mobile Application> Start Sitter Application



Figure 57. <Mobile Application> Sitter Application

3. User Manual

3.1 Overview

3.2 Web Application for Admin and Staff

❖ Overview:

- Admin uses the ELS web application for managing staffs, sitters, customers, services, packages, holidays, deposit, commission and viewing statistics.
- Staff uses ELS web application for managing sitters, services, packages, promotions, reports, verifying register forms, and viewing statistics.

❖ Features:

3.2.1. Login

- **Purpose:** This feature allows users to log in to the ELS System.

- **<Guest> Login:**

- Log in with the phone number and password.
- Step 1: Enter the email and password.

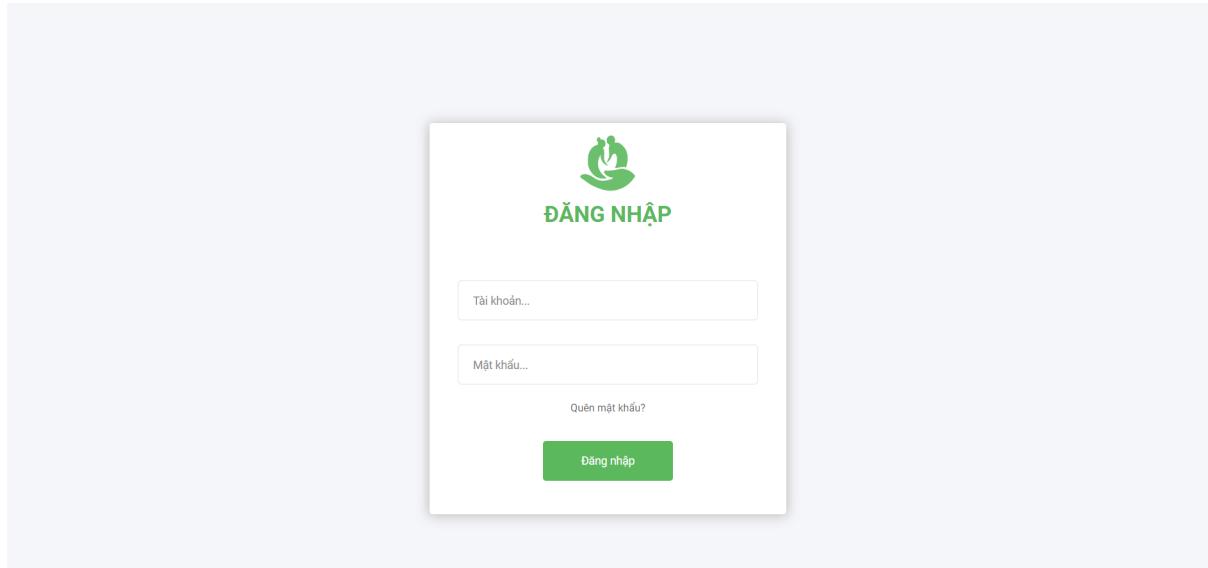


Figure 58. <Web Application> Login (Step 1)

- Step 2: Click the “Đăng nhập” button.

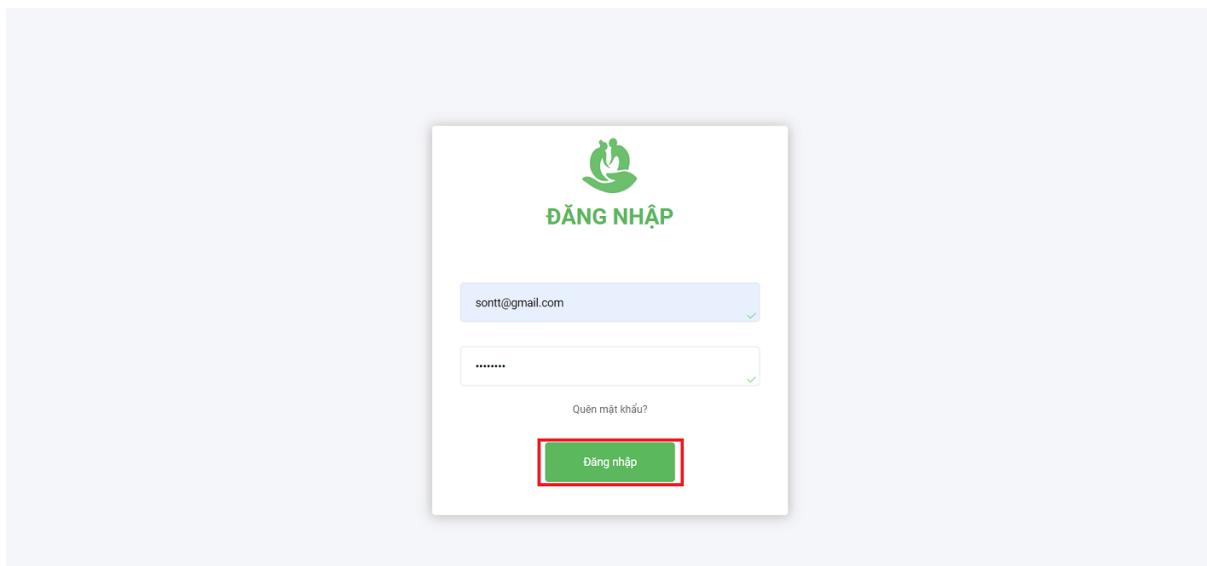


Figure 59. <Web Application> Login (Step 2)

3.2.2. Logout

- **Purpose:** This feature allows Admin or Staff to log out of the ELS System.

- **<Admin, Staff> Logout:**

- Step 1: Click the icon at the top right corner.
- Step 2: Select the “Đăng xuất” option.

The dashboard has a green sidebar with menu items: BẢNG ĐIỀU KHIỂN, CHĂM SÓC VIÊN, DỊCH VỤ, KHUYẾN MÃI, and BÁO CÁO VI PHẠM. The main area shows four cards: SỐ LỊCH ĐÃ ĐẶT (10), KHÁCH HÀNG (4), NGƯỜI CAO TUỔI (4), and XIN CHÀO! (2). A red box highlights the "Đăng xuất" (Logout) link next to the user profile "Chân Hoàn Nhân viên". Below is a chart titled "BIỂU ĐỒ TỔNG DOANH THU" (Total Revenue Chart) showing revenue for the year 2023, with a value of approximately 700,000.

Figure 60. <Web Application> Logout

3.2.2. <Admin> Manage staffs

- **Purpose:** This feature allows Admin to manage staff's accounts in the ELS System.

- **<Admin> View staff's account list:**

- Step 1: Click the “Tài khoản” on the sidebar.
- Step 2: Click the “Nhân viên” on the sidebar.

Họ và tên	Email	Trạng thái
Võ Yến Uyên	uyenvy@gmail.com	Hoạt động
Chân Hoàn	chanhoan@gmail.com	Hoạt động
Hồ Thanh Anh	anhht@gmail.com	Hoạt động
Phan Na	nap@gmail.com	Hoạt động

Figure 61. <Web Application> View staff's account list

- **<Admin> View staff's account details:**

- Step 1: On the Managing Staffs, click the green button of the specific staff's account row.

Họ và tên	Email	Trạng thái
Võ Yến Uyên	uyenvy@gmail.com	Hoạt động
Chân Hoàn	chanhoan@gmail.com	Hoạt động
Hồ Thanh Anh	anhht@gmail.com	Hoạt động
Phan Na	nap@gmail.com	Hoạt động

Figure 62. <Web Application> View staff's account details 1

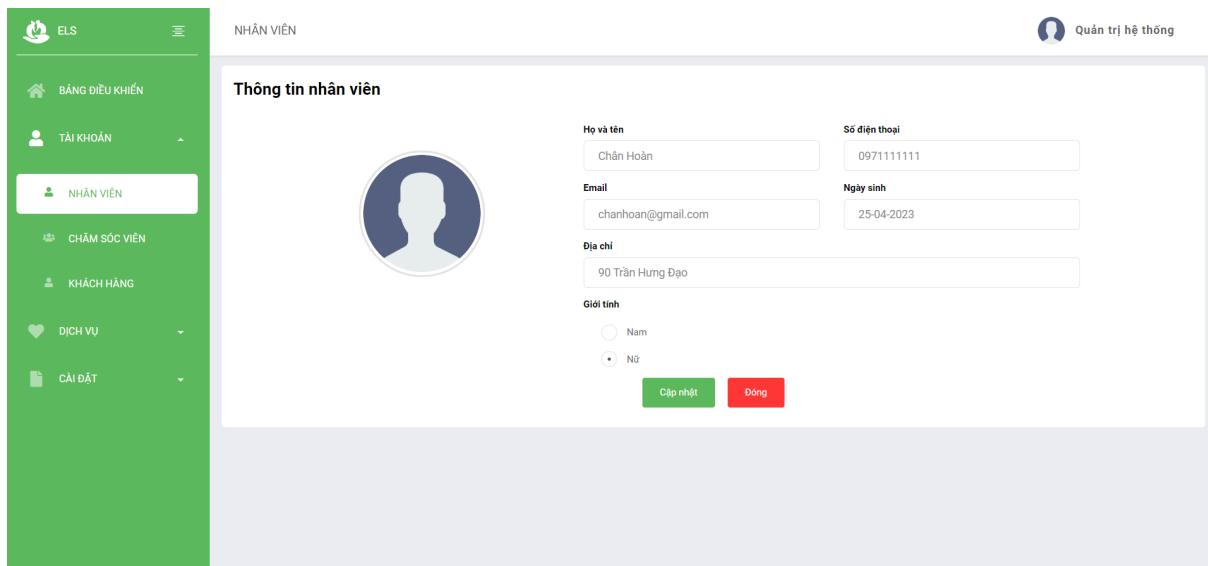


Figure 62. <Web Application> View staff's account details 2

- <Admin> Update staff's account:

- Step 1: On the staff's account details screen, click the “Cập nhật” button on the sidebar.

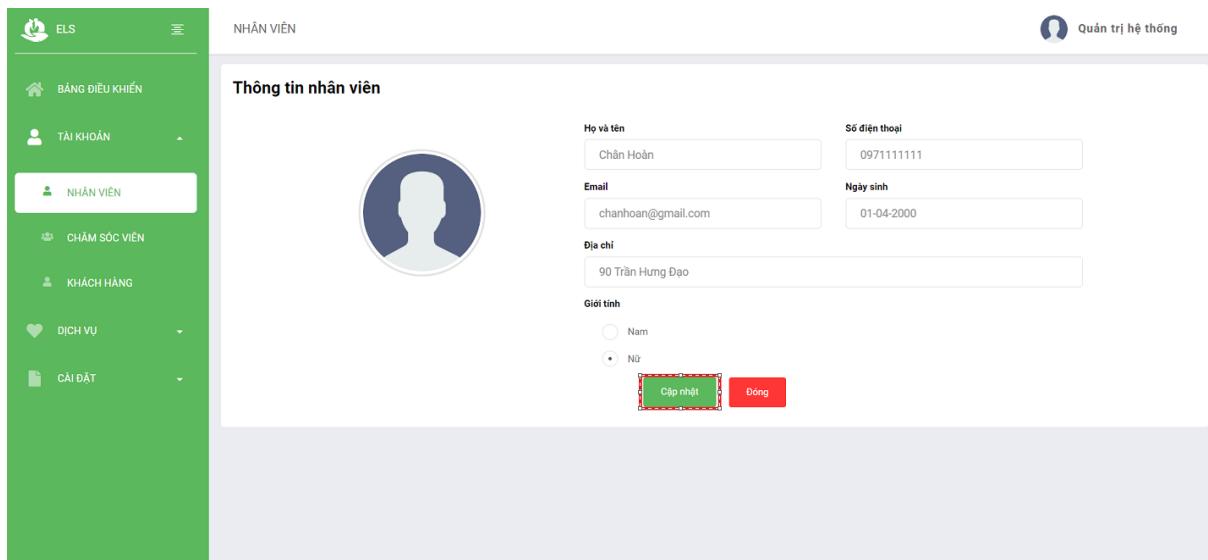


Figure 63. <Web Application> Update staff's account (Step 1)

- Step 2: Enter the changed information then click the “Cập nhật” button.

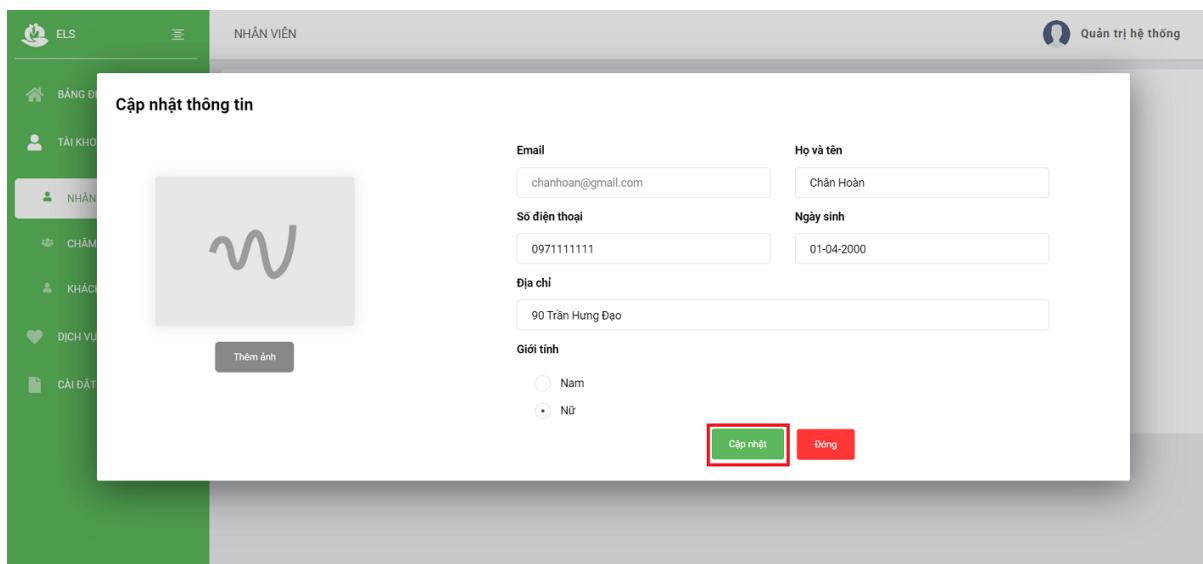


Figure 64. <Web Application> Update staff's account (Step 2)

- <Admin> Ban staff's account:

- Step 1: On the Managing Staffs, Click the red button of the specific staff's account row.

TÀI KHOẢN		NHÂN VIÊN	
		Quản lý nhân viên	
		<input type="button" value="Thêm mới"/> Tim kiếm...	
Họ và tên	Email	Trạng thái	
Vé Yến Uyên	uyenvy@gmail.com	Hoạt động	🕒 ✖
Chân Hoàn	chanhoan@gmail.com	Hoạt động	🕒 ✖
Hồ Thanh Anh	anhht@gmail.com	Hoạt động	🕒 ✖
Phan Na	nap@gmail.com	Hoạt động	🕒 ✖

Figure 65. <Web Application> Ban staff's account (Step 1)

- Step 2: Click the “Vô hiệu hóa” button.

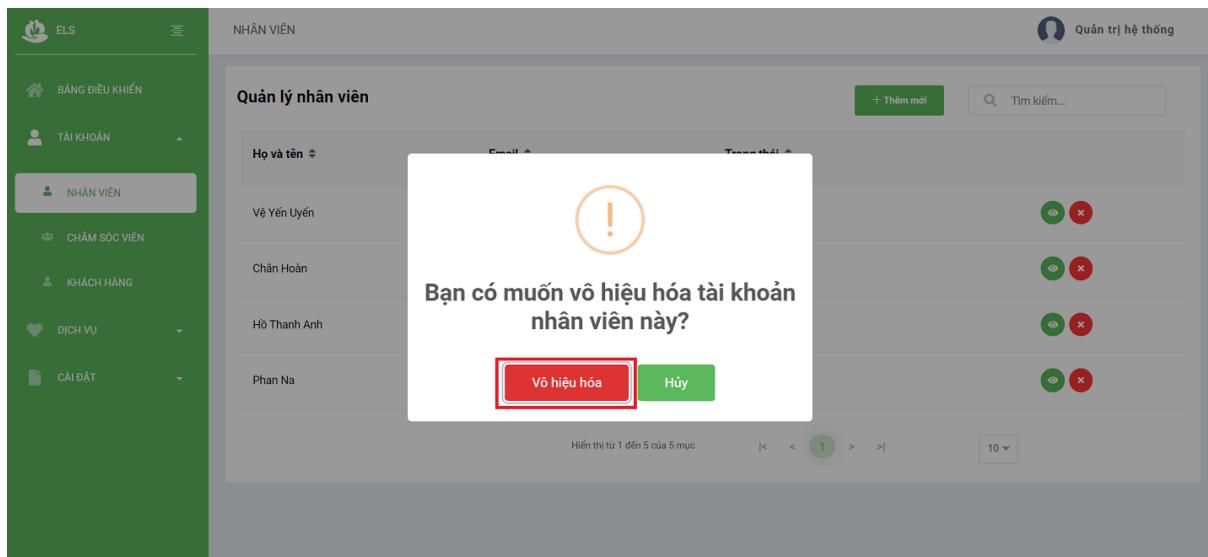


Figure 66. <Web Application> Ban staff's account (Step 2)

- <Admin> Unban staff's account:

- Step 1: On the Managing Staffs, Click the red button of the specific staff's account row.

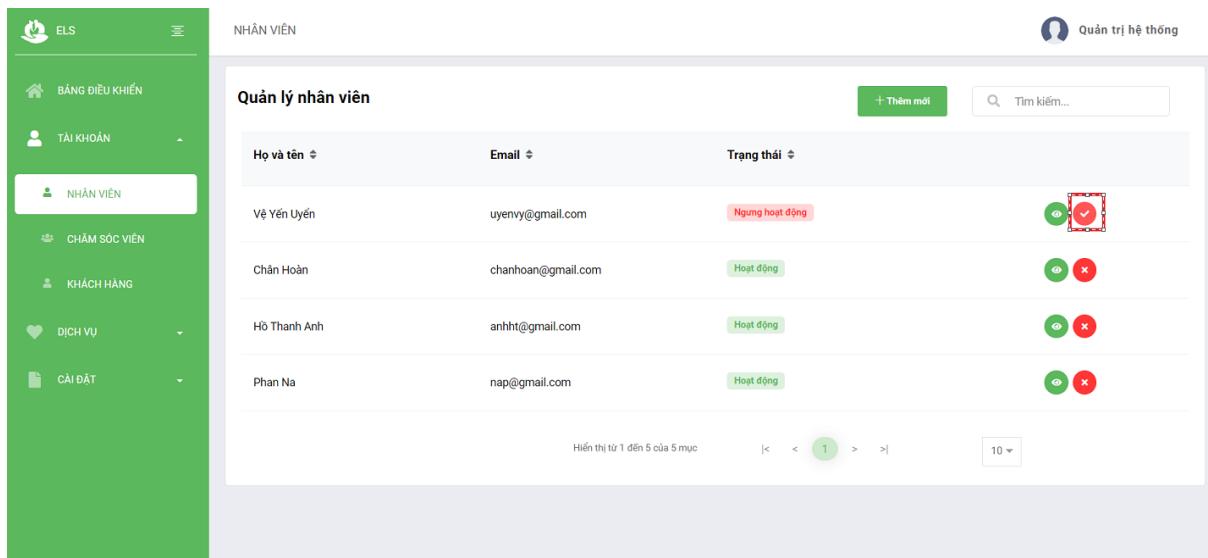


Figure 67. <Web Application> Unban staff's account (Step 1)

- Step 2: Click the "Kích hoạt" button.

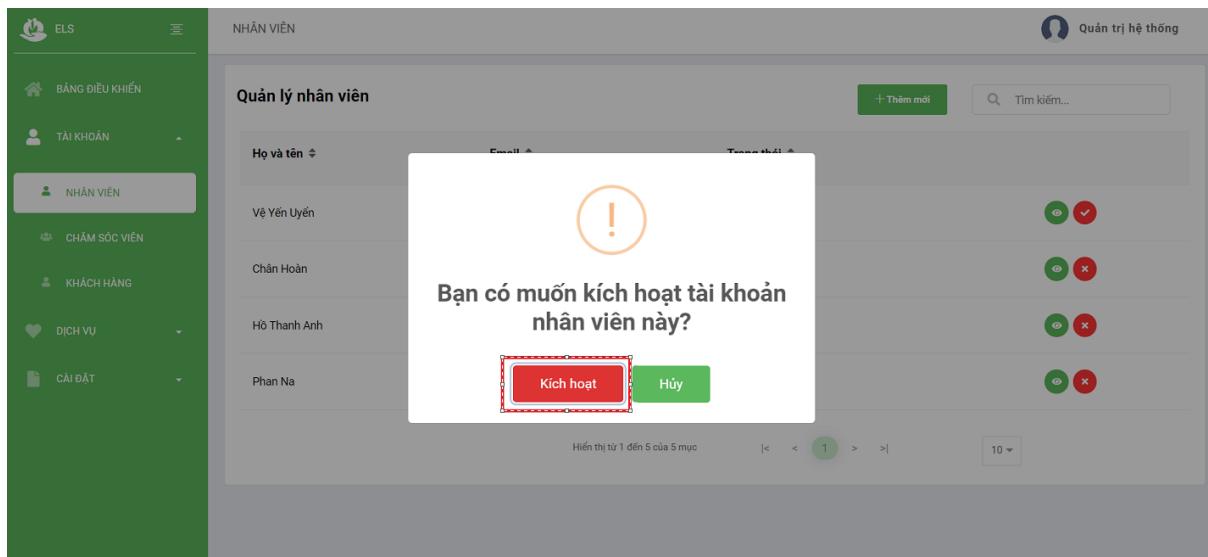


Figure 68. <Web Application> Unban staff's account (Step 2)

- <Admin> Add new staff's account:

- Step 1: On the Managing Staffs, click the “Tạo mới” button on the top right corner.

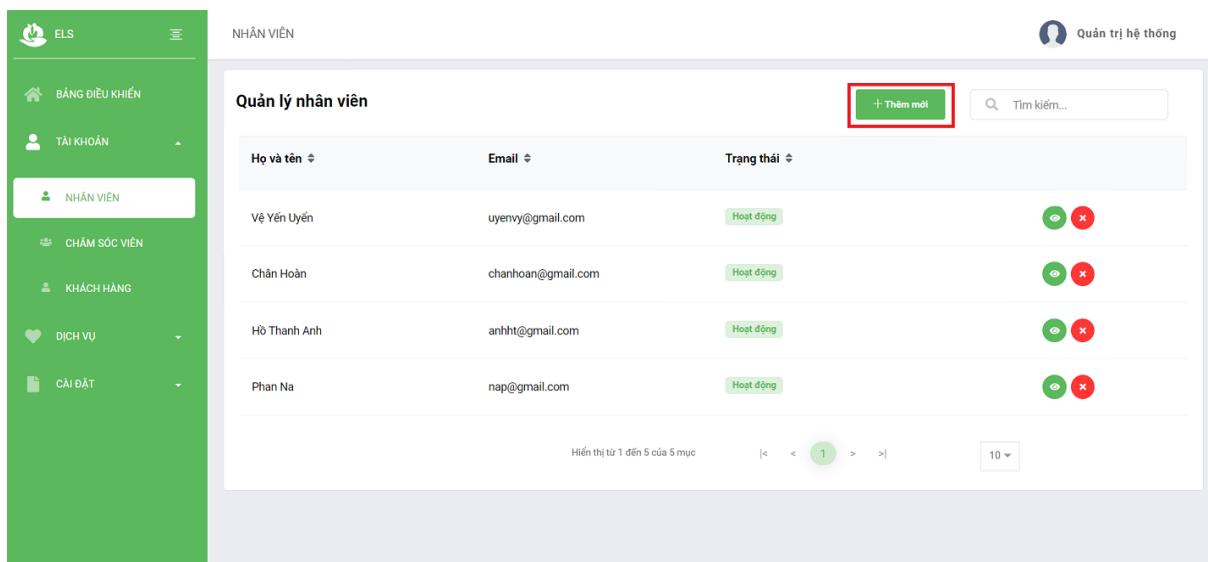


Figure 69. <Web Application> Add new staff's account (Step 1)

- Step 2: Enter the required information.
- Step 3: Click the “Tạo mới” button.

Tạo mới nhân viên

Họ và tên *: Lê Nhu

Số điện thoại *: 0311111110

Email *: nhule@gmail.com

Ngày sinh *: 01-01-2000

Địa chỉ *: Vinhomes Grand Park, Nguyễn Xiển, phường Long Bình, quận 9

Giới tính:

- Nam
- Nữ
- Khác

Hủy bỏ **Tạo mới**

Figure 70. <Web Application> Add new staff's account (Step 2, 3)

3.2.3. <Admin> Manage sitters

- **Purpose:** This feature allows Admin to manage sitter's accounts of the ELS System.

- <Admin> View sitter's account list:

- Step 1: Click the “Tài khoản” on the sidebar.
- Step 2: Click the “Chăm sóc viên” on sidebar.

Quản lý người chăm sóc

Họ và tên	Email	Số điện thoại	Địa chỉ	Trạng thái
Nguyễn Minh Trí	trinm@gmail.com	0814324567	HCM,Q.Thủ Đức, 24 Thủ...	Hoạt động
Lê Công Vinh	vinhlc@gmail.com	0831424567	HCM,Tân Phú, Tân Sơn	Bị khóa
Hà Duy Tiến	tienhd@gmail.com	0132324567	40/15 Đ. Lâm Văn Bền, T...	Hoạt động
Phan Lưu Khánh	khanh.phanluu121@gmai...	0968535067	20/10 Đường Số 20, Linh ...	Hoạt động

Figure 71. <Web Application> View sitter's account list

- <Admin> View sitter's account details:

- Step 1: On the Managing Sitters, click the green button of the specific sitter's account row.

The screenshot shows a web application interface for managing sitters. The left sidebar has a green background with various menu items: BẢNG ĐIỀU KHIỂN, TÀI KHOẢN, NHÂN VIÊN, CHẨM SỐC VIÊN (selected), KHÁCH HÀNG, DỊCH VỤ, and CÀI ĐẶT. The main content area is titled 'Quản lý người chăm sóc' and lists five sitters with columns for Họ và tên, Email, Số điện thoại, Địa chỉ, and Trạng thái. Each row includes a green 'Hoạt động' button and a red 'Bị khóa' button, along with eye and delete icons. A search bar at the top right says 'Tim kiếm...'. At the bottom, there are navigation buttons for page numbers and a dropdown menu.

Figure 72. <Web Application> View sitter's account details 1

The screenshot shows a detailed view of a sitter's account. The left sidebar is identical to Figure 72. The main content area is titled 'Thông tin cá nhân' and displays the following information for Phan Lưu Khánh: Họ và tên (Phan Lưu Khánh), Số CMND/CCCD (052099007153), Email (khanh.phanluu121@gmail.com), Ngày sinh (22-12-1999), Số điện thoại (0968535067), Giới tính (Nam), and Địa chỉ (20/10 Đường Số 20, Linh Chiểu, Thủ Đức, Hồ Chí Minh). A red 'Đóng' button is at the bottom right.

Figure 73. <Web Application> View sitter's account details 2

- <Admin> Ban sitter's account:

- Step 1: On the Managing Sitter, Click the red button of the specific sitter's account row.

Họ và tên	Email	Số điện thoại	Địa chỉ	Trạng thái
Nguyễn Minh Trí	trinm@gmail.com	0814324567	HCM,Q.Thủ Đức, 24 Thôn...	Hoạt động
Lê Công Vinh	vinhlc@gmail.com	0831424567	HCM,Tân Phú, Tân Sơn	Bị khóa
Hà Duy Tiến	tienhd@gmail.com	0132324567	40/15 Đ. Lâm Văn Bền, T...	Hoạt động
Phan Lưu Khánh	khanh.phanluu121@gmail...	0968535067	20/10 Đường Số 20, Linh ...	Hoạt động

Figure 74. <Web Application> Ban sitter's account (Step 1)

- Step 2: Click the “Khóa” button.

Figure 75. <Web Application> Ban sitter's account (Step 2)

- <Admin> Unban sitter's account:

- Step 1: On the Managing Sitter, Click the red button of the specific sitter's account row.

Họ và tên	Email	Số điện thoại	Địa chỉ	Trạng thái
Nguyễn Minh Trí	trinm@gmail.com	0814324567	HCM,Q.Thủ Đức, 24 Thôn...	Hoạt động
Lê Công Vinh	vinhlc@gmail.com	0831424567	HCM,Tân Phú, Tân Sơn	Bị khóa
Hà Duy Tiến	tienhd@gmail.com	0132324567	40/15 Đ. Lâm Văn Bền, T...	Hoạt động
Phan Lưu Khánh	khanh.phanluu121@gmail...	0968535067	20/10 Đường Số 20, Linh ...	Hoạt động

Figure 76. <Web Application> Unban sitter's account (Step 1)

- Step 2: Click the “Khóa” button.

Figure 77. <Web Application> Unban sitter's account (Step 2)

3.2.4. <Admin> Manage Customers

- **Purpose:** This feature allows Admin to manage customer's accounts in the ELS System.
- **<Admin> View customer's account list:**
 - Step 1: Click the “Tài khoản” on the sidebar.
 - Step 2: Click the “Khách hàng” on the sidebar.

Figure 78. <Web Application> View customer's account list

- <Admin> View customer's account details:

- Step 1: On the Managing Customers, click the green button of the specific customer's account row.

Figure 79. <Web Application> View customer's account details 1

Figure 80. <Web Application> View customer's account details 2

- <Admin> Ban customer's account:

- Step 1: On the Managing Customers, click the red button of the specific customer's account row.

Họ và tên	Địa chỉ	Số điện thoại	Email	Trạng thái
Trí Cường	50 Hiệp Bình, Phường Hiệp...	0976436975	cuongnht@gmail.com	Hoạt động
Lưu Diệc Phi	20/10 Đường số 20, Phườ...	0798643894	phild@gmail.com	Hoạt động
Van Anh	491 Hau Giang, Phường 1...	0375606034	vanh@gmail.com	Hoạt động
Kim Hằng	20 Đặng Thùy Trâm, Phư...	0976564369	hangntk@gmail.com	Hoạt động

Figure 81. <Web Application> Ban customer's account (Step 1)

- Step 2: Click the “Khóa” button.

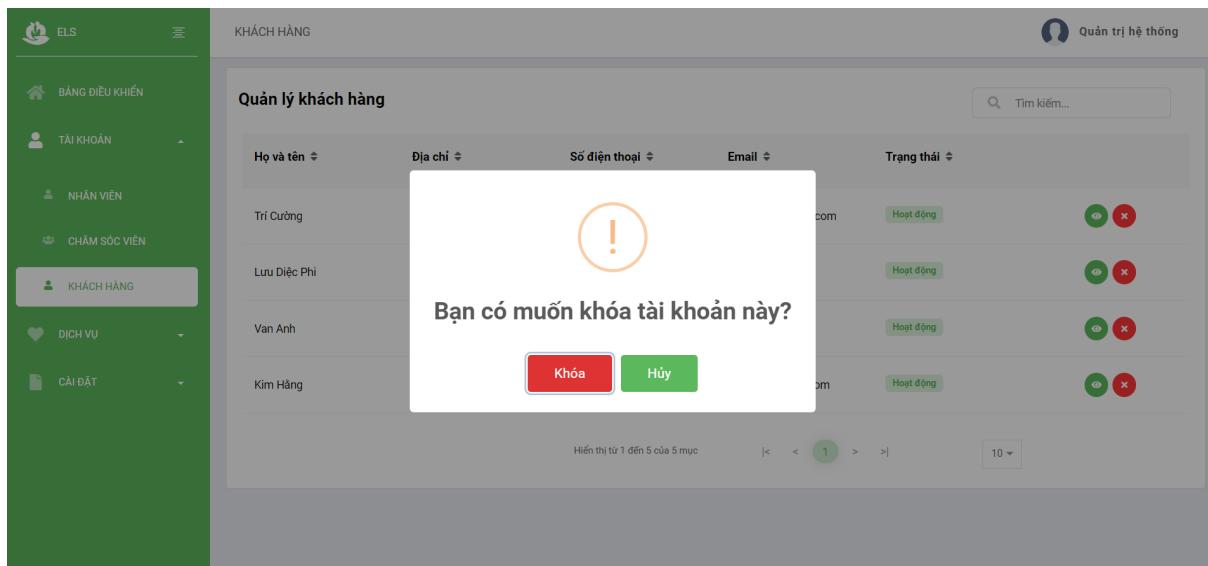


Figure 82. <Web Application> Ban customer's account (Step 2)

- <Admin> Unban customer's account:

- Step 1: On the Managing Customers, Click the red button of the specific customer's account row.

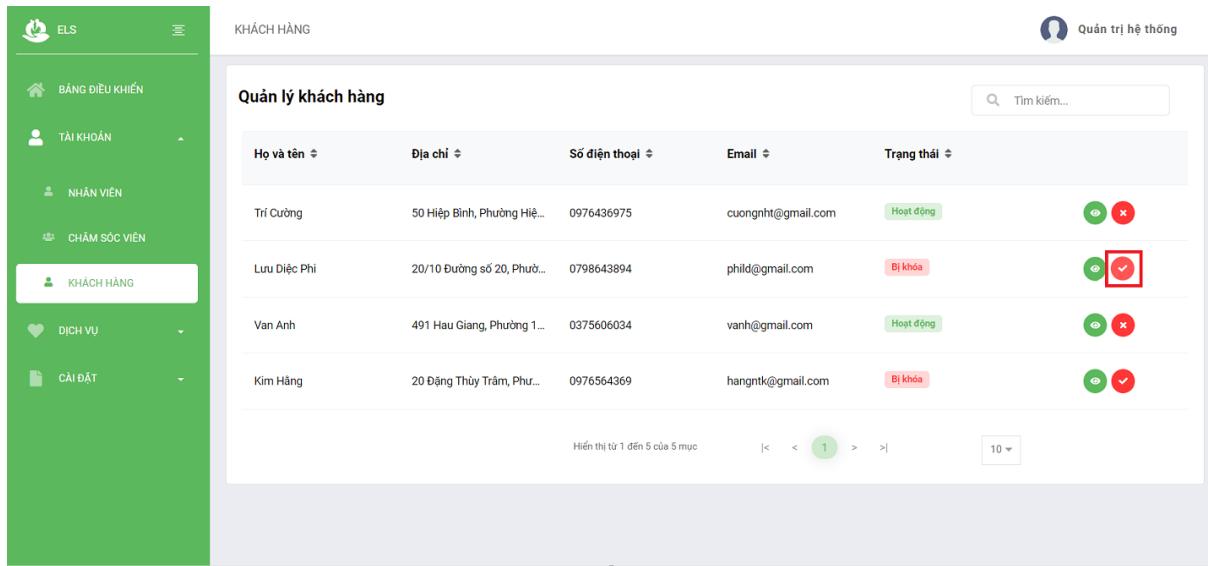


Figure 83. <Web Application> Unban customer's account (Step 1)

- Step 2: Click the "Kích hoạt" button.

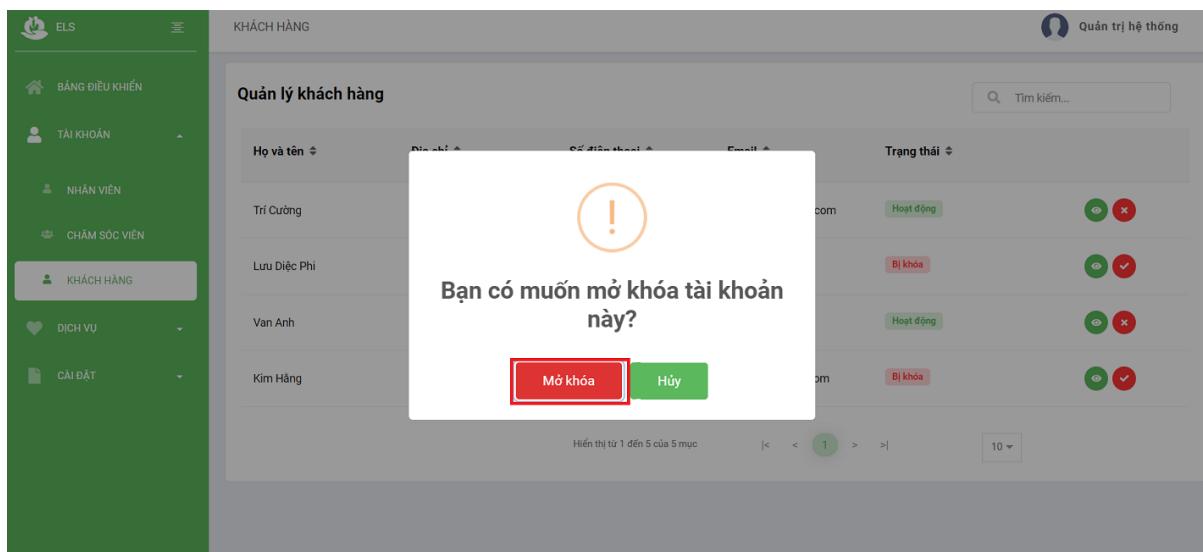


Figure 84. <Web Application> Unban customer's account (Step 2)

3.2.5. <Admin, Staff> Manage Services

- **Purpose:** This feature allows Admin to manage services in the ELS System.

- **<Admin, Staff> View services list:**

- Step 1: Click the “Dịch vụ” on the sidebar.
- Step 2: Click the “Danh sách công việc” on the sidebar.

Tên công việc	Giá	Thời lượng	Trạng thái
Giúp người cao tuổi thức dậy v... Chăm sóc buổi tối Thư giãn đi ngủ Tâm sự, nói chuyện Đi dạo	100.000 100.000 100.000 100.000 100.000	0.5 giờ 0.5 giờ 0.5 giờ 0.5 giờ 0.5 giờ	Hoạt động Hoạt động Hoạt động Hoạt động Hoạt động

Figure 85. <Web Application> View services list

- <Admin, Staff> View services details:

- Step 1: On the Managing Services, click the green button of the row of the specific service.

Tên công việc	Giá	Thời lượng	Trạng thái
Giúp người cao tuổi thức dậy vệ sinh cá nhân	100.000	0.5 giờ	Hoạt động
Chăm sóc buổi tối	100.000	0.5 giờ	Hoạt động
Thư giãn đi ngủ	100.000	0.5 giờ	Hoạt động
Tâm sự, nói chuyện	100.000	0.5 giờ	Hoạt động
Đi dạo	100.000	0.5 giờ	Hoạt động

Figure 86. <Web Application> View services details 1

Figure 87. <Web Application> View services details 2

- <Admin, Staff> Update services:

- Step 1: On the service's details pop-up, enter the changed information then click the “Cập nhật” button.

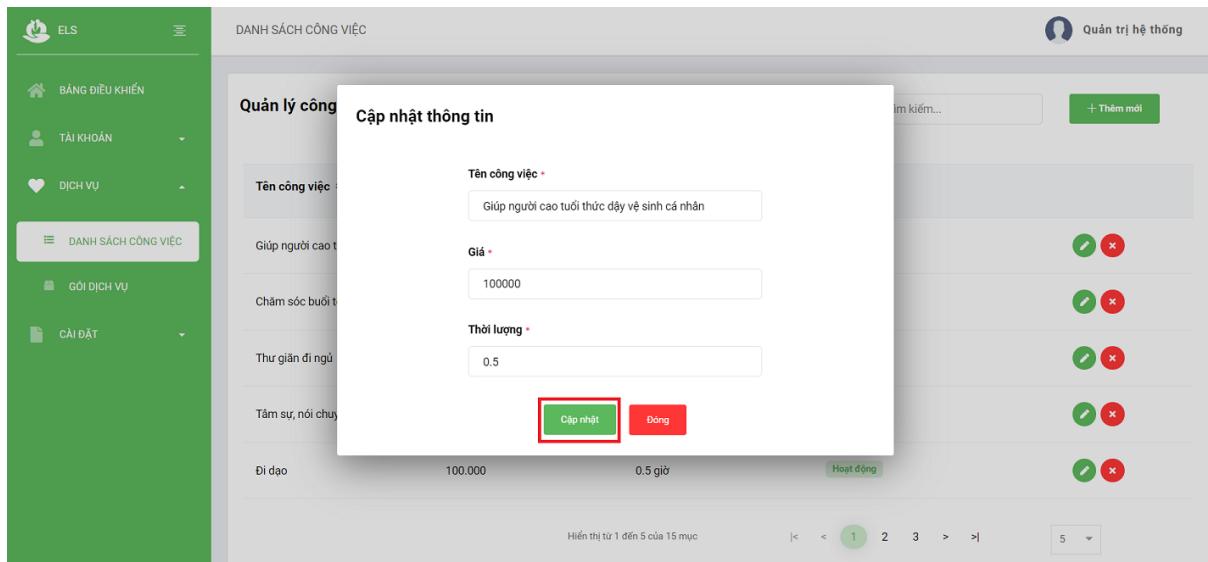


Figure 87. <Web Application> Update service

- <Admin, Staff> Add new service:

- Step 1: On the Managing Services, click the “Tạo mới” button on the top right corner.

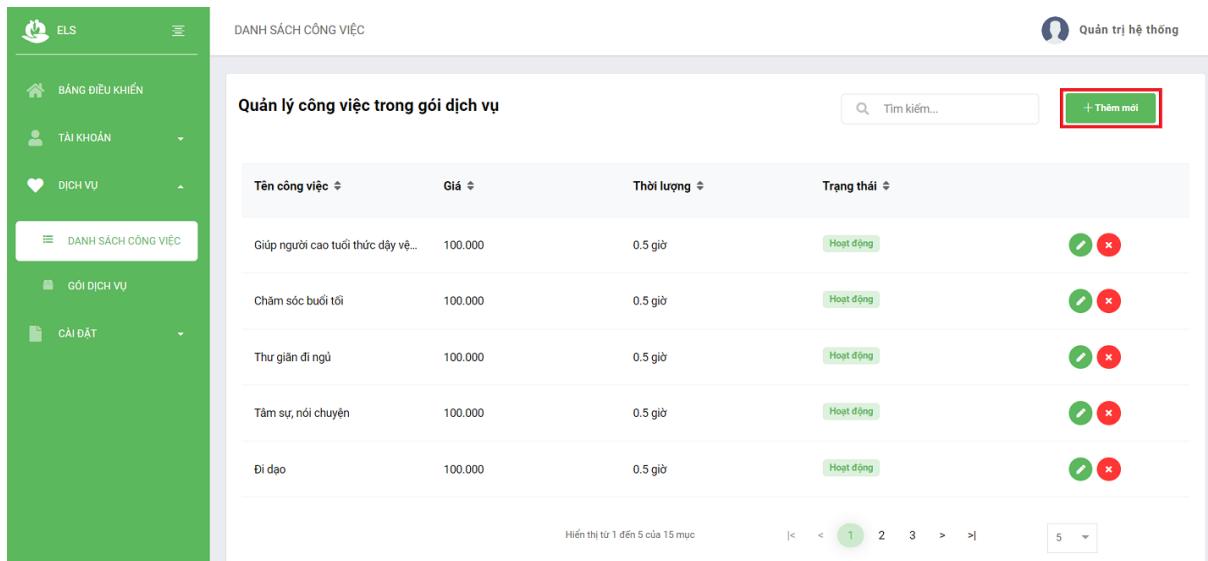


Figure 88. <Web Application> Add new service (Step 1)

- Step 2: Enter the required information.
- Step 3: Click the “Tạo mới” button.

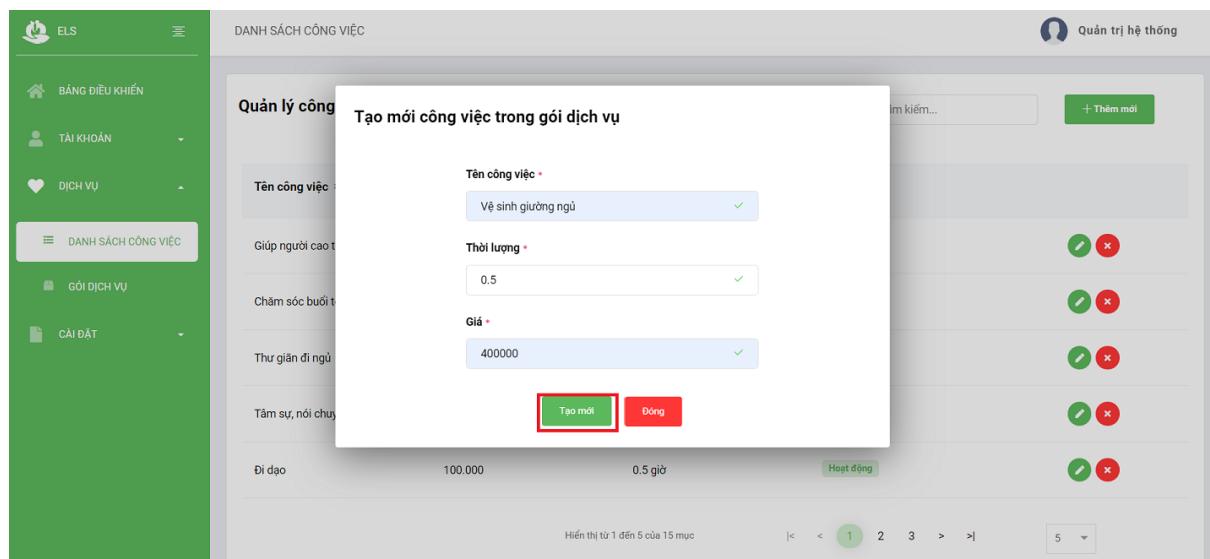


Figure 89. <Web Application> Add new service (Step 2, 3)

- <Admin, Staff> Disable service:

- Step 1: On the Managing Service, click the red button of the specific service row.

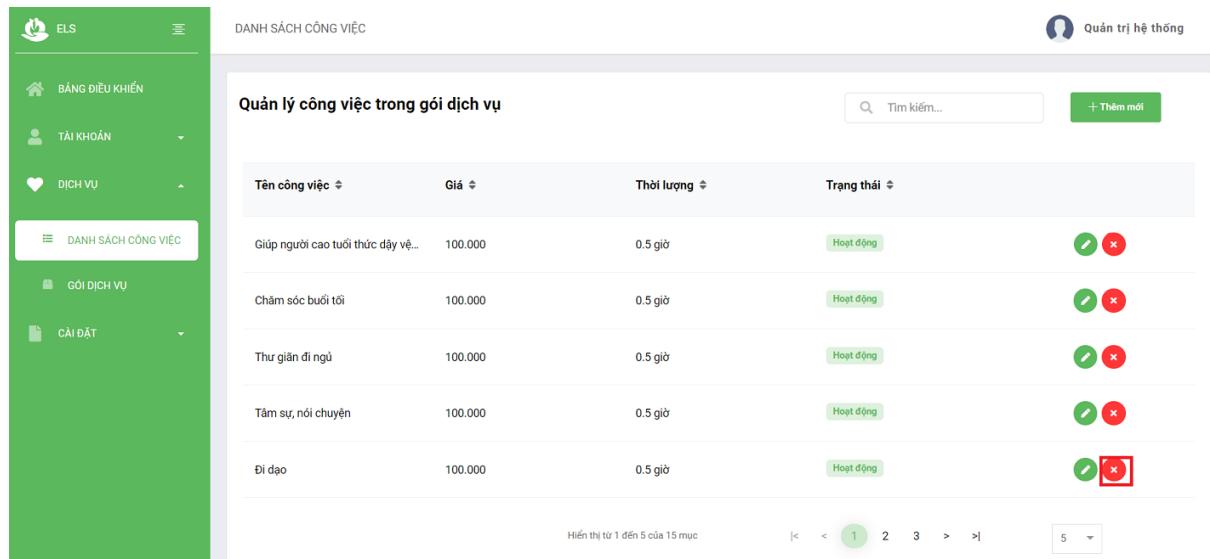


Figure 89. <Web Application> Disable service (Step 1)

- Step 2: Click the “Vô hiệu hóa” button.

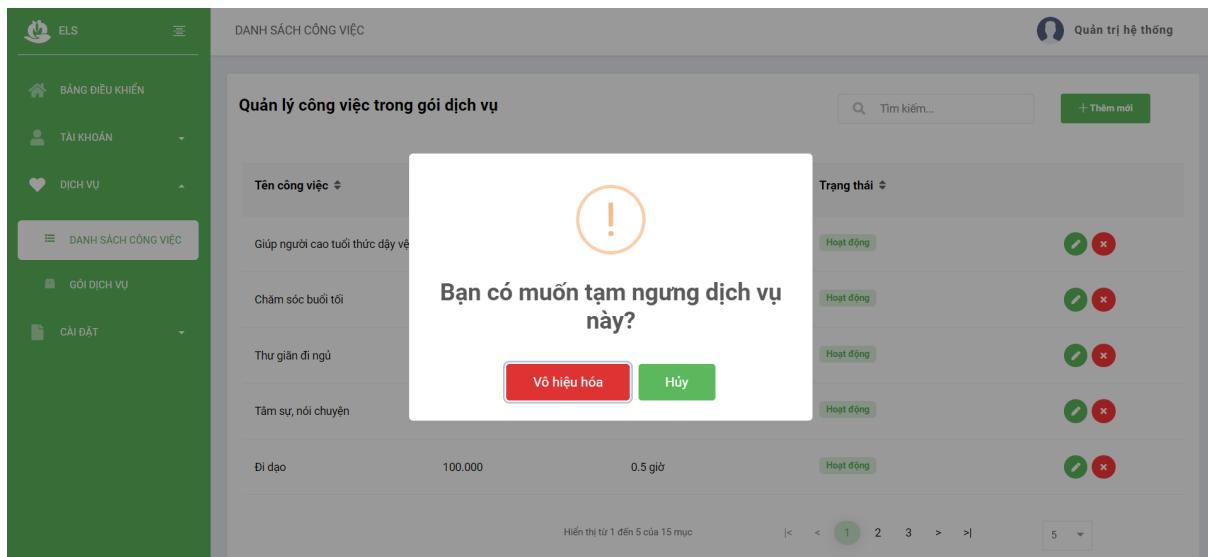


Figure 90. <Web Application> Disable service (Step 2)

- <Admin, Staff> Activate service:

- Step 1: On the Managing Service, click the red button of the specific service row.

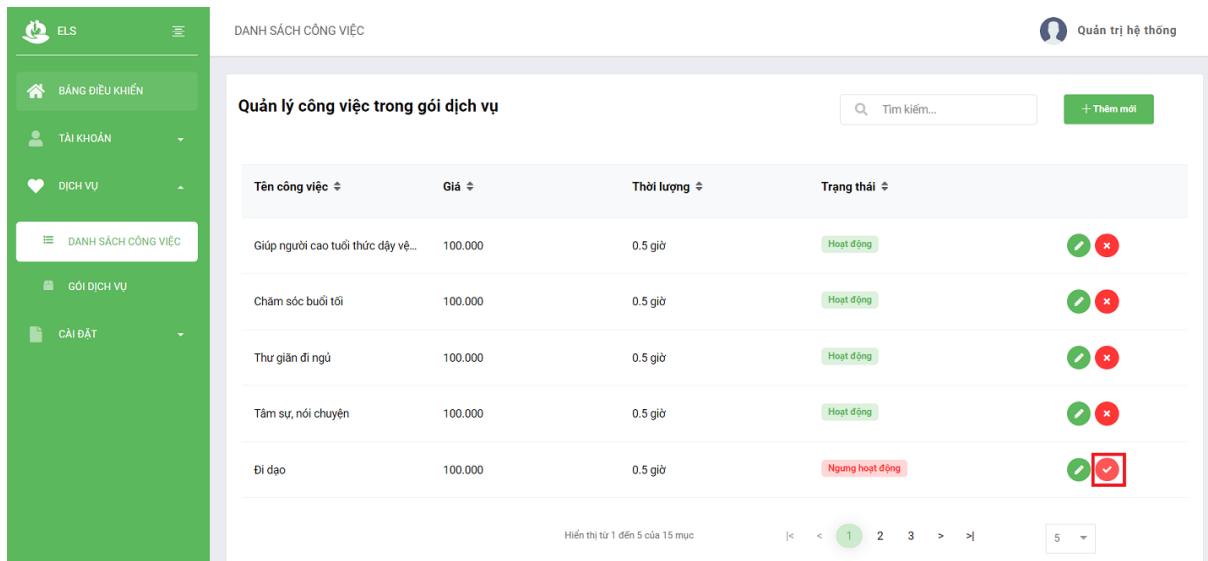


Figure 91. <Web Application> Activate service (Step 1)

- Step 2: Click the “Kích hoạt” button.

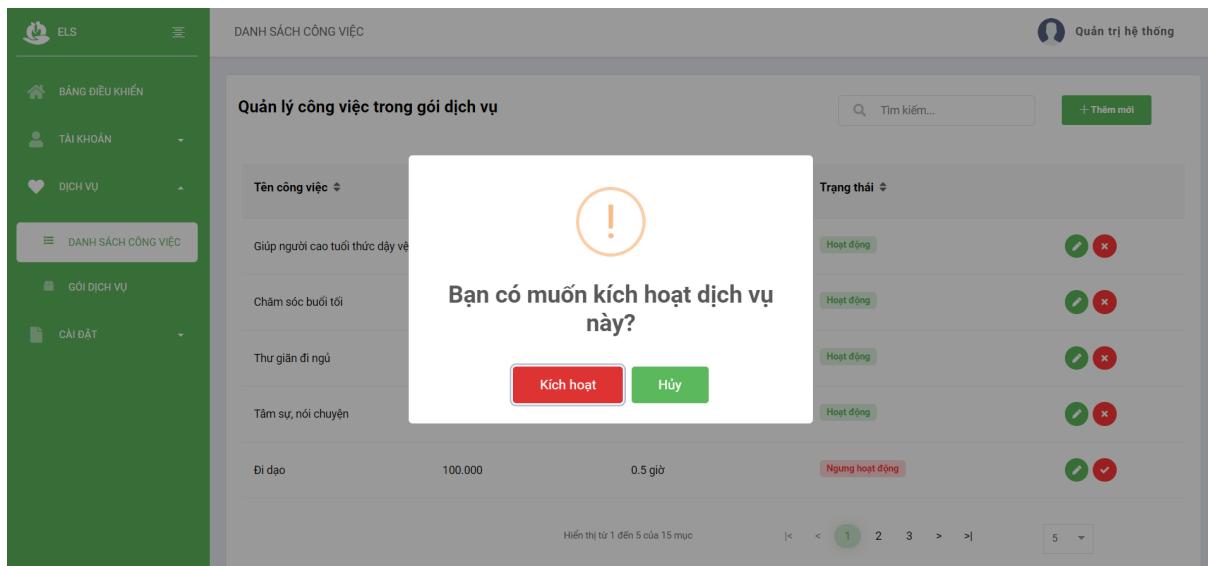


Figure 92. <Web Application> Activate service (Step 2)

3.2.6. <Admin, Staff> Manage Packages

- **Purpose:** This feature allows Admin to manage packages in the ELS System.

- **<Admin, Staff> View packages list:**

- Step 1: Click the “Dịch vụ” on the sidebar.
- Step 2: Click the “Gói dịch vụ” on the sidebar.

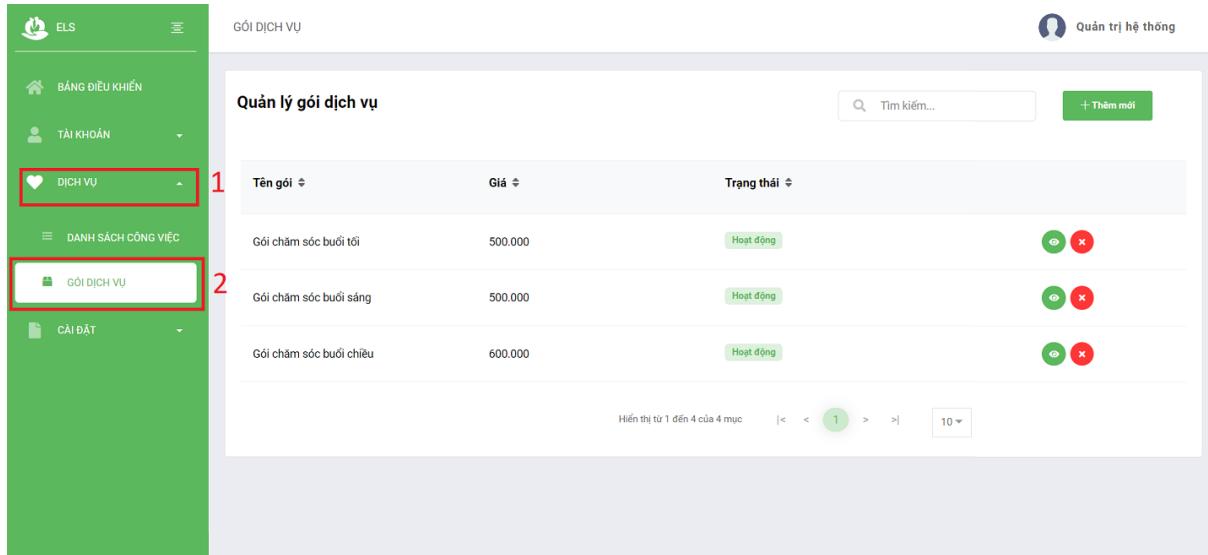


Figure 93. <Web Application> View packages list

- <Admin, Staff> View package details:

- On the Managing Packages, click the green button of the row of the specific package.

Tên gói	Giá	Trạng thái
Gói chăm sóc buổi tối	500.000	Hoạt động
Gói chăm sóc buổi sáng	500.000	Hoạt động
Gói chăm sóc buổi chiều	600.000	Hoạt động

Figure 94. <Web Application> View packages details 1

STT	Tên công việc	Giá	Trạng thái
1	Thư giãn đi ngủ	100.000	Hoạt động
2	Tâm sự, nói chuyện	100.000	Hoạt động
3	Đo huyết áp	100.000	Hoạt động
4	Hỗ trợ uống thuốc theo đơn thuốc và điều trị bệnh theo chỉ định bác sĩ	100.000	Hoạt động
5	Hỗ trợ ăn tối	100.000	Hoạt động

Figure 95. <Web Application> View packages details 2

- <Admin, Staff> Update package:

- Step 1: On the package's details screen, click the “Chỉnh sửa” button.

The screenshot shows the 'Gói Dịch Vụ' (Service Package) update screen. At the top, there are sections for 'Tên gói dịch vụ' (Service Package Name), 'Giá' (Price), 'Thời lượng gói' (Package Duration), 'Đối tượng' (Target Audience), and 'Mô tả' (Description). Below these are two tabs: 'Tất cả' (All) and 'Hoạt động' (Active). The 'Hoạt động' tab is selected, showing a table of services with columns for STT (Index), Tên công việc (Service Name), Giá (Price), and Trạng thái (Status). Each service row has a green 'Hoạt động' button. At the bottom right of the main content area, there is a red box around the 'Chỉnh sửa' (Edit) button.

Figure 96. <Web Application> Update package (Step 1)

- Step 2: Enter the changed information then click the “Cập nhật” button.

The screenshot shows the 'Cập nhật thông tin' (Update Information) screen. It includes fields for 'Tên gói dịch vụ' (Service Package Name), 'Khung giờ bắt đầu' (Start Time), 'Khung giờ kết thúc' (End Time), 'Tình trạng sức khỏe' (Health Status), 'Giá' (Price), 'Dịch vụ trong gói' (Services in Package) (with a list of services including 'Thư giãn đi ngủ', 'Tâm sự, nói chuyện', 'Đo huyết áp', 'Hỗ trợ uống thuốc theo đơn thuốc và điều trị bệnh theo chỉ định bác sĩ', and 'Hỗ trợ ăn tối'), and a 'Mô tả' (Description) field. At the bottom right, there is a red box around the 'Cập nhật' (Update) button.

Figure 97. <Web Application> Update package (Step 2)

- <Admin, Staff> Add services to package:

- Step 1: On the package's details screen, click the “Thêm dịch vụ” button.

STT	Tên công việc	Giá	Trạng thái
1	Thư giãn đi ngủ	100.000	Hoạt động
2	Tâm sự, nói chuyện	100.000	Hoạt động
3	Đo huyết áp	100.000	Hoạt động
4	Hỗ trợ uống thuốc theo đơn thuốc và điều trị bệnh theo chỉ định bác sĩ	100.000	Hoạt động
5	Hỗ trợ ăn tối	100.000	Hoạt động

Figure 98. <Web Application> Add service to package (Step 1)

- Step 2: Select services in the drop-down list.

STT	Tên công việc	Giá	Trạng thái
1	Thư giãn đi ngủ	100.000	Hoạt động
2	Tâm sự, nói chuyện	100.000	Hoạt động
3	Đo huyết áp	100.000	Hoạt động

Figure 99. <Web Application> Add service to package (Step 2)

- Step 3: Click the “Thêm” button.

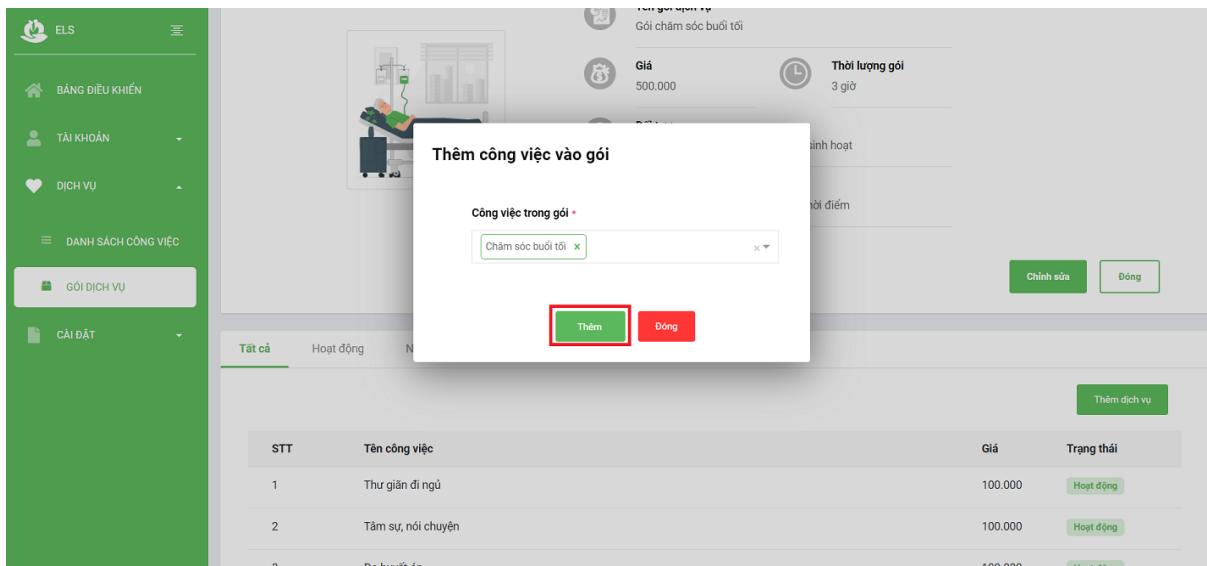


Figure 100. <Web Application> Add service to package (Step 3)

- <Admin, Staff> Add new package:

- Step 1: On the Managing Packages, click the “Tạo mới” button on the top right corner.

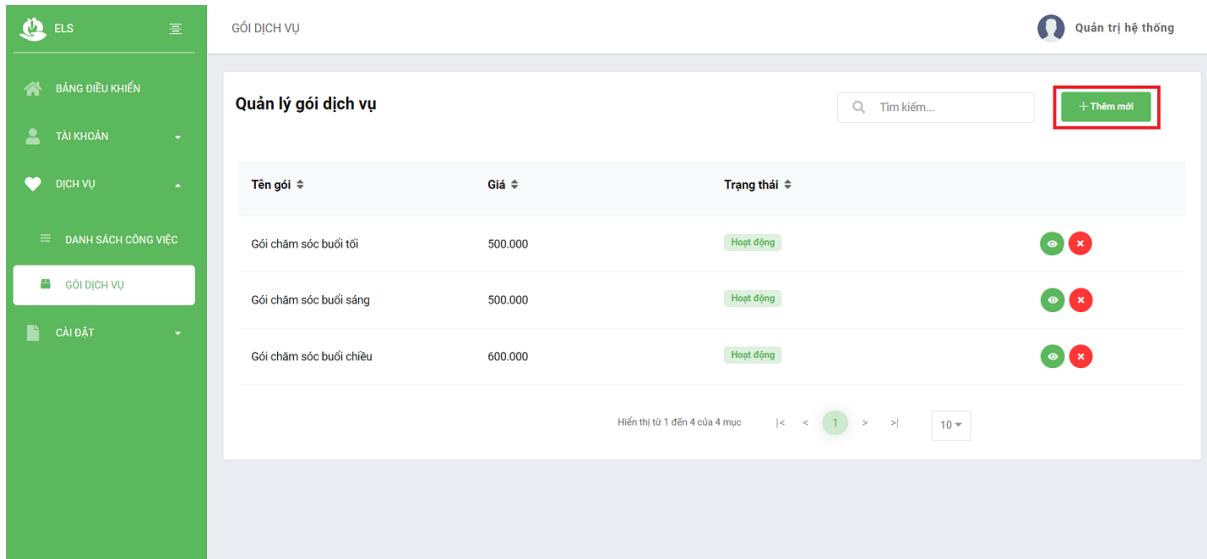


Figure 101. <Web Application> Add new package (Step 1)

- Step 2: Enter the required information.
- Step 3: Click the “Tạo mới” button.

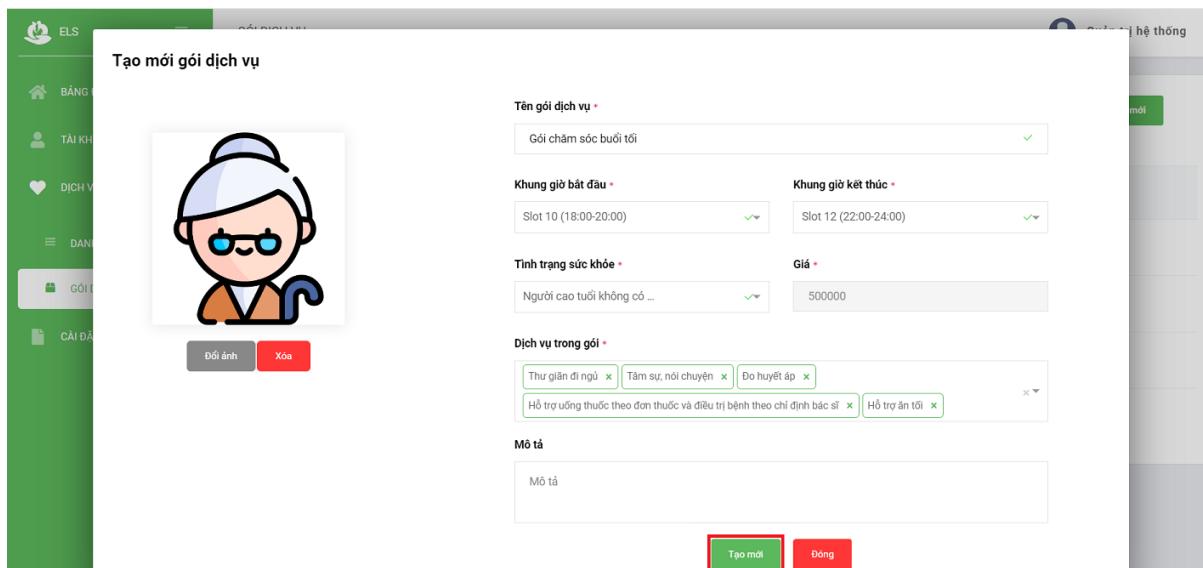


Figure 102. <Web Application> Add new package (Step 2, 3)

- <Admin, Staff> Disable/Activate service:

- Step 1: On the Managing Packages, click the red button of the specific package row.

Quản lý gói dịch vụ		
Tên gói	Giá	Trạng thái
Gói chăm sóc buổi tối	500.000	Hoạt động
Gói chăm sóc buổi sáng	500.000	Hoạt động
Gói chăm sóc buổi chiều	600.000	Hoạt động

Figure 103. <Web Application> Disable/Activate service (Step 1)

- Step 2: Click the “Vô hiệu hóa”/”Kích hoạt” button.

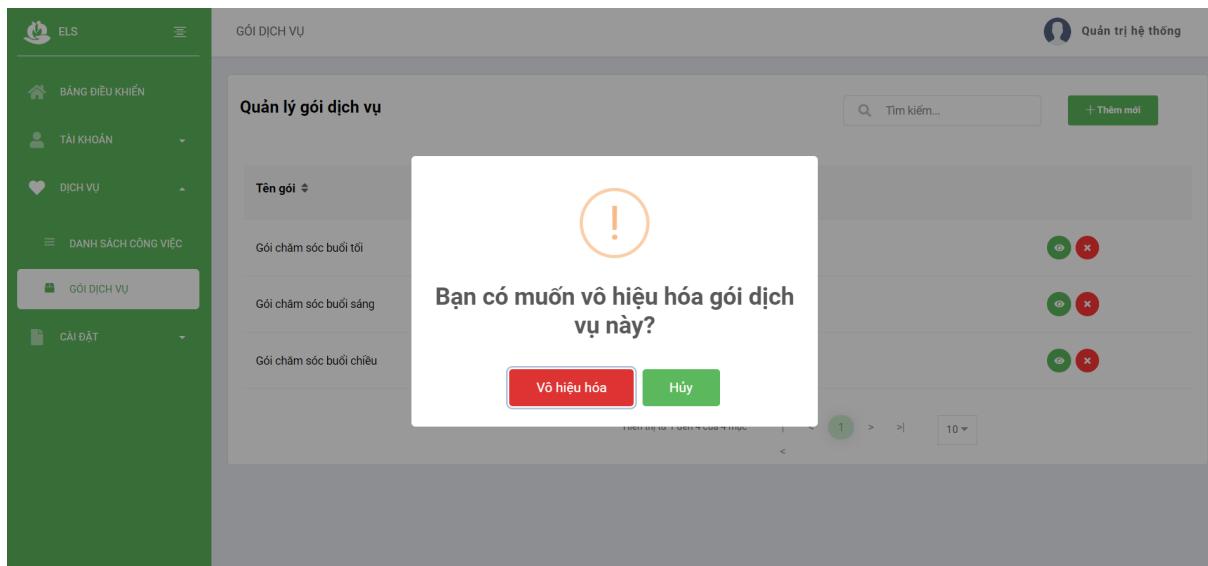


Figure 103. <Web Application> Disable/Activate service (Step 2)

3.2.7. <Admin> Manage Holidays

- **Purpose:** This feature allows Admin to manage holidays in the ELS System.

- **<Admin> View holidays list:**

- Step 1: Click the “Cài đặt” on the sidebar.
- Step 2: Click the “Ngày lễ” on the sidebar.

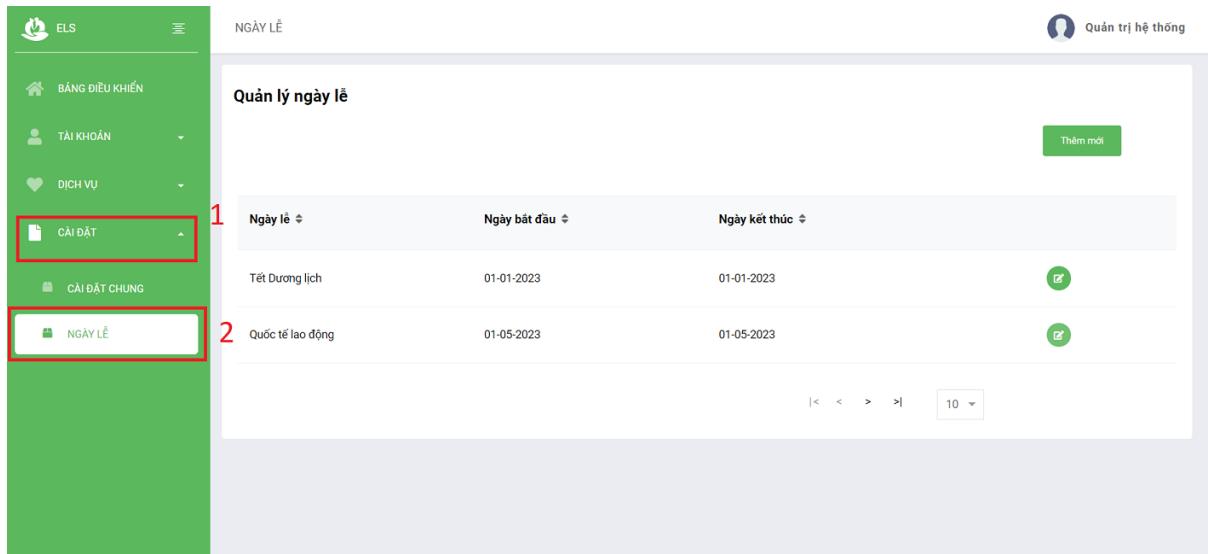


Figure 104. <Web Application> View holidays list

- <Admin> Update holidays details:

- Step 1: On the Managing holidays, click the green button of the row of the specific holiday.

Ngày lễ	Ngày bắt đầu	Ngày kết thúc
Tết Dương lịch	01-01-2023	01-01-2023
Quốc tế lao động	01-05-2023	01-05-2023

Figure 105. <Web Application> Update holidays details (Step 1)

- Step 2: On the holiday's details pop-up, enter the changed information then click the “Cập nhật” button.

Ngày lễ
Tết Dương lịch

Figure 106. <Web Application> Update holidays details (Step 2)

- <Admin> Add new holiday:

- Step 1: On the Managing Holidays, click the “Tạo mới” button on the top right corner.

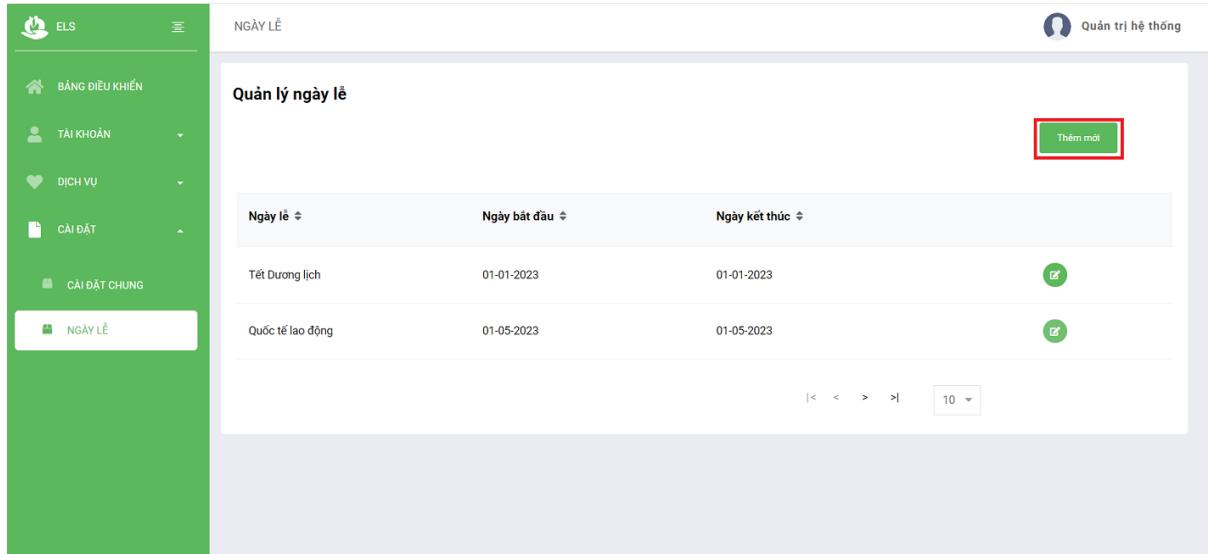


Figure 107. <Web Application> Add new holiday (Step 1)

- Step 2: Enter the required information.
- Step 3: Click the “Tạo mới” button.

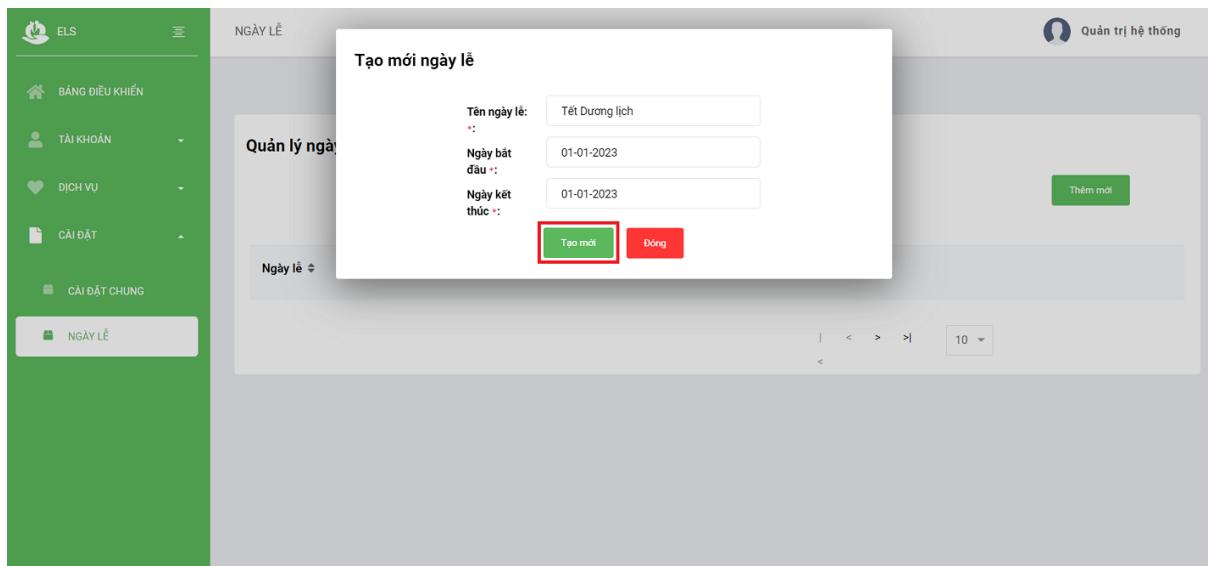


Figure 108. <Web Application> Add new holiday (Step 2, 3)

3.2.8. <Admin> Setting

- **Purpose:** This feature allows Admin to setting deposit and commissions in the ELS System.

- **<Admin> View setting list:**

- Step 1: Click the “Cài đặt” on the sidebar.
- Step 2: Click the “Cài đặt chung” on the sidebar.

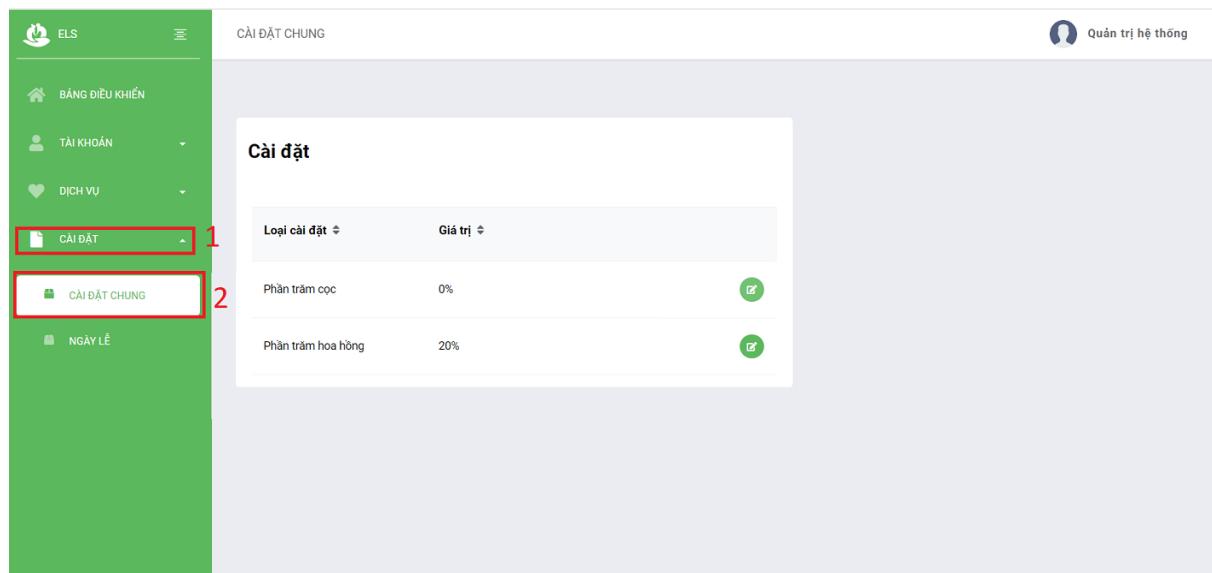


Figure 109. <Web Application> View setting list

- **<Admin> Update setting detail:**

- Step 2: Enter the required information and click the “Tạo mới” button.

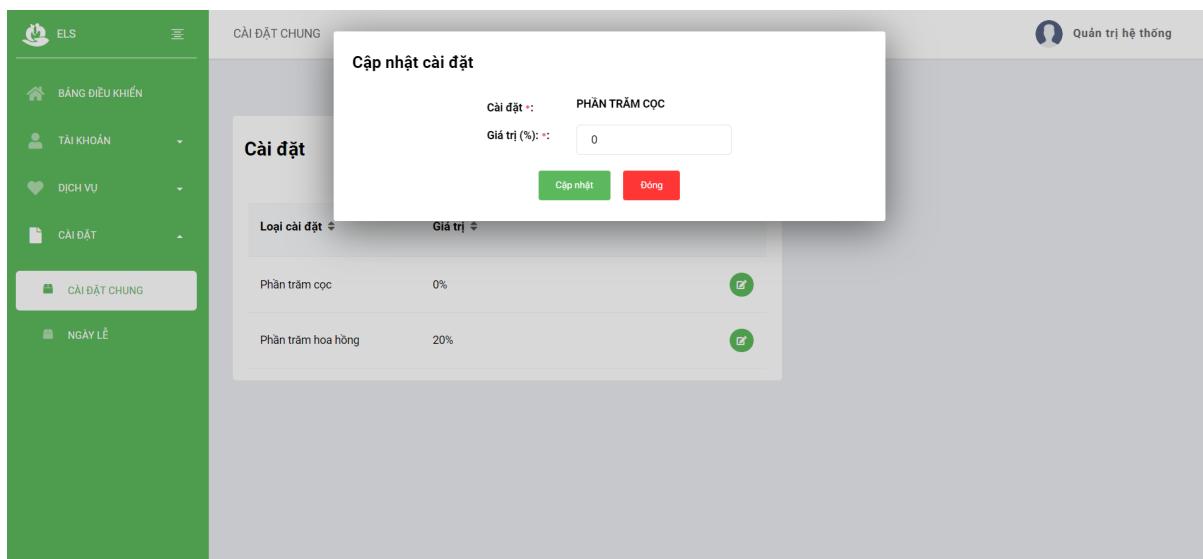


Figure 110. <Web Application> Update setting detail

3.2.9. <Staff> Manage Sitters

- **Purpose:** This feature allows the Admin to verify the register form of the sitter and view the booking list in the ELS System.

- <Staff> Verify register form:

- Step 1: On the register form list screen, click the green button of the specific row.

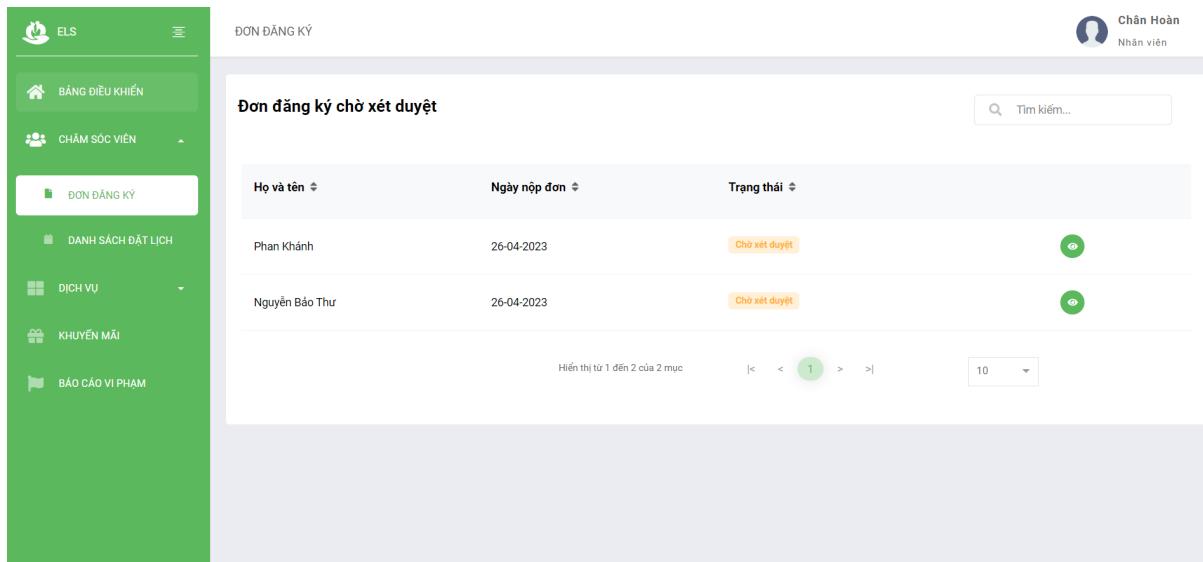


Figure 111. <Web Application> Verify register form (Step 1)

- Step 2: Click the “Duyệt”/”Tùy chối” button to verify/reject the registration.

ĐƠN ĐĂNG KÝ

THÔNG TIN ĐƠN ĐĂNG KÝ CHĂM SÓC VIÊN

THÔNG TIN CÁ NHÂN

Họ và tên	Phan Văn Minh
Số CMND/CCCD	311409889
Email	Minhphanvan01@gmail.com
Số điện thoại	0944023120
Địa chỉ	38A Đường Số 21, Hiệp Bình Chánh, Thủ Đức, Hồ Chí Minh
Giới tính	Nam
Ngày đăng ký	25/04/2023

HÌNH ẢNH ĐỊNH DẠNH

THÔNG TIN GÓI DỊCH VỤ BẢNG KÝ

Tên dịch vụ	Thời lượng gói	Đơn (VNĐ)
Gói chăm sóc buổi tối	3 giờ	500.000
Gói chăm sóc buổi sáng	3 giờ	500.000
Gói chăm sóc buổi chiều	3 giờ	600.000

Figure 112. <Web Application> Verify register form (Step2)

- <Staff> View booking list:

DANH SÁCH ĐẶT LỊCH

Quản lý đặt lịch

Địa chỉ	Ngày tạo	Tổng tiền	Trạng thái
12 Thống Nhất, Tân Thành, Tân... DaylaBookingTest 491, Đường Hậu Giang, Quận 6, ... VIAEP, 60 Trung Kính, Trung Hòa... Sân Bay Tân Sơn Nhất - Trường ...	25/04/2023 25/04/2023 25/04/2023 25/04/2023 25/04/2023	600.000 1.000.000 660.000 500.000 1.000.000	[Đã hủy] [Đã hủy] [Đã hủy] [Đã hủy] [Đã hủy]

Hiển thị từ 1 đến 5 của 24 mục

Trang thái:

1 2 3 4 5 >

Figure 113. <Web Application> View booking list

- <Staff> View booking details:

Figure 114. <Web Application> View booking detail

3.2.9. <Staff> Manage Promotions

- **Purpose:** This feature allows the Admin to manage promotions in the ELS System.

- <Staff> View promotion list:

- Step 1: On the promotions list screen, click the green button of the specific row.

Figure 115. <Web Application> View promotion list

- <Staff> Update promotion details:

Cập nhật thông tin khuyến mãi

Tên khuyến mãi	Phần trăm khuyến mãi
Khuyến mãi sốc	50
Ngày bắt đầu	Ngày kết thúc
01-04-2023	03-04-2023
Mô tả	
<input type="button" value="Cập nhật"/> <input type="button" value="Đóng"/>	

Figure 115. <Web Application> Update promotion details

- <Staff> Add new promotion:

Tạo mới khuyến mãi

Tên khuyến mãi *	Phần trăm khuyến mãi *
Nhập tên khuyến mãi	Nhập phần trăm khuyến mãi
Ngày bắt đầu *	Ngày kết thúc *
Chọn ngày bắt đầu	Chọn ngày kết thúc
Mô tả	
<input type="button" value="Thêm ảnh"/> <input type="button" value="Tạo mới"/> <input type="button" value="Đóng"/>	

Figure 116. <Web Application> Add new promotion

3.2.10. <Staff> Manage Report

- <Staff> View report list:

Figure 117. <Web Application> View report list

- <Staff> View report details:

Figure 118. <Web Application> View report details

- <Staff> Resolve report list:

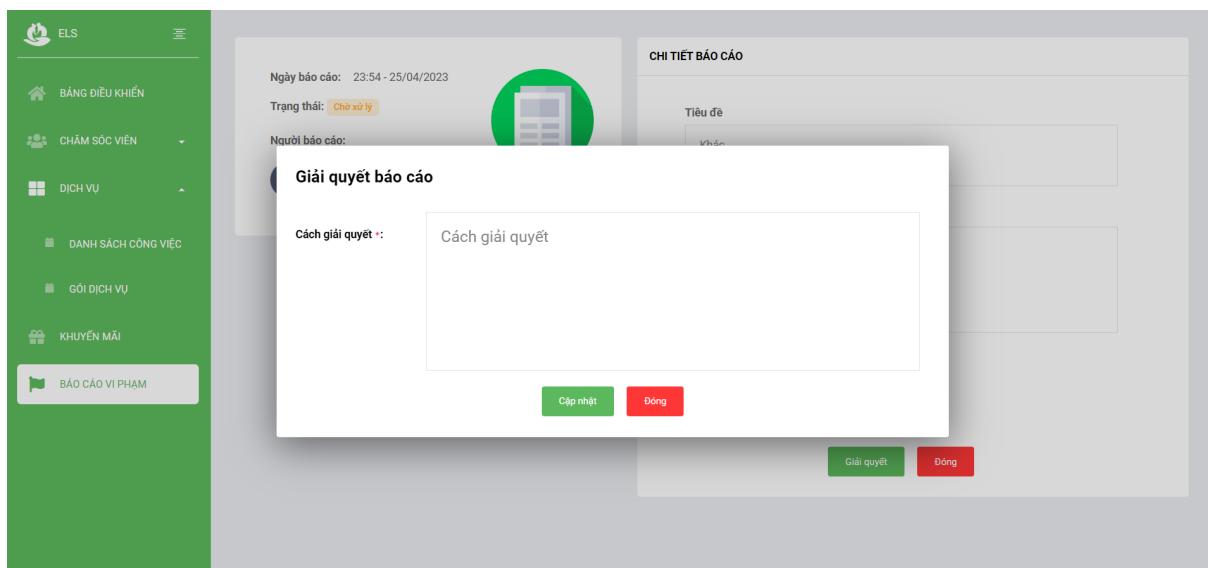


Figure 119. <Web Application> Resolve report list

3.3 Mobile Application for Customer

- ❖ **Overview:** The application supports customers to find a sitter to care for the elderly, report a sitter violation, and giving feedback sitter.

❖ Features:

3.3.1. Sign Up

- Step 1 : Click “Đăng ký” on the Login screen.

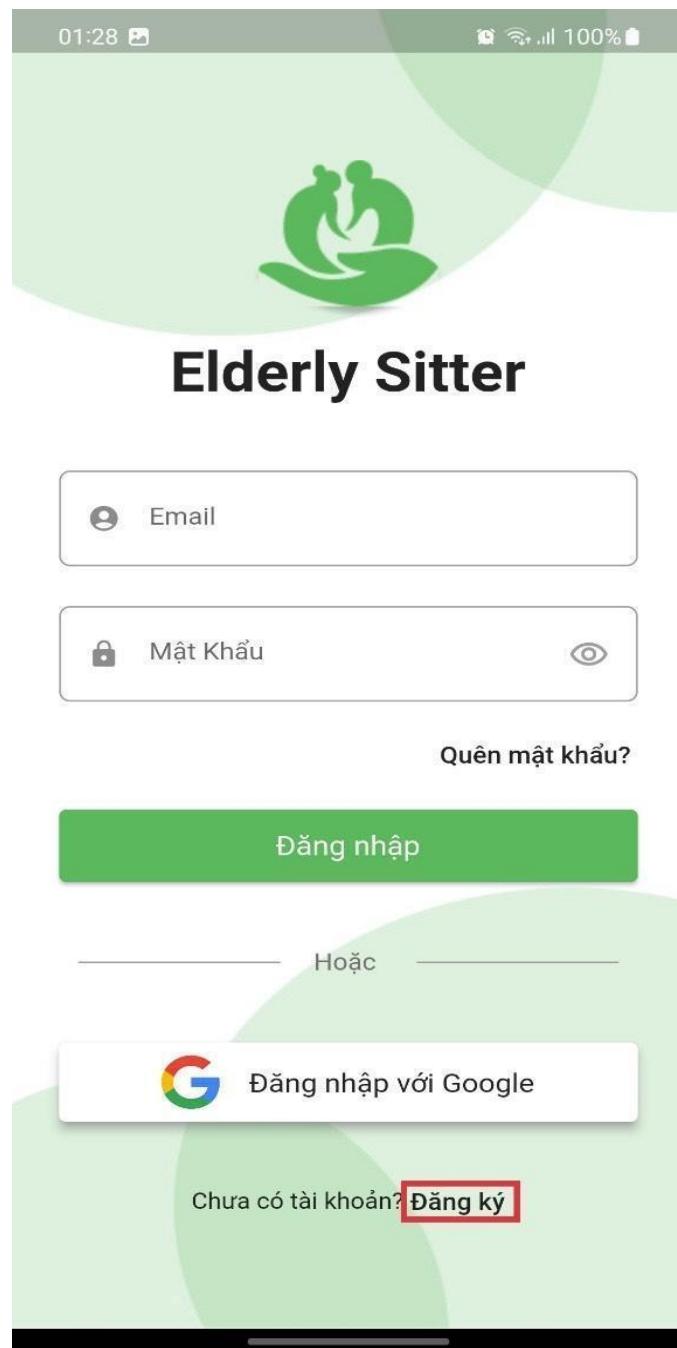


Figure 120. <Mobile Application> Sign-up (Step 1)

- Step 2 : Fill out the Signup form then click the “Đăng ký” button.

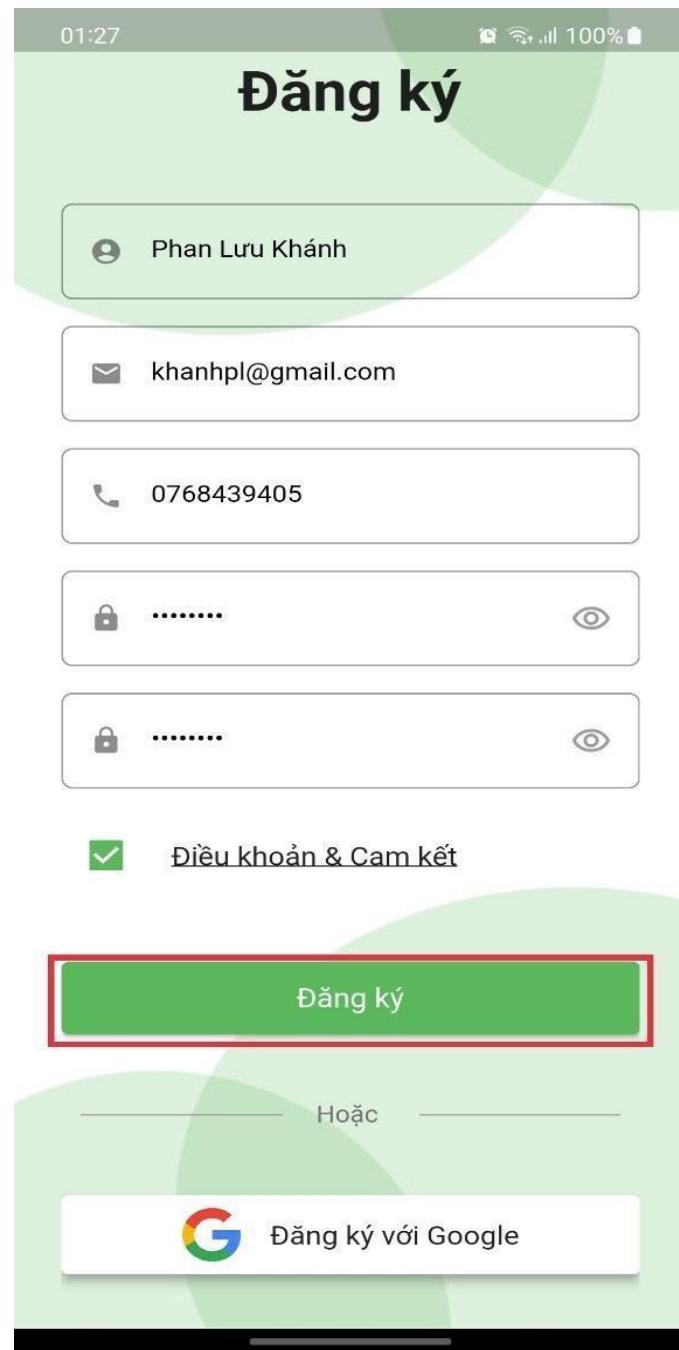


Figure 121. <Mobile Application> Sign-up (Step 2)

- Step 3: Enter the OTP code that was sent to the inputted email on the Signup form then click the “Tiếp tục” button to finish the signup account function

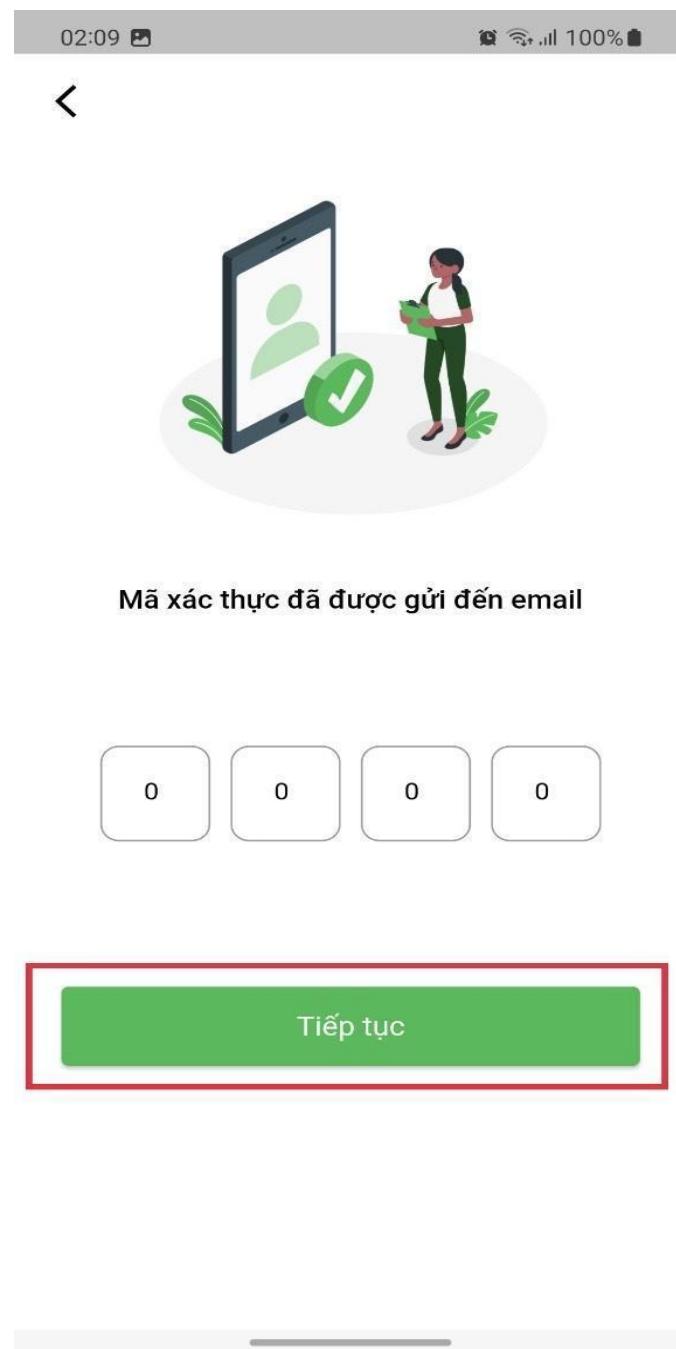


Figure 122. <Mobile Application> Sign-up (Step 3)

3.3.2. Login

- Step 1: Enter “Email” and “Mật khẩu” fields.

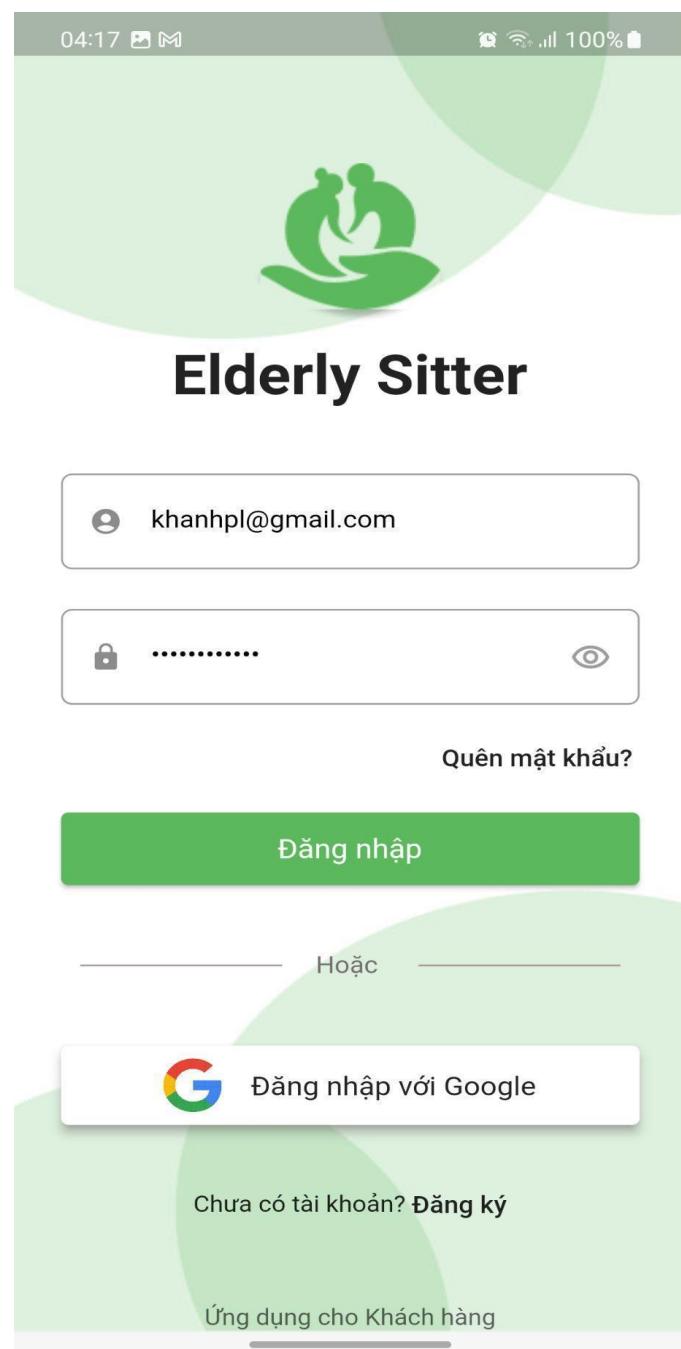


Figure 123. <Mobile Application> Login (Step 1)

- Step 2: Click “Đăng nhập” button.

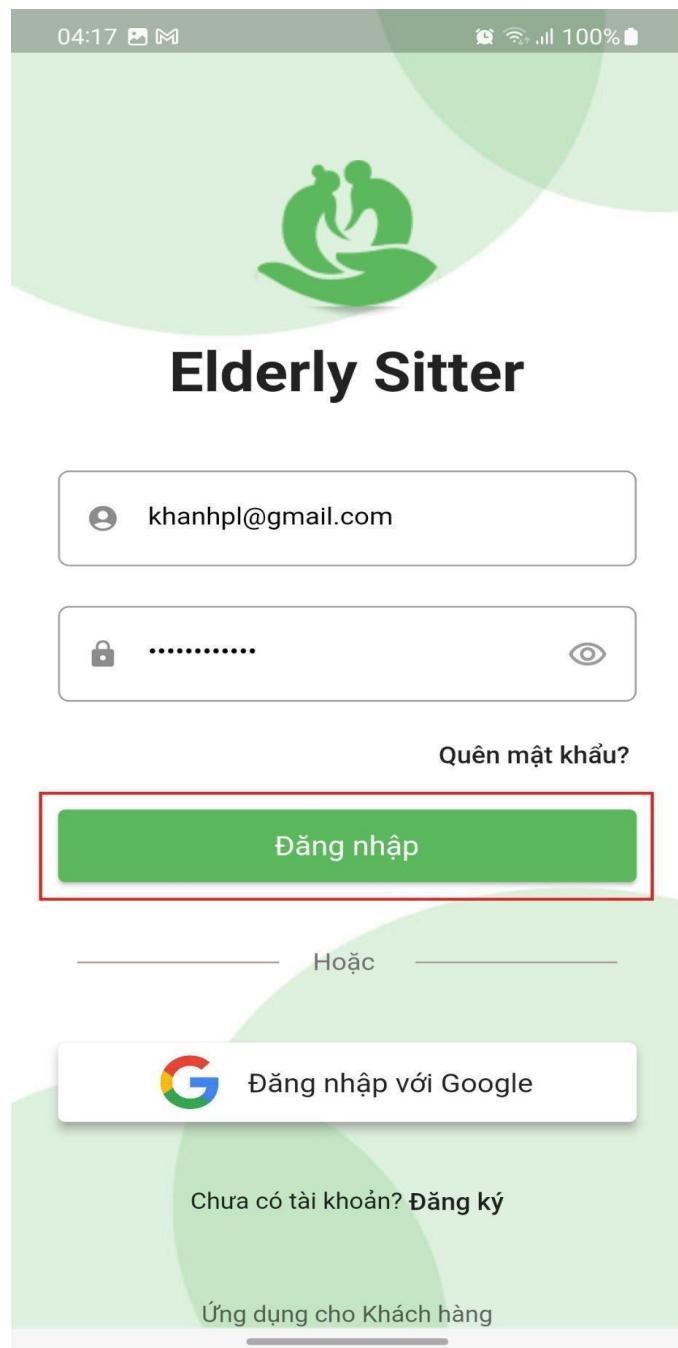


Figure 124. <Mobile Application> Login (Step 2)

3.3.3. Logout

- Step 1: Navigate to the “Tài khoản” tab.

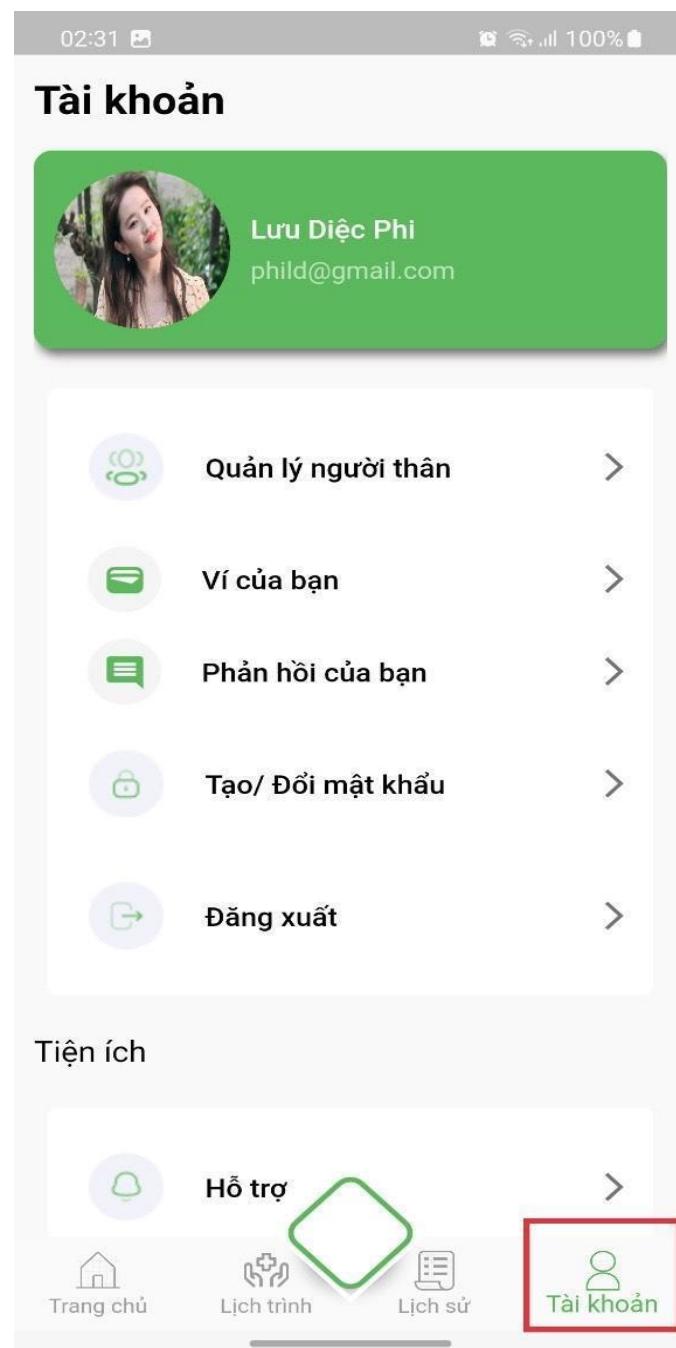


Figure 125. <Mobile Application> Logout (Step 1)

- Step 2: Swipe down then click the “Đăng xuất” option.

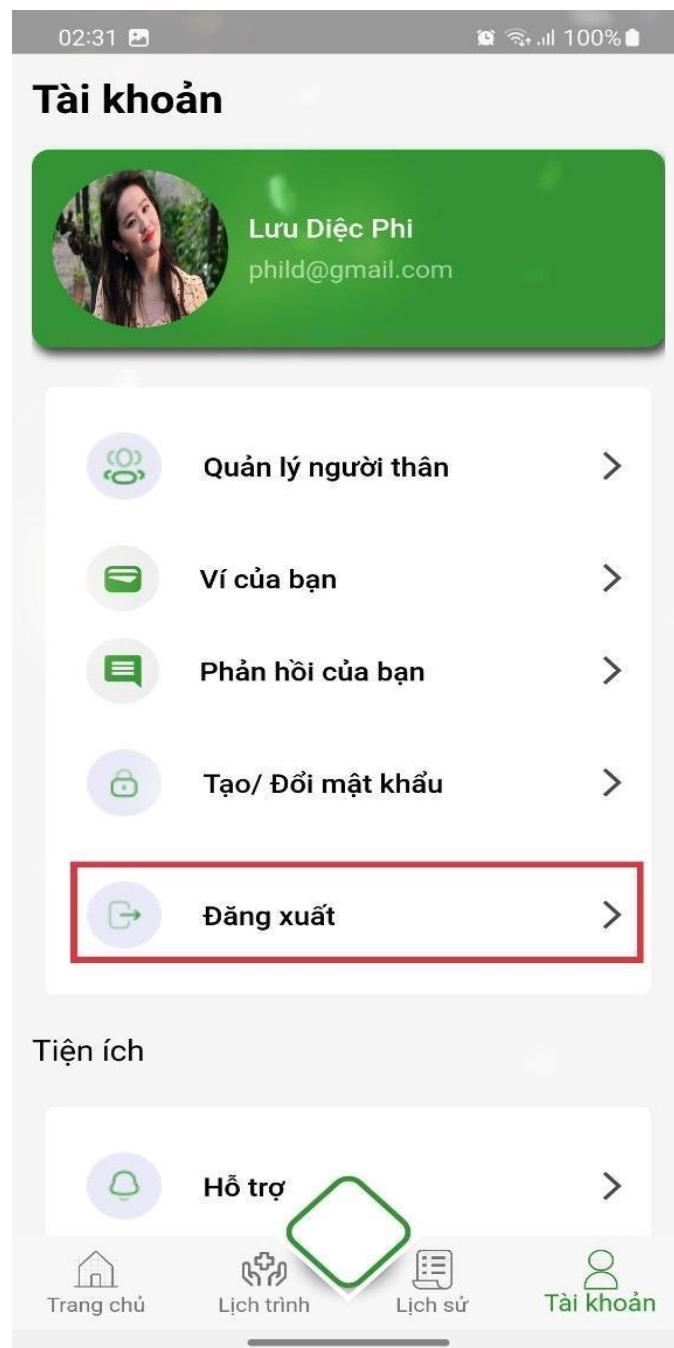


Figure 126. <Mobile Application> Logout (Step 2)

3.3.4. Reset password

- Step 1: Click “Quên mật khẩu?” on the Login screen.



Figure 127. <Mobile Application> Reset Password (Step 1)

- Step 2: Enter email that you want to reset the password then click the “Tiếp tục” button.

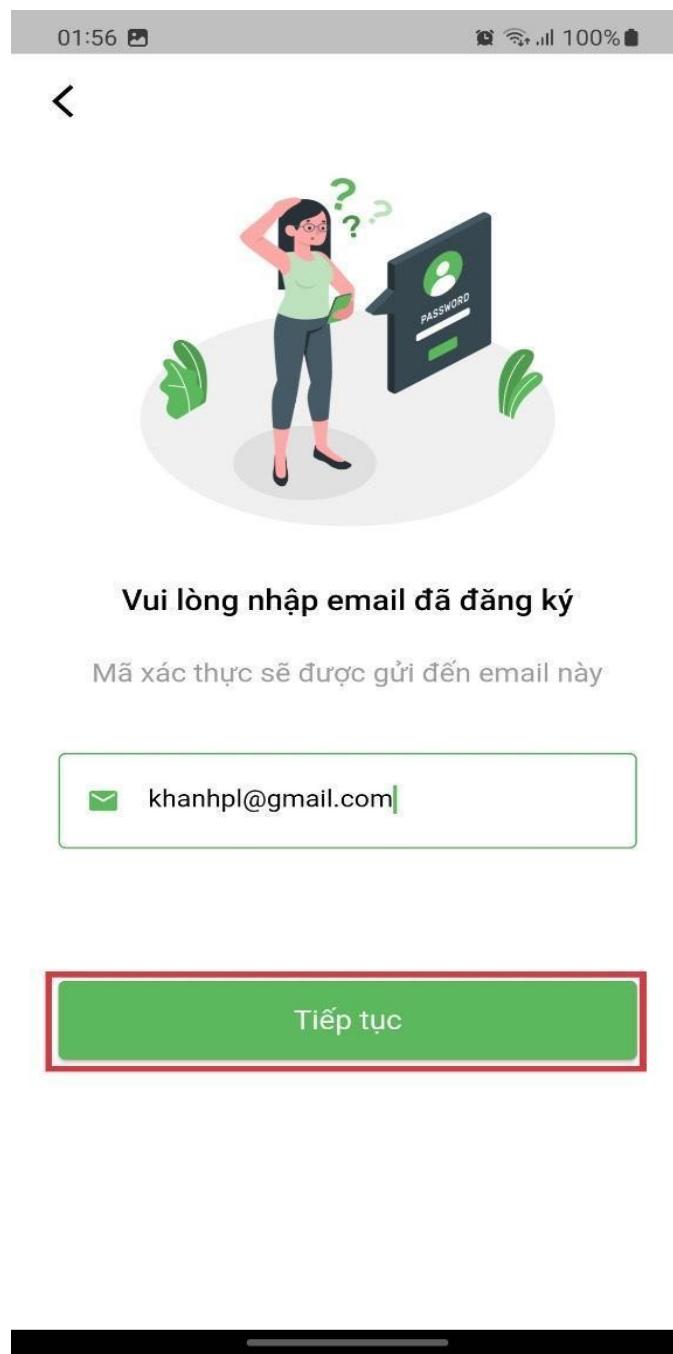


Figure 128. <Mobile Application> Reset Password (Step 2)

- Step 3: Enter the OTP code that was sent to the inputted email on the Signup form then click the “Tiếp tục” button.

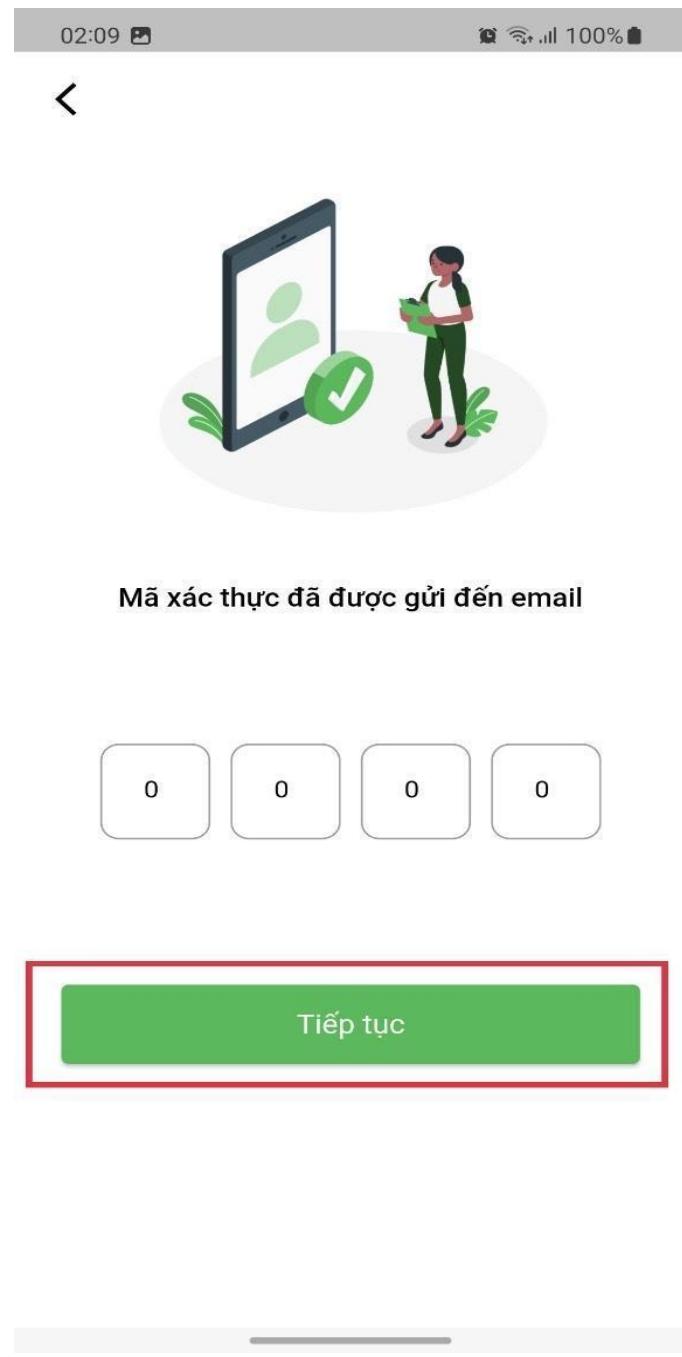


Figure 129. <Mobile Application> Reset Password (Step 3)

- Step 4: Enter new password and new password confirm then click the “Hoàn thành” button.

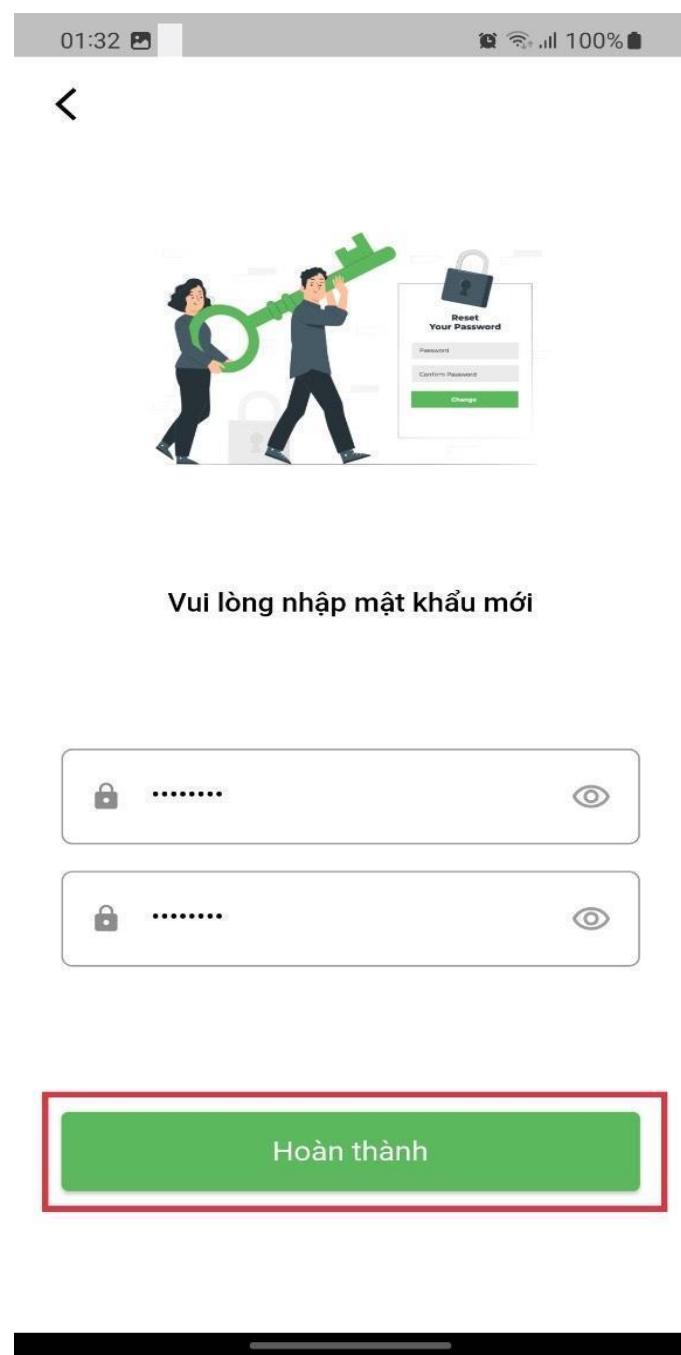


Figure 130. <Mobile Application> Reset Password (Step 4)

3.3.5. View promotion list

- Step 1: Click “Xem ưu đãi” option on “Trang chủ” tab.

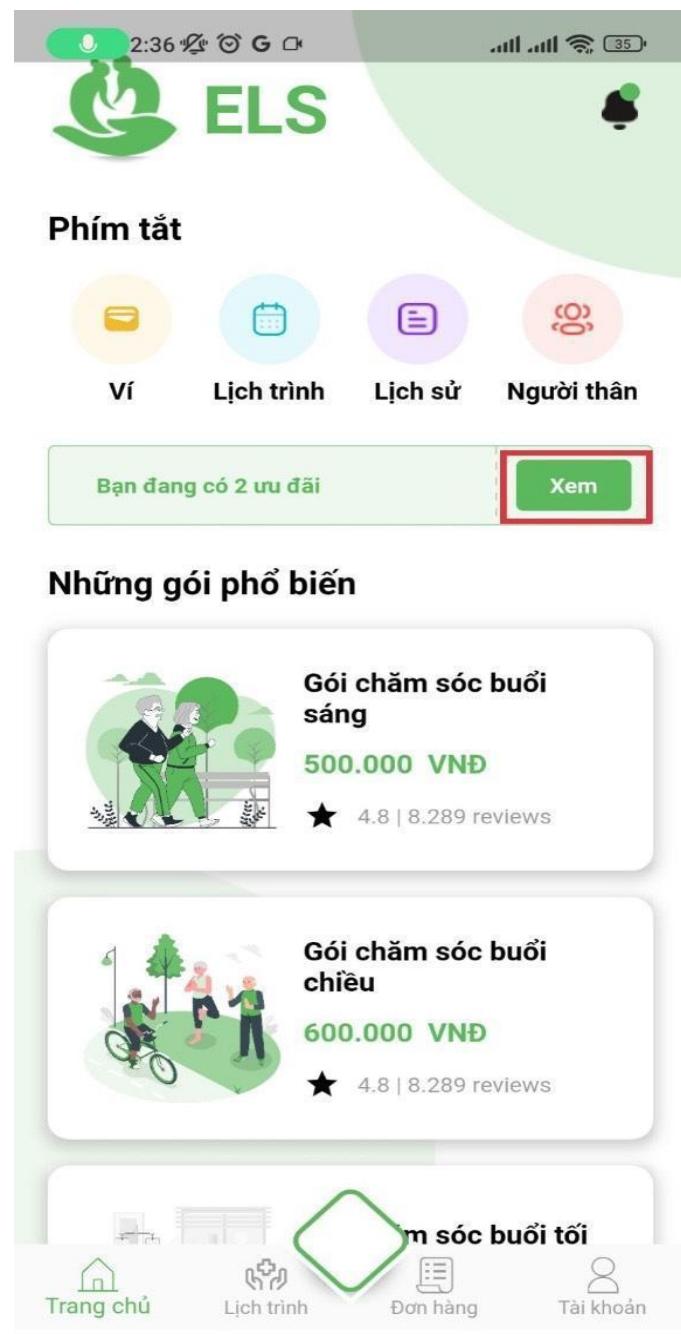


Figure 131. <Mobile Application> View promotion list (Step 1)

- Step 2: Navigate to the Promotion List Screen.

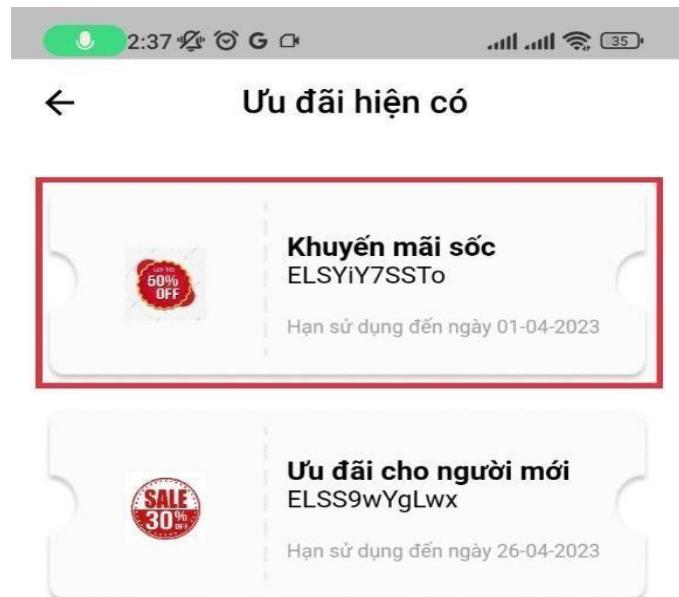


Figure 132. <Mobile Application> View promotion list (Step 2)

3.3.6. View promotion details

- Step 1: Navigate to the Promotion List Screen.
- Step 2: Click the promotion card.

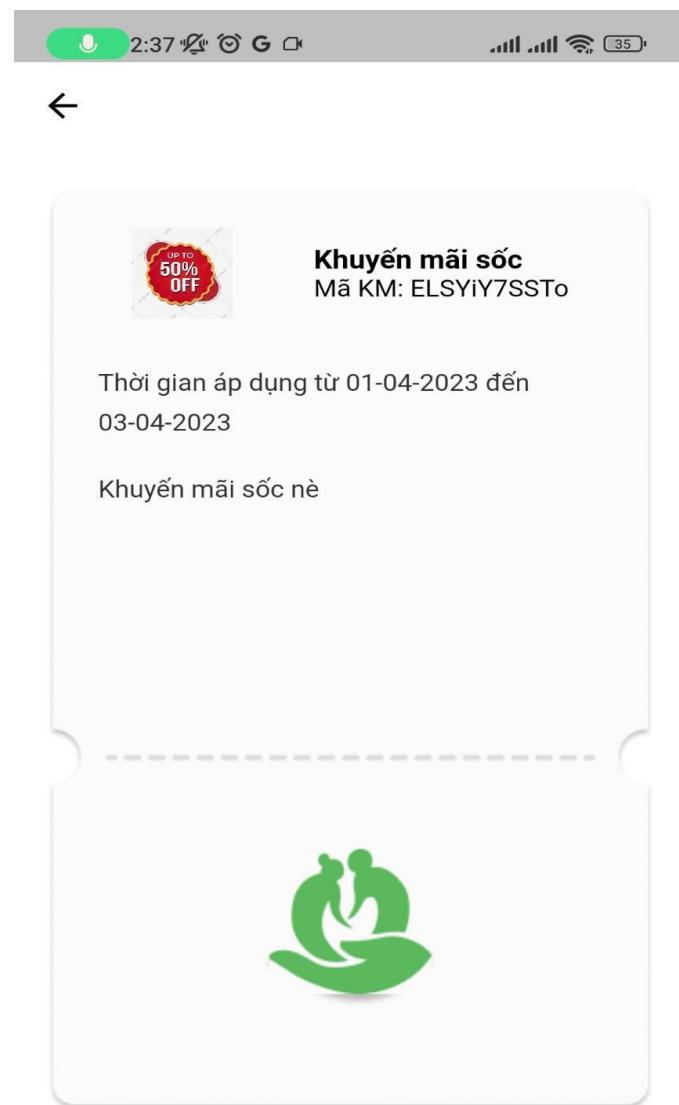


Figure 133. <Mobile Application> View promotion details

3.3.7. View package list

- Step 1: Click “Những gói phổ biến” option on “Trang chủ” tab.

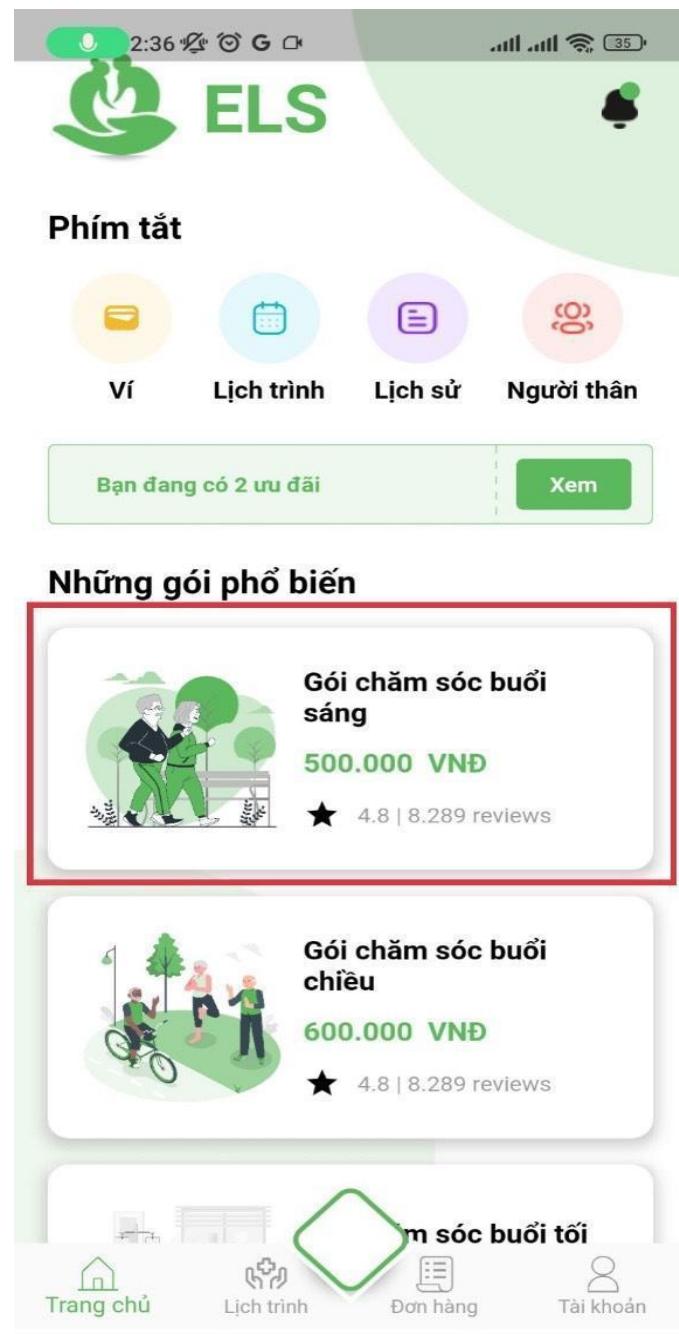


Figure 134. <Mobile Application> View package list

3.3.8. View package details

- Step 1: Click “Những gói phỗ biến” option on “Trang chủ” tab.
- Step 2: Navigate to the package details screen.

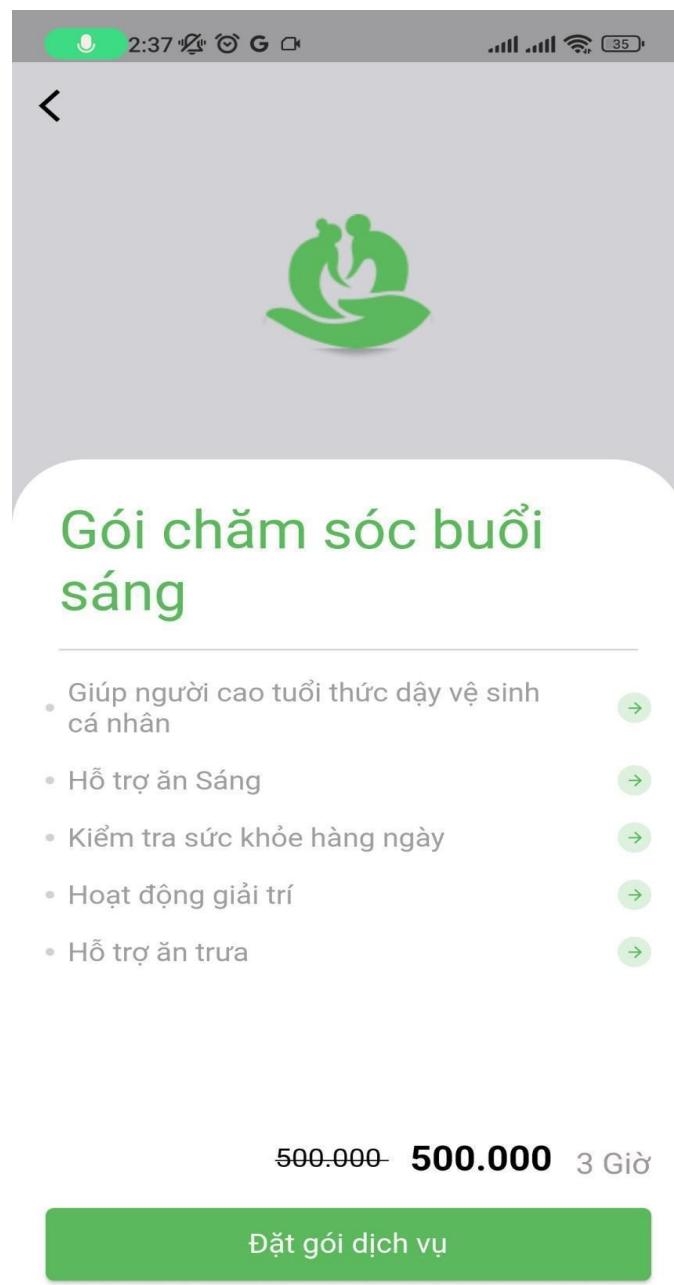


Figure 135. <Mobile Application> View package details

3.3.9. Create elder

- Step 1: Navigate to the Elder List screen.
- Step 2: Click the “+” button to navigate to the AddNew Elder screen.

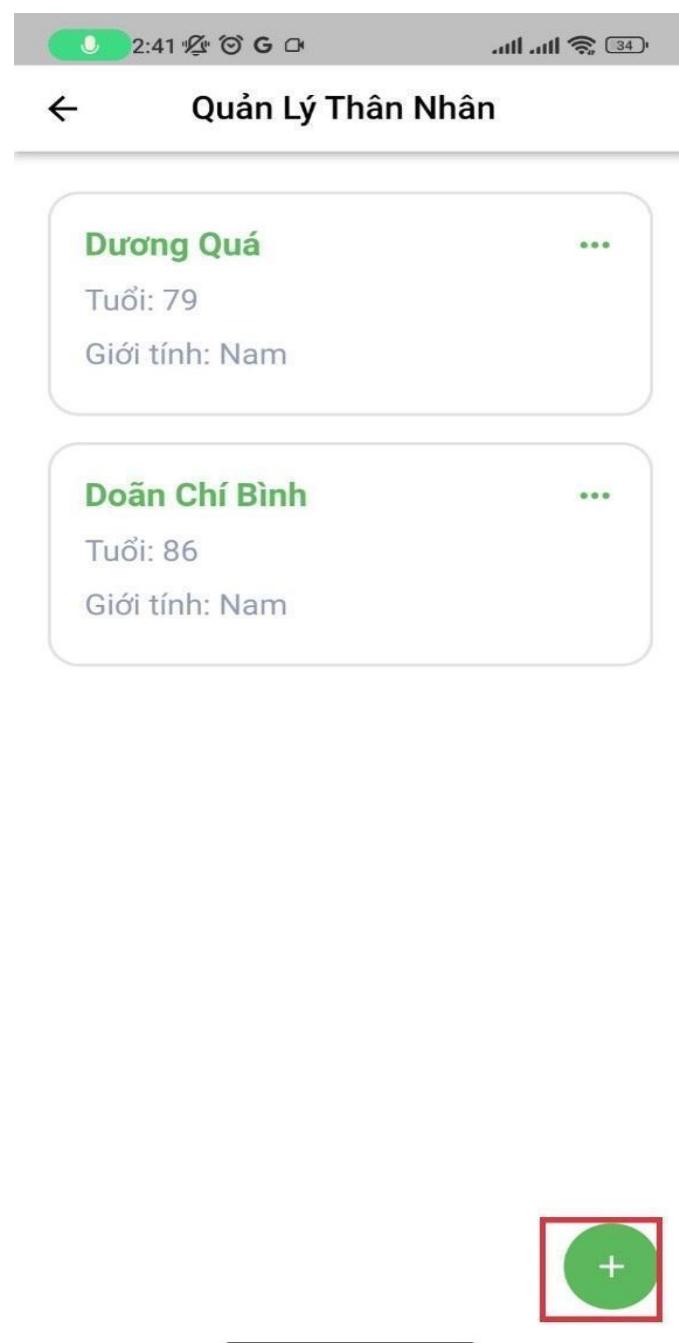


Figure 136. <Mobile Application> Create elder (Step 1, 2)

- Step 3: Fill required fields and click the “Xác nhận” button.

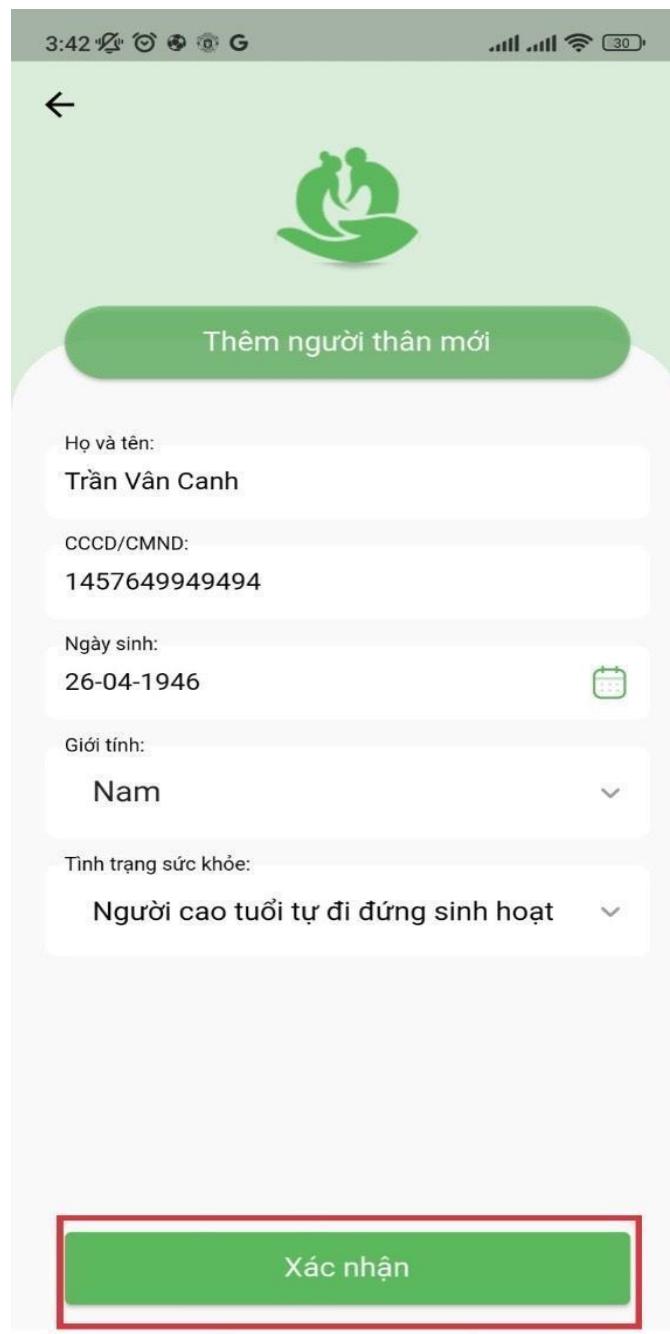


Figure 137. <Mobile Application> Create elder (Step 3)

3.3.10. Update elder

- Step 1: Navigate to the Elder Detail screen.

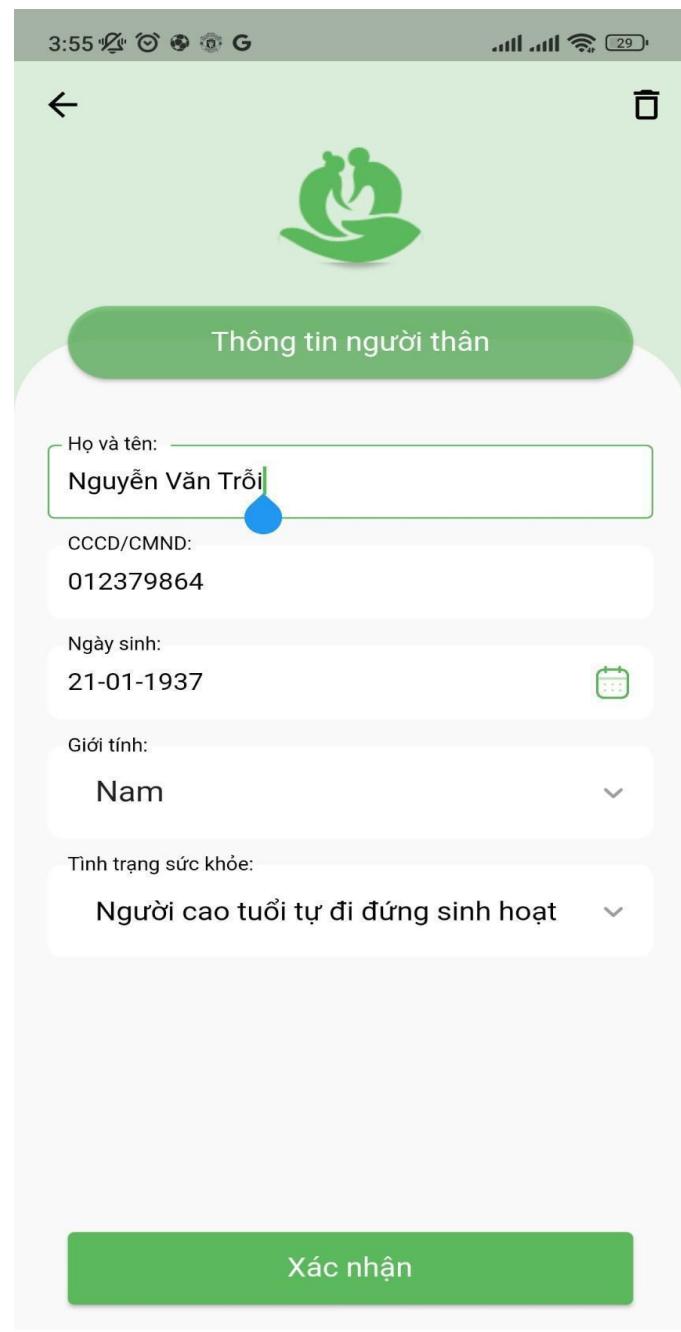


Figure 138. <Mobile Application> Update elder (Step 1)

- Step 2: Change the elder's information and click the “Xác nhận” button.

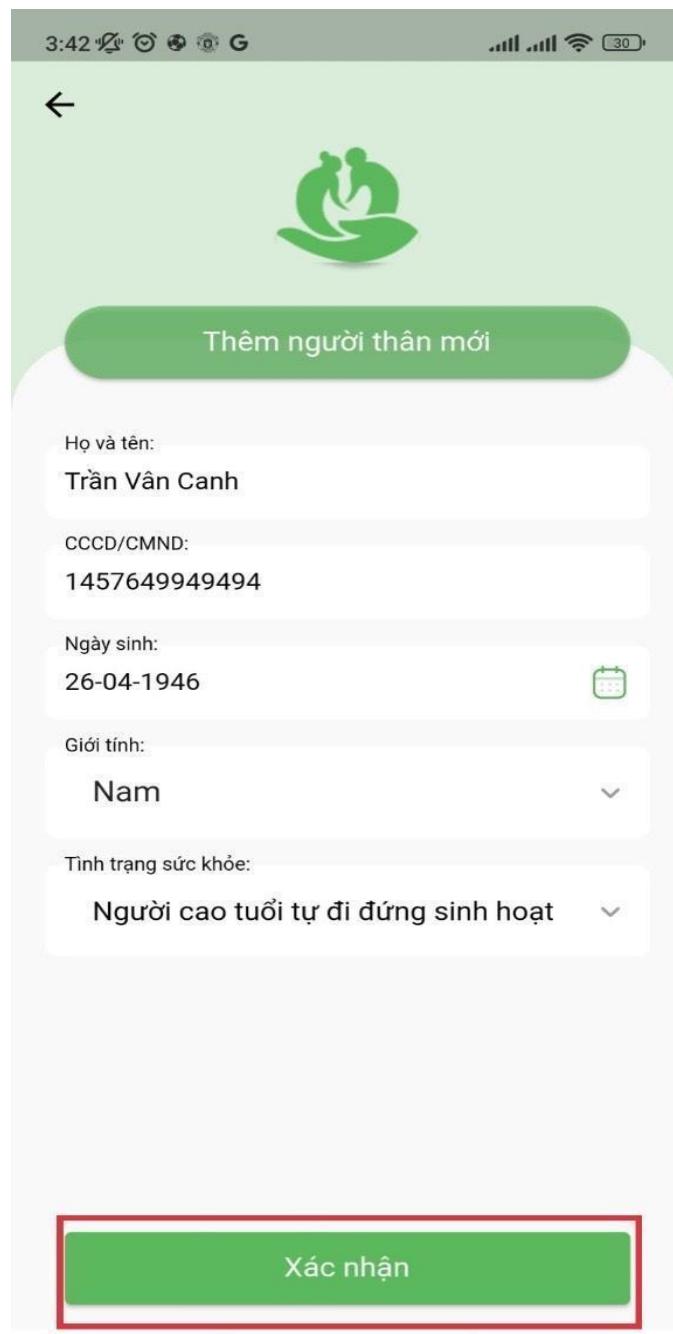


Figure 139. <Mobile Application> Update elder (Step 2)

3.3.10. Delete elder

- Step 1: Navigate to the Elder Detail screen and click the “Xóa” button.

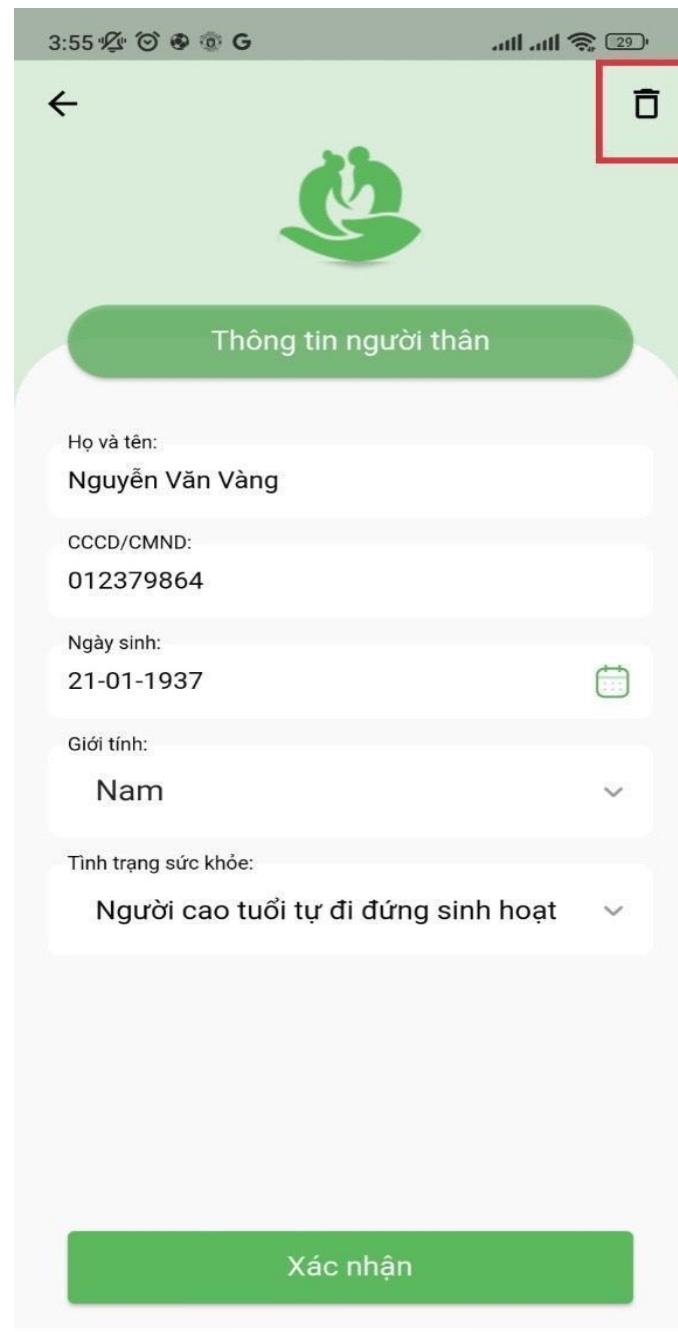


Figure 140. <Mobile Application> Delete elder

3.3.11. View elder list

- Step 1: Click “Quản lý người thân” option on “Tài khoản” tab.

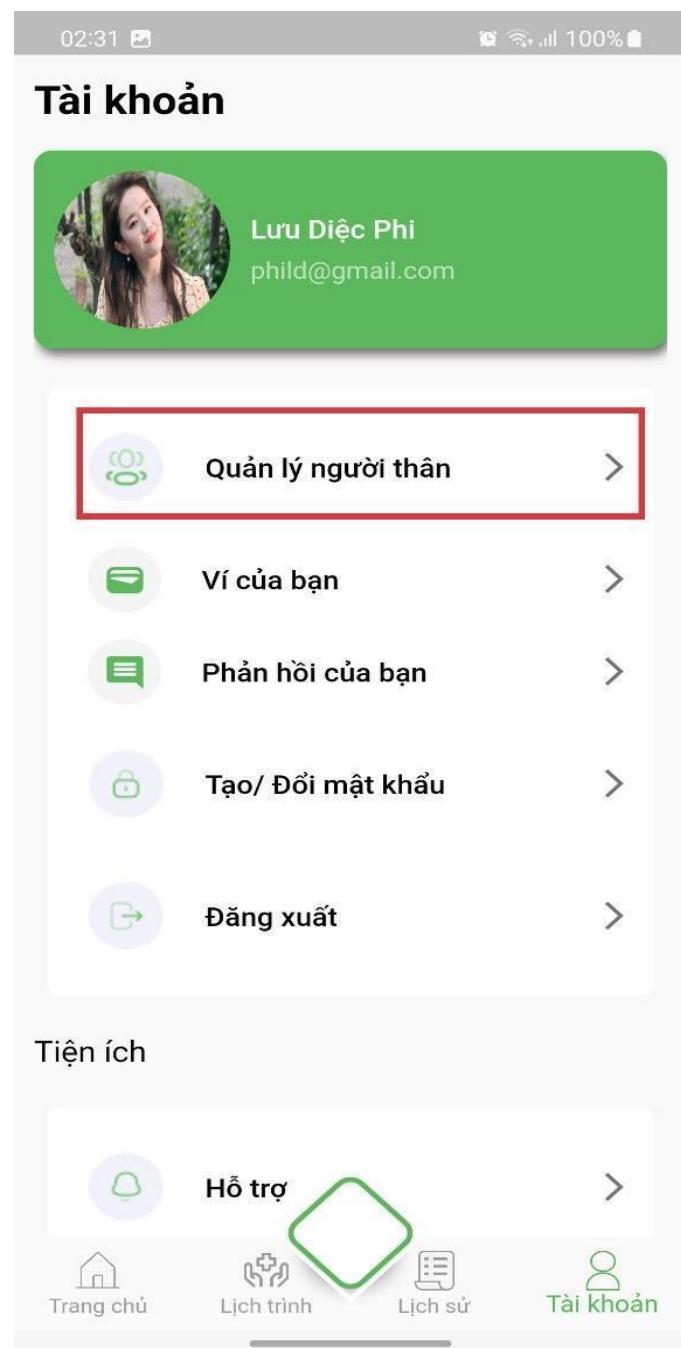


Figure 140. <Mobile Application> View elder list

3.3.12. View elder details

- Step 1: Navigate to the Elder List Screen.
- Step 2: Click the elder card.

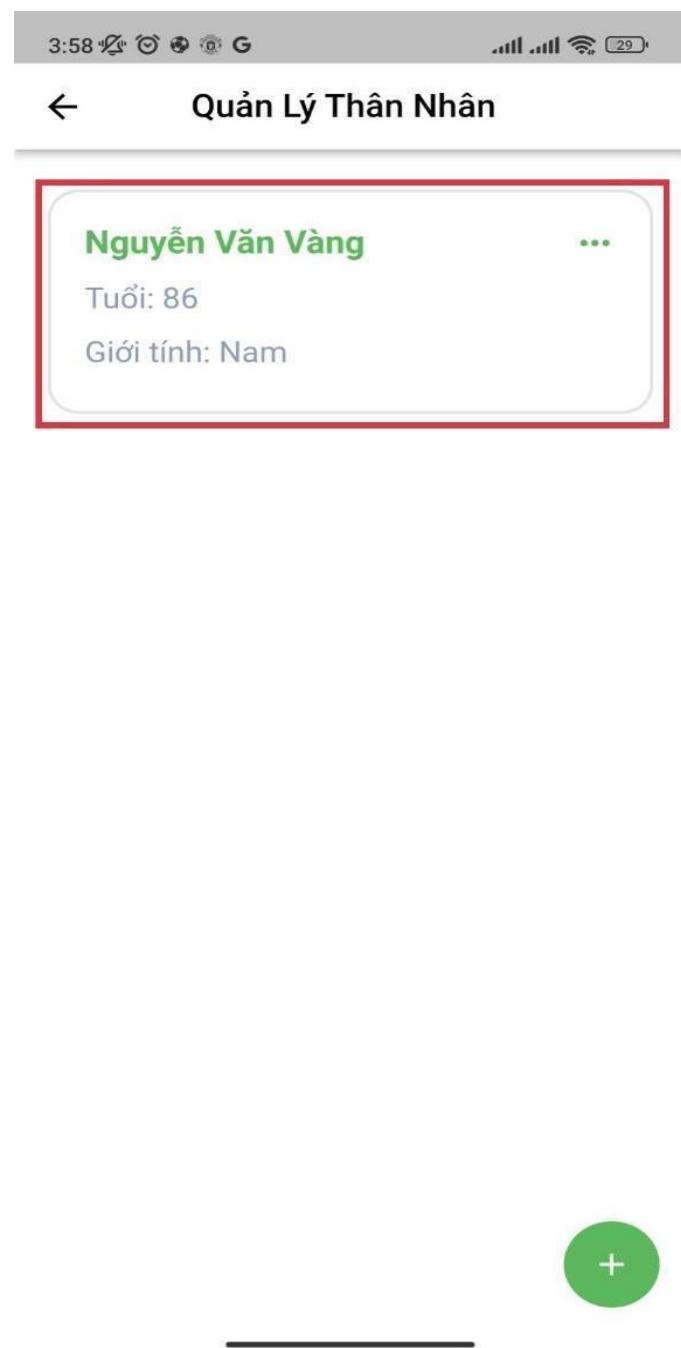


Figure 141. <Mobile Application> View elder details (Step 1, 2)

- Step 3: Navigate to the Elder Details Screen.

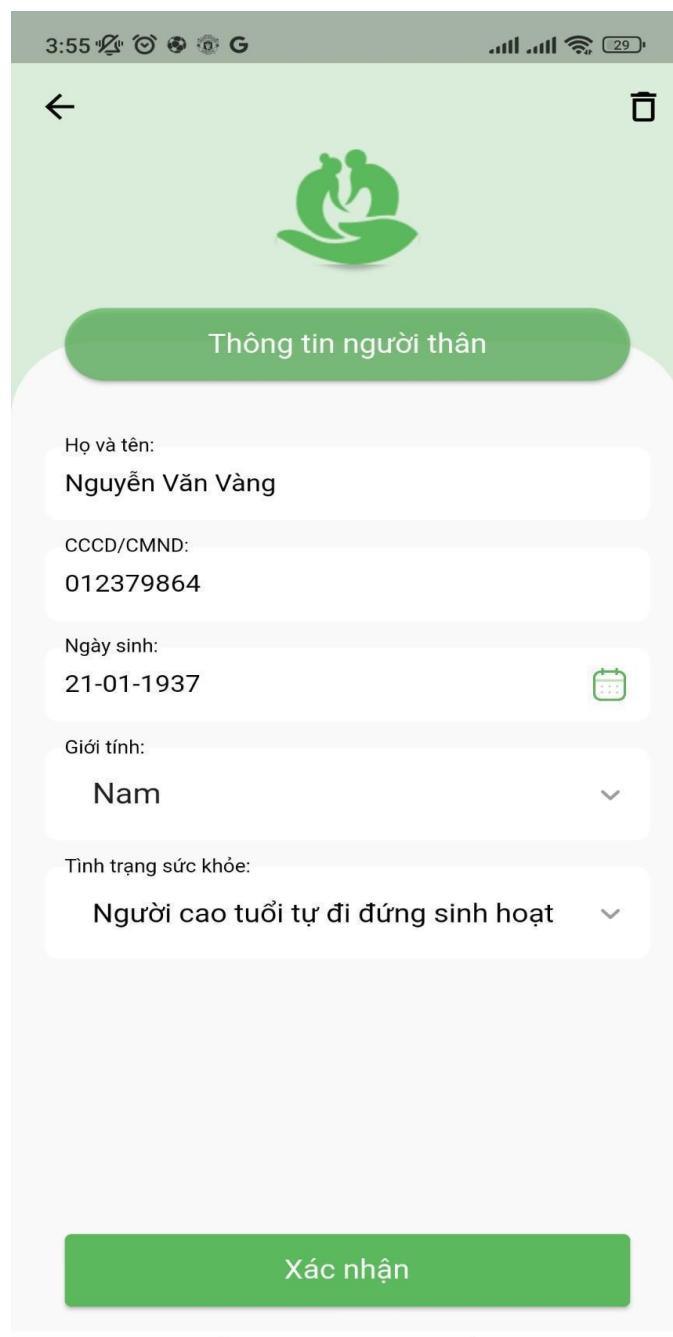


Figure 142. <Mobile Application> View elder details (Step 3)

3.3.13. Create booking

- Step 1: Click “Đặt lịch” tab.
- Step 2: Choose the elderly you want to take care of and click the “Xác nhận” button.

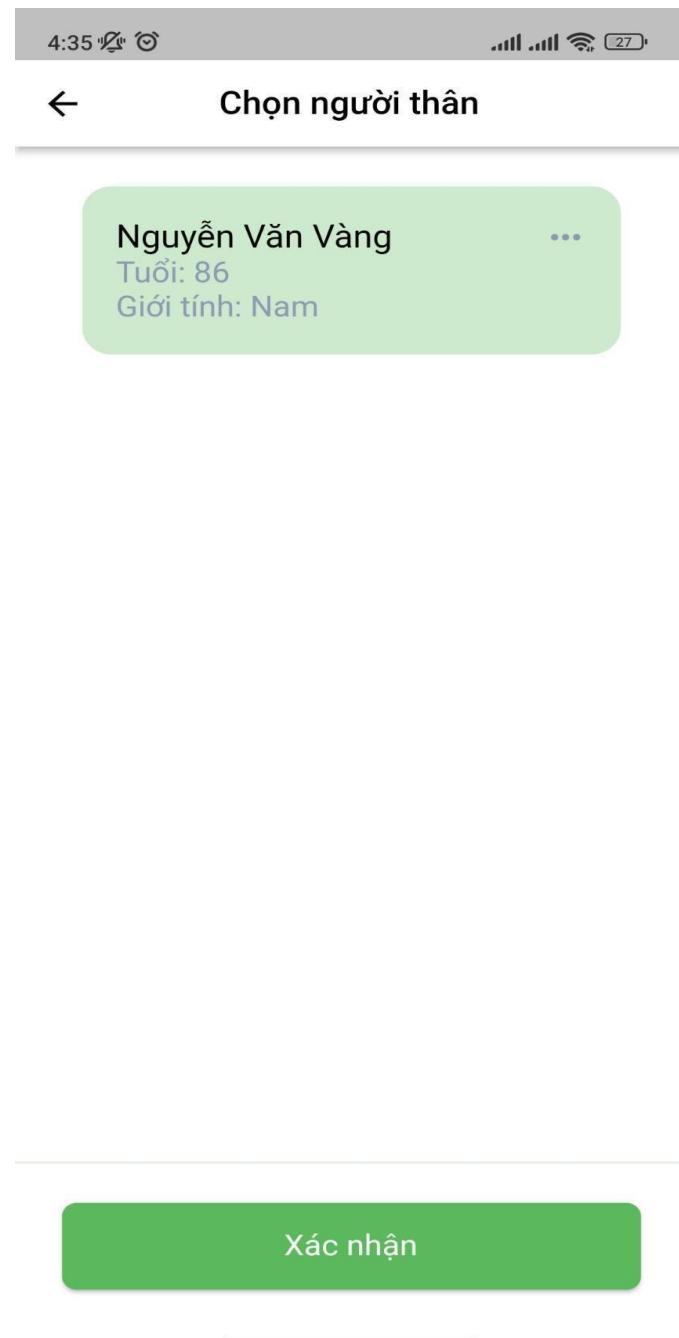


Figure 143. <Mobile Application> Create booking (Step 1, 2)

- Step 3: Choose the package.



Figure 144. <Mobile Application> Create booking (Step 3)

- Step 4: Click “Địa điểm” textfield.

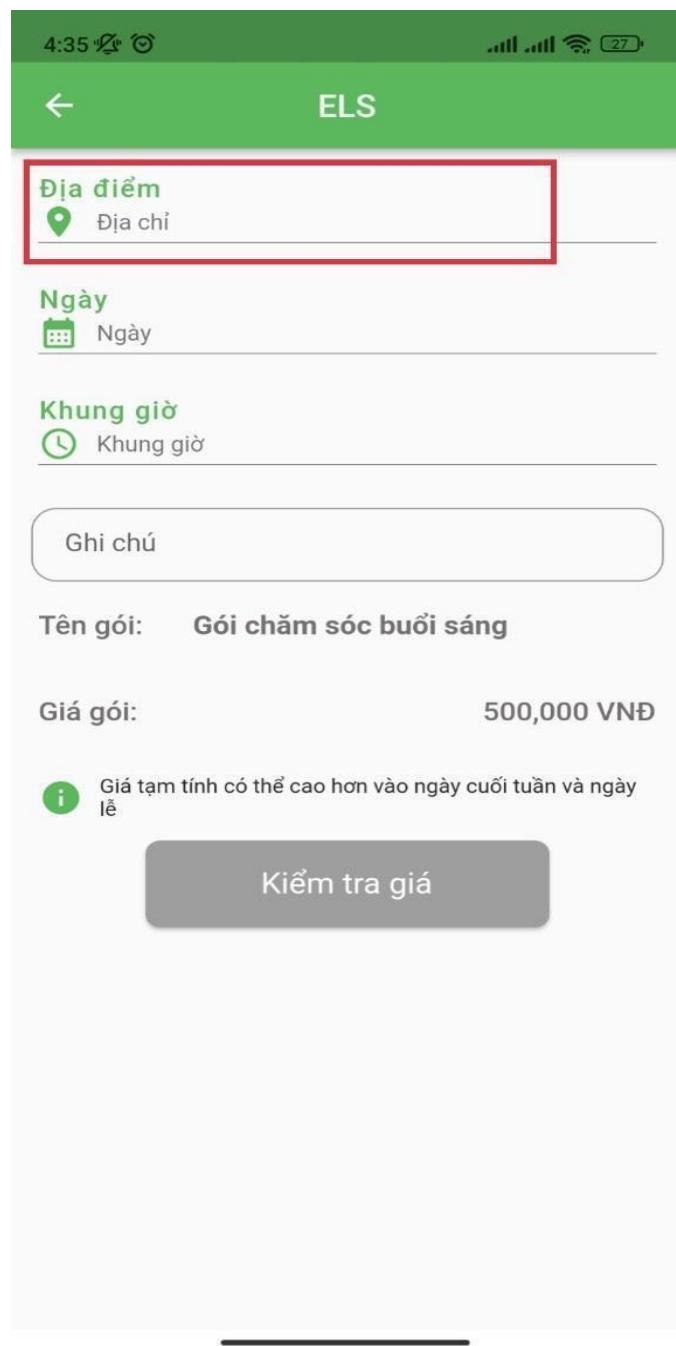


Figure 145. <Mobile Application> Create booking (Step 4)

- Step 5: Fill out the “Địa điểm” textfield.

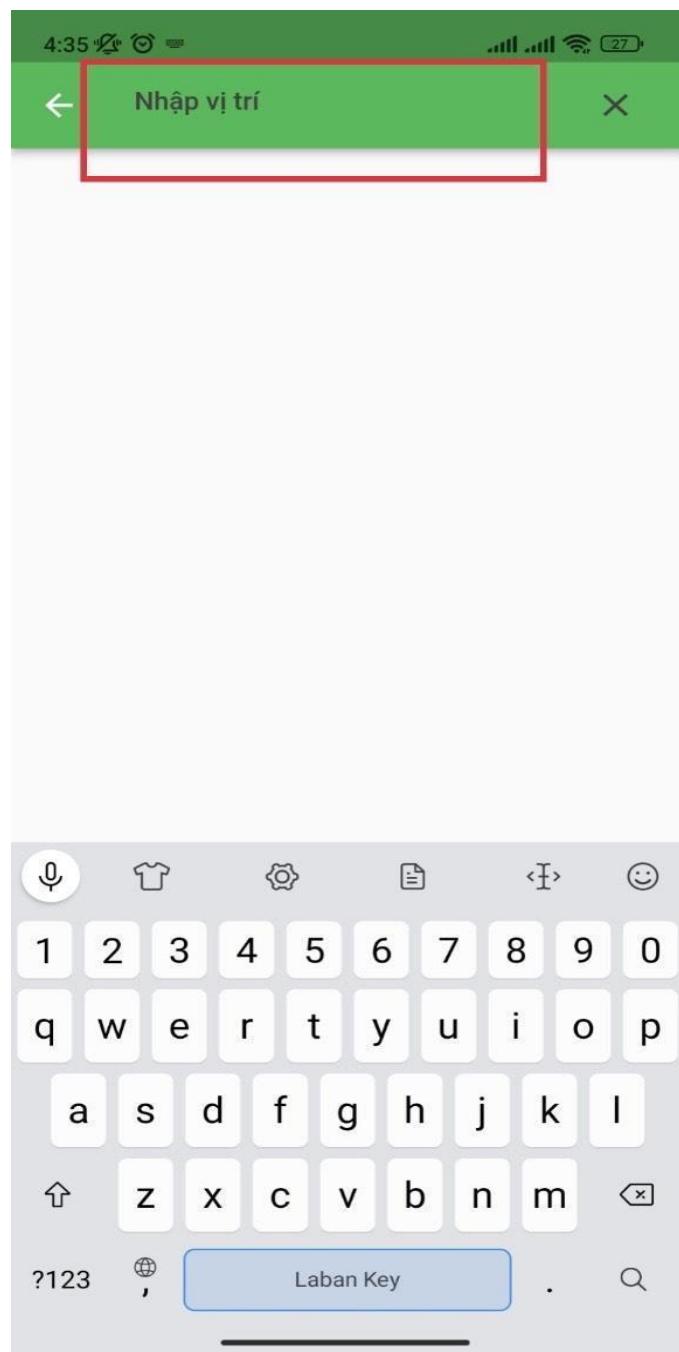


Figure 146. <Mobile Application> Create booking (Step 5)

- Step 6: Click “Ngày”textfield.



Figure 147. <Mobile Application> Create booking (Step 6)

- Step 7: Choose days in the calendar.

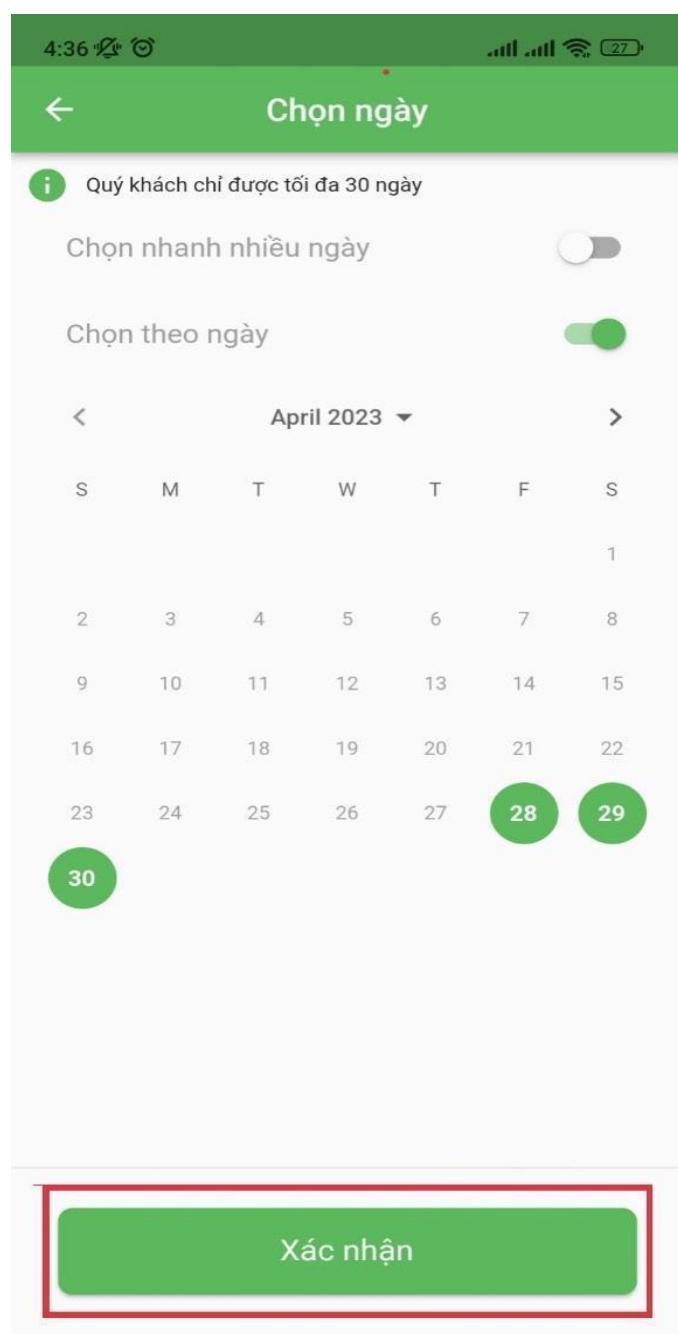


Figure 148. <Mobile Application> Create booking (Step 7)

- Step 8: Click “Khung giờ”textfield and choose the time below then click “Tiến hành thanh toán” button.

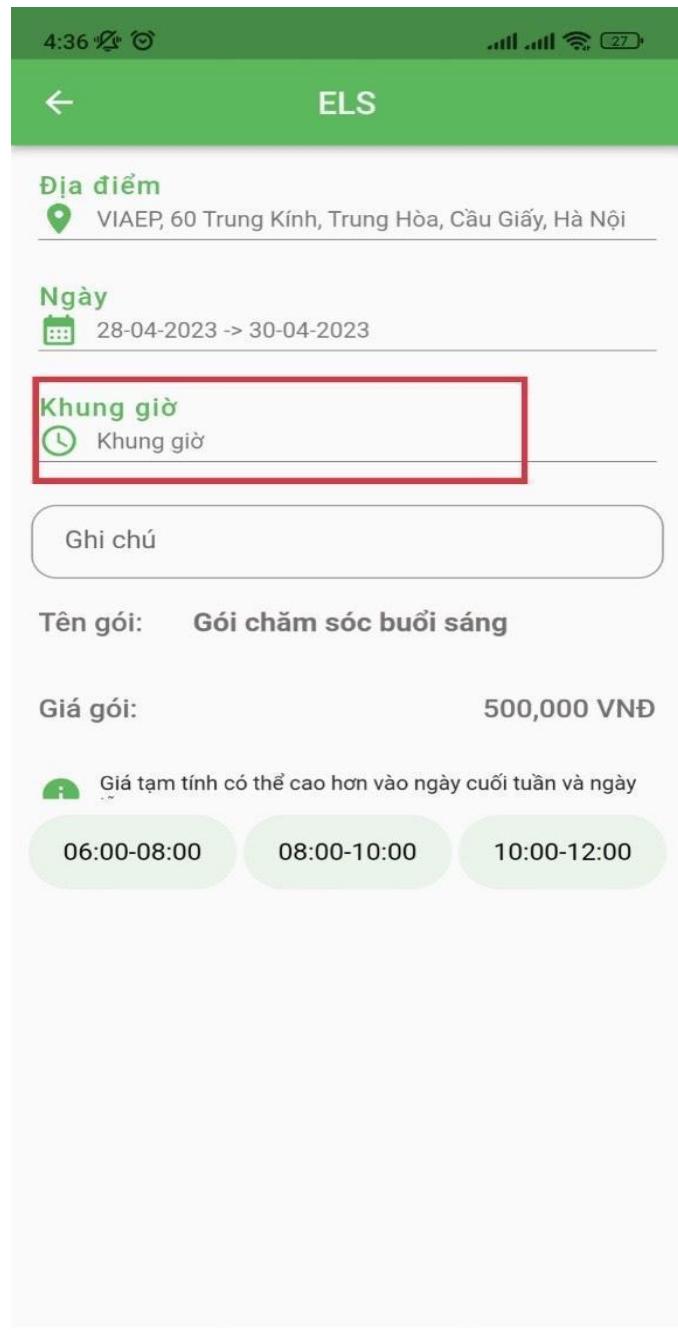


Figure 149. <Mobile Application> Create booking (Step 8)

- Step 9: Click “Tiến hành thanh toán” button.



Figure 150. <Mobile Application> Create booking (Step 9)

- Step 10: Confirm all information and click “Đặt lịch” button.

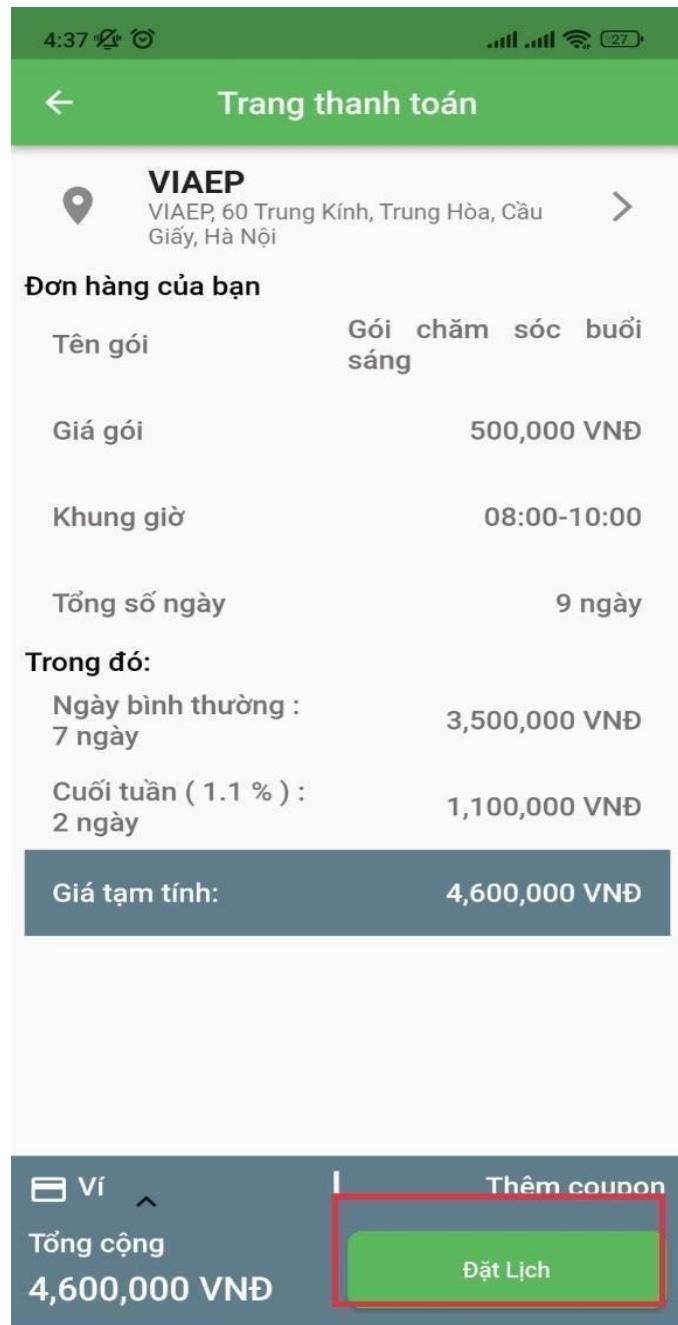


Figure 151. <Mobile Application> Create booking (Step 10)

3.3.14. View canceled booking list

- Step 1: Click “Đơn hàng” button and then click “Đã hủy” tab.

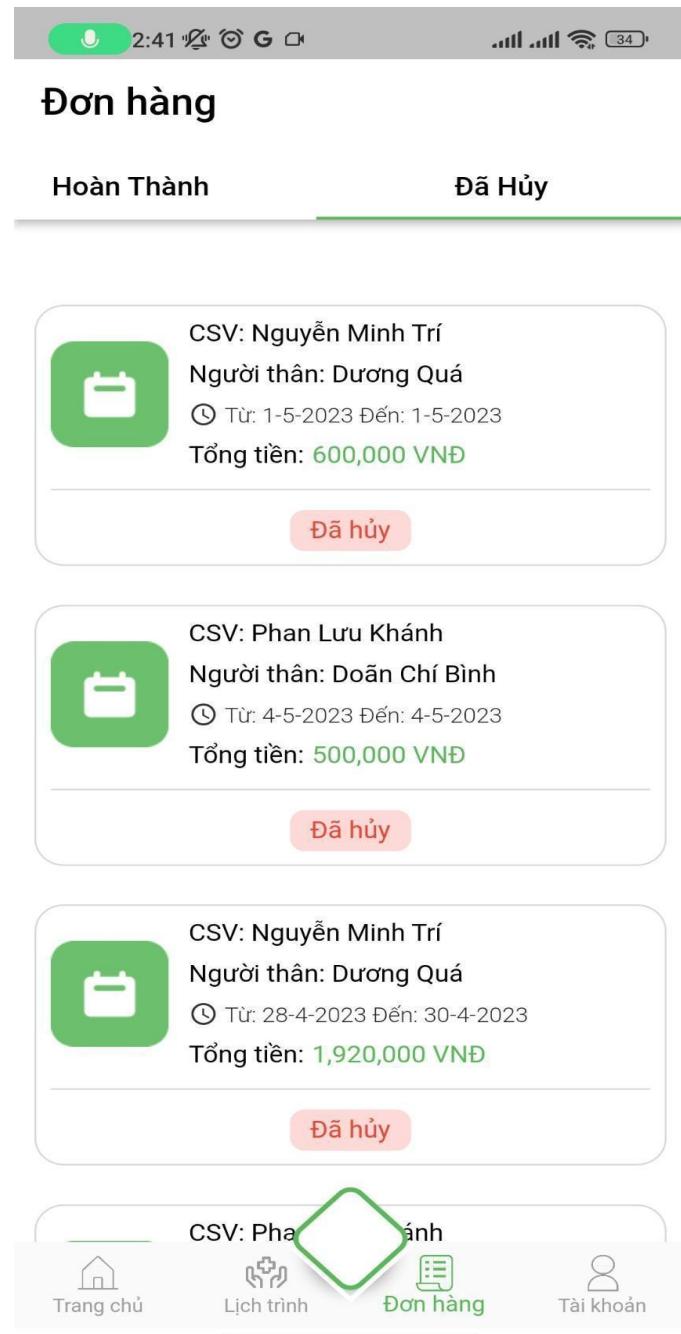


Figure 152. <Mobile Application> View canceled booking list

3.3.15. View canceled booking details

- Step 1: Click specific booking.

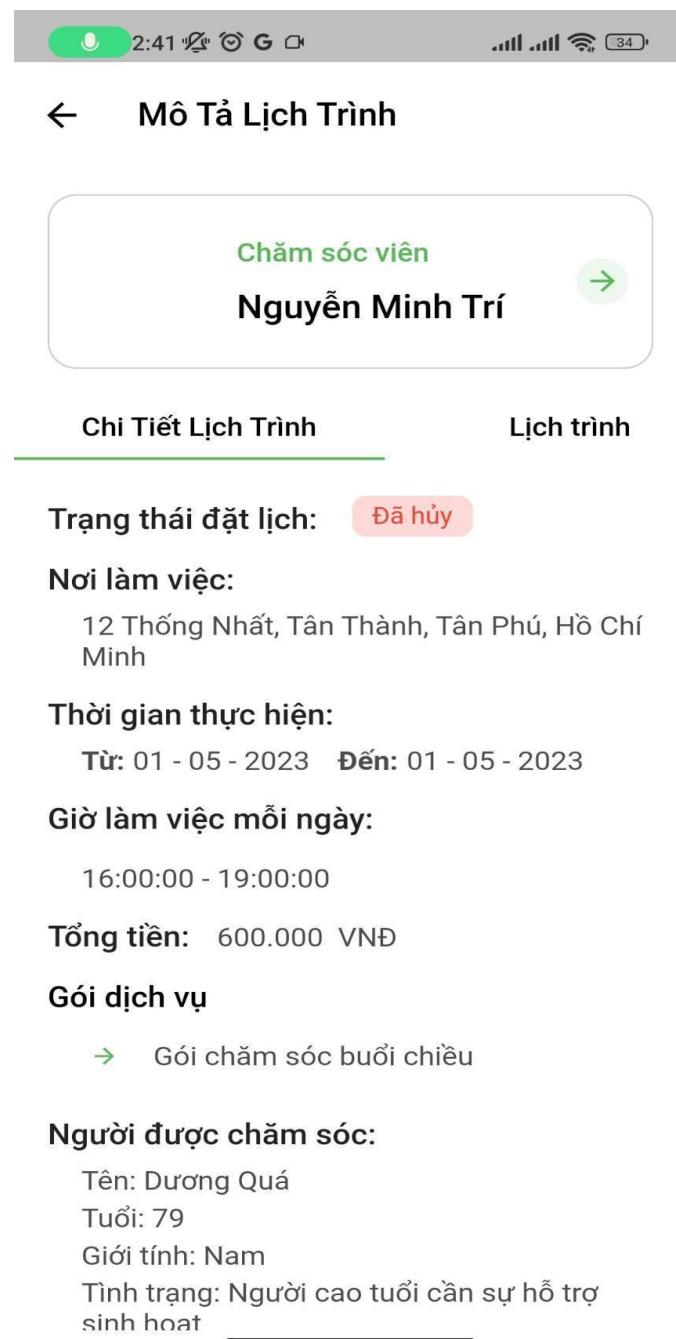


Figure 153. <Mobile Application> View canceled booking details

3.4 Mobile Application for Sitter

- ❖ Overview: **Overview:** This application supports sitter to receive bookings
- ❖ Features:

3.4.1. Sign Up

- Phase 1: Create account
 - Step 1: Click “Đăng ký” on log-in screen

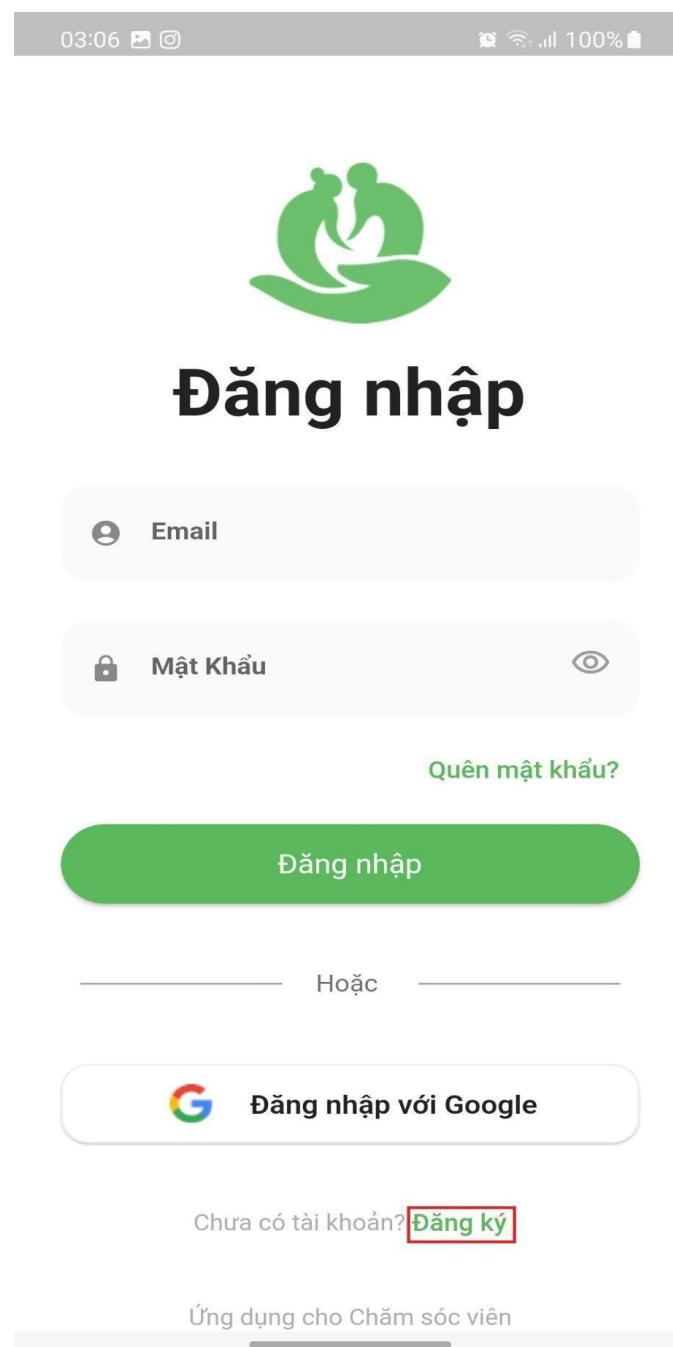


Figure 154. <Mobile Application> Sign-up (Step 1)

- Step 2 : Fill out the Signup form then click the “Đăng ký” button.

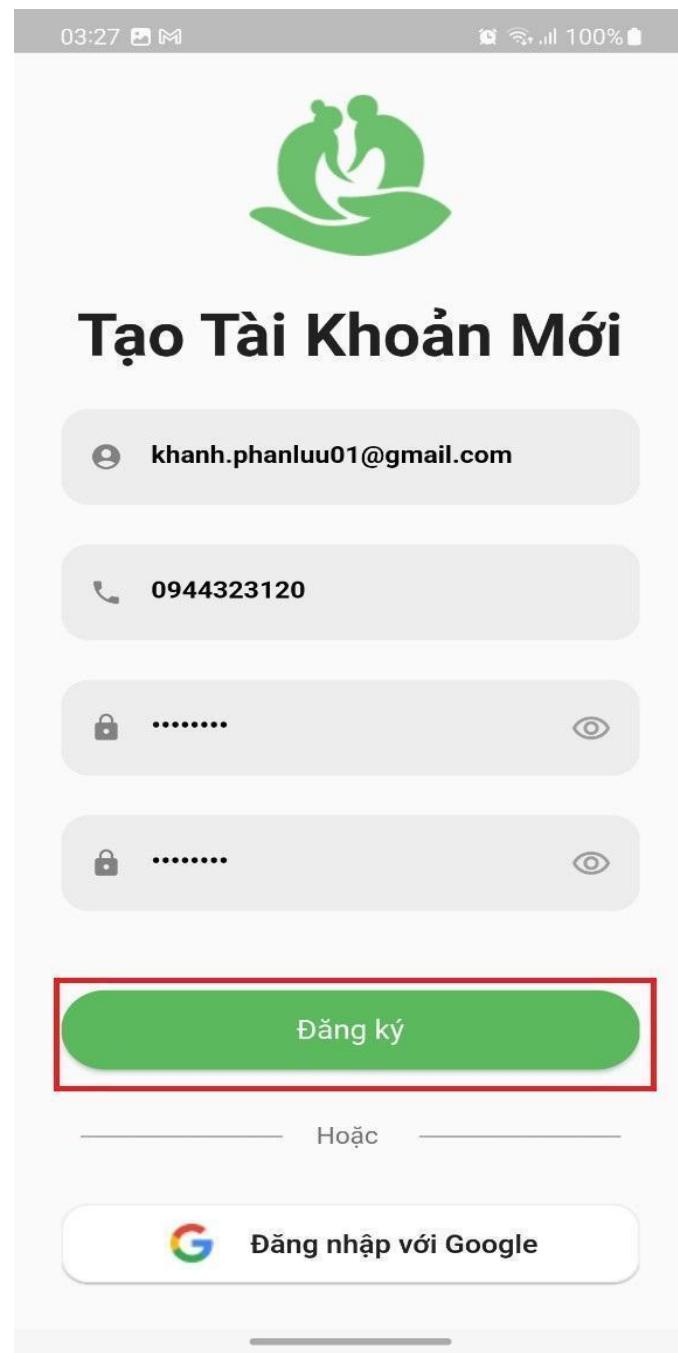


Figure 155. <Mobile Application> Sign-up (Step 2)

- Step 3: Enter the OTP code that was sent to the inputted email on the Signup form then click the “Tiếp tục” button to finish the signup account function.

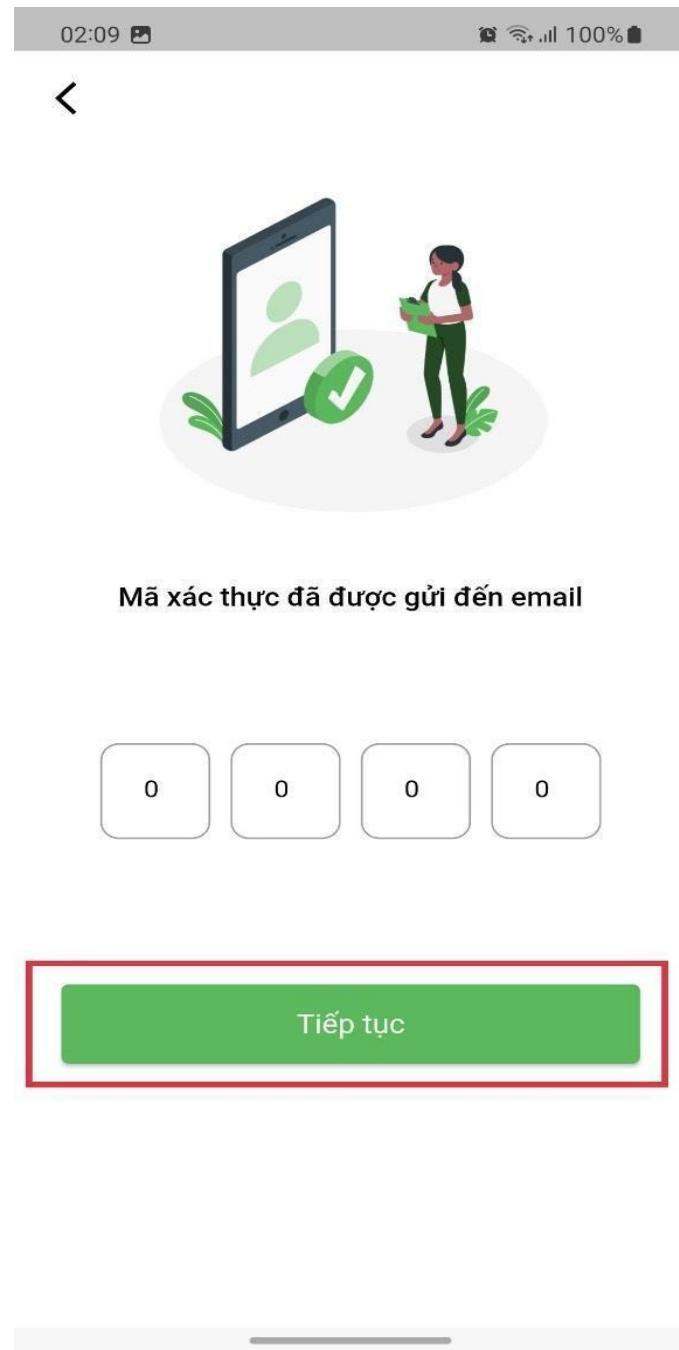


Figure 156. <Mobile Application> Sign-up (Step 3)

- Phase 2: Register account information
 - Step 1: Log in with the account have just been created

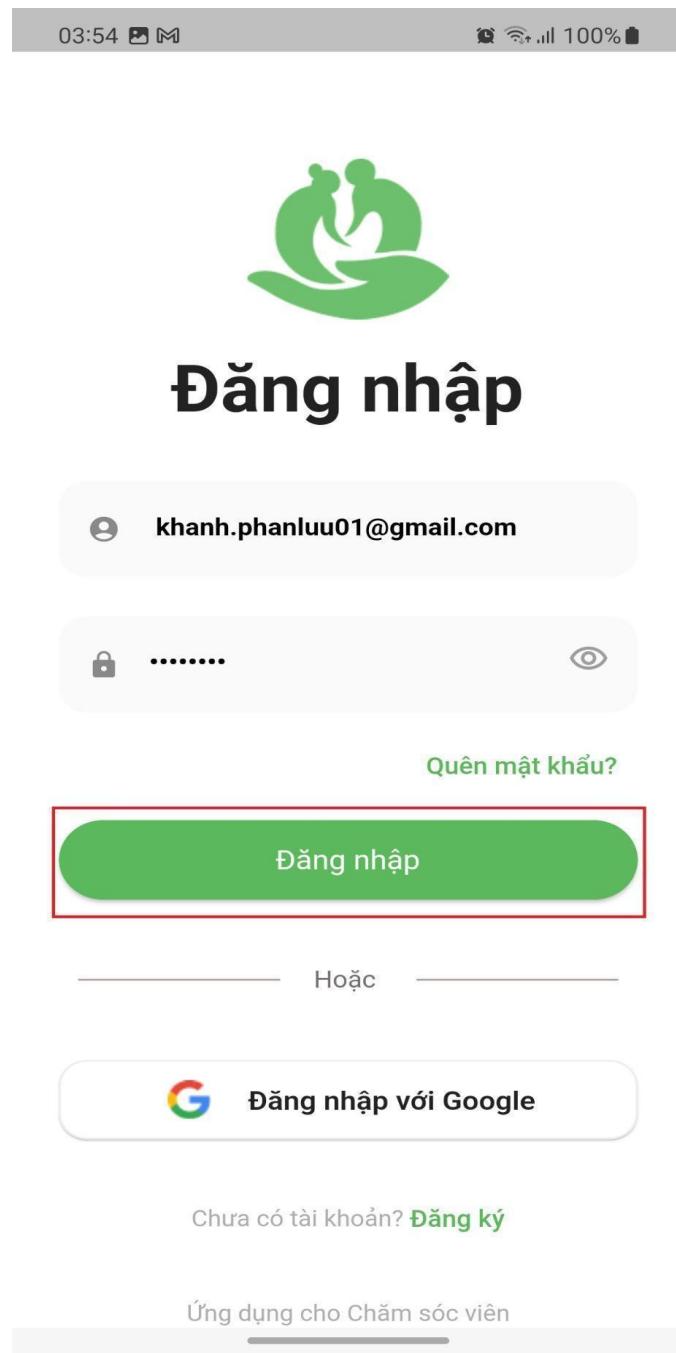


Figure 157. <Mobile Application> Register account information (Step 1)

- Step 2: Fill out all information in contact information

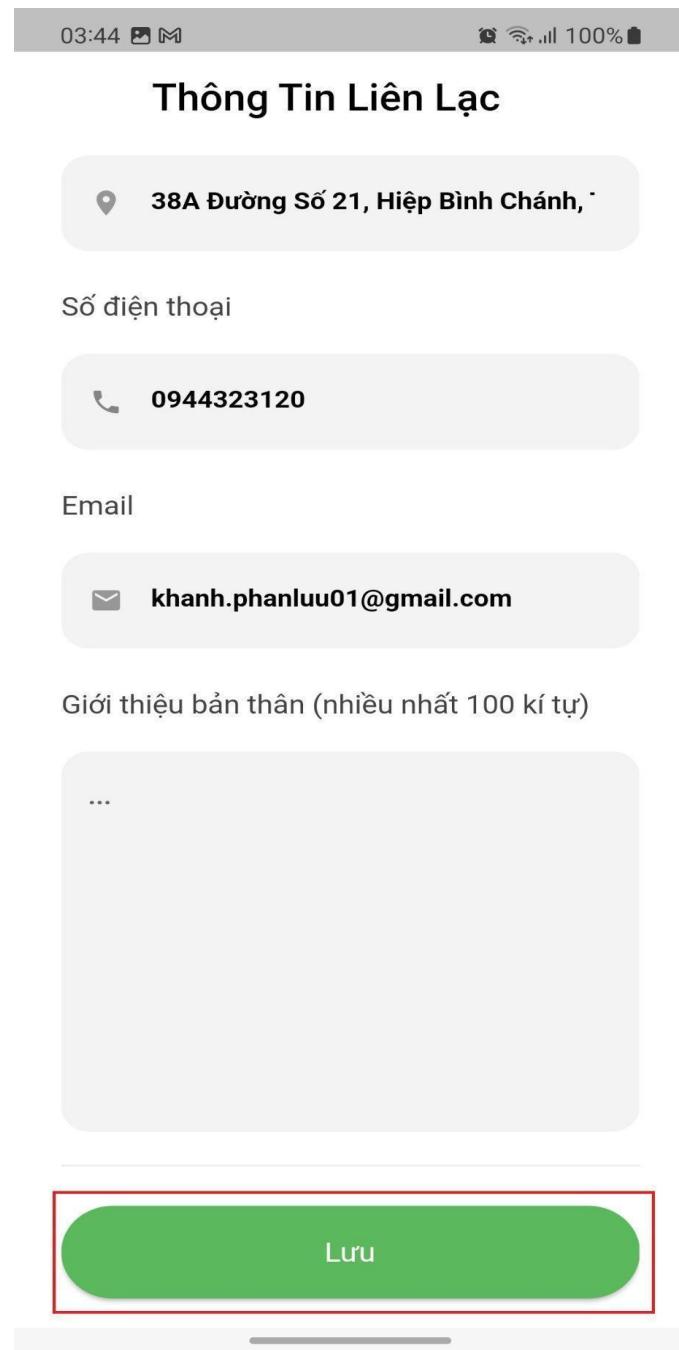


Figure 158. <Mobile Application> Register account information (Step 2)

- Step 3: Fill out all information in identification information



Figure 159. <Mobile Application> Register account information (Step 3)

- Step 4: Fill in education (not required)



Figure 160. <Mobile Application> Register account information (Step 4)

- Step 5: Fill in Certification (not required)



Figure 161. <Mobile Application> Register account information (Step 5)

- Step 6: Fill in work experience (not required)



Figure 162. <Mobile Application> Register account information (Step 6)

- Step 7: Set working time

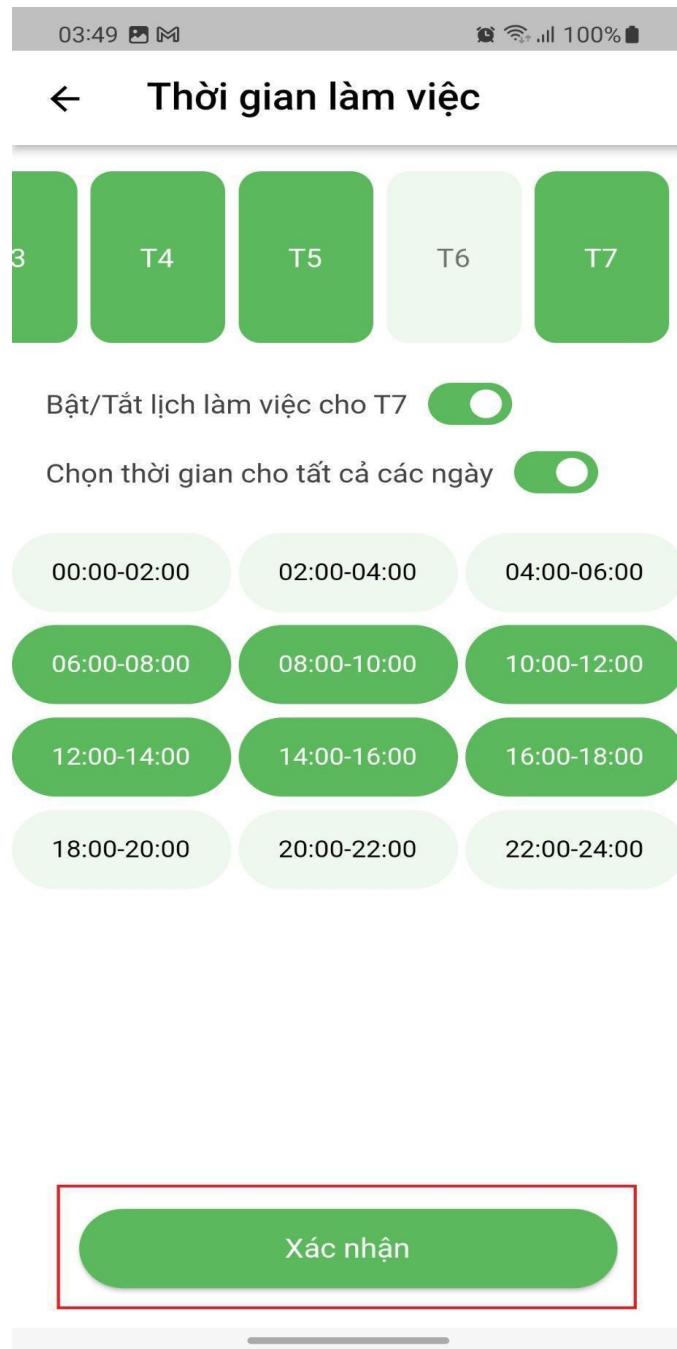


Figure 163. <Mobile Application> Register account information (Step 7)

- Step 8: Set working package

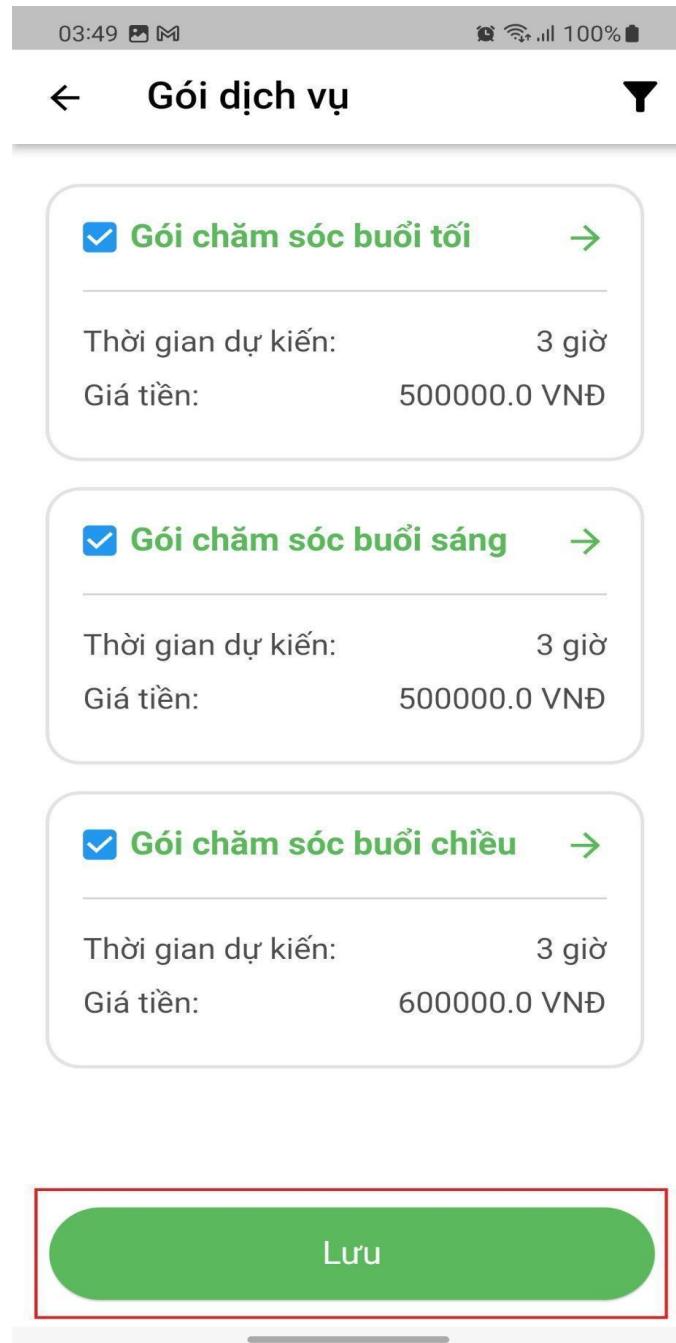


Figure 164. <Mobile Application> Register account information (Step 8)

- Step 9: Confirm send information form

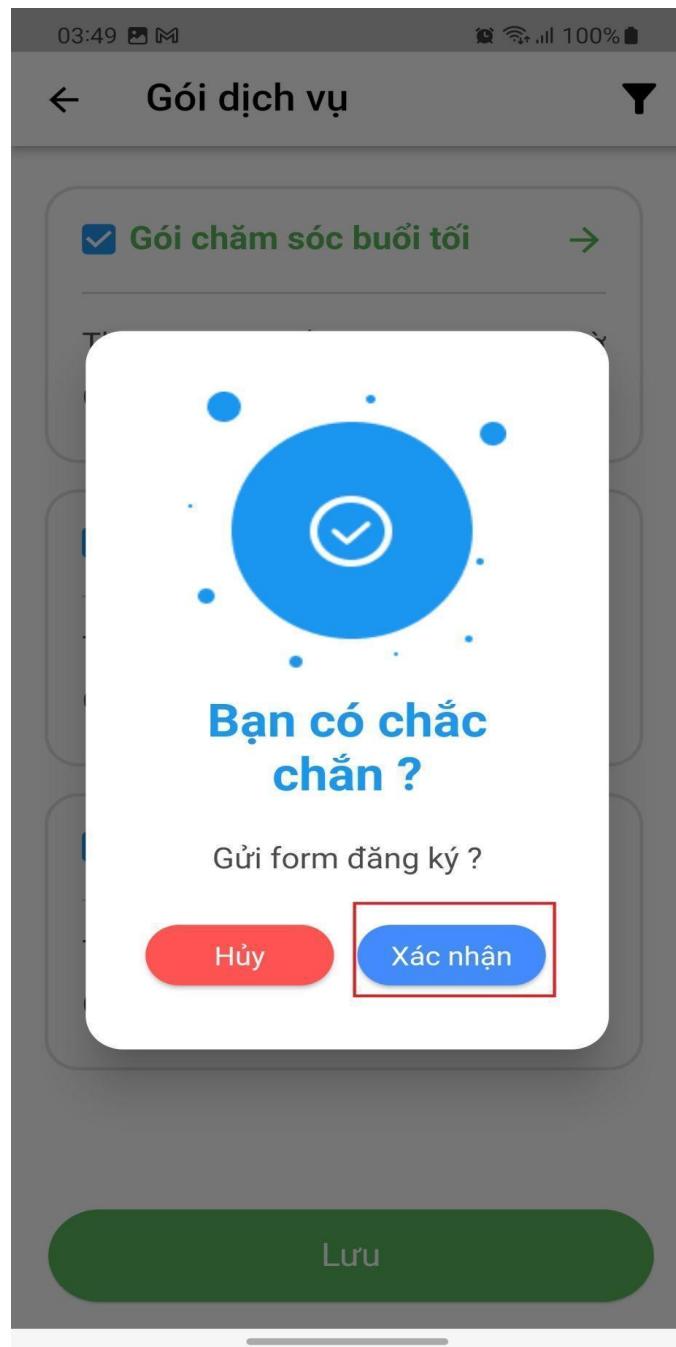


Figure 165. <Mobile Application> Register account information (Step 9)

3.4.2. Login

- Step 1: Enter email and password

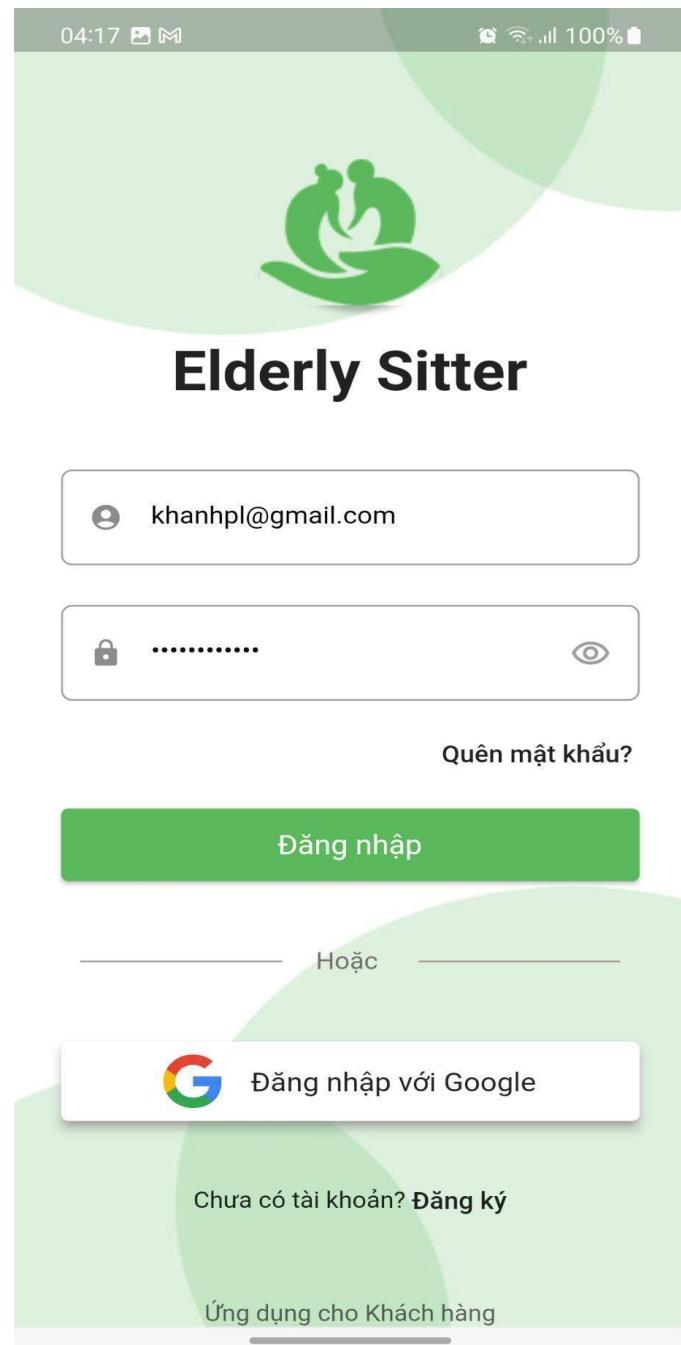


Figure 166. <Mobile Application> Login (Step 1)

- Click on “Đăng nhập”Button

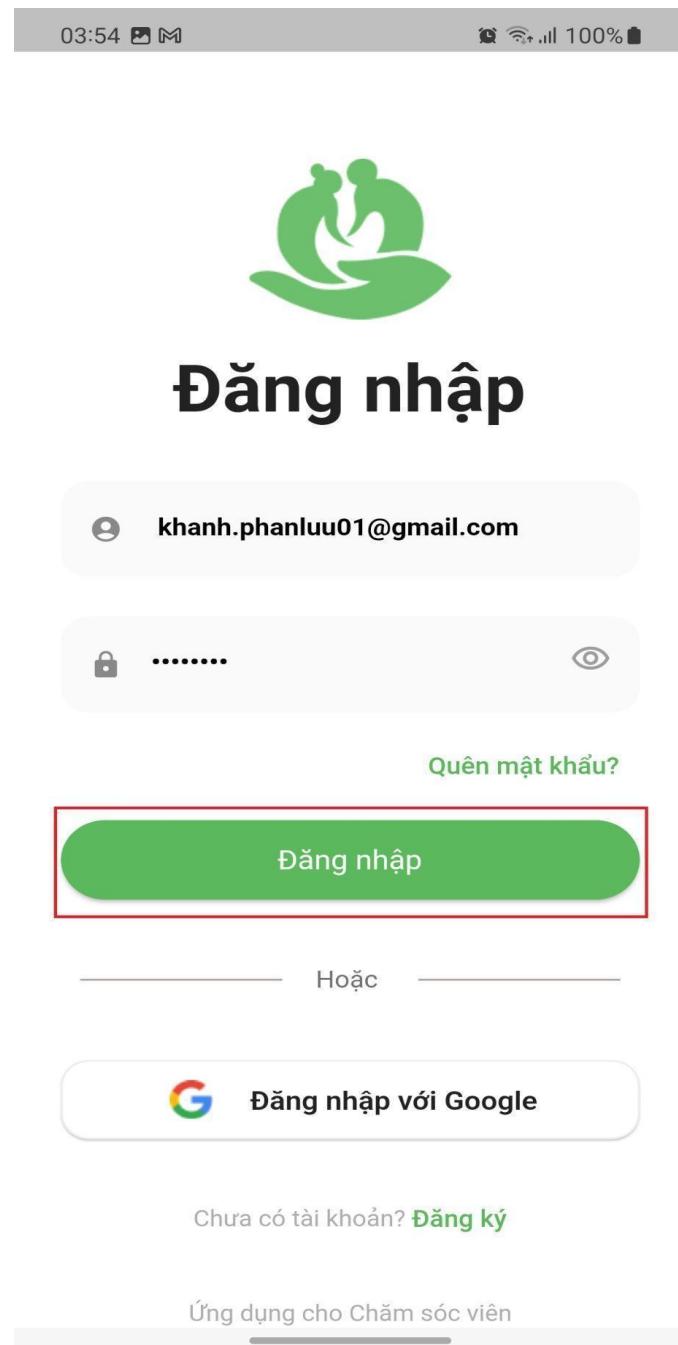


Figure 167. <Mobile Application> Login (Step 2)

3.4.3. Logout



Figure 168. <Mobile Application> Logout

3.3.4. Reset password

- Step 1: Click “Quên mật khẩu?” on the Login screen.



Figure 169. <Mobile Application> Reset password (Step 1)

- Step 2: Enter email that you want to reset the password then click the “Tiếp tục” button.

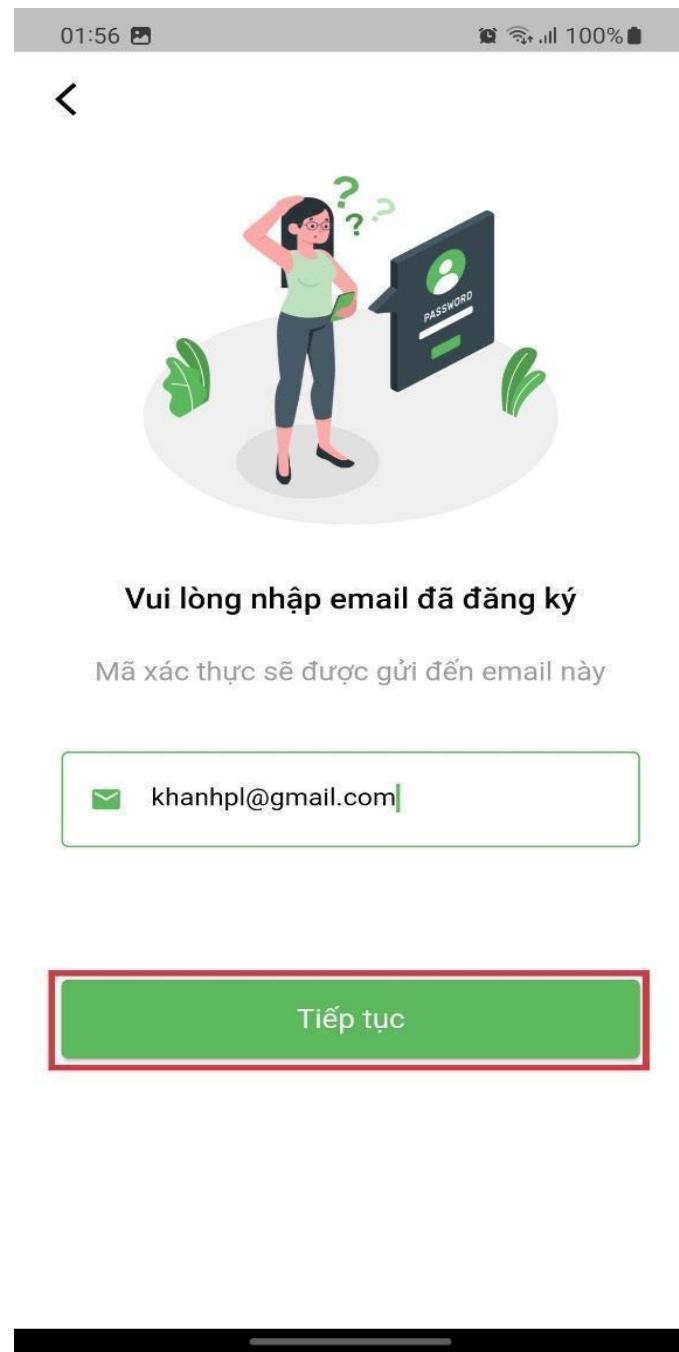


Figure 170. <Mobile Application> Reset password (Step 2)

- Step 3: Enter the OTP code that was sent to the inputted email on the Signup form then click the “Tiếp tục” button.

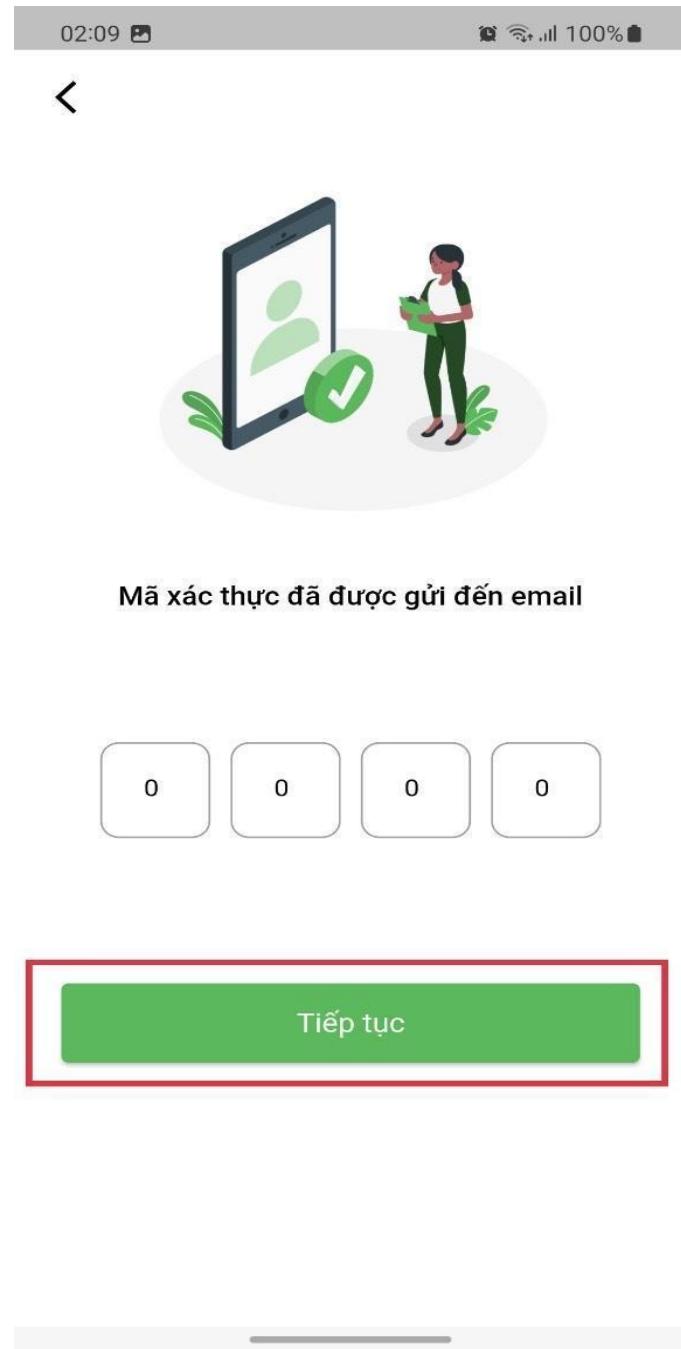


Figure 171. <Mobile Application> Reset password (Step 3)

- Step 4: Enter new password and new password confirm then click the “Hoàn thành” button.

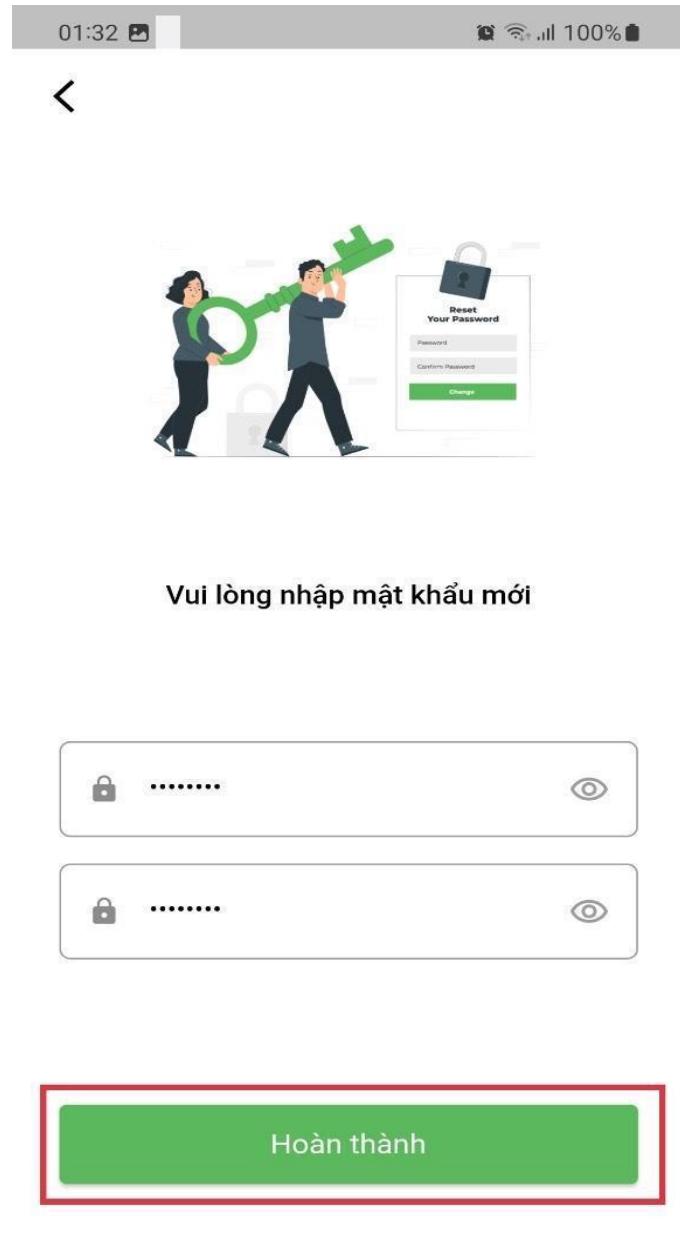


Figure 172. <Mobile Application> Reset password (Step 4)

3.4.5. View contact information

- Step 1: Click “Tài khoản” tab and then click “Thông tin liên lạc” button.

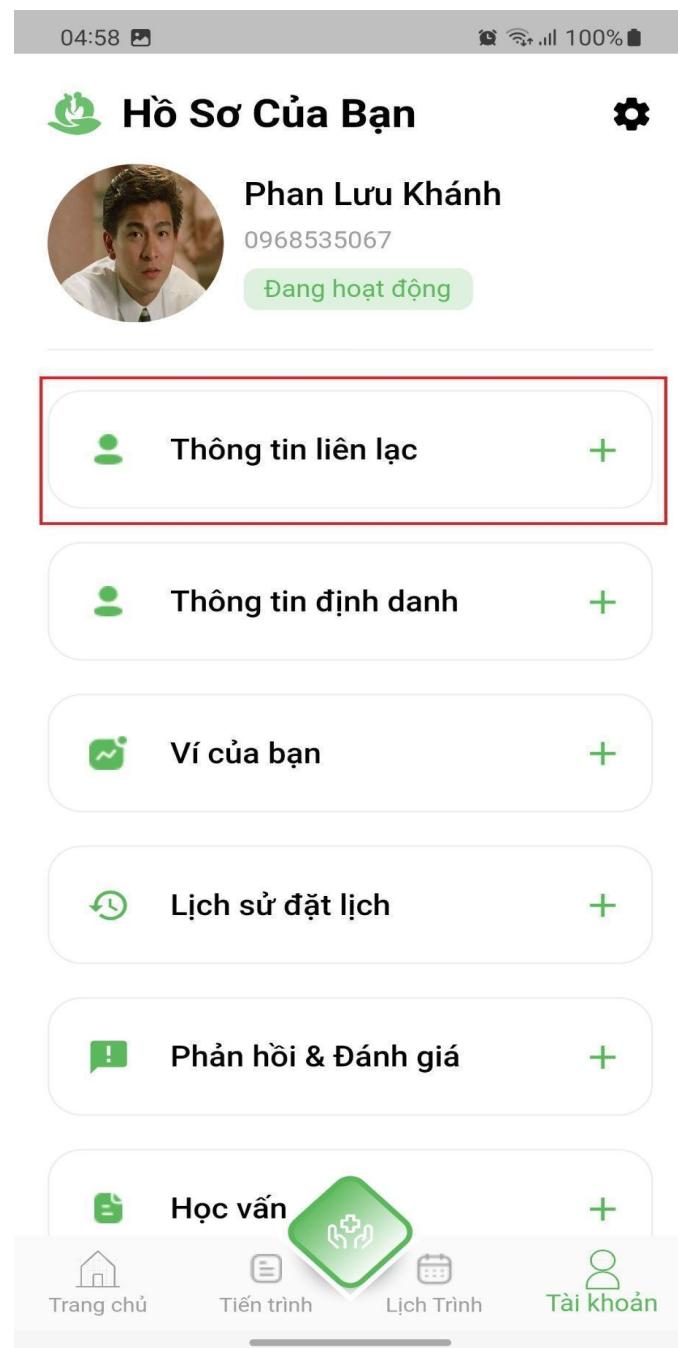


Figure 173. <Mobile Application> View contact information

3.4.6. Update contact information

- Step 1: Click “Thông tin liên lạc” button.
- Step 2: Enter required information and click “Lưu” button.

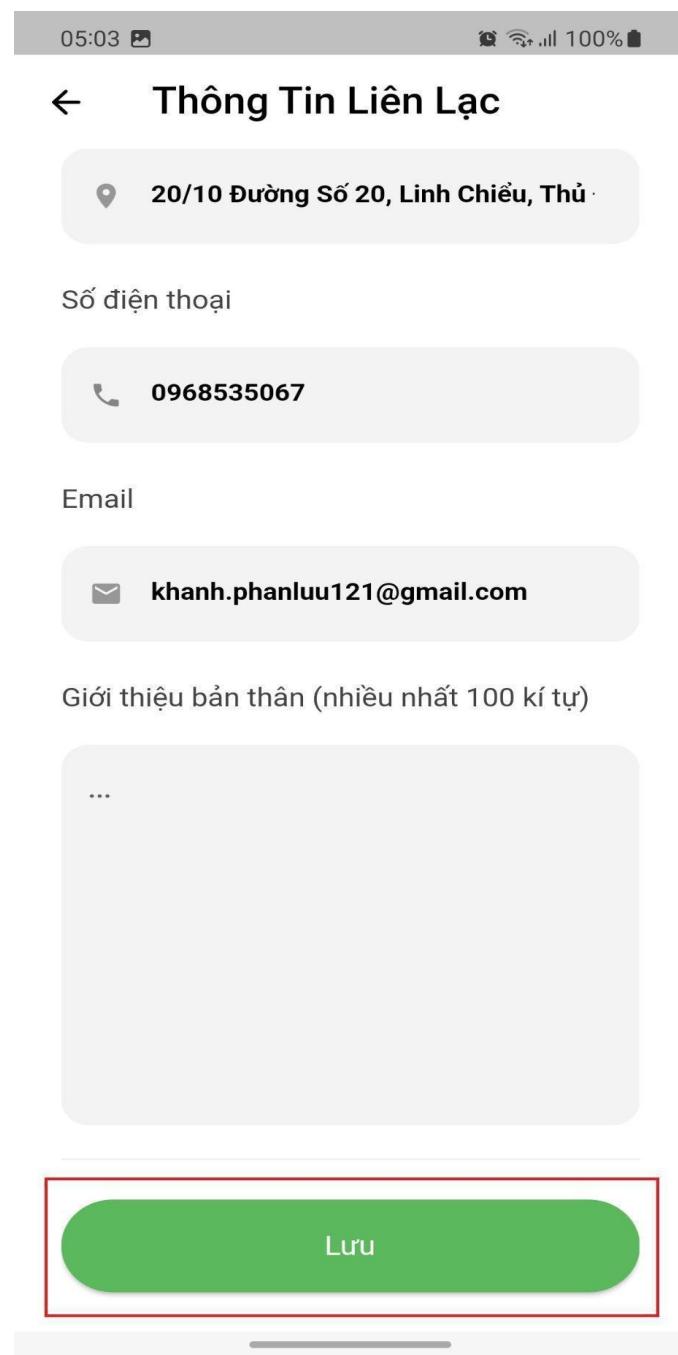


Figure 174. <Mobile Application> Update contact information

3.4.7. View identification information

- Step 1: Click “Tài khoản” tab and then click “Thông tin định danh” button.

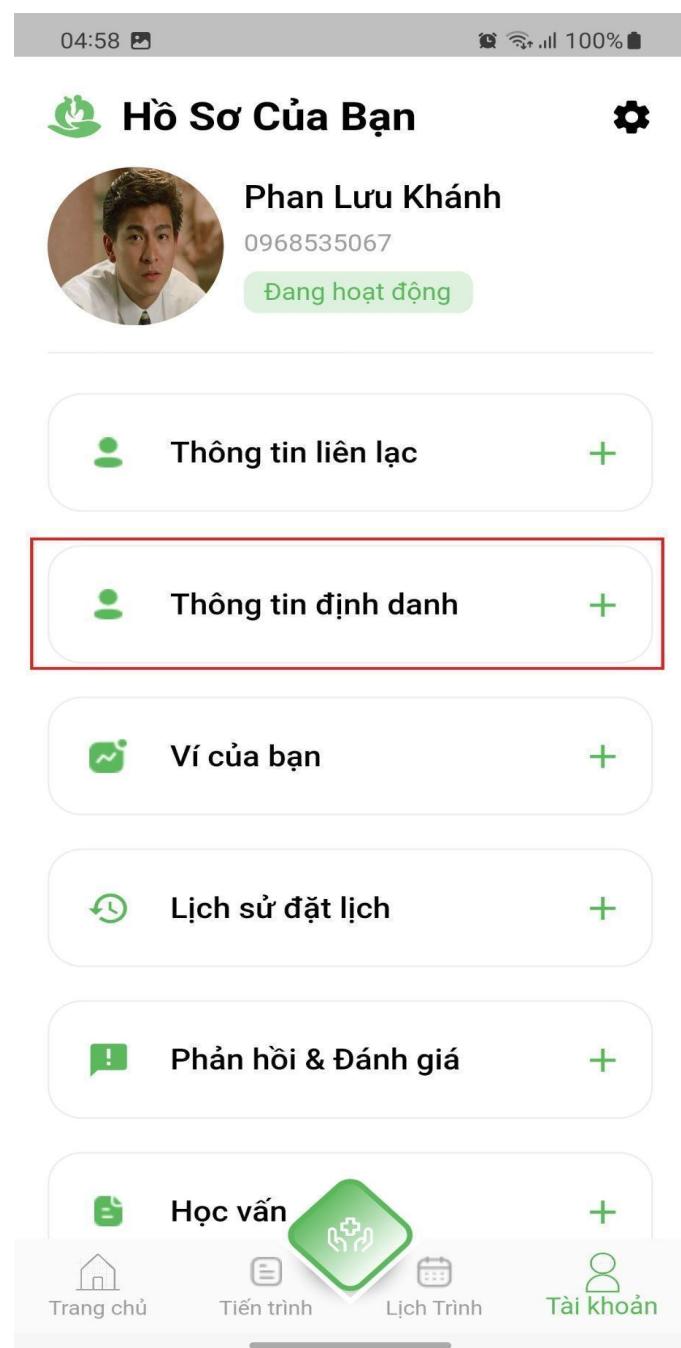


Figure 175. <Mobile Application> View identification information

3.4.8. View transaction history

- Step 1: Click “Tài khoản” tab and then click “Ví của bạn” button.

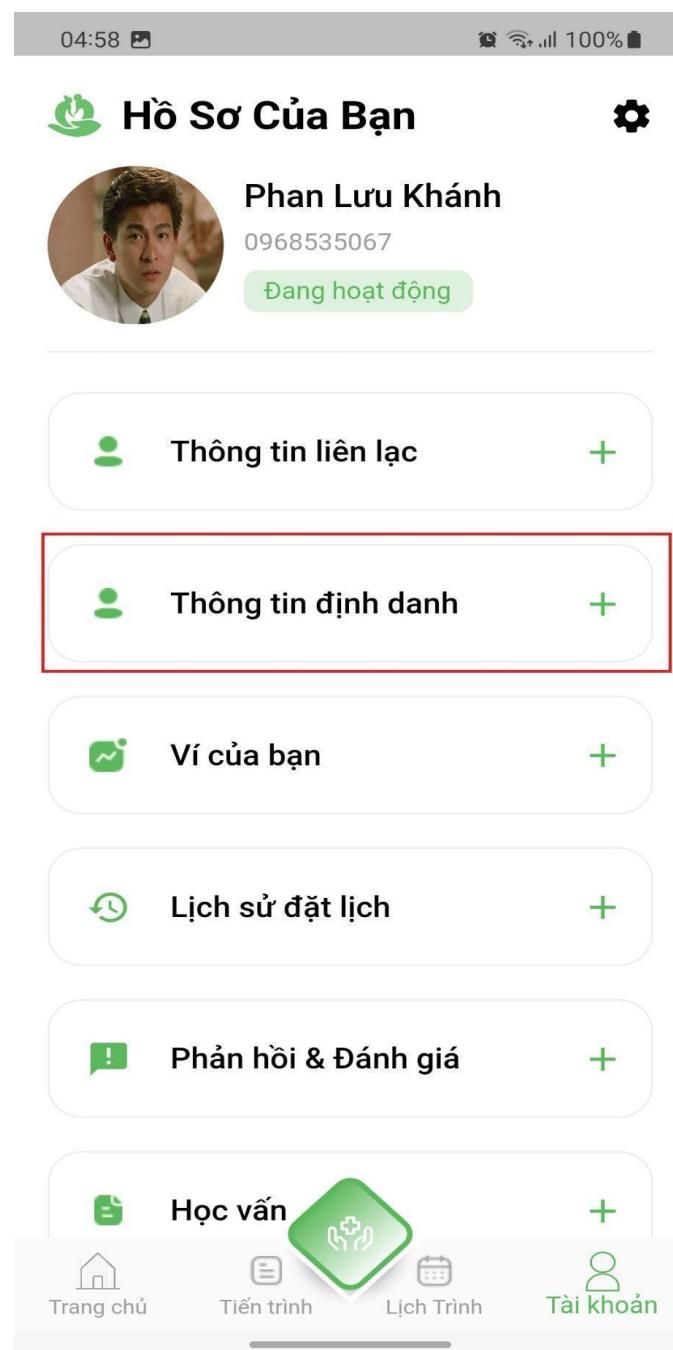


Figure 176. <Mobile Application> View transaction history (Step 1)

- Step 2: Click “Lịch sử giao dịch” tab.

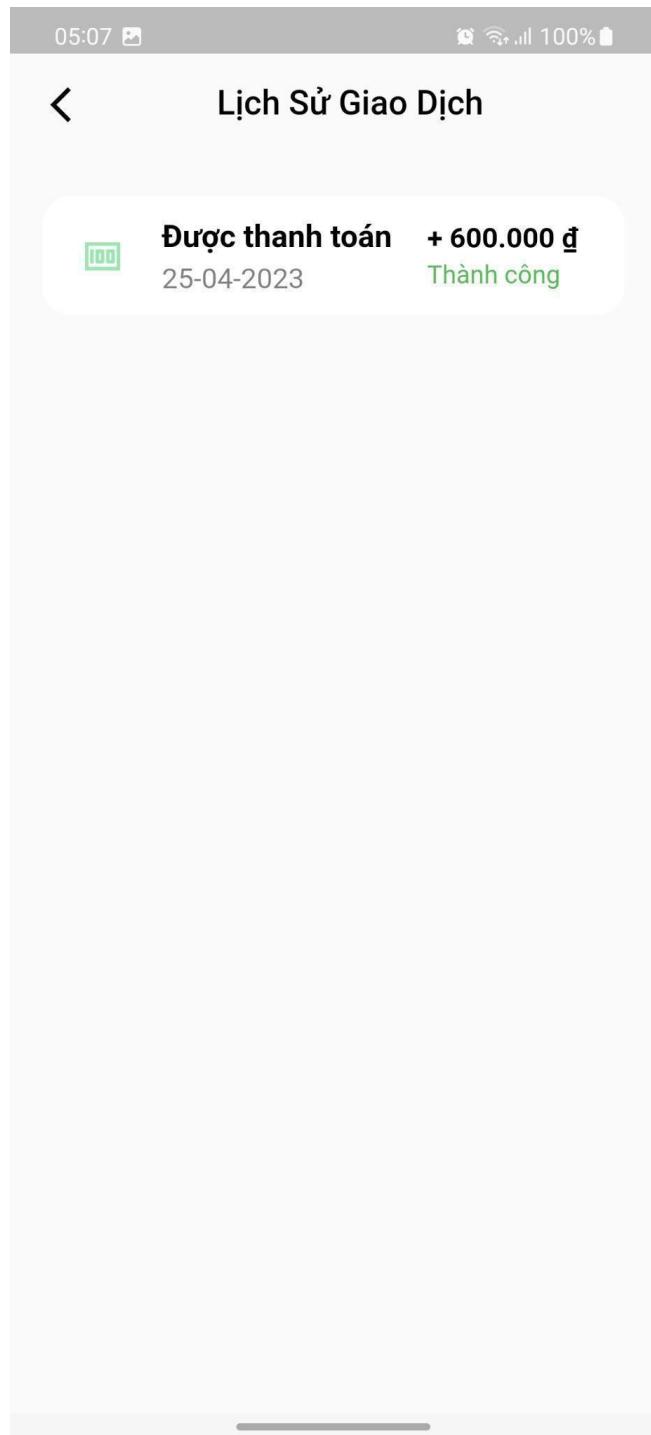


Figure 177. <Mobile Application> View transaction history (Step 2)

3.4.9. View booking history

- Step 1: Click “Tài khoản” tab and then click “Lịch sử đặt lịch” button.

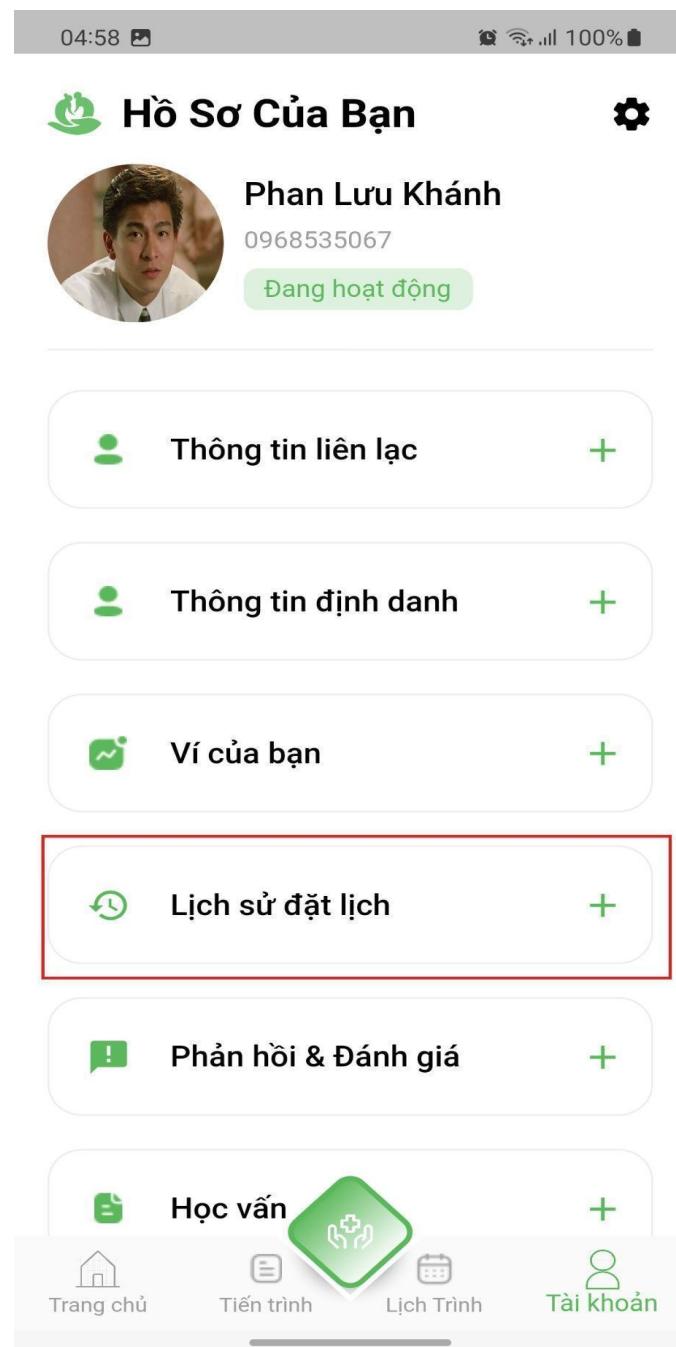


Figure 178. <Mobile Application> View booking history

3.4.10. View Report & Rating

- Step 1: Click “Tài khoản” tab and then click “Phản hồi & Đánh giá” button.

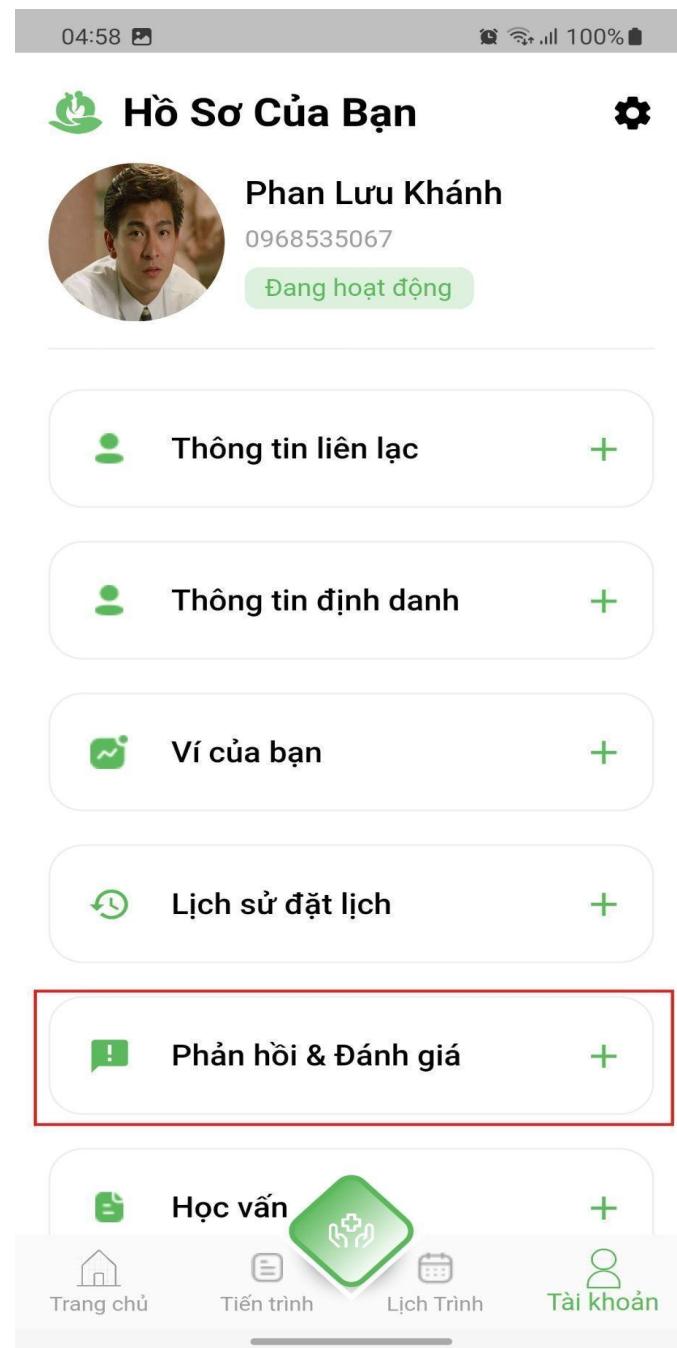


Figure 179. <Mobile Application> View report & rating

3.4.11. CRUD Education

- Step 1: Click “Tài khoản” tab and then click “Học vấn” button.

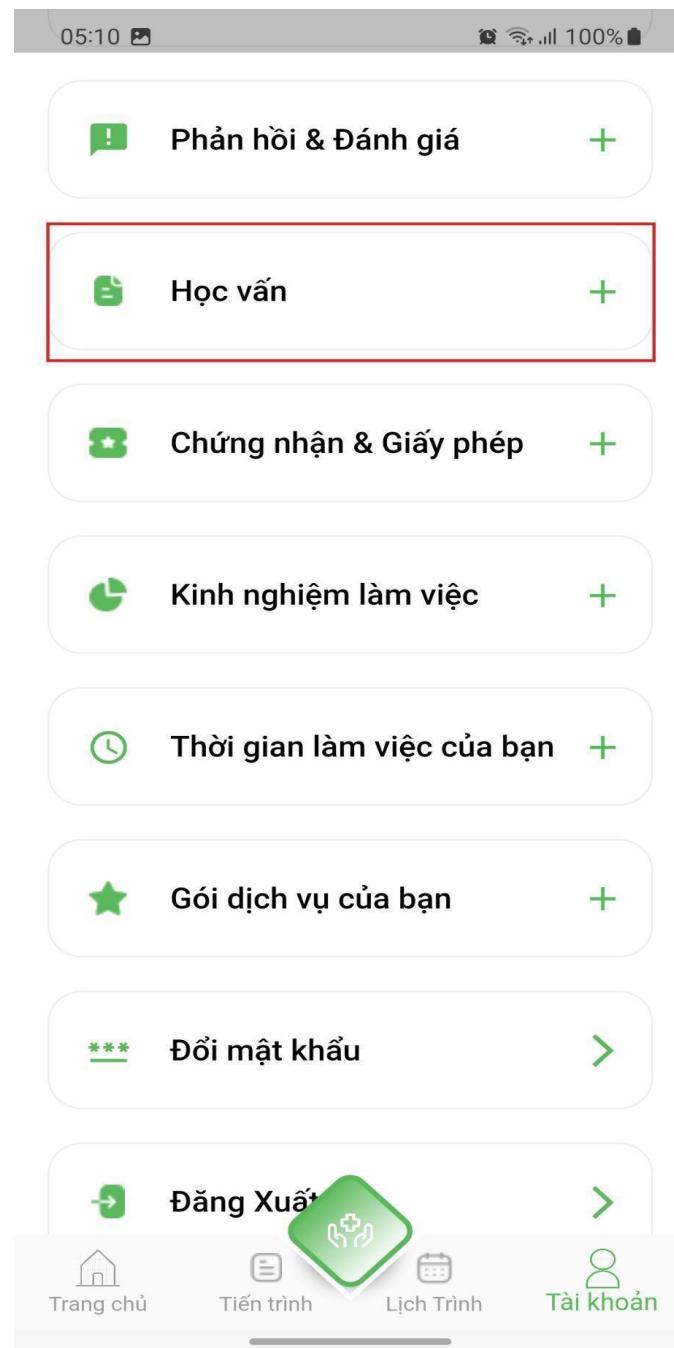


Figure 180. <Mobile Application> CRUD Education

3.4.12. CRUD Certificate

- Step 1: Click “Tài khoản” tab and then click “Chứng nhận & Giấy phép” button.

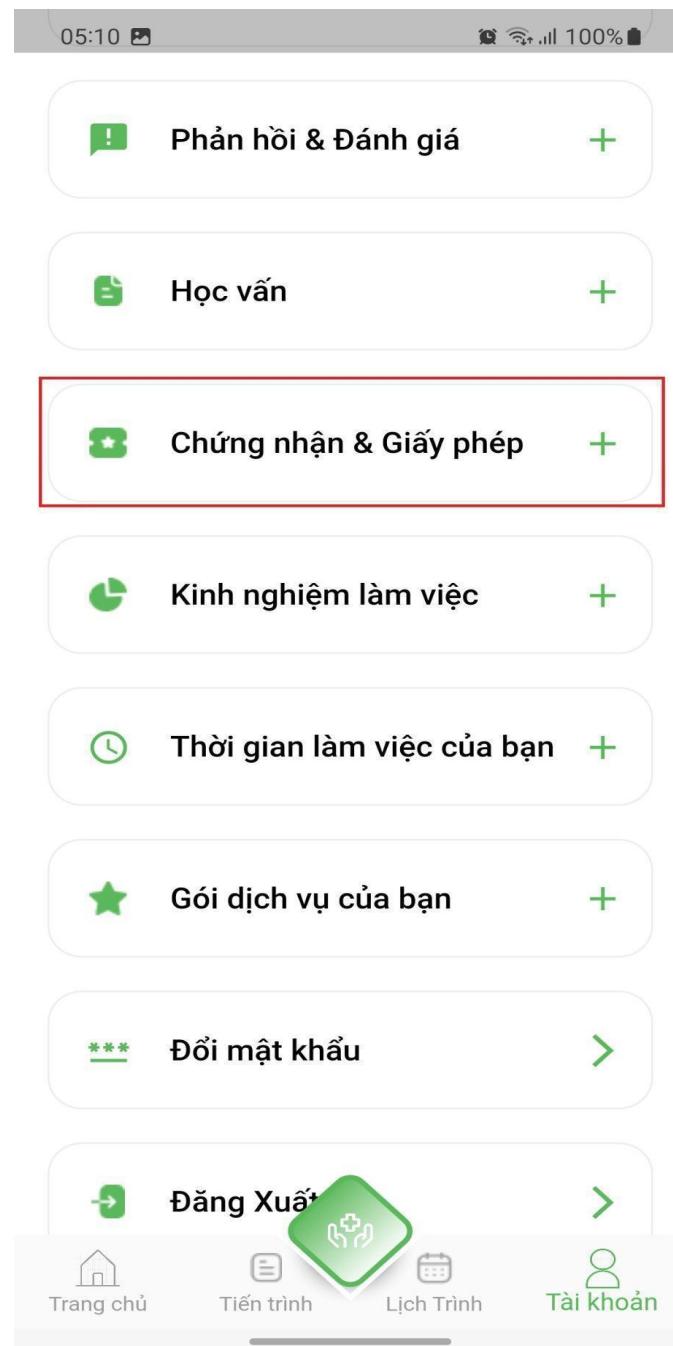


Figure 181. <Mobile Application> CRUD Certification

3.4.13. CRUD Work Experience

- Step 1: Click “Tài khoản” tab and then click “Kinh nghiệm làm việc” button.

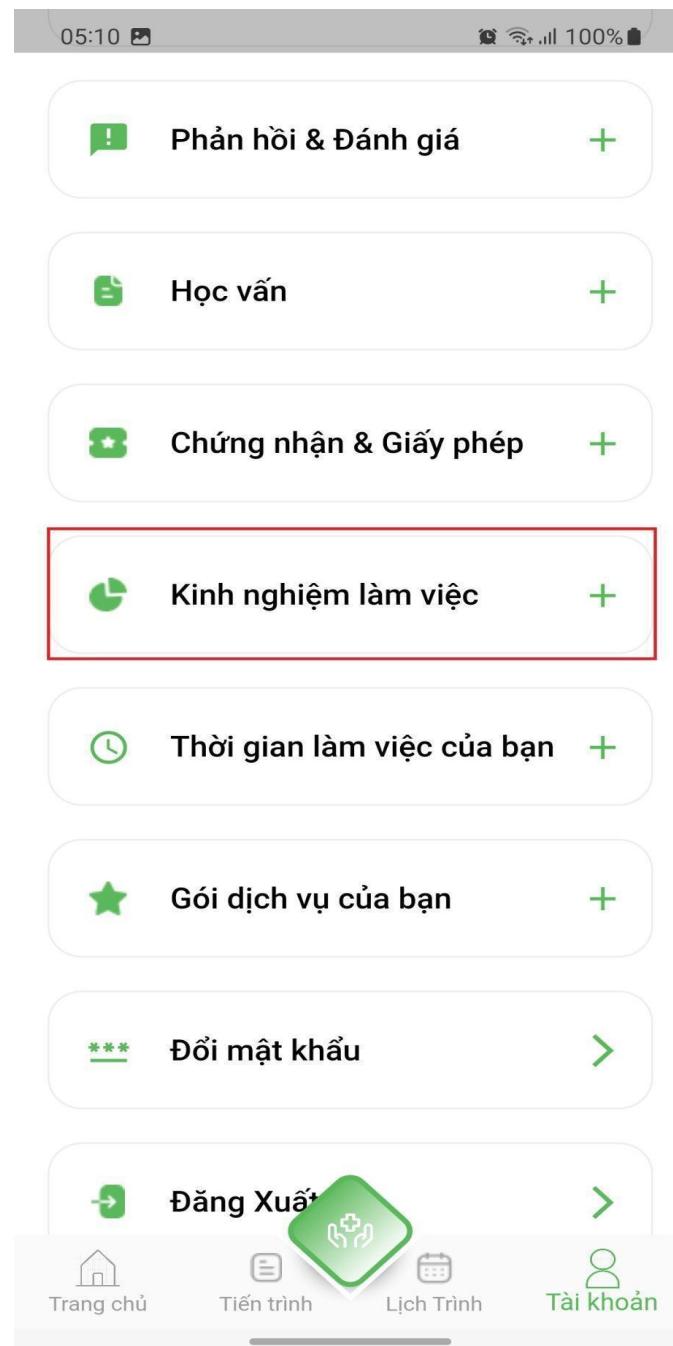


Figure 182. <Mobile Application> CRUD Work Experience

3.4.14. View Working Time

- Step 1: Click “Tài khoản” tab and then click “Thời gian làm việc của bạn” button.

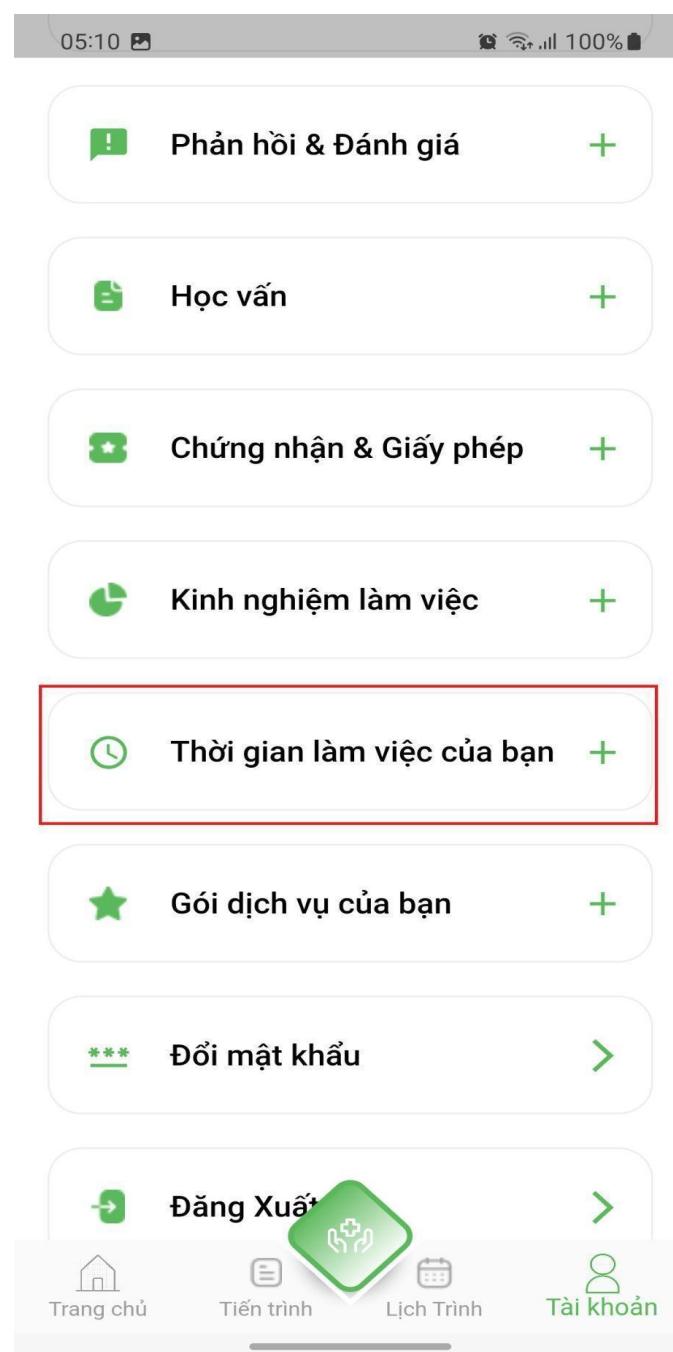


Figure 183. <Mobile Application> View Working Time

3.4.15. Update Working Time

- Step 1: Click “Thời gian làm việc của bạn” button.
- Step 2: Choose Working Time and then click “Xác nhận” button.

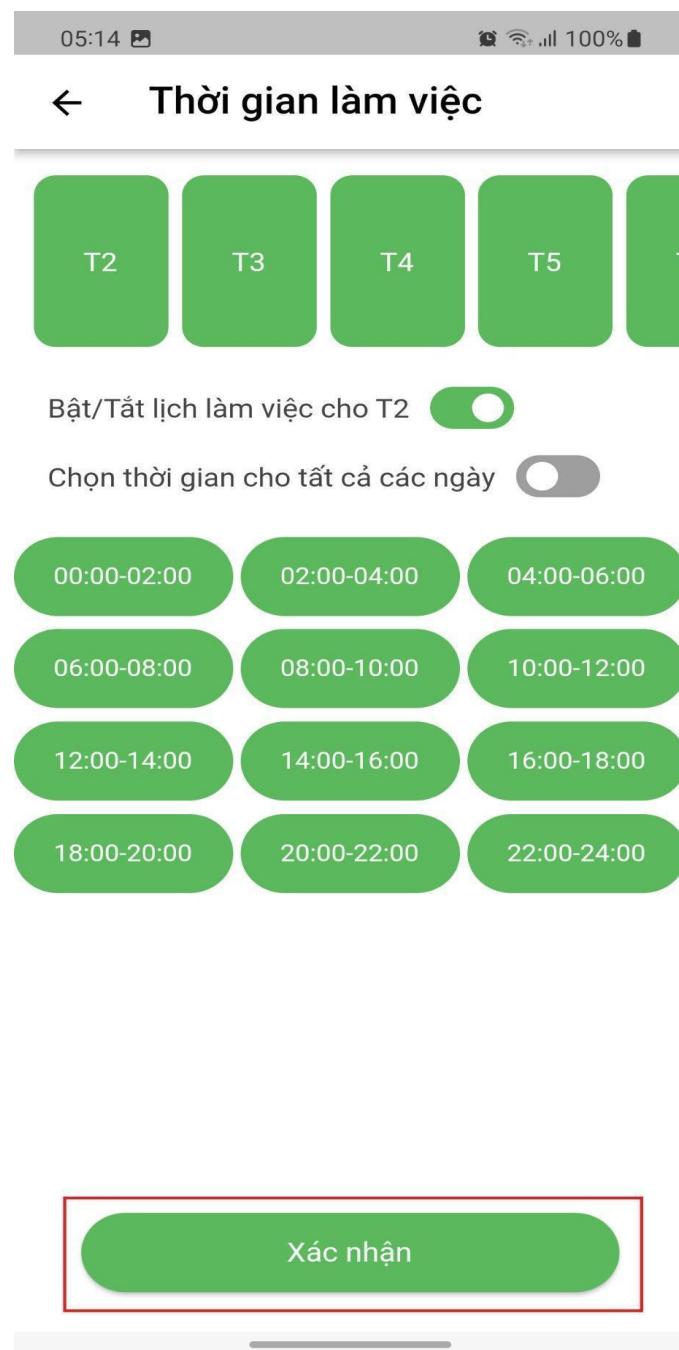


Figure 184. <Mobile Application> View Working Time

3.4.16. View Sitter's Package

- Step 1: Click “Tài khoản” tab and then click “Gói dịch vụ của bạn” button.

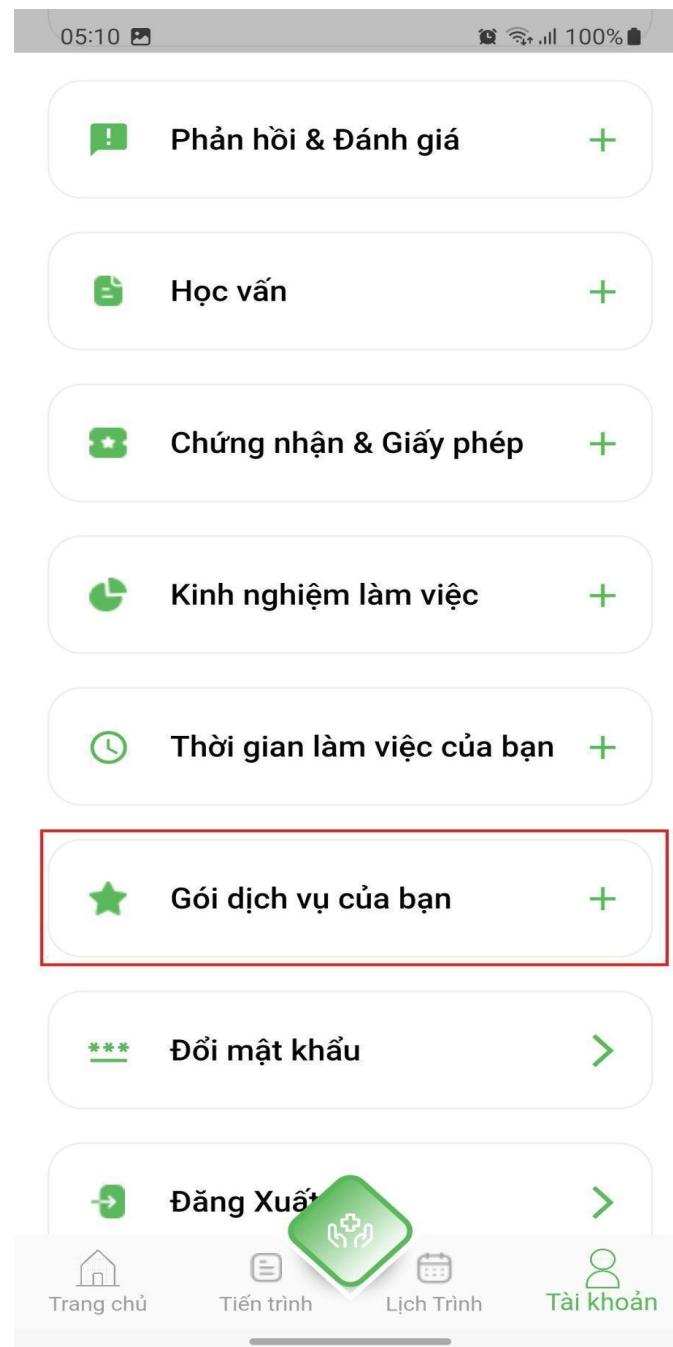


Figure 185. <Mobile Application> View Sitter's Package

3.4.17. Update Sitter's Package

- Step 1: Click “Gói dịch vụ của bạn” button.
- Step 2: Choose package and then click “Lưu” button.

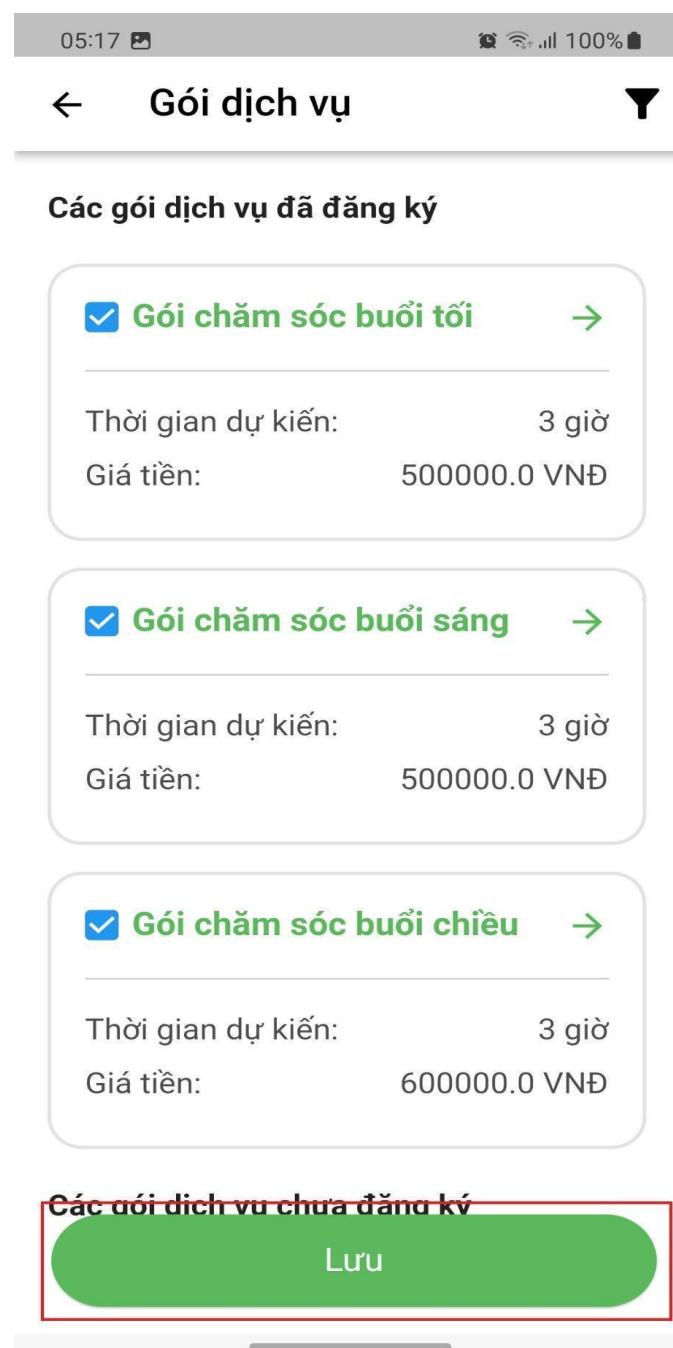


Figure 186. <Mobile Application> Update Sitter's Package

3.4.18. Change password

- Step 1: Click “Tài khoản” tab and then click “Đổi mật khẩu” button.

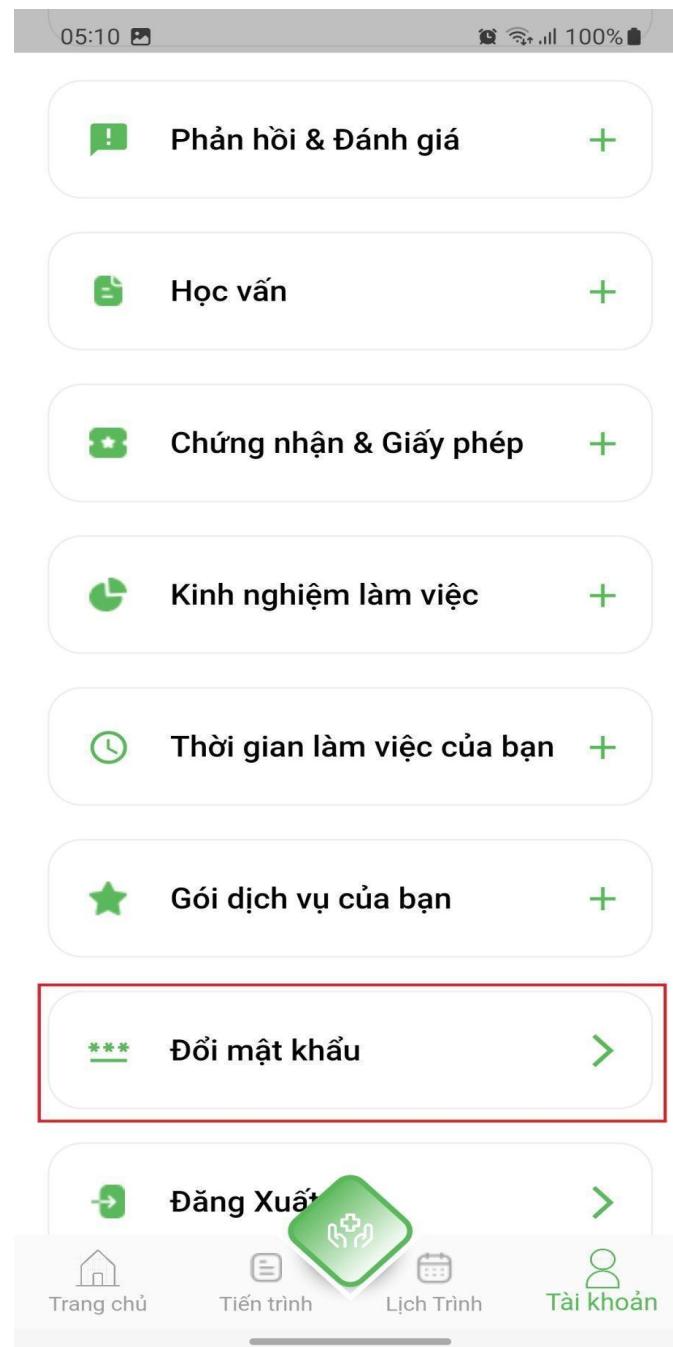


Figure 187. <Mobile Application> Change Password

3.4.19. View booking

- Step 1: Click “Lịch trình” tab and then click specific booking.

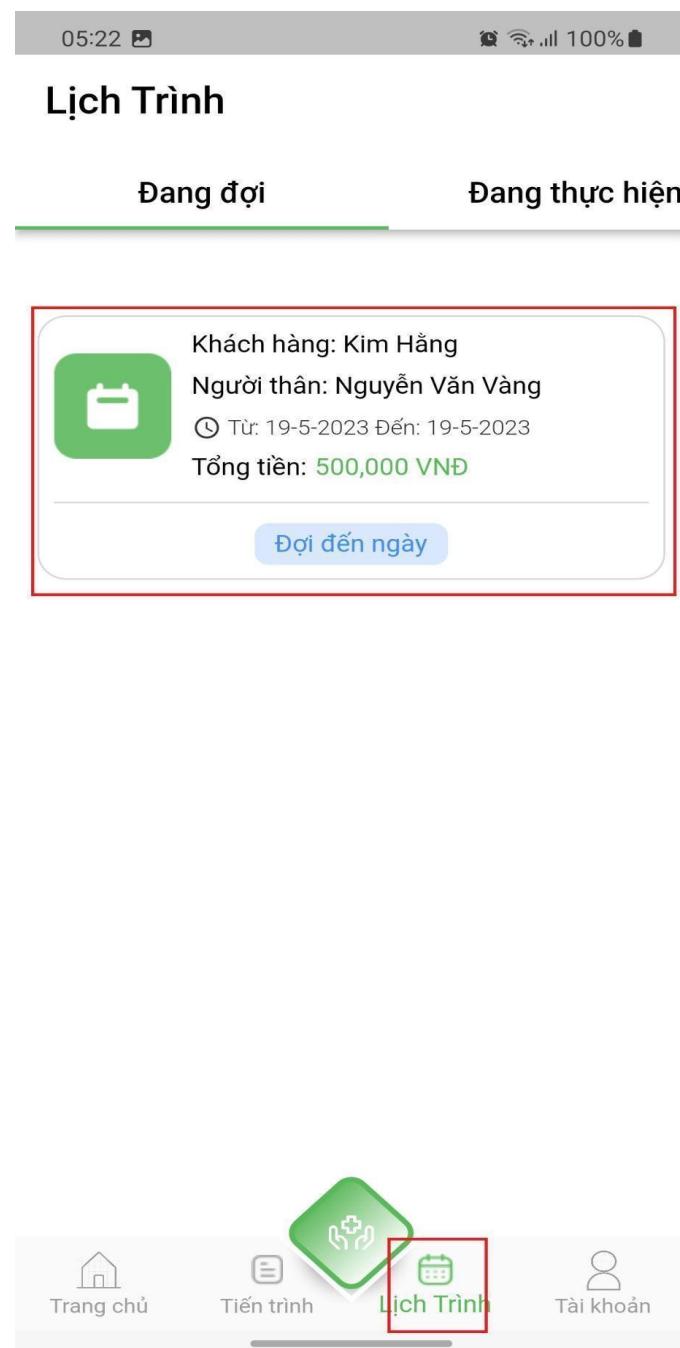


Figure 188. <Mobile Application> View Booking

3.4.20. Check-in

- Step 1: Click booking current in home screen.

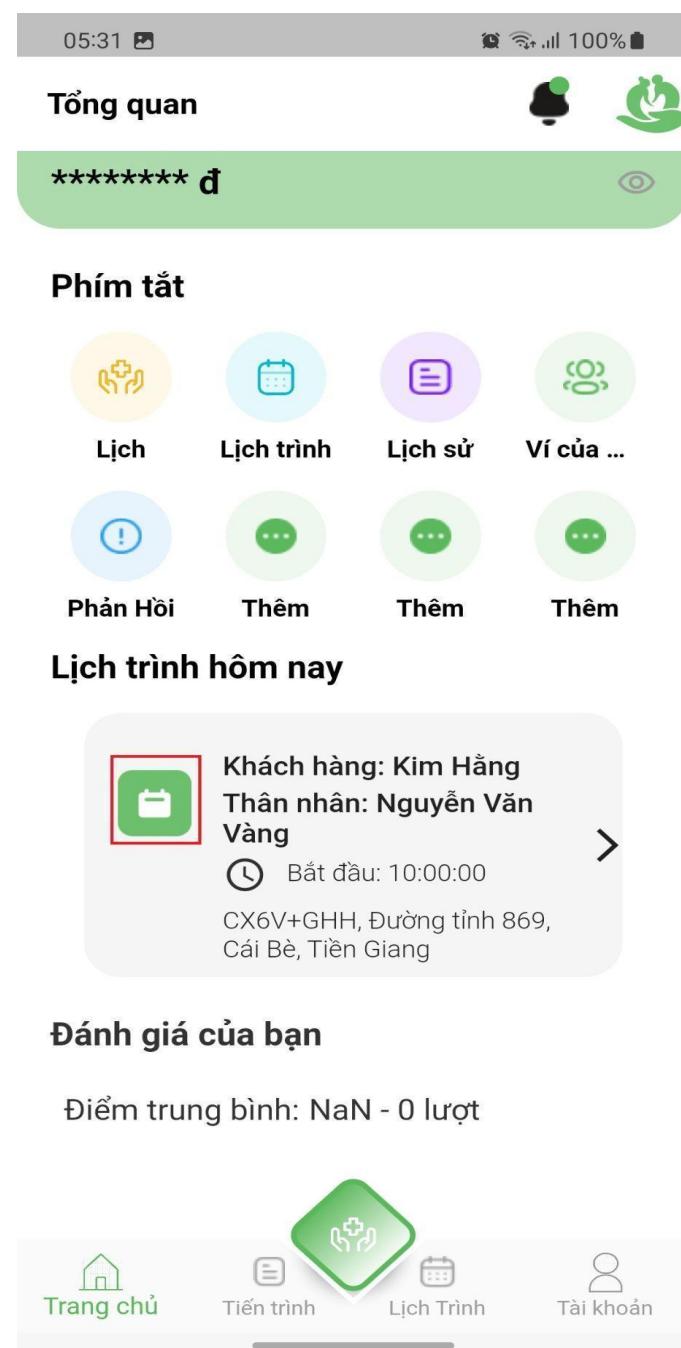


Figure 189. <Mobile Application> Check-in (Step 1)

- Step 2: Click “Check-in” button.

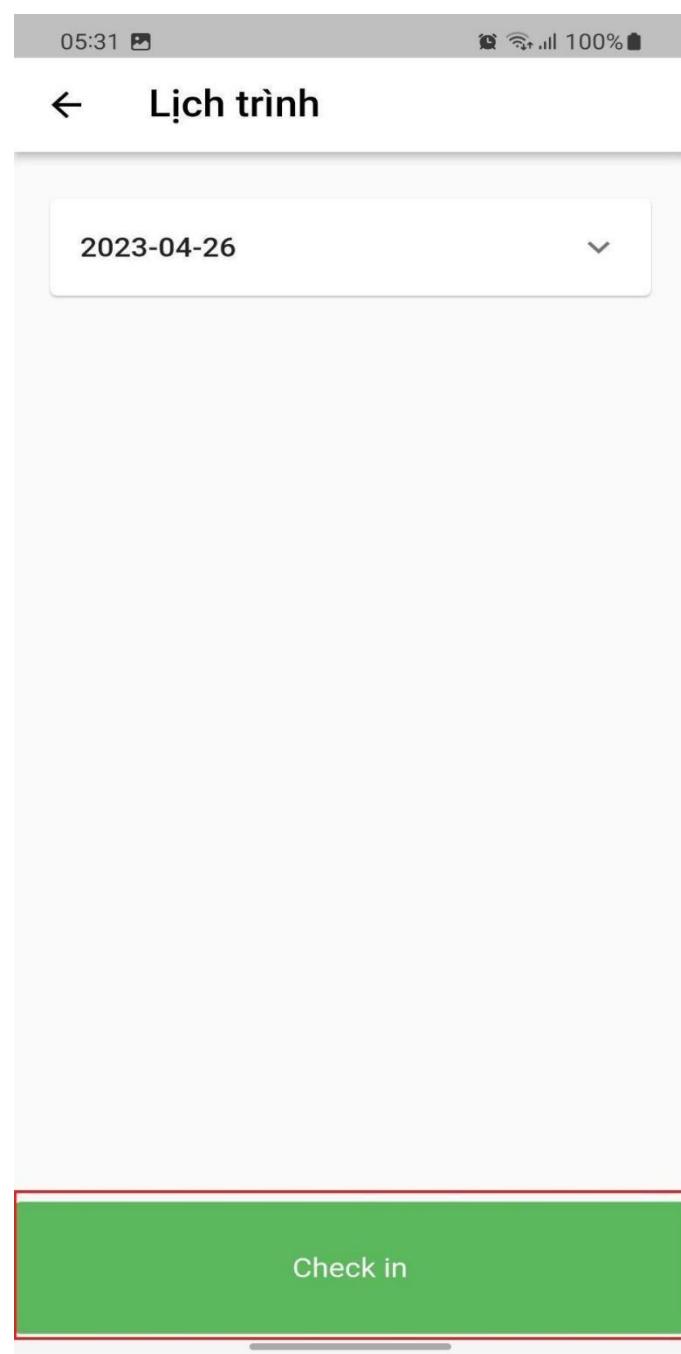


Figure 190. <Mobile Application> Check-in (Step 2)

3.4.21. Note

- Step 1: Click booking in “Tiến trình” tab.
- Step 2: Click “Note” button.

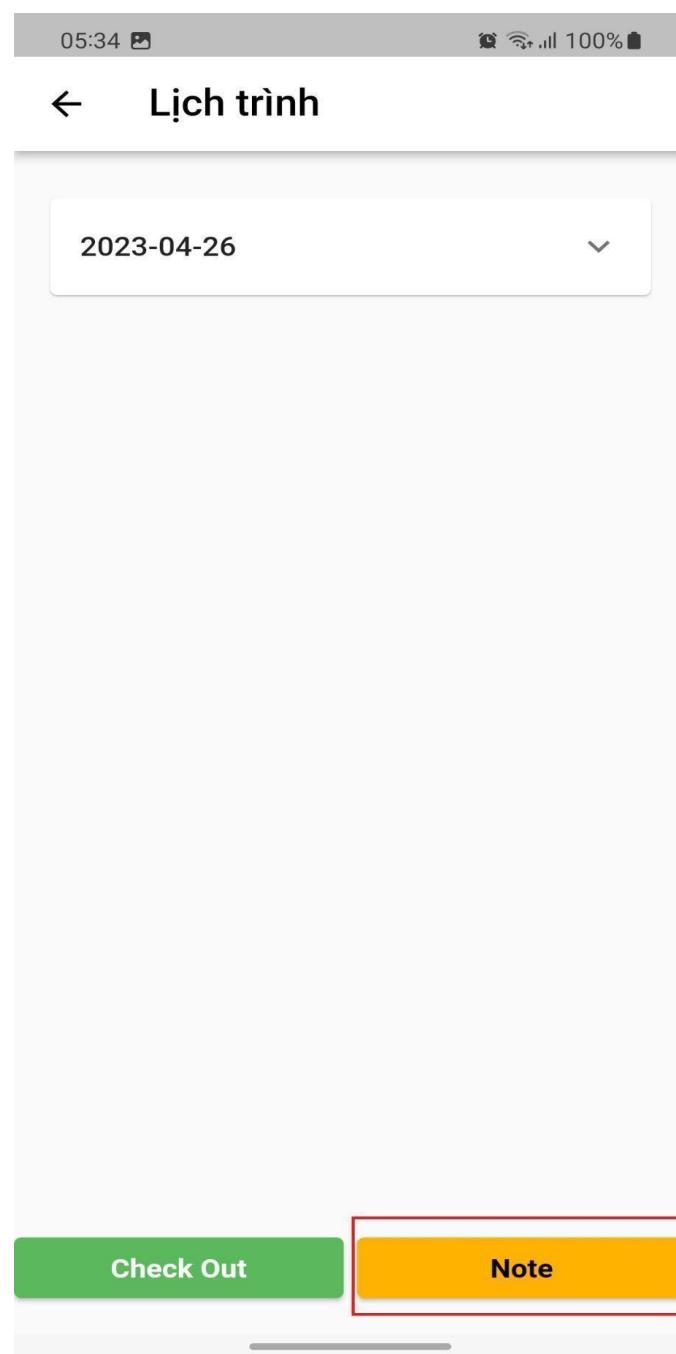


Figure 191. <Mobile Application> Note

3.4.22. Report

- Step 1: Click booking in “Tiến trình” tab.
- Step 2: Click “Phản hồi” button.

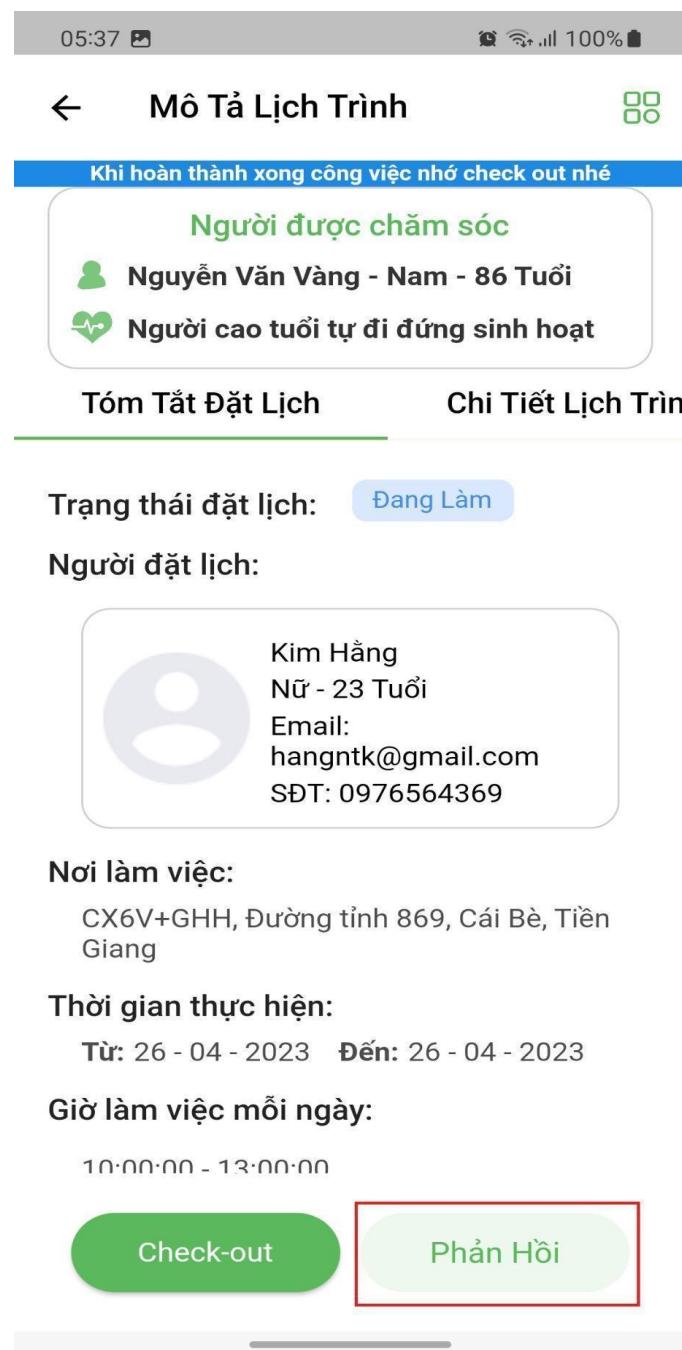


Figure 192. <Mobile Application> Report

3.4.23. Check-out

- Step 1: Click booking in “Tiến trình” tab.
- Step 2: Click “Check-out” button.

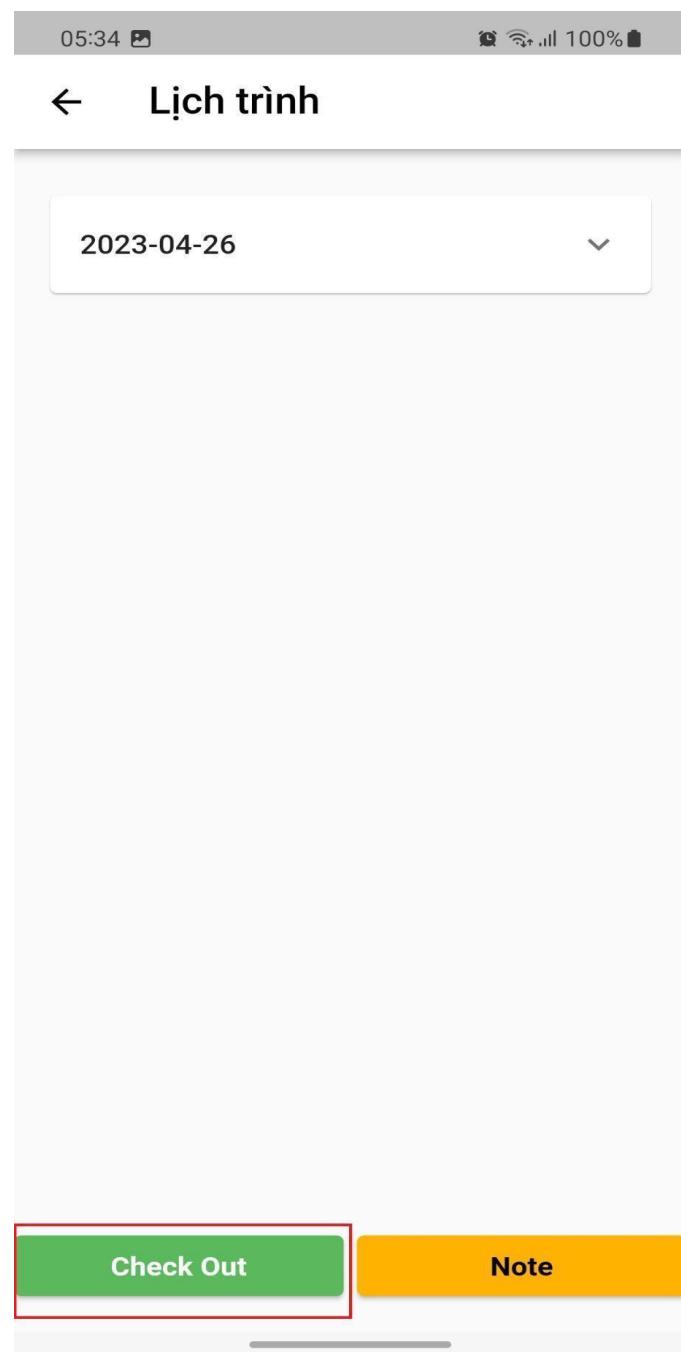


Figure 193. <Mobile Application> Check-out

3.4.24. Accept/Deny request

- Step 1: Click “Đơn mới” tab.
- Step 2: Choose Accept or Deny button.

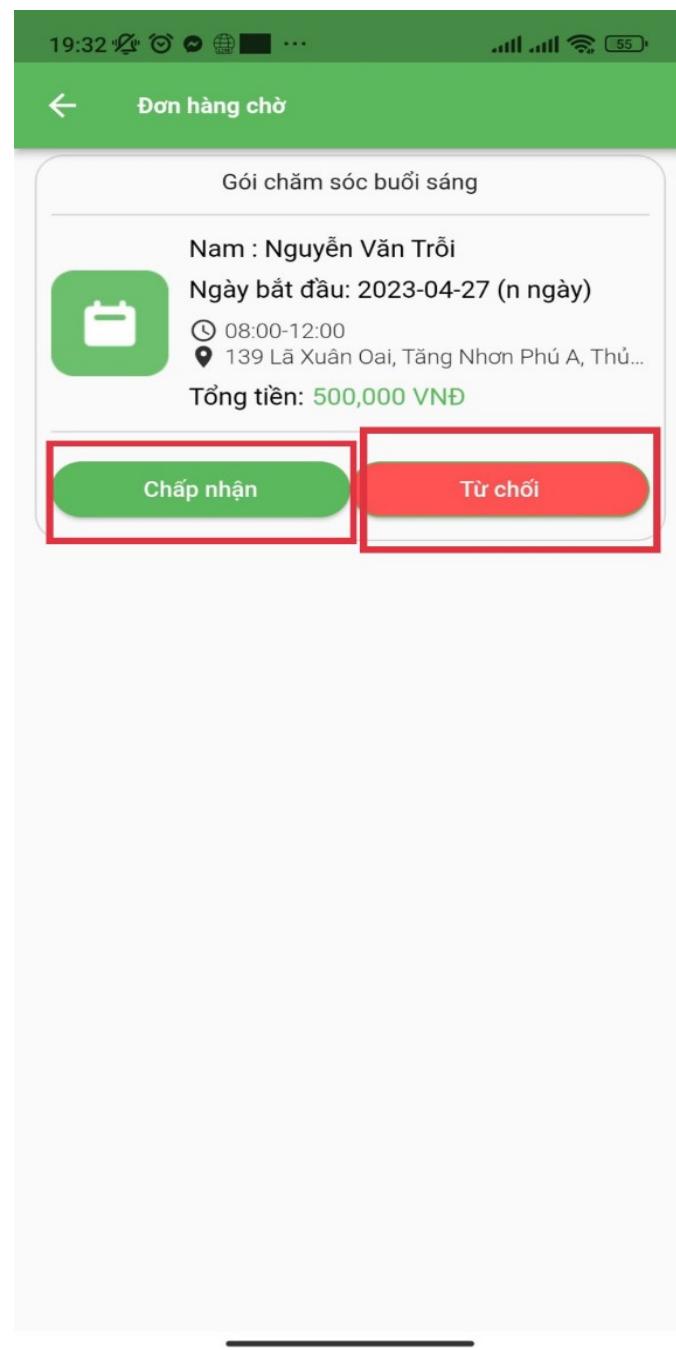


Figure 194. <Mobile Application> Accept / Deny request