



MINISTRY OF EDUCATION AND TRAINING

FPT UNIVERSITY

Capstone Project Document

Scrap Collector

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A. Introduction

1. Project Information

- Project name: **Scrap Collector**
- Project Code: **SC**
- Product Type: **Mobile Application, Website Application**
- Start Date: **January 13rd, 2020**
- End Date: --

2. Introduction

In this document, we introduce a new solution for those who are doing the job as collecting scraps. Scrap are unusable materials such as iron, aluminum, plastic bottles, cans, etc., which can be recycled. The current job of the scrap collectors is to go around and ask their neighborhood if anybody has scrap to sell. That traditional way is inconvenient for both the collector and the homeowner.

Based on our researches and analysis, we offer a solution for scrap collectors and people who want to sell scrap in Vietnam. We build a mobile application, which helps the scrap collectors to find near-by scraps based on their location, create scrap bookings and contact to the seller via calling or chatting. The mobile application also helps the collectors to set up schedule to collect all the booked scrap.

Beside of that, our mobile application helps homeowner who wants to sell scrap to post scrap and contact the collector easily.

3. Current Situation

Currently, there is no mobile application that helps scrap collectors to organize their work in a smarter way yet. Every day, the collector goes around his/her living place to collect scrap, and if the homeowner wants to sell scrap, he/she has to wait for the collector. Some large scrap collecting services post their contact information on websites, Facebook pages or E-commerce websites for those who want to sell scrap can contact. The homeowner can call and require the scrap collecting service to go to their house or can bring their scrap to the address of that service.

4. Problem Definition

Below are the disadvantages of the current situation:

- The collector spends all day outside but cannot find any scrap.
- The collector forgets to go to collect the scrap that has been dealt with the customer.
- The collector cannot optimize his/her routes.
- The homeowner finds it difficult to find a scrap collector so he/she often throws scrap as garbage.
- The homeowner has to wait for the scrap collector to pass by his/her house and call the collector.

5. Proposed Solution

Building a mobile application known as a scrap collector helping system named "Scrap Collector". It helps scrap collectors to enhance their productivity in daily work. The following workflow and features should be implemented:

5.1 Feature functions

- Post scrap and request collector to pick-up
- Search for near-by scraps
- Book scrap
- Negotiate scrap price for better benefit
- Get a pick-up schedule that is optimized based on location and time
- Review collector
- User can contact to others through calling or chatting

5.2 Advantages and disadvantages

The advantages and disadvantages of the proposed solution:

❖ Advantages:

- More effective way for the collector to collect scraps
- The good interaction between the homeowner and the collector
- Support the homeowner to sell scraps for further recycling instead of throwing away scrap
- Save time and effort for both homeowner and collector

❖ Disadvantages:

- Only support for scrap collectors in Viet Nam
- Not all scrap collectors have smart phone to take advantage of this application

6. Functional Requirements

Function requirements of the system are listed as below:

6.1 Admin:

- Admin can view all accounts in the system.

- Admin can view all scraps posted by homeowner.
- Admin can view all categories in the system
- Admin can add new category, update category, deactivate category and activate category
- Admin can view all report about scrap or user

6.2 Collector:

- Collector can find near-by scrap.
- Collector can view detail of each scrap.
- Collector can contact with the owner customer of the scrap.
- Collector can negotiate the price of scrap with customer.
- Collector can view the list of dealt scrap.
- Collector can view review from Homeowner.
- Collector can update profile.

6.3 Homeowner:

- Homeowner can post scrap for sale.
- Homeowner can contact the collector.
- Homeowner can negotiate price of scrap with collector.
- Homeowner can cancel, update status of posted scrap.
- Homeowner can review collector.
- Homeowner can update his/her profile.

7. Role & Responsibility

No	Full Name	Role	Position	Contact
1	Lại Đức Hùng	Project Manager	Supervisor	hungld5@fe.edu.vn
2	Nguyễn Duy Đạt	Developer	Leader	datndse63093@fpt.edu.vn
3	Tiết Lê Bảo Khánh	Developer	Member	khanhtlbse62247@fpt.edu.vn
4	Nguyễn Hoàng Anh Trung	Developer	Member	trungnhase62282@fpt.edu.vn
5	Nguyễn Hoàng Nhân	Developer	Member	nhannhse63259@fpt.edu.vn

Table 1 - Role & Responsibility

B. Software Project Management Plan

1. Problem Definition

1.1 Name of this Capstone Project

- Official name: Scrap collector
- Vietnamese name: Ứng dụng hỗ trợ thu mua ve chai
- Abbreviation: SC

1.2 Problem Abstract

- As current Vietnamese scrap collectors waste a lot of time to go around and find who has scrap to sell. This traditional way is ineffective, for example, the collectors don't know exactly where their target customers are, so they just go around and ask loudly for scrap, which costs their time, their force and harms to their health.
- This project is concern about implementing information technologies and mapping direction algorithms into scrap collectors' daily work. We call it Scrap Collector Helper System (SC). SC provides the homeowner an easy tool to post the scrap they want to sell with detail information and the recommended price. Besides that, SC also provides the collector a feature to find out near-by scraps, book scrap and contact with the homeowner. Moreover, SC helps the collector to save time and force by providing the optimized route to collect all booked scraps. Finally, SC gives homeowner chances to review the collector in order to help collectors work better.

1.3 Project Overview

1.3.1 Current Situation

Below are the problems encountered in this project:

- Limit of time: our team has only 4 members and we have to get requirements, complete document, develop product and do the test in just 14 weeks.
- New technique and framework: when applying new framework into capstone project, all members of the team need an amount of time to get used to new techniques.
- Lack of User Interface and User Experience design skill: all team members are studying JS for major; no one has studied about UI and UX designing before.
- Misunderstanding in business logic: the business logic of scrap collecting is quite strange with us, and all requirements are given by the mentor, who is not a scrap collector. Although we have observed many scrap collectors, there are still some misunderstood logic.

- Absence of team member: team members can have a conflict in meeting schedule because of sickness, class timetable or work schedule, etc...

1.3.2 The Proposed System

According to researches, we decided to build a system call “Scrap Collector” to help both scrap collector to book scrap and homeowner to post scrap for selling. There are two mobile application, one for collector and one for homeowner.

We also build a high available web server to maintain the main system to work 24/7 to make sure that if mobile applications have the need of accessing to the server to get or update the information there will always be available.

We assign responsibility in vertical to make sure if any member in this problem cannot continue to work in our team there will be the least harmful to the project processes.

Our system includes 2 main subsystems:

- An online website for the admins to help them manage user account, category and scrap post.
- A mobile application for homeowner and collector to sell and buy scrap.

1.3.2.1 Web application

Web application is common tool to help admin manage user, category and scrap post. This application is used by administrator team to do following features:

- Manage user account
- Manage scrap category
- Manage posted scrap

1.3.2.2 Mobile application

Mobile application is a tool to help homeowner and collector to sell and buy scrap. Mobile application provides following features:

- For homeowner:
 - Post scrap for sale
 - Contact the collector
 - Manage scrap
 - Negotiate scrap price
 - Update scrap information
- For collector:
 - Find near-by scrap
 - Find latest scrap
 - Book scrap

- Contact the homeowner
- Schedule to pick up scrap
- Negotiate price

1.3.3 Boundaries of the System

The system can:

- Allow Admin to manage user accounts .
- Allow Admin to manage list category of scrap.
- Allow Admin to manage scrap posted by homeowner.
- Allow Homeowner to post scrap for sale.
- Allow Homeowner to negotiate scrap price.
- Allow Homeowner to contact the collector.
- Allow Homeowner to review the collector.
- Allow Collector to find near-by scrap.
- Allow Collector to negotiate scrap price.
- Allow Collector to schedule a pickup.
- Allow Collector to contact the homeowner.

The system cannot:

- Help collector make payment online.
- Help collector to schedule to pick up scrap by distance

1.3.4 Future Plans

Current system aims to sell scrap only, with current architecture of mobile application, we can extend the scale of system to sell things such as old technical devices, old clothes...

If this application becomes widely used, the team intends to implement these following features:

- Develop the application to make it more flexible and can be run on low-platform device
- Implement “Chinese Postman Problem” algorithm to help Collector to find the shortest path to visit and pick all scraps in a day
- Improve security of system by strict validation and authorization filters
- Allow collector to make video call with homeowner to check scrap
- Connect with scrap factory to help collect large amount of scrap
- Widen the scale of application, distribute it to another countries like countries in ASIAN

1.3.5 Development environment

1.3.5.1 Hardware requirements

For server

Hardware	Minimum Requirement	Recommended
Internet Connection	Cable, Wi-Fi (8 Mbps)	Cable, Wi-Fi (50 Mbps or more)
Operation System	XP, Vista, 7, 10, Window Server 2008	10, Window server 2008
Computer Processor	Intel® Xeon ® 1.4GHz	Intel® Xeon ® Quad Core (12M Cache, 2.50 GHz)
Computer memory	4GB RAM	32 GB RAM or more
Storage space	2GB	4GB or more

Table 2 - Hardware Requirements for Server

For PC

PC	Minimum Requirements	Recommended
Internet Connection	Cable, Wi-Fi (4 Mbps)	Cable, Wi-Fi (8 Mbps)
Operating System	Window 7	Window 7 or more.
Computer Processor	Intel® Core i3 1.4GHz	Intel® Core i5 2.50GHz
Computer Memory	1GB RAM	2GB RAM or more
Web Browser	Chromes (v42 or higher)	Chrome latest stable version

Table 3 - Hardware requirement for PC

1.3.5.2 Software requirement

Software	Name / Version	Description
Operation System	Windows Server 2014	Operating system and platform for development

Environment	Java EE 8.0, Node v10, npm v6, react-native v0.61	Specification for developing web application and mobile application
Modeling tool	StarUML	Used to design diagram
IDE	Visual Studio Code 1.27.2, Android Studio 3.2	Programming tools
DBMS	PostgreSQL	Used to create & manage the database for system
Source control	GitHub, GitLab	Used for source control and store documents
Web browser	Chrome 69 or above	Testing browser
Android Emulator	Genymotion, Android studio adb	Testing mobile device

Table 4 - Software Requirement

2. Project Organization

2.1 Software Process Model

Our team has chosen to use Scrum model for developing this project. Scrum is one of the implementations of agile methodology. Scrum allows us to focus on delivering deliverables to the customer at the end of every sprint, each sprint lasts about two or three weeks. Below are reasons why our team chooses Scrum model:

- Our team has only 4 members, and tasks are considered to be assigned vertically, which means that each member has to take part in all steps from getting requirements, designing, implementing, testing and managing. So, Scrum is the most suitable model for a medium project like Scrap Collector.
- User requirements are very difficult to be defined at first time, and product owner may change requirement or extend scope. With Scrum model, team member can adapt to changes better.
- In this project there are many new technologies that need to be learned. With the Scrum model, the team can learn and develop in parallel to meet deadline.

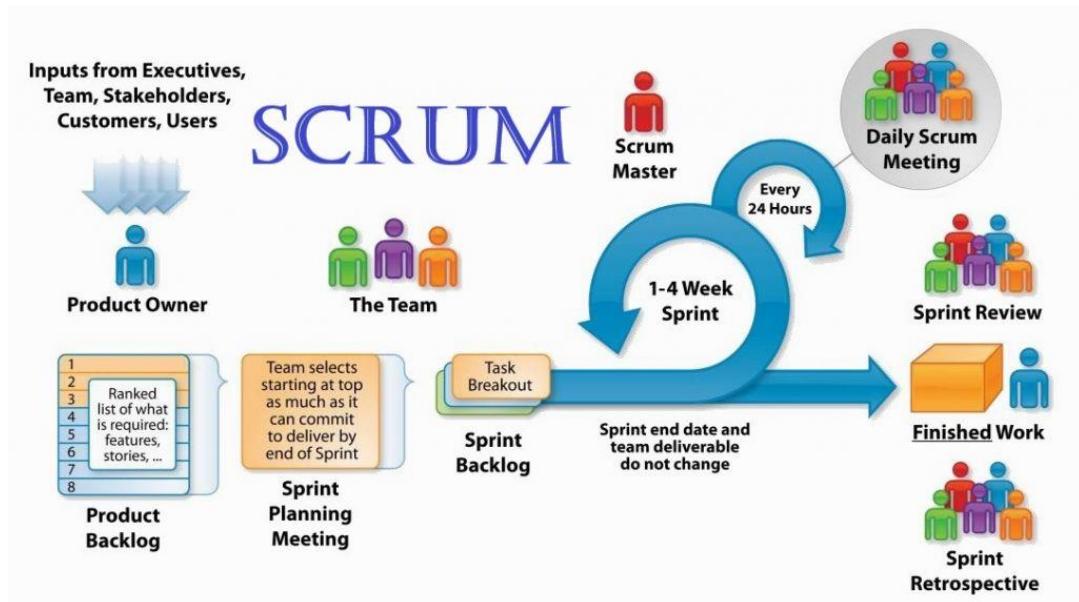


Figure 1– Software process model

Reference: <https://www.apeironsoftware.com/scrum-roles-artifacts-and-ceremonies/>

2.2 Roles and responsibilities

No	Full name	Role in Group	Responsibilities
1	Lại Đức Hùng	Product Owner	<ul style="list-style-type: none"> - Specify user requirement - Control the development process - Give out technique and business analysis support
2	Nguyễn Duy Đạt	Scrum Master	<ul style="list-style-type: none"> - Managing process - Designing database - Clarifying requirements - Prepare documents - GUI Design - Create test plan - Coding - Testing - Arrange Meeting - Risk Management
3	Tiết Lê Bảo Khánh	Scrum team member	<ul style="list-style-type: none"> - Designing database - Clarifying requirements - Prepare documents - GUI Design - Create test plan

			<ul style="list-style-type: none"> - Coding - Testing
4	Nguyễn Hoàng Anh Trung	Scrum team member	<ul style="list-style-type: none"> - Designing database - Clarifying requirements - Prepare documents - GUI Design - Create test plan - Coding - Testing
5	Nguyễn Hoàng Nhân	Scrum team member	<ul style="list-style-type: none"> - Designing database - Clarifying requirements - Prepare documents - GUI Design - Create test plan - Coding - Testing

Table 5 - Roles & Responsibilities Details

2.3 Tools and Techniques

Tool/Technique	Name
Front-end	HTML, CSS, JavaScript, Angular
Back-end	Node.js, NestJs, Typescript, TypeORM
Mobile Application	React Native, Redux, Redux Saga
IDE	Visual Studio Code
DBMS	Firebase, PostgreSQL, AWS S3
Source Control	GitHub, GitLab
Modelling tool	StarUML

Table 6 - Tools and techniques

3. Project Management Plan

3.1 Product Backlog

Product backlog and all sprint backlogs could be found [here](#).

3.2 All Meeting Minutes

All sprint meeting minutes could be found [here](#).

4. Coding Convention

Summary:

- **Naming Convention:**

- Variable names should be short yet meaningful. The choice of a variable name should be designed to indicate to the casual observer the intent of its use.
- Methods should be verbs, in mixed case with the first letter lowercase, with the first letter of each internal word capitalized (Camel case).
- Class name must follow PascalCase.
- Constant name must be ALL_CAPS

- **Indentation:**

- One declaration per line is recommended since it encourages commenting.
- In absolutely no case should variables and functions be declared on the same line.
- Do not put different types on the same line.

- **Declarations Convention:**

- One declaration per line is recommended since it encourages commenting.
- Using Javascript Code Convention from:

<https://google.github.io/styleguide/jsguide.html>

- **Comment Convention**

- Place the comment on a separate line, not at the end of a line of code.

C. Software Requirement Specification

1. User Requirement Specification

1.1 Guest Requirement

Guest is a person who does not have access to the system. To use all functions, guest must login. These are some functions that guest can use:

- Login.
- Register an account

1.2 Authorized User Requirement

Authorized User is an authorized user who has permission to login into the system. Authorized User can use below functions:

- Log out
- View profile
- Update profile
- View notification

1.3 Homeowner Requirement

Homeowner is an authorized user who has permission to login into the system. With Homeowner role, user can use all functions of Authorized User and below functions:

- Post scrap for selling
- Chat with collector
- Call collector
- Review Collector
- Update post information
- View sold post history
- Delete scrap
- Accomplish scrap
- View scrap booking request from Collector
- Accept scrap booking request
- Reject scrap booking request

1.4 Collector Requirement

Collector is an authorized user who has permission to login into the system. With Collector role, user can use all functions of Authorized User and below functions:

- Search near-by scraps
- Search latest scraps
- View scrap detail
- Negotiate scrap price

- Book scrap
- Call Homeowner
- Chat with Homeowner
- View pick-up schedule
- View direction
- View scrap price negotiation response
- View scrap booking response
- View waiting booking request list
- Cancel booking
- Accomplish booking
- View review from Homeowner
- View accomplished history scraps

1.5 Admin Requirement

Admin is an authorized user has permission to login into the system under admin role, Admin can use below management functions:

- Manage user account
- Manage scrap
- View all categories
- Activate category
- Deactivate category
- Manage report

2. System Requirement Specification

2.1 External Interface Requirement

2.1.1 User Interface

- GUI should be simple, clear, intuitive, and reminiscent.
- The language used in UI is Vietnamese.
- The interface design is an iterate process includes designing, sketching, prototyping and user assessment.
- Website and mobile application must be responsive, suitable with all devices resolution such as laptop, tablet or smartphone.
- Every feature should be arranged and displayed briefly.

2.1.2 Hardware Interface

- Laptop or Personal Computer
- Smartphone or Tablet

2.1.3 Software Interface

- The website works with Firefox (v57 or above), Chrome (v51 or above), Safari (v5 or above) or any web browser which supports HTML5 & CSS3.
- The mobile app work best on android version 6.0.1+.

2.1.4 Communication Protocol

- Use HTTP protocol 1.1 for communication between:
 - Web application and web service
 - Mobile application and web service

2.2 System Overview Use Case

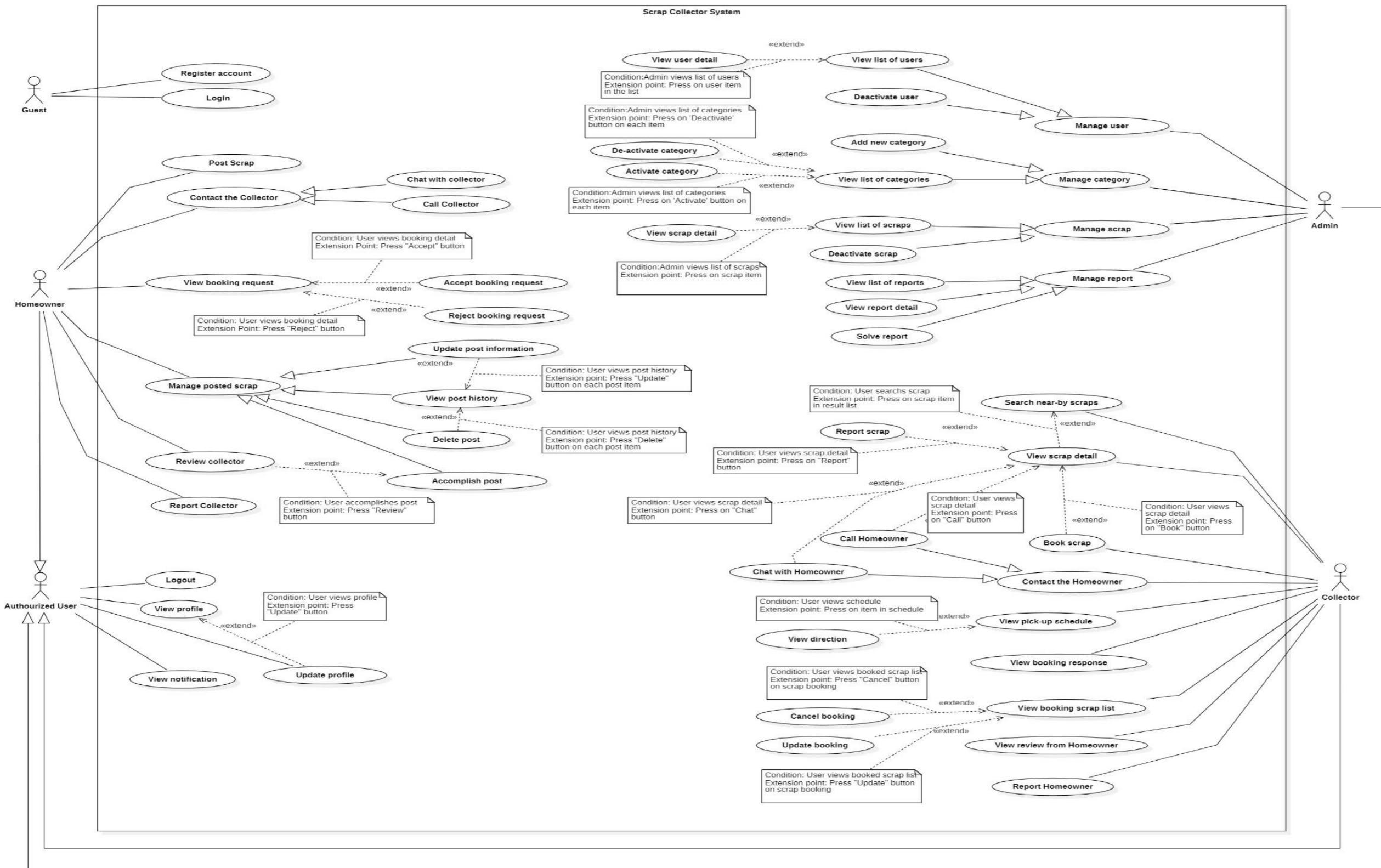


Figure 2 – Use Case Diagram

2.3 List of use case

2.3.1 <Guest> Overview Use Case

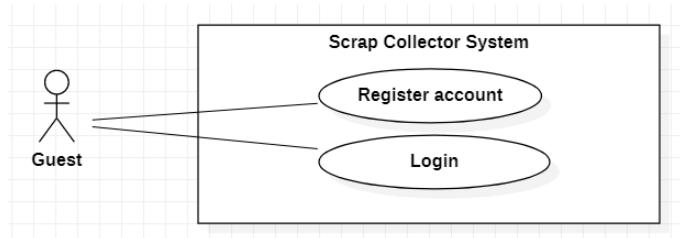


Figure 3 - Guest Overview Use Case

2.3.1.1 Login

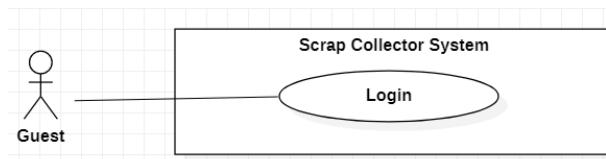


Figure 4 - <Guest> Login User Case

USE CASE - SC_UC_1			
Use Case No.	SC_UC_1	Use Case Version	1.0
Use Case Name	Login		
Author	Nguyen Hoang Nhan		
Date	26/1/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Guest 		
Summary:	<ul style="list-style-type: none"> - Allow guest to log in the system. 		
Goal:	<ul style="list-style-type: none"> - Guest can log in the system with specific role. 		
Triggers:	<ul style="list-style-type: none"> - Guest presses on “Đăng nhập” button. 		
Preconditions:	N/A		
Post conditions:	<ul style="list-style-type: none"> - Success: Guest is authorized with specific role in the system. - Fail: System shows error messages. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Guest goes to login view.	System requires identity information from Guest: <ul style="list-style-type: none"> - “Tên đăng nhập” (required): text input. - “Mật khẩu” (required): text input. - “Đăng nhập” button. - “Đăng ký tài khoản” button 	

2	Guest inputs required information.	
3	Guest presses “Đăng nhập” button.	System validates information. [Exception 1] [Exception 2][Exception 3][Exception 4]
4		System let Guest to the “Trang chủ” screen based on specific role.

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows message the "Không có kết nối Internet" when the internet is lost
2	Guest let “Tên đăng nhập” input empty	Focus on “Tên đăng nhập” filed, show error message “Vui long nhập tên đăng nhập”
3	Guest let “Mật khẩu” input empty	Focus on “Mật khẩu” filed, show error message “Vui long nhập mật khẩu”
4	Guest enters wrong identity information.	System shows error message “Tên đăng nhập hoặc mật khẩu không chính xác. Vui lòng thử lại”

Relationships: N/A**Business Rules:**

- Password is encrypted before being sent to server.
- After login to system, guest will be redirected to specific view based on their role on the system: homeowner, collector or admin.
- If role is “Collector”, the system will display to Collector view.
- If role is “Homeowner”, the system will display to Homeowner view.
- If role is “Admin”, the system will display to Admin Dashboard view.

Table 7 - <Guest> Login Use Case Specification

2.3.1.2 Register account

Figure 5 - <Guest> Register Use Case

USE CASE – SC_UC_2			
Use Case No.	SC_UC_2	Use Case Version	1.0
Use Case Name	Register account		
Author	Nguyen Hoang Nhan		

Date	26/1/2020	Priority	Normal
Actor:			
- Guest			
Summary:			
- Allow guest to create an account the system.			
Goal:			
- Guest can have an account in the system with specific role: Homeowner or Collector.			
Triggers:			
- Guest presses “Đăng ký tài khoản” button on Login screen.			
Preconditions: N/A			
Post conditions:			
- Success: A new account is created with specific role in the system.			
- Fail: System shows error messages. Account is not created.			
Main Success Scenario:			
Step	Actor Action	System Response	
1	Guest goes to register view.	System shows a screen with 2 buttons: - “Tôi thu mua ve chai” button - “Tôi bán ve chai” button	
2	Guest presses on a button	System requires identity information from Guest: - “Tên đăng nhập” (required): text input - “Mật khẩu” (required): text input - “Xác nhận mật khẩu” (required): text input - “Email”(optional): text input - “Tên” (required): text input. - “Ảnh đại diện”(optional): Image chooser - “Số điện thoại” (required): text input - “Tỉnh/Thành phố” (required): selection - “Quận/Huyện” (required): selection - “Phường/Xã” (required): selection - “Địa chỉ” (required): text input System shows “Đăng ký” button	
3	Guest inputs full required information		
4	Guest presses “Đăng ký” button.	System validates inputs[Exception 1] [Exception 2] [Exception 3] [Exception 4] [Exception 5]	

		[Exception 6] [Exception 7] [Exception 8] [Exception 9] [Exception 10] [Exception 11]
5		System creates account with specific role and lets Guest to Login screen

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.
2	Guest let “Tên đăng nhập” input empty	Focus in “Tên đăng nhập” field. Show error message “Không để trống thông tin này”
3		System focuses on “Tên đăng nhập” field and show error message “Đã có người sử dụng tên đăng nhập này, vui lòng chọn tên đăng nhập khác” when the username is duplicated.
4	Guest let “Mật khẩu” input empty	Focus in “Mật khẩu” field. Show error message “Không để trống thông tin này”
5	Guest let “Số điện thoại” input empty	Focus in “Số điện thoại” field. Show error message “Không để trống thông tin này”
6	Guest let “Địa chỉ” input empty	Focus in “Địa chỉ” field. Show error message “Không để trống thông tin này”
7	Guest let “Tên” input empty	Focus in “Tên” field. Show error message “Không để trống thông tin này”
8	Guest let “Mật khẩu” less than 8 letters	Focus in “Mật khẩu” field. Show error message “Mật khẩu tối thiểu 6 ký tự”.
9	“Xác nhận mật khẩu” is not same as “Mật khẩu”, empty or less than 8 letters.	Focus in “Xác nhận mật khẩu” field. Show error message “Xác nhận mật khẩu không khớp”.
10	Guest input wrong Email format	Focus in Email field. Show error message “Địa chỉ Email không hợp lệ”
11	Guest input wrong Phone number format	Focus in “Số điện thoại” field. Show error message “Số điện thoại không hợp lệ”

Relationships: N/A

Business Rules:

- Password is encrypted before being sent to server.
- Password must be at least 8 character-length, including alphabet character, number and at least 1 special characters
- Email must contain "@" and must be valid.
- Phone number must be in right format.
- If user presses on "Tôi bán ve chai" button, new account will be created with role "Homeowner".
- If user presses on "Tôi thu mua ve chai" button, new account will be created with role "Collector".
- System lets user to choose province first, then based on selected province, system loads list of districts belonging to that province, then based on selected province and selected district, system loads list of wards.
- Based on the address of the user, system convert to latitude and longitude for further information.
- After register successfully, the user will be redirected to Login screen.

Table 8 - <Guest> Register Use Case Specification

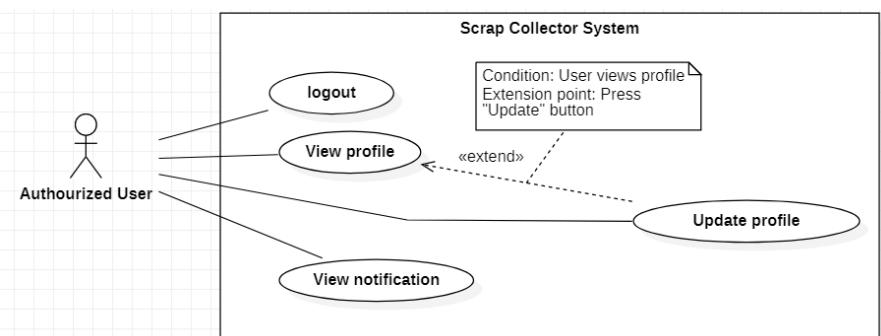
2.3.2 <Authorized User> Overview Use Case

Figure 6 - Authorized User Overview Use Case

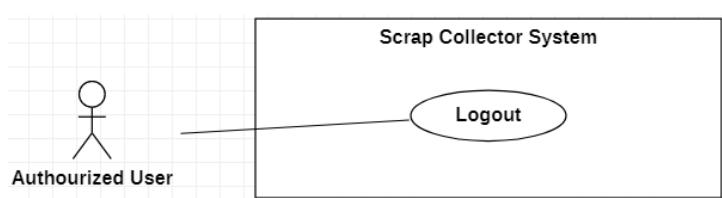
2.3.2.1 Logout

Figure 7 - <Authorized User> Logout Use Case

USE CASE - SC_UC_3			
Use Case No.	SC_UC_3	Use Case Version	1.0
Use Case Name	Logout		
Author	Nguyen Hoang Nhan		

Date	26/1/2020	Priority	Normal
Actor:			
- Authorized User			
Summary:			
- This use case allows the Authorized User to log out of the system.			
Goal:			
- The Authorized User logs out of the system successfully.			
Triggers:			
- User presses “Đăng xuất” button.			
Preconditions:			
- User has already logged in the system with the role that has been authorized.			
Post conditions:			
- Success: The Authorized User logs out of the system successfully, system moves to Login Screen.			
- Fail: System shows error messages.			
Main Success Scenario:			
Step	Actor Action	System Response	
1	The Authorized User presses on “Đăng xuất” button.	System clear the session of that Authorized User then shows Login screen. [Exception 1]	

Alternative Scenario: N/A**Exceptions:** N/A**Relationships:** N/A**Business Rules:**

- Only Authorized User can log out.
- After the Authorized User logs out, system clears all sessions of that user.
- After the Authorized User logs out, the device key of user in database is also disabled.

Table 9 - <Authorized User> Logout Use Case Specification

2.3.2.2 View profile

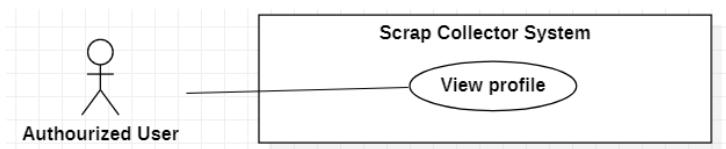


Figure 8 - <Authorized User> View profile Use Case

USE CASE – SC_UC_4			
Use Case No.	SC_UC_4	Use Case Version	1.0
Use Case Name	View Profile		
Author	Nguyen Hoang Nhan		
Date	26/1/2020	Priority	Normal
Actor:	- Authorized User		

Summary:

- Allow Authorized User to view his/her profile.

Goal:

- Authorized User views profile.

Triggers:

- User chooses “Tài khoản” tab in tab navigation.

Preconditions:

- User has already logged in the system with the role that has been authorized.

Post conditions:

- Success: System shows Profile screen.
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	User chooses “Tài khoản” tab in tab navigation.	<p>System shows Profile Screen with:</p> <ul style="list-style-type: none"> - “Ảnh đại diện”: Image - “Tên”: Text - “Hoạt động từ ngày”: Datetime - “Tên đăng nhập”: Text - “Số điện thoại”: Text - “Địa chỉ”: Text - “Tỉnh/ Thành phố”: Text - “Quận/ Huyện”: Text - “Phường/ Xã”: Text - “Chỉnh sửa” button - “Xem lịch sử hoàn thành” button - “Đăng xuất” button <p>[Exception 1]</p>

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows error message the “Không có kết nối Internet” when the internet is lost.

Relationships: [SC_UC_5]**Business Rules:**

- Only Authorized User can view profile
- Password mustn't be shown

Table 10 - <Authorized User> View profile Use Case Specification

2.3.2.3 Update profile

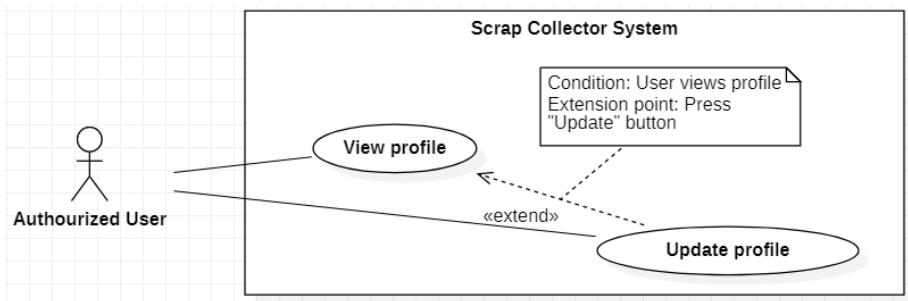


Figure 9 - <Authorized User> Update profile Use case

USE CASE - SC_UC_5			
Use Case No.	SC_UC_5	Use Case Version	1.0
Use Case Name	Update Profile		
Author	Nguyen Hoang Nhan		
Date	26/1/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Authorized User 		
Summary:	<ul style="list-style-type: none"> - Allow Authorized User to update his/her profile. 		
Goal:	<ul style="list-style-type: none"> - Authorized User updates profile information. 		
Triggers:	<ul style="list-style-type: none"> - User presses “Chỉnh sửa” button in “Tài khoản” screen. 		
Preconditions:	<ul style="list-style-type: none"> - User has already logged in the system with the role that has been authorized. 		
Post conditions:	<ul style="list-style-type: none"> - Success: The profile of that user is updated with new information. System shows Update Profile screen. - Fail: System shows error messages, the profile is not updated. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Authorized User presses “Chỉnh sửa” button in “Tài khoản” screen.	<p>System shows Update Profile Screen with:</p> <ul style="list-style-type: none"> - “Chỉnh sửa Hồ sơ” title - “Ảnh đại diện”: image, editable - “Tên”: required, text input - “Số điện thoại”: required, text input - “Địa chỉ”: required, text input - “Tỉnh/ Thành phố”: selection - “Quận/ Huyện”: selection - “Phường/ Xã”: selection - “Mật khẩu”: hidden text, editable 	

		<ul style="list-style-type: none"> - Confirm password: text, editable - “Lưu chỉnh sửa” button - “Quay lại” button
2	Authorized User edit editable fields	
3	Authorized User presses “Lưu chỉnh sửa” button. [Alternative 1]	System saves new information and shows Profile screen with new information. [Exception 1][Exception 2] [Exception 3][Exception 4] [Exception 5] [Exception 6] [Exception 7]

Alternative Scenario:

No	Actor Action	System Response
1	Authorized User presses “Quay lại” button.	System shows “Tài khoản” screen.

Exceptions:

No	Actor Action	System Response
1		System shows error message the “Không có kết nối Internet” when the internet is lost.
2	User lets “Tên” input empty	Focus in “Tên” field. Show error message “Không để trống thông tin này”
3	User lets “Số điện thoại” input empty	Focus in “Số điện thoại” field. Show error message “Không để trống thông tin này”
4	User lets “Địa chỉ” input empty	Focus in “Địa chỉ” field. Show error message “Không để trống thông tin này”
5	User lets Password less than 6 letters	Focus in Password field. Show error message “Mật khẩu tối thiểu 6 ký tự”.
6	Confirmed password is not same as Password, empty or less than 6 letters.	Focus in Confirm Password field. Show error message “Xác nhận mật khẩu không khớp”.
7	User inputs wrong Phone number format	Focus in Email field. Show error message “Số điện thoại không hợp lệ”

Relationships: [SC_UC_4]**Business Rules:**

- Only Authorized User can update profile
- Password mustn't be shown
- Phone number must be in the phone number format
- Email must contain “@” and be in email format

- If the Homeowner update his/her profile, the scrap that gets default address of the homeowner will also be updated contact information
- User can not change the role of his/her account

Table 11 - <Authorized User> Update profile Use Case Specification

2.3.2.4 View notification

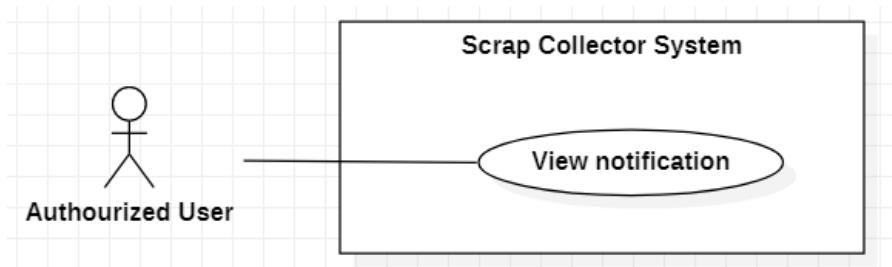


Figure 10 - <Authorized user> View notification Use case

USE CASE – SC_UC_6									
Use Case No.	SC_UC_6	Use Case Version	1.0						
Use Case Name	View notification								
Author	Nguyen Duy Dat, Nguyen Hoang Nhan								
Date	29/2/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Authorized User 								
Summary:	<ul style="list-style-type: none"> - Allow Authorized User to view notification. 								
Goal:	<ul style="list-style-type: none"> - Authorized User views notification. 								
Triggers:	<ul style="list-style-type: none"> - User receives notification - User presses on “Thông báo” tab in bottom tab bar 								
Preconditions:	<ul style="list-style-type: none"> - User has already logged in the system with the role that has been authorized. 								
Post conditions:	<ul style="list-style-type: none"> - Success: System shows notification. - Fail: System shows error messages. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Authorized User presses “Thông báo” tab in bottom tab bar.</td><td> System shows “Thông báo” Screen with list of notifications. Each notification contains: <ul style="list-style-type: none"> - Time of notification: datetime - Title of notification: text - Content of notification: text </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Authorized User presses “Thông báo” tab in bottom tab bar.	System shows “Thông báo” Screen with list of notifications. Each notification contains: <ul style="list-style-type: none"> - Time of notification: datetime - Title of notification: text - Content of notification: text
Step	Actor Action	System Response							
1	Authorized User presses “Thông báo” tab in bottom tab bar.	System shows “Thông báo” Screen with list of notifications. Each notification contains: <ul style="list-style-type: none"> - Time of notification: datetime - Title of notification: text - Content of notification: text 							

		[Exception 1]
Alternative Scenario: N/A		
Exceptions:		
No	Actor Action	System Response
1		System shows error message the "Không có kết nối Internet" when the internet is lost.

Relationships: N/A

Business Rules:

- Notifications are organized and shown by time of notification, the latest notification is placed on the top.
- If notification is created in today, the date of notification will be displayed as "Hôm nay"

Table 12 - <Authorized user> View notification Use Case Specification

2.3.3 <Homeowner> Overview Use Case

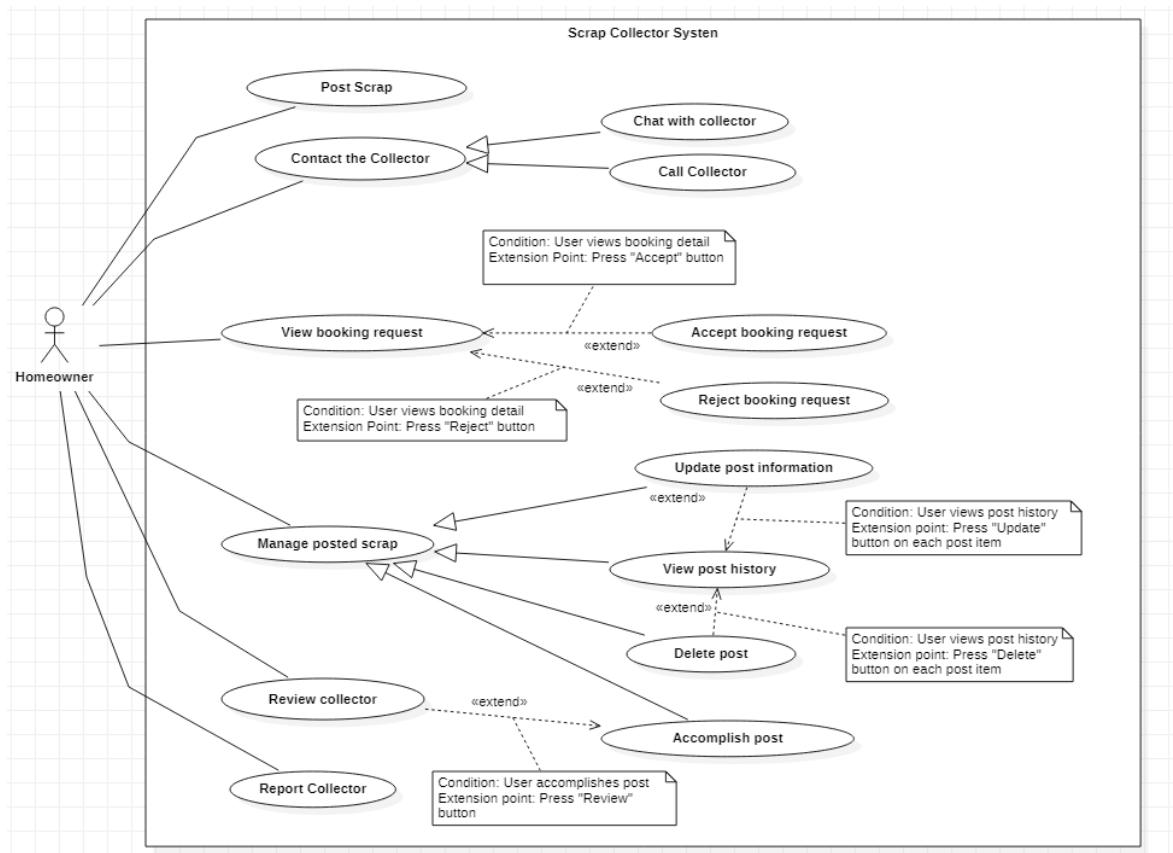


Figure 11 - Homeowner Overview Use Case

2.3.3.1 Post scrap

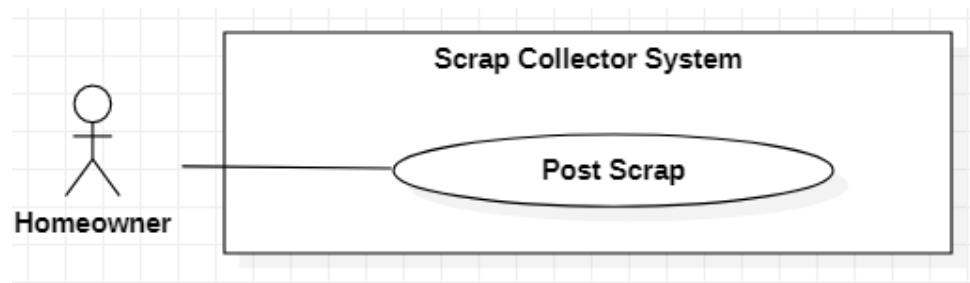


Figure 12 - <Homeowner> Post scrap Use Case

USE CASE - SC_UC_7									
Use Case No.	SC_UC_7	Use Case Version	1.0						
Use Case Name	Post scrap								
Author	Nguyen Duy Dat								
Date	26/1/2020	Priority	High						
Actor:	<ul style="list-style-type: none"> - Homeowner 								
Summary:	<ul style="list-style-type: none"> - Allow Homeowner to post scrap for sale. 								
Goal:	<ul style="list-style-type: none"> - Homeowner posts scrap for selling. 								
Triggers:	<ul style="list-style-type: none"> - Homeowner presses “Đăng bán” button in bottom tab bar. 								
Preconditions:	<ul style="list-style-type: none"> - User must sign in as a Homeowner 								
Post conditions:	<ul style="list-style-type: none"> - Success: A new scrap is posted. - Fail: System shows error messages. Scrap is not posted. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Homeowner goes to post scrap view.</td><td> System requires identity information from Homeowner: <ul style="list-style-type: none"> - “Tiêu đề” (required): text input - “Ảnh” (required): image chooser, at least 1 image and at most 5 images - “Giá bán” (required): number input - “Mô tả” (required): text input - “Thời gian Người thu mua có thể đến lấy” (required): including from time (selector), to time (selector) and day of week - “Phân loại” (required): selection </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Homeowner goes to post scrap view.	System requires identity information from Homeowner: <ul style="list-style-type: none"> - “Tiêu đề” (required): text input - “Ảnh” (required): image chooser, at least 1 image and at most 5 images - “Giá bán” (required): number input - “Mô tả” (required): text input - “Thời gian Người thu mua có thể đến lấy” (required): including from time (selector), to time (selector) and day of week - “Phân loại” (required): selection
Step	Actor Action	System Response							
1	Homeowner goes to post scrap view.	System requires identity information from Homeowner: <ul style="list-style-type: none"> - “Tiêu đề” (required): text input - “Ảnh” (required): image chooser, at least 1 image and at most 5 images - “Giá bán” (required): number input - “Mô tả” (required): text input - “Thời gian Người thu mua có thể đến lấy” (required): including from time (selector), to time (selector) and day of week - “Phân loại” (required): selection 							

		<ul style="list-style-type: none"> - “Đơn vị”: text, auto filled when user choose category of scrap - “Khối lượng/Số lượng” (required): number input - “Địa chỉ”: text input - “Số điện thoại”: number - “Đăng bán” button
2	Homeowner inputs full required information	
3	Homeowner presses “Đăng bán” button.	System validates all required fields [Exception 1] [Exception 2] [Exception 3] [Exception 4] [Exception 5] [Exception 7] [Exception 8]
4		System creates new scrap and lets Homeowner to “Đang rao” tab in “Trang chủ” screen,

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.
2	Homeowner lets “Tiêu đề” input empty	Focus in “Tiêu đề” field. Show error message “Không để trống thông tin này”.
3	Homeowner lets “Mô tả” input empty	Focus in “Mô tả” field. Show error message “Không để trống thông tin này”.
4	Homeowner lets “Giá bán” input empty	Focus in “Giá bán” field. Show error message “Không để trống thông tin này”.
5	Homeowner doesn't choose any image	Focus in “Thời gian có thể lấy” field. Show error message “Vui lòng chọn ít nhất 1 ảnh”.
6	Homeowner doesn't choose any available time	Focus in “Ảnh” field. Show error message “Vui lòng chọn ít nhất 1 ảnh”.
7	Homeowner does not select “Phân loại”	Focus in “Phân loại” field. Show error message “Chọn loại ve chai”.

Relationships: N/A**Business Rules:**

- Created scrap will have “SELLING” status.
- System records time of posting the scrap automatically.
- The default value of address of a post is get from Homeowner's profile.

- The default value of phone number of a post is get from Homeowner's profile.
- If the homeowner changes the contact information of scrap, the new contact information is used by that scrap only.
- Each scrap can have one or many available time. Available time is shown as "Từ ... đến ... thứ ..."
- User can only choose categories that are activated.
- Depend on the category of scrap that the label of "Khối lượng/ Số lượng" is shown. If the unit of that category is unit of mass measurement such as "kg", "gram", system shows that label as "Khối lượng", or else, system shows that label as "Số lượng"

Table 13 - <Homeowner> Post scrap Use Case Specification

2.3.3.2 Chat with collector

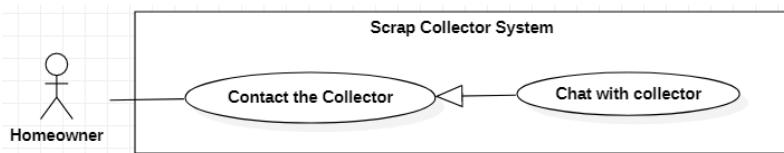


Figure 13 - <Homeowner> Chat with collector Use Case

USE CASE – SC_UC_8									
Use Case No.	SC_UC_8	Use Case Version	1.0						
Use Case Name	Chat with collector								
Author	Tiet Le Bao Khanh, Nguyen Duy Dat								
Date	26/2/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Homeowner 								
Summary:	<ul style="list-style-type: none"> - Allow homeowner to chat with collector 								
Goal:	<ul style="list-style-type: none"> - Homeowner chats with one or many Collectors 								
Triggers:	<ul style="list-style-type: none"> - User presses "Chat" tab in bottom tab bar 								
Preconditions:	<ul style="list-style-type: none"> - User must be a homeowner 								
Post conditions:	<ul style="list-style-type: none"> - Success: A conversation between Homeowner and Collector is created. - Fail: System shows error messages. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Homeowner chooses "Chat" tab in bottom tab bar</td><td>System shows "Chat" screen with all conversations of that Homeowner</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Homeowner chooses "Chat" tab in bottom tab bar	System shows "Chat" screen with all conversations of that Homeowner
Step	Actor Action	System Response							
1	Homeowner chooses "Chat" tab in bottom tab bar	System shows "Chat" screen with all conversations of that Homeowner							

2	Homeowner chooses a conversation	System shows messages in chosen conversation, a text input and a "Gửi" button
3	Homeowner inputs message and presses "Gửi" button	System sends message to the Collector in that conversation and shows that message [Exception 1]

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1		System shows message "Không có kết nối Internet" when the Internet is lost.

Relationships: Generalized from Contact with Collector use case

Business Rules:

- A Homeowner can chat with many Collectors
- Each conversation is related to a scrap
- If the scrap is deleted or is sold, system shows the message in order to let the Homeowner know that scrap is deleted or is sold
- When Homeowner chat with Collector, system sends notification that Collector.

Table 14 - <Homeowner> Chat with Collector Use Case Specification

2.3.3.3 Call collector

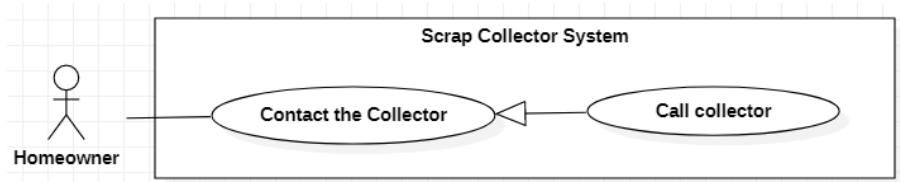


Figure 14 - <Homeowner> Call collector Use Case

USE CASE - SC_UC_9			
Use Case No.	SC_UC_9	Use Case Version	1.0
Use Case Name	Call collector		
Author	Nguyen Hoang Nhan		
Date	26/2/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Homeowner 		
Summary:	<ul style="list-style-type: none"> - Allow Homeowner to call Collector 		
Goal:	<ul style="list-style-type: none"> - Homeowner calls Collector for direct communication. 		
Triggers:	<ul style="list-style-type: none"> - User presses "Gọi" button or button with phone icon. 		
Preconditions:			

- User must be a homeowner

Post conditions:

- Success: Homeowner calls Collector.
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	Homeowner presses "Gọi" button or button with phone icon.	System shows: <ul style="list-style-type: none"> - Alert message: "Bạn muốn gọi cho người thu mua" - "Đồng ý" button - "Hủy" button
2	Homeowner presses "Đồng ý" button	System uses call service of phone to make a call to Collector. [Exception 1] [Exception 2]

Alternative Scenario:

No	Actor Action	System Response
1	Homeowner presses "Hủy" button	System goes back to previous screen

Exceptions:

No	Actor Action	System Response
1		System shows message "Không có kết nối Internet" when the Internet is lost.
2		System shows message the "Không có quyền truy cập" when the application does not have permission to make a phone call.

Relationships: Generalized from Contact with Collector use case

Business Rules:

- Mobile Application must ask user for making phone call permission

Table 15 - <Homeowner> Call collector Use Case Specification

2.3.3.4 View booking request

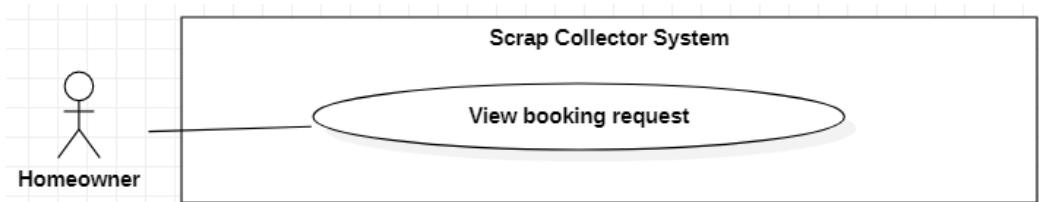


Figure 15- <Homeowner> View booking request Use case

USE CASE – SC_UC_10

Use Case No.	SC_UC_10	Use Case Version	1.0
Use Case Name	View booking request		
Author	Nguyen Duy Dat		
Date	26/2/2020	Priority	Medium

Actor:

- Homeowner

Summary:

- Allow homeowner to view scrap booking request

Goal:

- Homeowner views scrap booking request from Collector then accept or reject it.

Triggers:

- User receives booking notification.
- User presses on “Đang chờ xử lý” on Home screen

Preconditions:

- User must be a Homeowner

Post conditions:

- Success: User view booking detail
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	User presses on the booking notification	<p>System shows booking with information:</p> <ul style="list-style-type: none"> - Name of scrap: text, title of scrap - “Với giá”: text, the price that Collector negotiate - “Thời gian lấy”: text - “Người đặt”: collector name, text - Number of review star of that Collector - “Chấp nhận” button - “Từ chối” button <p>[Exception 1]</p>

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Relationships: [SC_US_11] [SC_US_12]**Business Rules:**

- Only bookings with status “WAITING” are shown
- Bookings are grouped by scrap in order for the Homeowner could have a good comparasion.

- If a scrap has more than one booking, system shows booking in order of price of booking, booking with higher price is show on the top.
- If the collector has no review, system won't show the number of review star of that collector.

Table 16 - <Homeowner> View booking request Use Case Specification

2.3.3.5 Accept booking request

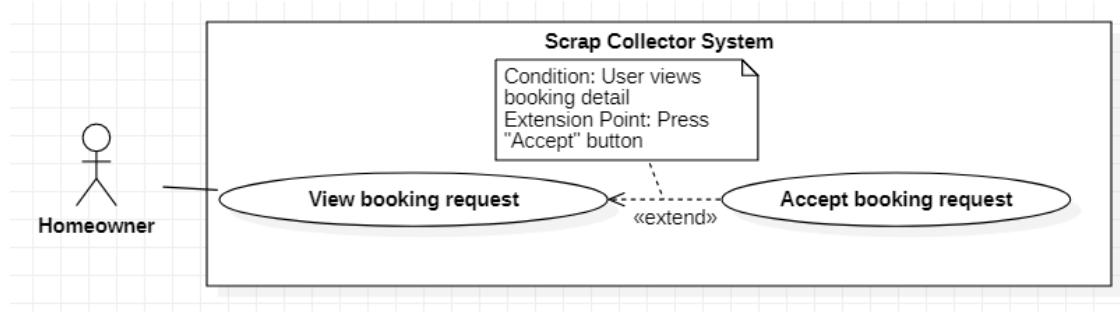


Figure 16 - <Homeowner> Accept booking request Use Case

USE CASE – SC_UC_11									
Use Case No.	SC_UC_11	Use Case Version	1.0						
Use Case Name	Accept booking request								
Author	Nguyen Duy Dat								
Date	26/2/2020	Priority	Medium						
Actor:	<ul style="list-style-type: none"> - Homeowner 								
Summary:	<ul style="list-style-type: none"> - Allow Homeowner to accept scrap booking request. 								
Goal:	<ul style="list-style-type: none"> - Homeowner accepts to sell scrap for the Collector. 								
Triggers:	<ul style="list-style-type: none"> - User presses “Chấp nhận” button in scrap booking request notification. 								
Preconditions:	<ul style="list-style-type: none"> - User must be a homeowner - Homeowner view scrap booking 								
Post conditions:	<ul style="list-style-type: none"> - Success: The scrap is moved into booking list of the Collector. - Fail: System shows error messages. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Homeowner presses “Chấp nhận” button in scrap booking notification.</td><td> <p>System shows a pop-up with:</p> <ul style="list-style-type: none"> - “Bạn muốn Chấp nhận yêu cầu này?” message - “Đồng ý” button - “Đóng” button </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Homeowner presses “Chấp nhận” button in scrap booking notification.	<p>System shows a pop-up with:</p> <ul style="list-style-type: none"> - “Bạn muốn Chấp nhận yêu cầu này?” message - “Đồng ý” button - “Đóng” button
Step	Actor Action	System Response							
1	Homeowner presses “Chấp nhận” button in scrap booking notification.	<p>System shows a pop-up with:</p> <ul style="list-style-type: none"> - “Bạn muốn Chấp nhận yêu cầu này?” message - “Đồng ý” button - “Đóng” button 							

2	Homeowner presses “Đồng ý” button in pop up. [Alternative 1]	System changes status of booking to “Accepted”, shows message to Homeowner and sends a notification to the Collector [Exception 1]
---	--------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------

Alternative Scenario:

No	Actor Action	System Response
1	Homeowner presses “Đóng” button in pop up.	System hides pop-up and goes back to the booking request screen.

Exceptions:

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Relationships: [SC_US_10]**Business Rules:**

- After being accepted, the status of that booking is changed to “ACCEPTED”.
- After a booking is accepted, the status of the scrap that belongs to that booking is changed to “BOOKED”.
- If a scrap has more than one booking requests from many collectors, when a booking request is accepted, other bookings are automatically rejected.
- When a booking is accepted, system sends notification to the collector of that booking.
- When a booking is rejected, system sends notification to the collector of that booking.

Table 17 - <Homeowner> Accept booking request Use Case Specification

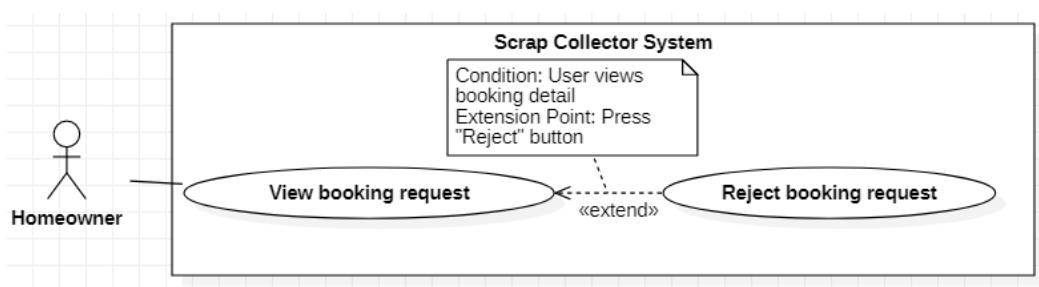
2.3.3.6 Reject booking request

Figure 17 - <Homeowner> Reject booking request Use Case

USE CASE – SC_UC_12			
Use Case No.	SC_UC_12	Use Case Version	1.0
Use Case Name	Reject booking request		
Author	Nguyen Duy Dat		
Date	26/2/2020	Priority	Medium
Actor:			

- Homeowner

Summary:

- Allow Homeowner to reject scrap booking request.

Goal:

- Homeowner does not allow to sell scrap for the Collector.

Triggers:

- User presses “Tù chối” button in scrap booking request notification.

Preconditions:

- User must be a homeowner
- Homeowner view scrap booking

Post conditions:

- Success: The scrap booking request is canceled.
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	Homeowner presses “Tù chối” button in scrap booking notification.	System shows a pop-up with: <ul style="list-style-type: none"> - “Bạn muốn từ chối yêu cầu này?” message - “Tù chối” button - “Đóng” button
2	Homeowner presses “Tù chối” button in pop up.	System changes status of booking to “Rejected”, show message to Homeowner and sends notification to the Collector [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Exceptions:

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Relationships: [SC_US_10]**Business Rules:**

- After being rejected, the status of that booking is changed to “REJECTED”.
- If a scrap has more than one booking request from many collectors, when a booking request is rejected, other bookings are not be affected.
- After a booking is rejected, system sends notification to the collector of that booking.
- When a booking is sent to Homeowner, if after 2 days, Homeowner does not take any effect of that booking, system sends notification to that Homeowner. And after 3 days, if Homeowner does not take any effect of that booking, the booking will be automatically rejected.

Table 18 - <Homeowner> Reject booking request Use Case Specification

2.3.3.7 Update scrap information

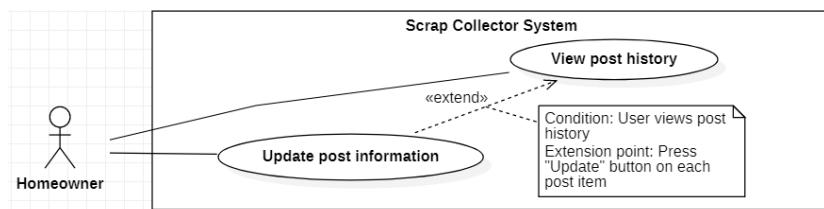


Figure 18 - <Homeowner> Update post information Use Case

USE CASE - SC_UC_13									
Use Case No.	SC_UC_13	Use Case Version	1.0						
Use Case Name	Update post information								
Author	Nguyen Duy Dat								
Date	26/2/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Homeowner 								
Summary:	<ul style="list-style-type: none"> - Allow homeowner to update post information. 								
Goal:	<ul style="list-style-type: none"> - Homeowner changes information of the scrap. 								
Triggers:	<ul style="list-style-type: none"> - User presses “Chỉnh sửa” button in post history. 								
Preconditions:	<ul style="list-style-type: none"> - User must be a homeowner - User views post history. - That post does not have any waiting booking request. 								
Post conditions:	<ul style="list-style-type: none"> - Success: Post information is updated. - Fail: System shows error messages. Post is not updated. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Homeowner presses “Chỉnh sửa” button on each post</td><td> <p>System shows a screen containing post information:</p> <ul style="list-style-type: none"> - “Tiêu đề”: text input, editable - “Giá”: number input, editable - “Thời gian đăng”: text, not editable - “Thời gian người thu mua có thể đến lấy”: selection, editable - “Hình ảnh”: image chooser, editable - “Mô tả”: text input, editable - “Lưu” button - “Hủy” button </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Homeowner presses “Chỉnh sửa” button on each post	<p>System shows a screen containing post information:</p> <ul style="list-style-type: none"> - “Tiêu đề”: text input, editable - “Giá”: number input, editable - “Thời gian đăng”: text, not editable - “Thời gian người thu mua có thể đến lấy”: selection, editable - “Hình ảnh”: image chooser, editable - “Mô tả”: text input, editable - “Lưu” button - “Hủy” button
Step	Actor Action	System Response							
1	Homeowner presses “Chỉnh sửa” button on each post	<p>System shows a screen containing post information:</p> <ul style="list-style-type: none"> - “Tiêu đề”: text input, editable - “Giá”: number input, editable - “Thời gian đăng”: text, not editable - “Thời gian người thu mua có thể đến lấy”: selection, editable - “Hình ảnh”: image chooser, editable - “Mô tả”: text input, editable - “Lưu” button - “Hủy” button 							

2	Homeowner updates information in editable fields.	
3	Homeowner presses "Lưu" button [Alternative 1]	System validates inputs [Exception 1], updates post information and goes to "Lịch sử bài đăng" screen [Exception 2]

Alternative Scenario:

No	Actor Action	System Response
1	Homeowner presses "Hủy" button	System goes back to "Lịch sử bài đăng" screen

Exceptions:

No	Actor Action	System Response
1	User inputs "Giá" with text not number	Focus in "Giá" field, shows message error "Giá không hợp lệ"
2		System shows message "Không có kết nối Internet" when the Internet is lost.

Relationships: [SC_US_14]**Business Rules:**

- Only scrap having "SELLING" status and not having any booking request can be updated.
- Fields which isn't changed will remain old information.
- The Homeowner can't change category of scrap.

Table 19 - <Homeowner> Update scrap information Use Case Specification

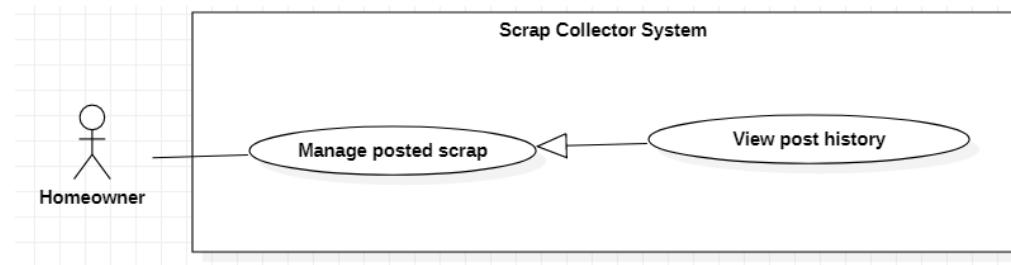
2.3.3.8 View scrap history

Figure 19 - <Homeowner> View post history Use Case

USE CASE - SC_UC_14			
Use Case No.	SC_UC_14	Use Case Version	1.0
Use Case Name	View scrap history		
Author	Nguyen Duy Dat		
Date	26/2/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Homeowner 		
Summary:	<ul style="list-style-type: none"> - Allow homeowner view scrap history. 		

Goal:

- Homeowner views scrap history.

Triggers:

- User presses “Xem lịch sử bài đăng” button.

Preconditions:

- User must be a homeowner

Post conditions:

- Success: A screen with list of posts will be shown.
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	Homeowner presses “Xem lịch sử bài đăng” button	System shows “Lịch sử bài đăng” screen, with posts of that Homeowner. [Exception 1]

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Relationships: [SC_UC_15], [SC_UC_16], Generalized from Manage post scrap use case

Business Rules:

- Scraps are shown based on the time of posting that scrap, latest scrap is shown first.
- If Homeowner made review for the collector who bought that scrap, the review is shown below scrap detail with this information: “Đánh giá của bạn cho [Collector name]”, the number of review star and description of review.

Table 20 - <Homeowner> View post history Use Case Specification

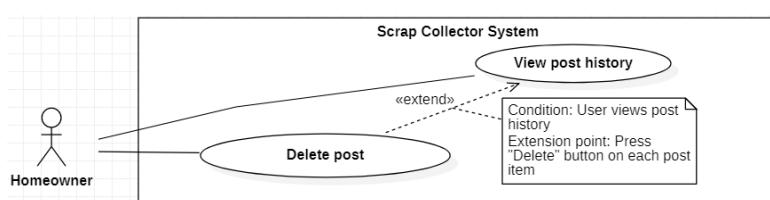
2.3.3.9 Delete scrap

Figure 20 - <Homeowner> Delete scrap Use Case

USE CASE - SC_UC_15			
Use Case No.	SC_UC_15	Use Case Version	1.0
Use Case Name	Delete scrap		
Author	Nguyen Duy Dat, Nguyen Hoang Nhan		
Date	26/2/2020	Priority	Normal
Actor:			

- Homeowner

Summary:

- Allow homeowner to delete post.

Goal:

- Homeowner deletes scrap.

Triggers:

- User presses “Xóa ve chai” button post history.

Preconditions:

- User must be a homeowner
- User views post history

Post conditions:

- Success: A post is deleted.
- Fail: System shows error messages. Post is not deleted.

Main Success Scenario:

Step	Actor Action	System Response
1	Homeowner presses “Xóa ve chai” button	System shows alert with: <ul style="list-style-type: none"> - “Bạn có muốn xóa bài đăng” message - “Đồng ý” button - “Không” button
2	Homeowner presses “Đồng ý” button	System deletes post, deletes all the booking request of that post, shows result to the Homeowner and sends notification to the Collector. [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1	Homeowner presses “Hủy” button	System goes back to “Lịch sử bài đăng” screen

Exceptions:

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Relationships: [SC_UC_14], Generalized from Manage post scrap use case

Business Rules:

- Only posts with “SELLING” status can be deleted
- The post which is chosen to be deleted is still saved in the database, but is disabled
- If that post is booked by the Collector, Homeowner can not delete that post
- If that post is not booked by any Collector, systems deletes all waiting booking requests of that post

Table 21 - <Homeowner> Delete scrap Use Case Specification

2.3.3.10 Accomplish scrap

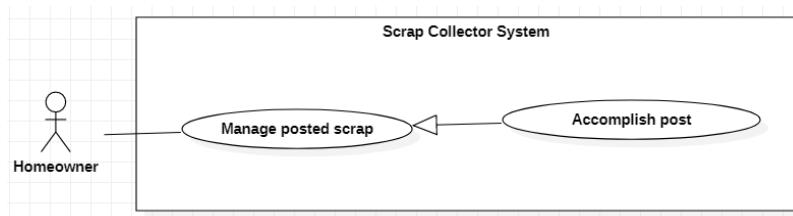


Figure 21 - <Homeowner> Accomplish scrap Use Case

USE CASE - SC_UC_16												
Use Case No.	SC_UC_16	Use Case Version	1.0									
Use Case Name	Accomplish scrap											
Author	Nguyen Duy Dat											
Date	26/2/2020	Priority	Normal									
Actor:	<ul style="list-style-type: none"> - Homeowner 											
Summary:	<ul style="list-style-type: none"> - Allow homeowner to accomplish a post. 											
Goal:	<ul style="list-style-type: none"> - Homeowner accomplishes a post. 											
Triggers:	<ul style="list-style-type: none"> - User presses “Hoàn thành” button. 											
Preconditions:	<ul style="list-style-type: none"> - User must be a homeowner 											
Post conditions:	<ul style="list-style-type: none"> - Success: The post is accomplished. - Fail: System shows error messages. Post is not accomplished. 											
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Homeowner presses “Hoàn thành” button on post item.</td><td> System shows alert with: - “Bạn có muốn hoàn thành bài đăng” message - “Đồng ý” button - “Không” button </td></tr> <tr> <td>2</td><td>Homeowner presses “Đồng ý” button</td><td>System accomplishes post. [Exception 1]</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Homeowner presses “Hoàn thành” button on post item.	System shows alert with: - “Bạn có muốn hoàn thành bài đăng” message - “Đồng ý” button - “Không” button	2	Homeowner presses “Đồng ý” button	System accomplishes post. [Exception 1]
Step	Actor Action	System Response										
1	Homeowner presses “Hoàn thành” button on post item.	System shows alert with: - “Bạn có muốn hoàn thành bài đăng” message - “Đồng ý” button - “Không” button										
2	Homeowner presses “Đồng ý” button	System accomplishes post. [Exception 1]										
Alternative Scenario:	<table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Homeowner presses “Không” button</td><td>System goes back to “Lịch sử bài đăng” screen</td></tr> </tbody> </table>			No	Actor Action	System Response	1	Homeowner presses “Không” button	System goes back to “Lịch sử bài đăng” screen			
No	Actor Action	System Response										
1	Homeowner presses “Không” button	System goes back to “Lịch sử bài đăng” screen										
Exceptions:	<table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> </table>			No	Actor Action	System Response						
No	Actor Action	System Response										

1		System shows message “Không có kết nối Internet” when the Internet is lost.
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Relationships: [SC_UC_17], Generalized from Manage post scrap use case

Business Rules:

- Only posts with “BOOKED” status can be accomplished
- After being accomplished, the scrap is changed to “SOLD” status, and the booking related to that scrap is changed to “DONE” status.

Table 22 - <Homeowner> Accomplish scrap Use Case Specification

2.3.3.11 Review Collector

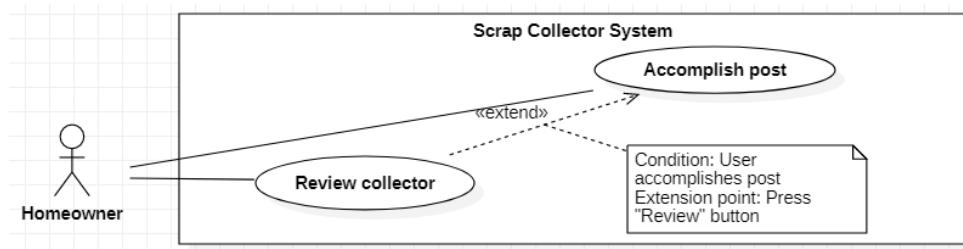


Figure 22 - <Homeowner> Review Collector Use Case

USE CASE - SC_UC_17									
Use Case No.	SC_UC_17	Use Case Version	1.0						
Use Case Name	Review collector								
Author	Nguyen Duy Dat								
Date	26/2/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Homeowner 								
Summary:	<ul style="list-style-type: none"> - Allow homeowner to review collector. 								
Goal:	<ul style="list-style-type: none"> - Homeowner reviews Collector with star and description. 								
Triggers:	<ul style="list-style-type: none"> - User presses “Đánh giá” button. 								
Preconditions:	<ul style="list-style-type: none"> - User must be a homeowner - Homeowner accomplishes a post 								
Post conditions:	<ul style="list-style-type: none"> - Success: A review is created. - Fail: System shows error messages. Review is not created. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Homeowner presses “Đánh giá” button</td><td>System shows Review pop-up with: - “Đánh giá của bạn” title</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Homeowner presses “Đánh giá” button	System shows Review pop-up with: - “Đánh giá của bạn” title
Step	Actor Action	System Response							
1	Homeowner presses “Đánh giá” button	System shows Review pop-up with: - “Đánh giá của bạn” title							

		<ul style="list-style-type: none"> - "Người được đánh giá": Collector name - "Số sao"(required): star with total 5 stars - "Mô tả"(optional) : text input - "Gửi" button - "Đóng" button
2	Homeowner chooses star, inputs description and presses "Gửi" button	System creates review and sends notification to Collector. [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1	Homeowner presses "Đóng" button	System closes Review pop-up

Exceptions:

No	Actor Action	System Response
1		System shows message "Không có kết nối Internet" when the Internet is lost.

Relationships: [SC_UC_16]**Business Rules:**

- Each review maps with a scrap which is accomplished.
- Only after the Homeowner accomplished a scrap can Homeowner makes a review
- Each Homeowner can makes one or many reviews.
- Each Collector has many reviews.
- Each review belongs to one Collector only
- Default number of star of review is 5, which means that when the Homeowner send review without choosing the number of star, the review is created with 5 stars
- After the review is created, system sends notification to the Collector

Table 23 - <Homeowner> Review Collector Use Case Specification

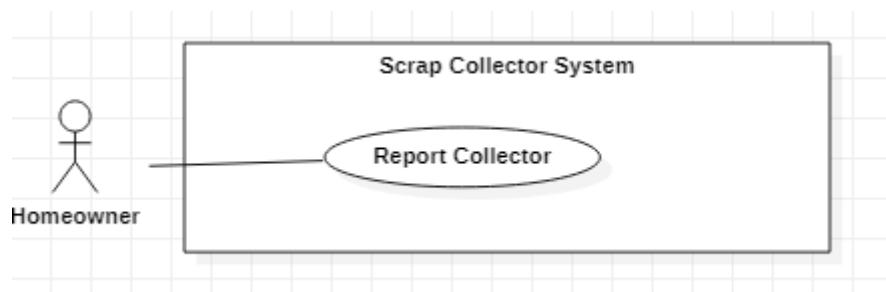
2.3.3.12 Report Collector

Figure 23 - <Homeowner> Report collector Use Case

USE CASE – SC_UC_2.0_1

Use Case No.	SC_UC_2.0_1	Use Case Version	2.0
Use Case Name	Report Collector		
Author	Nguyen Hoang Nhan, Nguyen Duy Dat		
Date	02/04/2020	Priority	Normal

Actor:

- Homeowner

Summary:

- Allow homeowner to report collector.

Goal:

- Homeowner reports Collector with description.

Triggers:

- User presses “Báo cáo” button.

Preconditions:

- User must be a homeowner

Post conditions:

- Success: A report is created and sent to system.
- Fail: System shows error messages. Report is not created.

Main Success Scenario:

Step	Actor Action	System Response
1	Homeowner presses “Báo cáo” button	<p>System shows Report pop-up with:</p> <ul style="list-style-type: none"> - “Báo cáo Người mua” title - “Báo cáo của bạn sẽ được gửi đến hệ thống. Chúng tôi sẽ xem xét báo cáo của bạn.” - A selection with those options: <ul style="list-style-type: none"> • “Người mua không đến lấy Ve chai” option • “Người mua có hành vi không chuẩn mực” option • “Người mua lừa đảo” option - “Hủy” button
2	Homeowner chooses report option.	System creates report and sends report to Admin. [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1	Homeowner presses “Hủy” button	System closes Report pop-up

Exceptions:

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Relationships: N/A**Business Rules:**

- After report is created, system sends email to Admin and waits for Admin to resolve report.

- If report is created but Admin didn't resolve that report, after 1 day, system will send email to notify Admin.
- Only when the booking is accepted that the Homeowner can report the Collector

Table 24 - <Homeowner> Report Collector Use Case Specification

2.3.4 <Collector> Overview Use Case

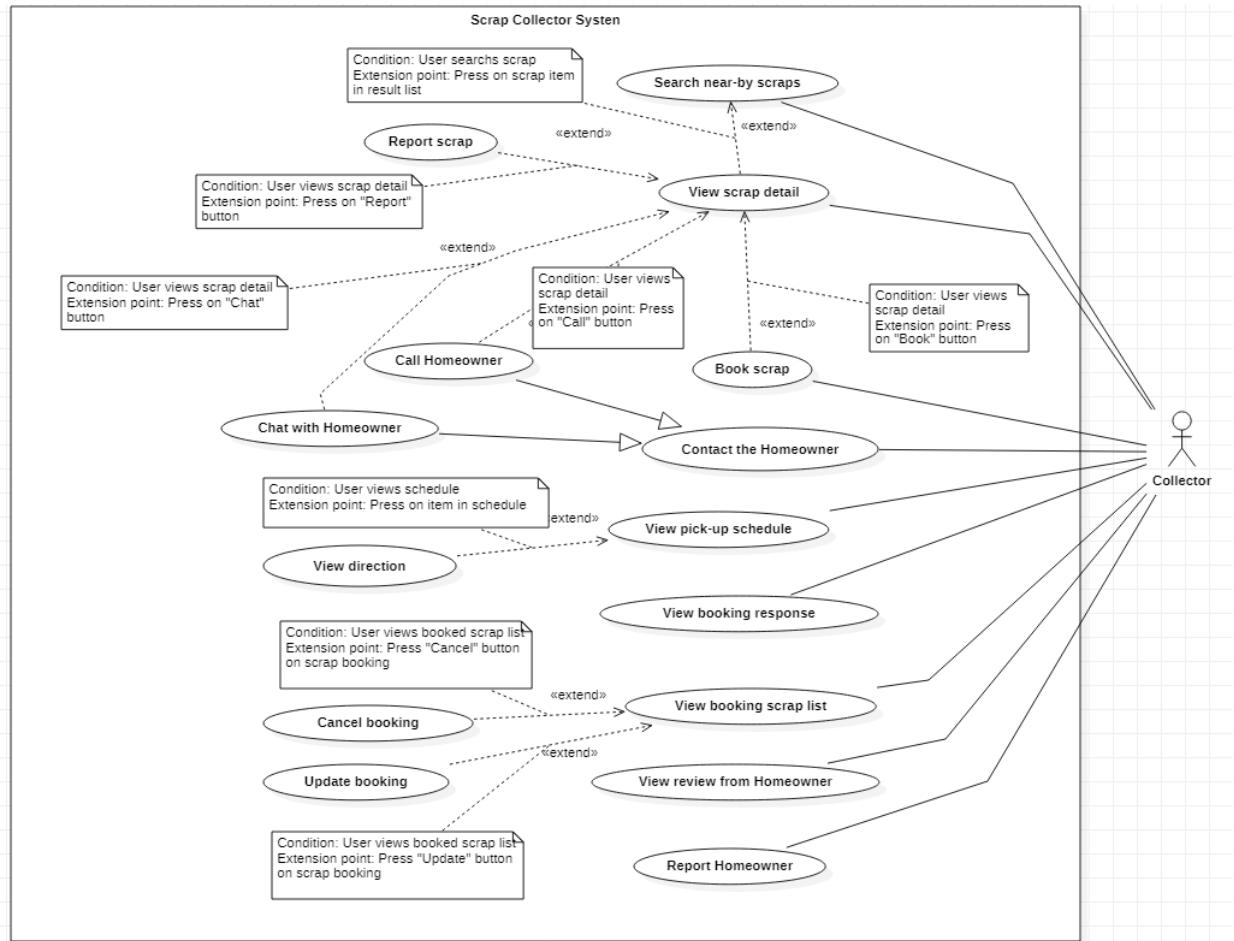


Figure 24 - Collector Overview Use Case

2.3.4.1 Search near-by scraps



Figure 25 - <Collector> Search near-by scraps Use Case

USE CASE - SC_UC_18			
Use Case No.	SC_UC_18	Use Case Version	1.0
Use Case Name	Search near-by scraps		

Author	Nguyen Hoang Anh Trung, Nguyen Hoang Nhan				
Date	26/1/2020	Priority	Normal		
Actor:					
<ul style="list-style-type: none"> - Collector 					
Summary:					
<ul style="list-style-type: none"> - Allow collector to find near-by scrap by radius, scrap category. 					
Goal:					
<ul style="list-style-type: none"> - Collector can see near-by scrap post to book. 					
Triggers:					
<ul style="list-style-type: none"> - Collector presses "Trang chủ" icon in tab navigator. 					
Preconditions:					
<ul style="list-style-type: none"> - User must login in the system with role "Collector" - Collector has registered his/her location. 					
Post conditions:					
<ul style="list-style-type: none"> - Success: A list of scrap post is shown on screen. - Fail: System shows error messages. 					
Main Success Scenario:					
Step	Actor Action	System Response			
1	Collector goes to "Trang chủ" screen	System shows list of scrap posts in radius of 5km based on collector's location, with any kind of category. [Alternative 1] [Alternative 2] [Exception 1] [Exception 2]			
Alternative Scenario:					
No	Actor Action	System Response			
1	Collector selects type of scrap category in "Phân loại" selection	System searches scrap post with selected category and shows search result			
Exceptions:					
No	Actor Action	System Response			
1		System shows message "Không có kết nối Internet" when the Internet is lost.			
2		System shows message the "Vui lòng bật định vị GPS để ứng dụng Ve chai có thể hoạt động tốt hơn" when user turn off GPS service of device.			
Relationships: [SC_UC_19]					
Business Rules:					
<ul style="list-style-type: none"> - Only return scrap posts that have not been booked - The value of distance to search can be adjusted by Collector. Collector can choose to find scrap in 5km, 10km, 15km or at most 20km. - The default radius to search scraps when Collector goé to Home screen is 10 km. - Admin can edit default search distance value through Web Admin. 					

Table 25 - <Collector> Search near-by scraps Use Case Specification

2.3.4.2 View scrap detail

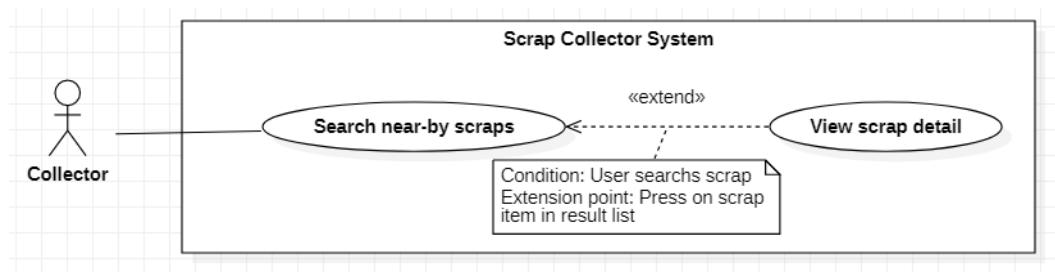


Figure 26 - <Collector> View scrap detail Use Case

USE CASE - SC_UC_19									
Use Case No.	SC_UC_19	Use Case Version	1.0						
Use Case Name	View scrap detail								
Author	Nguyen Hoang Anh Trung								
Date	26/1/2020	Priority	Medium						
Actor:	<ul style="list-style-type: none"> - Collector 								
Summary:	<ul style="list-style-type: none"> - Allow Collector to view scrap detail. 								
Goal:	<ul style="list-style-type: none"> - Collector views detail of the scrap then decide whether to buy or not. 								
Triggers:	<ul style="list-style-type: none"> - Collector presses the item of scrap. 								
Preconditions:	<ul style="list-style-type: none"> - User must login in the system with role “Collector”. - Collector searches near-by scrap. 								
Post conditions:	<ul style="list-style-type: none"> - Success: A new post is created. - Fail: System shows error messages. Post is not created. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Collector press in the Item of scrap on search result list</td><td> <p>System shows the detail of scrap with:</p> <ul style="list-style-type: none"> - “Tiêu đề”: Text - “Giá bán”: Text - “Hình ảnh”: Image slider - “Phân loại”: Text - “Đơn vị”: Text - “Số lượng”: Text - “Mô tả”: Text - “Thời gian”: Text - “Gọi” button - “Chat” button - “Đặt ve chai” button <p>[Exception 1] [Exception 2]</p> </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Collector press in the Item of scrap on search result list	<p>System shows the detail of scrap with:</p> <ul style="list-style-type: none"> - “Tiêu đề”: Text - “Giá bán”: Text - “Hình ảnh”: Image slider - “Phân loại”: Text - “Đơn vị”: Text - “Số lượng”: Text - “Mô tả”: Text - “Thời gian”: Text - “Gọi” button - “Chat” button - “Đặt ve chai” button <p>[Exception 1] [Exception 2]</p>
Step	Actor Action	System Response							
1	Collector press in the Item of scrap on search result list	<p>System shows the detail of scrap with:</p> <ul style="list-style-type: none"> - “Tiêu đề”: Text - “Giá bán”: Text - “Hình ảnh”: Image slider - “Phân loại”: Text - “Đơn vị”: Text - “Số lượng”: Text - “Mô tả”: Text - “Thời gian”: Text - “Gọi” button - “Chat” button - “Đặt ve chai” button <p>[Exception 1] [Exception 2]</p>							

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows error message the "Không có kết nối Internet" when the internet is lost.
2		System shows error message the "Không thể tìm thấy bài đăng" when cannot find the post.

Relationships: [SC_UC_18] [SC_UC_20] [SC_UC_21] [SC_UC_22][SC_UC_2.0_2]**Business Rules:**

- If Collector has booked that scrap, the “Đặt ve chai” button is disabled, and the button is displayed with message “Bạn đã đặt Ve chai này”.
- When Collector views scrap detail, Collector can not know the address of scrap.
- When Collector views scrap detail, Collector can chat with Homeowner about that scrap.
- When Collector views scrap detail, Collector can call the Homeowner for detail information.
- When Collector views scrap detail, Collector can report scrap which is not suitable.

Table 26 - <Collector> View scrap detail Use Case Specification

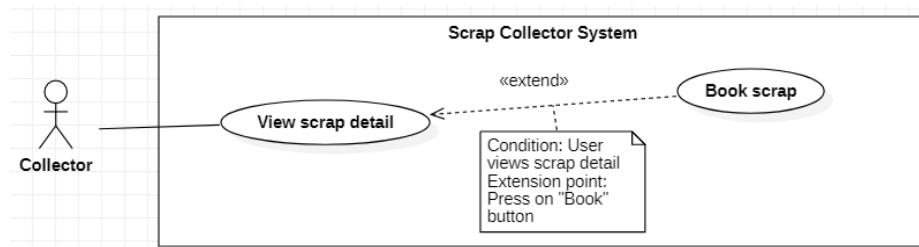
2.3.4.3 Book scrap

Figure 27 - <Collector> Book scrap Use Case

USE CASE - SC_UC_20			
Use Case No.	SC_UC_20	Use Case Version	1.0
Use Case Name	Book scrap		
Author	Nguyen Hoang Anh Trung		
Date	26/2/2020	Priority	High
Actor:	<ul style="list-style-type: none"> - Collector 		
Summary:	<ul style="list-style-type: none"> - Allow Collector to book scrap 		
Goal:	<ul style="list-style-type: none"> - Collector send booking request to the Homeowner of the post. 		
Triggers:	<ul style="list-style-type: none"> - User presses “Đặt ve chai” button. 		
Preconditions:	<ul style="list-style-type: none"> - User must be a Collector 		

- Collector views post detail

Post conditions:

- Success: A booking is created.
- Fail: System shows error messages. Booking is not created.

Main Success Scenario:

Step	Actor Action	System Response
1	Collector presses “Đặt ve chai” button.	<p>System shows a screen with:</p> <ul style="list-style-type: none"> - “Đặt ve chai” title - “Giá”: editable input number, default value of this input is the price of post - “Thời gian lấy ve chai” (required): ratio selection - “Đặt ve chai” button - “Hủy” button
2	Collector presses “Đặt ve chai” button [Alternative 1]	System creates booking request, send notification to Homeowner [Exception 1] [Exception 2] [Exception 3]

Alternative Scenario:

No	Actor Action	System Response
1	Collector presses “Hủy” button or “Quay lại” button	System closes the screen and goes back to Scrap detail screen

Exceptions:

No	Actor Action	System Response
1		System shows error message the "Không có kết nối Internet" when the internet is lost.
2		System shows error message the "Bài đăng này đã có người đặt" when the post is booked.
3		System shows error message the "Bài đăng không tồn tại" when the post is deleted.

Relationships: [SC_UC_19]

Business Rules:

- After booking is created, Homeowner can accept or reject booking
- Collector can change the price in order to negotiate price
- Collector can choose only one available time to pick up scrap
- The created booking has “WAITING” status
- When Collector book a scrap, the system sends notification to the Homeowner of that scrap
- When a booking is sent to Homeowner, if after 2 days, Homeowner does not take any effect of that booking, system sends notification to that Homeowner. And

after 3 days, if Homeowner does not take any effect of that booking, the booking will be automatically rejected.

Table 27 - <Collector> Book scrap Use Case Specification

2.3.4.4 Call Homeowner

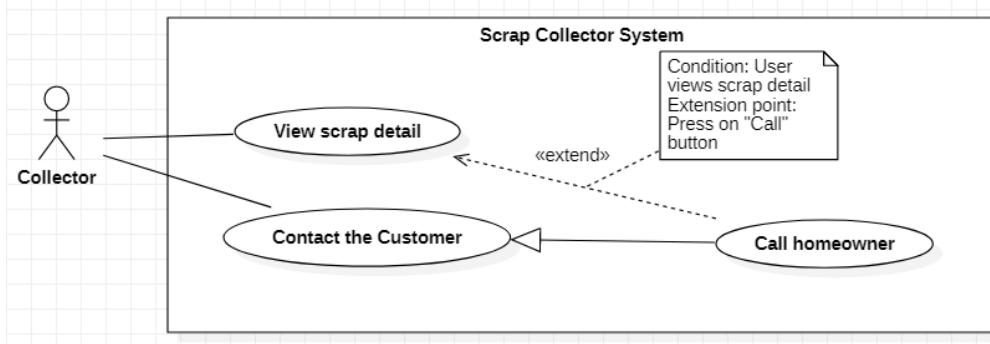


Figure 28 - <Collector> Call Homeowner Use Case

USE CASE – SC_UC_21												
Use Case No.	SC_UC_21	Use Case Version	1.0									
Use Case Name	Call Homeowner											
Author	Nguyen Hoang Anh Trung											
Date	26/2/2020	Priority	Normal									
Actor:	<ul style="list-style-type: none"> - Collector 											
Summary:	<ul style="list-style-type: none"> - Allow Collector to call Homeowner. 											
Goal:	<ul style="list-style-type: none"> - Collector calls Homeowner for direct communication. 											
Triggers:	<ul style="list-style-type: none"> - User presses “Gọi” button or button with phone icon. 											
Preconditions:	<ul style="list-style-type: none"> - User must be a Collector - Collector views post detail 											
Post conditions:	<ul style="list-style-type: none"> - Success: Collector calls Homeowner. - Fail: System shows error messages. 											
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Collector presses “Gọi” button or button with phone icon</td><td> Alert message: “Bạn muốn gọi cho người bán” <ul style="list-style-type: none"> - “Đồng ý” button - “Hủy” button </td></tr> <tr> <td>2</td><td>Collector presses “Đồng ý” button</td><td>System uses call service of phone to make a call to Collector. [Exception 1] [Exception 2]</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Collector presses “Gọi” button or button with phone icon	Alert message: “Bạn muốn gọi cho người bán” <ul style="list-style-type: none"> - “Đồng ý” button - “Hủy” button 	2	Collector presses “Đồng ý” button	System uses call service of phone to make a call to Collector. [Exception 1] [Exception 2]
Step	Actor Action	System Response										
1	Collector presses “Gọi” button or button with phone icon	Alert message: “Bạn muốn gọi cho người bán” <ul style="list-style-type: none"> - “Đồng ý” button - “Hủy” button 										
2	Collector presses “Đồng ý” button	System uses call service of phone to make a call to Collector. [Exception 1] [Exception 2]										
Alternative Scenario:												

No	Actor Action	System Response
1	Collector presses "Hủy" button	System goes back to previous screen

Exceptions:

No	Actor Action	System Response
1		System shows message "Không có kết nối Internet" when the Internet is lost.
2		System shows message the "Không có quyền truy cập" when the application does not have permission to make a phone call.

Relationships: [SC_UC_19]**Business Rules:**

- Application must ask user for making phone call permission

Table 28 - <Collector> Call Homeowner Use Case Specification

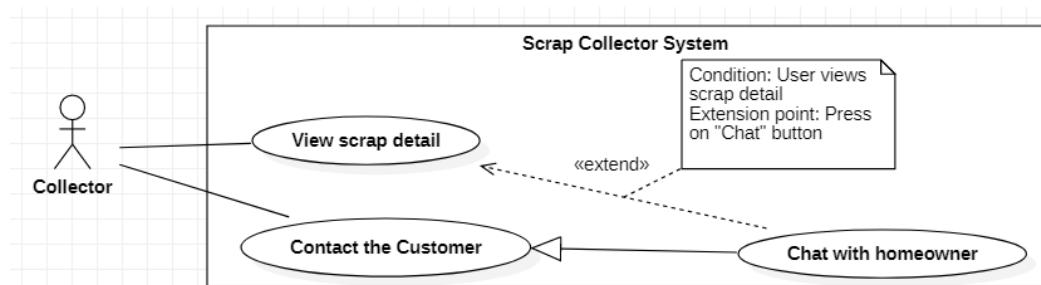
2.3.4.5 Chat with Homeowner

Figure 29 - <Collector> Chat with homeowner Use Case

USE CASE – SC_UC_22			
Use Case No.	SC_UC_22	Use Case Version	1.0
Use Case Name	Chat with homeowner		
Author	Nguyen Hoang Anh Trung, Tiet Le Bao Khanh		
Date	26/2/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Collector 		
Summary:	<ul style="list-style-type: none"> - Allow Collector to chat with Homeowner 		
Goal:	<ul style="list-style-type: none"> - Collector chats with one or many Homeowner. 		
Triggers:	<ul style="list-style-type: none"> - User presses "Chat" button. - User presses "Chat" tab in bottom tab bar. 		
Preconditions:			

- User must be a Collector
- Collector views post detail

Post conditions:

- Success: A conversation between Homeowner and Collector is created.
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	Collector presses "Chat" button or presses "Chat" tab in tab bar	System shows "Chat" screen with all conversations of that Collector
2	Collector chooses a conversation	System shows messages in chosen conversation, a text input and a "Gửi" button
3	Collector inputs message and presses "Gửi" button	System sends message to the Homeowner in that conversation and shows that message [Exception 1]

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1		System shows message "Không có kết nối Internet" when the Internet is lost.

Relationships: [SC_UC_23]

Business Rules:

- Each chat room between Collector and Homeowner relates to a scrap only.
- If Collector and Homeowner chat about more than one scrap, for each scrap, a new chat room is created.
- If the scrap which is being chatted about is deleted or sold, system shows message to let Collector know that scrap is deleted or sold, and Collector can not view detail of that scrap.

Table 29 - <Collector> Chat with homeowner Use Case Specification

2.3.4.6 View pick-up schedule

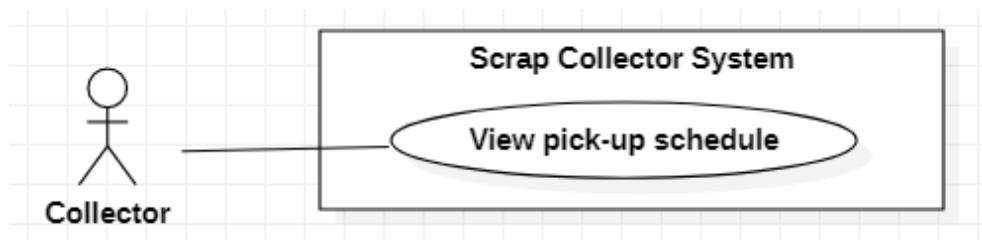


Figure 30 - <Collector> View pick-up schedule Use Case

USE CASE - SC_UC_23			
Use Case No.	SC_UC_23	Use Case Version	1.0

Use Case Name	View pick-up schedule		
Author	Nguyen Hoang Anh Trung		
Date	26/2/2020	Priority	Normal

Actor:

- Collector

Summary:

- Allow Collector to view pick-up schedule

Goal:

- Collector views optimized pick-up schedule to enhance effectivity.

Triggers:

- User presses “Lịch trình” button.

Preconditions:

- User must be a Collector

Post conditions:

- Success: System shows pick-up schedule.
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	Collector presses “Lịch trình” button.	<p>System shows “Lộ trình” screen with date of current day and pick-up schedule.</p> <p>Each item in schedule contains:</p> <ul style="list-style-type: none"> - Index of scrap - Title of scrap - Address of scrap - Price of booking - Time to pick up scrap - “Chỉ đường” button - “Gọi” button <p>[Exception 1]</p>

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Relationships: [SC_UC_24]**Business Rules:**

- In “Lịch trình” screen, system only shows booking that is booked with the day of week that is the same as current day of week.
- Collector can view all the booking that Homeowner has accepted.
- All bookings with “ACCEPTED” status will be shown in schedule
- The scrap is scheduled based on available time. The scrap that has sooner available time is placed first.

Table 30 - <Collector> View pick-up schedule Use Case Specification

2.3.4.7 View direction

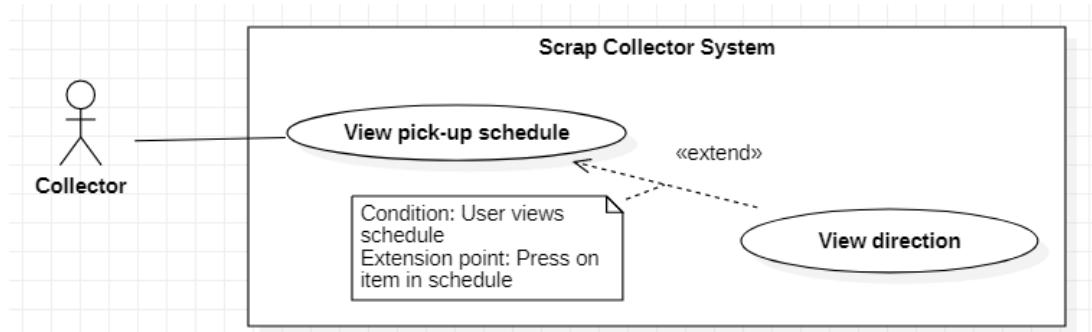


Figure 31 - <Collector> View direction Use Case

USE CASE – SC_UC_24									
Use Case No.	SC_UC_24	Use Case Version	1.0						
Use Case Name	View direction								
Author	Nguyen Hoang Anh Trung								
Date	26/2/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Collector 								
Summary:	<ul style="list-style-type: none"> - Allow Collector to view direction to the Homeowner destination. 								
Goal:	<ul style="list-style-type: none"> - Collector views direction to scrap's place. 								
Triggers:	<ul style="list-style-type: none"> - User presses “Chỉ đường” button. 								
Preconditions:	<ul style="list-style-type: none"> - User must be a Collector - Collector views pick-up schedule 								
Post conditions:	<ul style="list-style-type: none"> - Success: System shows direction. - Fail: System shows error messages. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Collector presses “Chỉ đường” button on the item in schedule</td><td>System shows direction from user's current location to scrap's location. System also shows the detail address of that scrap and a “Call” button [Exception 1][Exception 2]</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Collector presses “Chỉ đường” button on the item in schedule	System shows direction from user's current location to scrap's location. System also shows the detail address of that scrap and a “Call” button [Exception 1][Exception 2]
Step	Actor Action	System Response							
1	Collector presses “Chỉ đường” button on the item in schedule	System shows direction from user's current location to scrap's location. System also shows the detail address of that scrap and a “Call” button [Exception 1][Exception 2]							
Alternative Scenario: N/A									
Exceptions:	<table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> </table>			No	Actor Action	System Response			
No	Actor Action	System Response							

1		System shows message "Không có kết nối Internet" when the Internet is lost.
2		System shows message the "Vui lòng bật định vị GPS để ứng dụng Ve chai có thể hoạt động tốt hơn" when user turn off GPS service of device.

Relationships: [SC_US_23]

Business Rules:

- Application must ask user for getting GPS location permission.

Table 31 - <Collector> View direction Use Case Specification

2.3.4.8 View booking response

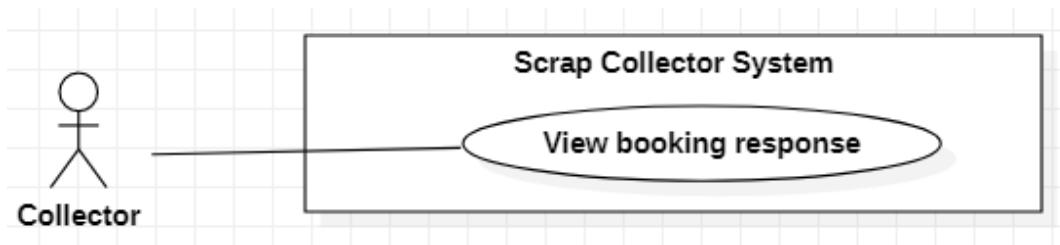


Figure 32 - <Collector> View booking response Use Case

USE CASE – SC_UC_25									
Use Case No.	SC_UC_25	Use Case Version	1.0						
Use Case Name	View booking response								
Author	Nguyen Hoang Anh Trung								
Date	26/2/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Collector 								
Summary:	<ul style="list-style-type: none"> - Allow Collector to view scrap booking response. 								
Goal:	<ul style="list-style-type: none"> - Collector receives notification when Homeowner accepts or rejects Collector's booking request. 								
Triggers:	<ul style="list-style-type: none"> - Collector receives booking response notification. 								
Preconditions:	<ul style="list-style-type: none"> - User must be a Collector 								
Post conditions:	<ul style="list-style-type: none"> - Success: System shows response from Homeowner. - Fail: System shows error messages. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Collector presses on the booking response notification</td><td>System shows detail of booking response that whether it is accepted or is rejected.</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Collector presses on the booking response notification	System shows detail of booking response that whether it is accepted or is rejected.
Step	Actor Action	System Response							
1	Collector presses on the booking response notification	System shows detail of booking response that whether it is accepted or is rejected.							

	[Exception 1]
Alternative Scenario: N/A	
Exceptions: N/A	
Relationships: N/A	
Business Rules: N/A	

Table 32 - <Collector> View booking response Use Case Specification

2.3.4.9 View booking scrap list

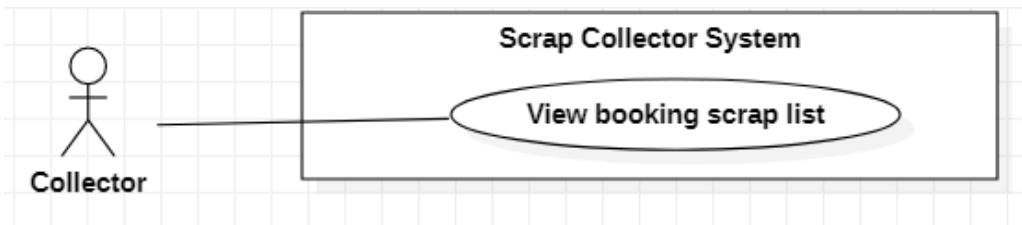


Figure 33 - <Collector> View booking scrap list Use Case

USE CASE - SC_UC_26			
Use Case No.	SC_UC_26	Use Case Version	1.0
Use Case Name	View booking scrap list		
Author	Nguyen Hoang Anh Trung		
Date	26/2/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Collector 		
Summary:	<ul style="list-style-type: none"> - Allow Collector to view booking request list 		
Goal:	<ul style="list-style-type: none"> - Collector views all booking requests that they sent to Homeowner 		
Triggers:	<ul style="list-style-type: none"> - User presses on “Đang chờ xác nhận” tab. 		
Preconditions:	<ul style="list-style-type: none"> - User must be a Collector 		
Post conditions:	<ul style="list-style-type: none"> - Success: System shows all booking requests of that Collector. - Fail: System shows error messages. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	User presses on “Đang chờ xác nhận” tab	System shows all booking requests of that Collector. Each item in the list contains: <ul style="list-style-type: none"> - Image of the scrap - Title of the scrap - Posting time of the scrap - Distance from Collector's location to the address of the scrap 	

		<ul style="list-style-type: none"> - Booking price: price that Collector offer to buy that scrap - Time to pick up: time that Collector has chosen to pick up that scrap - "Hủy đặt Ve chai" button <p>[Exception 1]</p>
--	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1		System shows message the "Không có kết nối Internet" when the internet is lost

Relationships: [SC_UC_27]

Business Rules:

- Only booking requests that have "WAITING" status are shown
- Bookings are displayed based on the time that the booking is created, the latest booking is displayed first.

Table 33 - <Collector> View booking scrap list Use Case Specification

2.3.4.10 Cancel booking

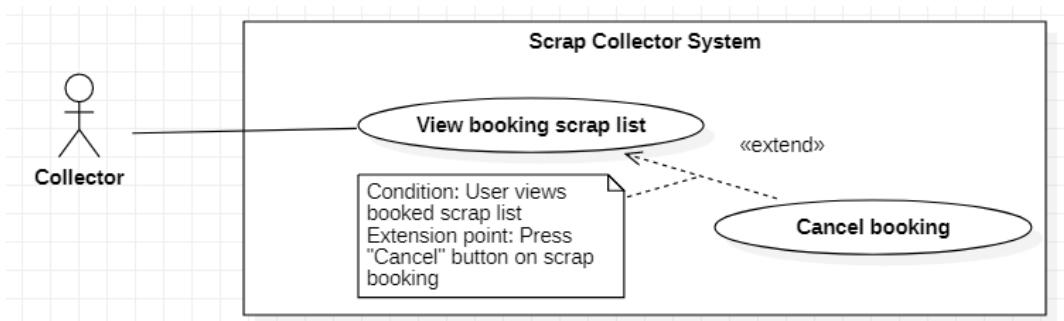


Figure 34 - <Collector> Cancel booking Use Case

USE CASE – SC_UC_27			
Use Case No.	SC_UC_27	Use Case Version	1.0
Use Case Name	Cancel booking		
Author	Nguyen Hoang Nhan		
Date	26/2/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Collector 		
Summary:	<ul style="list-style-type: none"> - Allow Collector to delete booking request. 		
Goal:	<ul style="list-style-type: none"> - Collector cancels booking request. 		
Triggers:	<ul style="list-style-type: none"> - Collector presses "Hủy" button on each Item in the booking request list. 		

Preconditions:

- User must be a Collector
- Collector view booking scrap list

Post conditions:

- Success: The booking request is deleted.
- Fail: System shows error messages. Booking request is not deleted.

Main Success Scenario:

Step	Actor Action	System Response
1	Collector presses "Hủy" button on each Item in the booking request list	System shows a pop up with: - "Bạn có muốn hủy đặt Ve chai này không" message - "Hủy yêu cầu" button - "Trở về" button
2	Collector presses "Hủy yêu cầu" button on the pop up [Alternative 1]	System deletes booking request, shows result to the Collector and sends notification to the Homeowner [Exception 1] [Exception 2]

Alternative Scenario:

No	Actor Action	System Response
1	Collector presses "Trở về" button on the pop up	System closes the pop up and goes back to booking request list screen

Exceptions:

No	Actor Action	System Response
1		System shows message the "Không có kết nối Internet" when the internet is lost
2		System shows message the "Không thể hủy yêu cầu" when the booking is accepted or rejected by the Homeowner

Relationships: [SC_UC_26]**Business Rules:**

- Only booking requests that have "WAITING" or "ACCEPTED" status can be deleted.
- After the Collector cancel booking request, system sends notification to the Homeowner of that scrap.

Table 34 - <Collector> Cancel booking Use Case Specification

2.3.4.11 View review from Homeowner

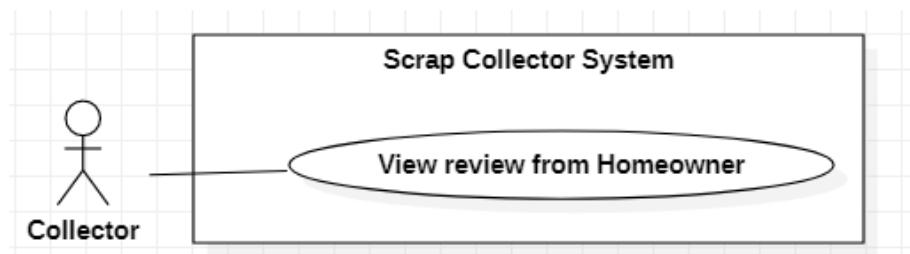


Figure 35 - <Collector> View review from Homeowner Use Case

USE CASE - SC_UC_28												
Use Case No.	SC_UC_28	Use Case Version	1.0									
Use Case Name	View review from Homeowner											
Author	Nguyen Hoang Anh Trung, Nguyen Hoang Nhan											
Date	26/2/2020	Priority	Normal									
Actor:	<ul style="list-style-type: none"> - Collector 											
Summary:	<ul style="list-style-type: none"> - Allow Collector to view his/her review 											
Goal:	<ul style="list-style-type: none"> - Collector views his/her review from the Homeowner 											
Triggers:	<ul style="list-style-type: none"> - Collector receives notification of review from Homeowner 											
Preconditions:	<ul style="list-style-type: none"> - User must be a Collector 											
Post conditions:	<ul style="list-style-type: none"> - Success: System shows Collector's review - Fail: System shows error messages. 											
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Collector receives notification of review [Alternative 1]</td><td> System shows a pop-up with: <ul style="list-style-type: none"> - The name of the scrap that Collector bought - The number of stars on total of 5 stars - The description from Homeowner - "Close" button <p>[Exception 1]</p> </td></tr> <tr> <td>2</td><td>Collector presses "Đóng" button on the pop-up</td><td>System closes pop-up</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Collector receives notification of review [Alternative 1]	System shows a pop-up with: <ul style="list-style-type: none"> - The name of the scrap that Collector bought - The number of stars on total of 5 stars - The description from Homeowner - "Close" button <p>[Exception 1]</p>	2	Collector presses "Đóng" button on the pop-up	System closes pop-up
Step	Actor Action	System Response										
1	Collector receives notification of review [Alternative 1]	System shows a pop-up with: <ul style="list-style-type: none"> - The name of the scrap that Collector bought - The number of stars on total of 5 stars - The description from Homeowner - "Close" button <p>[Exception 1]</p>										
2	Collector presses "Đóng" button on the pop-up	System closes pop-up										
Alternative Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> </table>			Step	Actor Action	System Response						
Step	Actor Action	System Response										

1	Collector pressed on “Xem lịch sử đã mua” button on “Tài khoản” screen	System shows a list of scrap that collector has bought. If the Homeowner of that scrap made review, system shows review following that scrap. Each review contains - The name of the scrap that Collector bought - The number of stars on total of 5 stars - The description from Homeowner [Exception 1]
---	------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Exceptions:

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Relationships: N/A**Business Rules:**

- For each scrap that Collector has bought, there is only one review
- If the Homeowner didn't make review for that booking, system does not show review.

Table 35 - <Collector> View review from Homeowner Use Case Specification

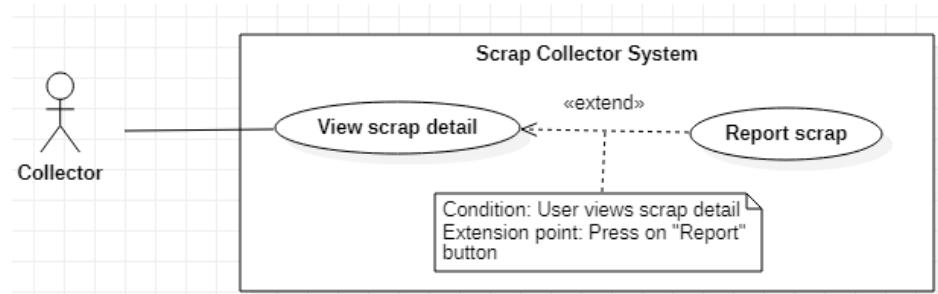
2.3.4.12 Report scrap

Figure 36 - <Collector> Report scrap Use Case

USE CASE – SC_UC_2.0_2			
Use Case No.	SC_UC_2.0_2	Use Case Version	2.0
Use Case Name	Report scrap		
Author	Nguyen Hoang Anh Trung, Nguyen Hoang Nhan		
Date	02/04/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Collector 		
Summary:	<ul style="list-style-type: none"> - Allow Collector to report scrap 		
Goal:	<ul style="list-style-type: none"> - Collector reports unsuitable scrap 		
Triggers:			

- Collector presses “Report” button in Scrap detail screen

Preconditions:

- User must be a Collector

Post conditions:

- Success: System creates report.
- Fail: System shows error messages. Report is not created.

Main Success Scenario:

Step	Actor Action	System Response
1	Collector presses “Report” button in Scrap detail screen	<p>System shows a Report Scrap pop-up with:</p> <ul style="list-style-type: none"> - “Báo cáo Ve chai này” title - “Báo cáo của bạn sẽ được gửi đến Hệ thống. Chúng tôi sẽ xem xét Báo cáo” - Report selection with these options: <ul style="list-style-type: none"> • “Tôi không thể gọi được cho người bán” • “Bài đăng không chính xác” • “Hình ảnh không hợp lệ” • “Mô tả không hợp lệ” • “Nội dung phản cảm, dung tục” - “Hủy” button <p>[Exception 1]</p>
2	Collector select a Report option	System creates report and closes Report pop-up

Alternative Scenario:

No	Actor Action	System Response
1	Collector presses “Hủy” button	System closes Report pop-up

Exceptions:

No	Actor Action	System Response
1		System shows message “Không có kết nối Internet” when the Internet is lost.

Relationships: [SC_UC_19]**Business Rules:**

- After report is created, system sends email to Admin and waits for Admin to resolve report.
- If report is created but Admin didn't resolve that report, after 1 day, system will send email to notify Admin.

Table 36 - <Collector> Report scrap Use Case Specification

2.3.4.13 Report Homeowner

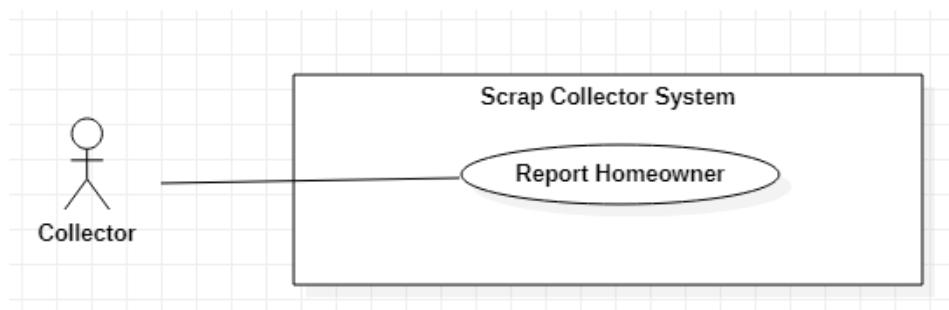


Figure 37 - <Collector> Report Homeowner Use Case

USE CASE - SC_UC_2.0_3												
Use Case No.	SC_UC_2.0_3	Use Case Version	2.0									
Use Case Name	Report Homeowner											
Author	Nguyen Hoang Nhan, Nguyen Hoang Anh Trung											
Date	04/02/2020	Priority	Normal									
Actor:	<ul style="list-style-type: none"> - Collector 											
Summary:	<ul style="list-style-type: none"> - Allow Collector to report Homeowner 											
Goal:	<ul style="list-style-type: none"> - Collector reports Homeowner 											
Triggers:	<ul style="list-style-type: none"> - Collector presses “Báo cáo” button 											
Preconditions:	<ul style="list-style-type: none"> - User must be a Collector 											
Post conditions:	<ul style="list-style-type: none"> - Success: System creates report. - Fail: System shows error messages. Report is not created. 											
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Collector presses “Báo cáo” button</td><td> System shows Report pop-up with: - “Báo cáo Người bán” title - “Báo cáo của bạn sẽ được gửi đến hệ thống. Chúng tôi sẽ xem xét báo cáo của bạn.” introduction - A selection with those options: <ul style="list-style-type: none"> • “Người mua có hành vi không chuẩn mực” option • “Người mua lừa đảo” option - “Hủy” button </td></tr> <tr> <td>2</td><td>Collector chooses report option.</td><td>System creates report and sends report to Admin. [Exception 1]</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Collector presses “Báo cáo” button	System shows Report pop-up with: - “Báo cáo Người bán” title - “Báo cáo của bạn sẽ được gửi đến hệ thống. Chúng tôi sẽ xem xét báo cáo của bạn.” introduction - A selection with those options: <ul style="list-style-type: none"> • “Người mua có hành vi không chuẩn mực” option • “Người mua lừa đảo” option - “Hủy” button	2	Collector chooses report option.	System creates report and sends report to Admin. [Exception 1]
Step	Actor Action	System Response										
1	Collector presses “Báo cáo” button	System shows Report pop-up with: - “Báo cáo Người bán” title - “Báo cáo của bạn sẽ được gửi đến hệ thống. Chúng tôi sẽ xem xét báo cáo của bạn.” introduction - A selection with those options: <ul style="list-style-type: none"> • “Người mua có hành vi không chuẩn mực” option • “Người mua lừa đảo” option - “Hủy” button										
2	Collector chooses report option.	System creates report and sends report to Admin. [Exception 1]										
Alternative Scenario:												

No	Actor Action	System Response
1	Collector presses "Hủy" button	System closes Report pop-up
Exceptions:		
No	Actor Action	System Response
1		System shows message "Không có kết nối Internet" when the Internet is lost.

Relationships: N/A

Business Rules:

- After the report is created, system will send email to Admin and the report will wait for Admin to be resolved.
- If report is created but Admin didn't resolve that report, after 1 day, system will send email to notify Admin.

Table 37 - <Collector> View review from Homeowner Use Case Specification

2.3.5 <Admin> Overview Use Case

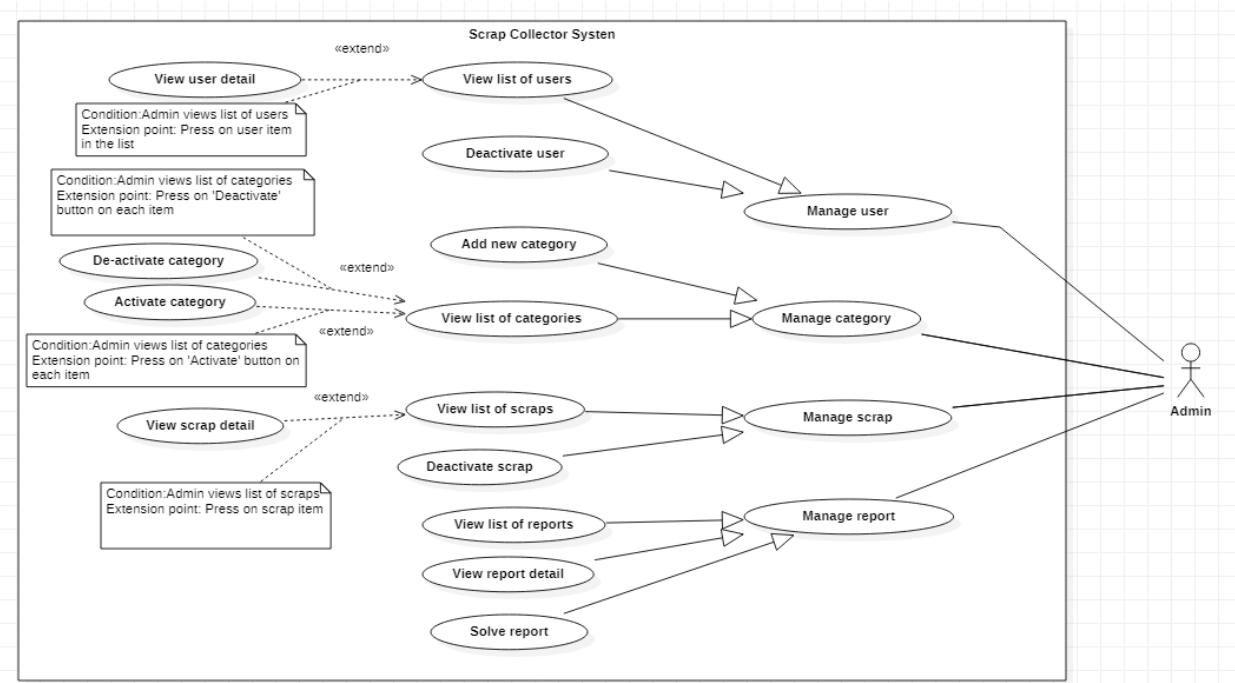


Figure 38 – Admin Overview Use Case

2.3.5.1 View list of users

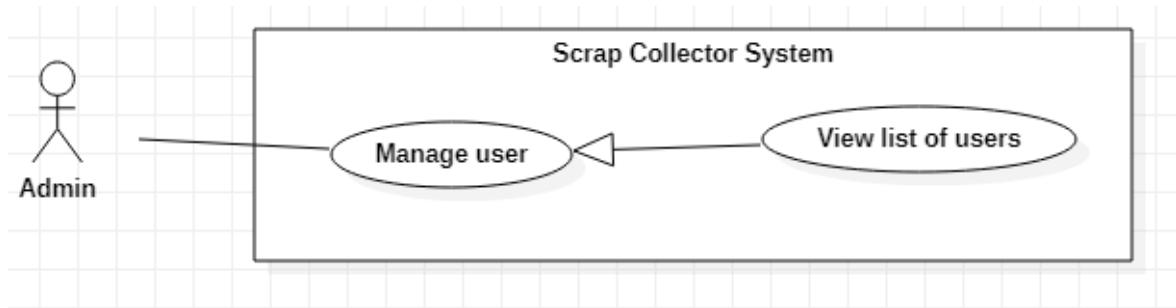


Figure 39 - <Admin> View list of users Use Case

USE CASE – SC_UC_29									
Use Case No.	SC_UC_29	Use Case Version	1.0						
Use Case Name	View list of users								
Author	Tiet Le Bao Khanh								
Date	26/2/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Admin 								
Summary:	<ul style="list-style-type: none"> - Allow Admin to view all users in the system 								
Goal:	<ul style="list-style-type: none"> - Admin views all users in the system, knows how many user in the system and filter user by role 								
Triggers:	<ul style="list-style-type: none"> - Admin goes to Account page on Admin website 								
Preconditions:	<ul style="list-style-type: none"> - User must be an Admin - User has logged into the website 								
Post conditions:	<ul style="list-style-type: none"> - Success: A table of users is shown on screen. - Fail: System shows error messages. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Admin go to Account page on website</td><td> <p>System show table of accounts in the System with following information:</p> <ul style="list-style-type: none"> - "Name": Full name of user - "Username": username - "Phone number" - "Role" - "Active date" - "Action" button <p>System show total of users in the system.</p> </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Admin go to Account page on website	<p>System show table of accounts in the System with following information:</p> <ul style="list-style-type: none"> - "Name": Full name of user - "Username": username - "Phone number" - "Role" - "Active date" - "Action" button <p>System show total of users in the system.</p>
Step	Actor Action	System Response							
1	Admin go to Account page on website	<p>System show table of accounts in the System with following information:</p> <ul style="list-style-type: none"> - "Name": Full name of user - "Username": username - "Phone number" - "Role" - "Active date" - "Action" button <p>System show total of users in the system.</p>							

		<p>System also show an option form for Admin to filter account:</p> <ul style="list-style-type: none"> - Search by Role - Sort by active time - Search by name - Search by Phone - Search by date of activation <p>[Exception 1]</p>
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Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1		System shows message the "Cannot load table of user" when there is error.

Relationships: Generalized from Manage user account use case

Business Rules:

- All accounts are shown even if that account is disabled.
- System shows the total of users in the system for Admin to get an overview of system.

Table 38 - <Admin> View list of users Use Case Specification

2.3.5.2 View user detail

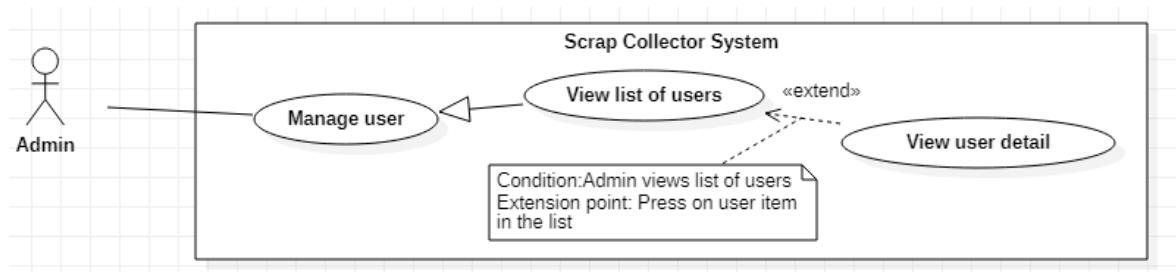


Figure 40 - <Admin> View user detail Use Case

USE CASE – SC_UC_30			
Use Case No.	SC_UC_30	Use Case Version	1.0
Use Case Name	View user detail		
Author	Tiet Le Bao Khanh		
Date	26/2/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Admin 		
Summary:	<ul style="list-style-type: none"> - Allow Admin to view an account's detail information 		
Goal:	<ul style="list-style-type: none"> - Admin view user detail. 		
Triggers:	<ul style="list-style-type: none"> - Admin click on the item of user in user list. 		

Preconditions:

- User must be an Admin
- Admin view list of user

Post conditions:

- Success: User detail is shown.
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	Admin click on user item	<p>System shows user's detail information with:</p> <ul style="list-style-type: none"> - Avatar: image - Name: text - Username: text - Phone number: text - Email: text - Address: text - Role: text - Created Time: datetime - "Deactive" button

Alternative Scenario: N/A**Exceptions: N/A**

Relationships: Generalized from Manage user account use case, [SC_UC_29]

Business Rules:

- If that user is a collector, system shows table of booking belonging to that collector, the table of booking is shown as below table:

Scrap Title	Price	Available time	Status	Created Time	Note

- If that user a collector, system shows table of review belonging to that collector, the table of review is shown as below table:

Homeowner Name	Scrap Title	Review	Status

- If that user a homeowner, system shows table of scrap belonging to that homeowner, the table of scrap is shown as below table:

Scrap Title	Price	Quantity	Category	Status	Action

Table 39 - <Admin> View user detail Use Case Specification

2.3.5.3 View list of scraps

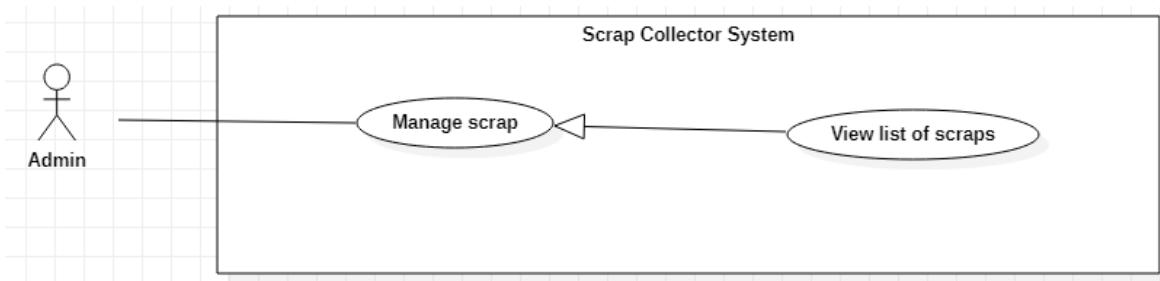


Figure 41 - <Admin> View list of scraps Use Case

USE CASE - SC_UC_31									
Use Case No.	SC_UC_31	Use Case Version	1.0						
Use Case Name	View list of scraps								
Author	Tiet Le Bao Khanh								
Date	26/2/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Admin 								
Summary:	<ul style="list-style-type: none"> - Allow Admin to view all scraps in the system. 								
Goal:	<ul style="list-style-type: none"> - Admin views all scraps. 								
Triggers:	<ul style="list-style-type: none"> - Admin click to go to scrap page. 								
Preconditions:	<ul style="list-style-type: none"> - User must be an Admin 								
Post conditions:	<ul style="list-style-type: none"> - Success: A list of scraps is shown. - Fail: System shows error messages. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Admin goes to Scrap screen</td><td> <p>System show table of scraps in the System with following information:</p> <ul style="list-style-type: none"> - "Title": Title of scrap - "Price": price of scrap - "Category": category of scrap - "Quantity": quantity or mass of scrap - "Created time": time of posting scrap - "Status": status of scrap - "Action" button <p>System show total of scrap in the system.</p> <p>System also show an option form for Admin to filter account:</p> <ul style="list-style-type: none"> - Filter by Category </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Admin goes to Scrap screen	<p>System show table of scraps in the System with following information:</p> <ul style="list-style-type: none"> - "Title": Title of scrap - "Price": price of scrap - "Category": category of scrap - "Quantity": quantity or mass of scrap - "Created time": time of posting scrap - "Status": status of scrap - "Action" button <p>System show total of scrap in the system.</p> <p>System also show an option form for Admin to filter account:</p> <ul style="list-style-type: none"> - Filter by Category
Step	Actor Action	System Response							
1	Admin goes to Scrap screen	<p>System show table of scraps in the System with following information:</p> <ul style="list-style-type: none"> - "Title": Title of scrap - "Price": price of scrap - "Category": category of scrap - "Quantity": quantity or mass of scrap - "Created time": time of posting scrap - "Status": status of scrap - "Action" button <p>System show total of scrap in the system.</p> <p>System also show an option form for Admin to filter account:</p> <ul style="list-style-type: none"> - Filter by Category 							

		<ul style="list-style-type: none"> - Filter by status - Sort by created time of scrap - Search by title of scrap - Search by Price of scrap - Search by date of posting scrap <p>[Exception 1]</p>						
Alternative Scenario: N/A								
Exceptions:								
<table border="1"> <thead> <tr> <th>No</th> <th>Actor Action</th> <th>System Response</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td>System shows message the "Can not load data" when there is error.</td> </tr> </tbody> </table>			No	Actor Action	System Response	1		System shows message the "Can not load data" when there is error.
No	Actor Action	System Response						
1		System shows message the "Can not load data" when there is error.						
Relationships: Generalized from Manage posted scrap use case								
Business Rules:								
<ul style="list-style-type: none"> - System shows the total of scraps in the system for Admin to get an overview of system. 								

Table 40 - <Admin> View list of scraps Use Case Specification

2.3.5.4 View scrap detail

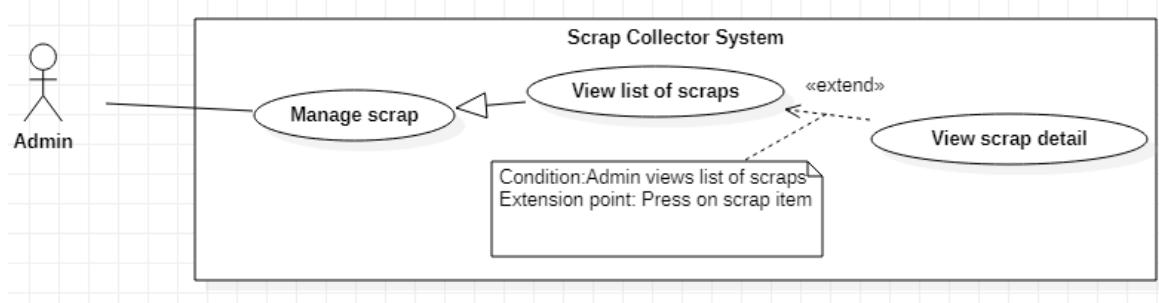


Figure 42 - <Admin> View scrap detail Use Case

USE CASE - SC_UC_32			
Use Case No.	SC_UC_32	Use Case Version	1.0
Use Case Name	View scrap detail		
Author	Tiet Le Bao Khanh		
Date	26/2/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Admin 		
Summary:	<ul style="list-style-type: none"> - Allow Admin to view post detail 		
Goal:	<ul style="list-style-type: none"> - Admin views post detail. 		
Triggers:	<ul style="list-style-type: none"> - Admin click on post item in post list. 		
Preconditions:	<ul style="list-style-type: none"> - User must be an Admin 		

- Admin views list of scrap in the system

Post conditions:

- Success: Post detail is shown.
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	Admin clicks on "View" button on scrap item	<p>System shows detail information with:</p> <ul style="list-style-type: none"> - Image of scrap: image - Title of scrap: text - Price: text - Date of posting: timestamp - Category: text - Quantity: text number - Phone number: text - Address: text - Homeowner's name: text - Description of scrap - List of available time of that scrap <p>[Exception 1]</p>

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1		System shows message "Can not load data" when there is error.

Relationships: Generalized from Manage posted scrap use case

Business Rules:

- When Admin view scrap detail information, the table of booking of that scrap is also shown. The table of booking for that scrap is shown as below table:

Collector name	Price of booking	Choosen time	Status	Created Time

- Website provides admin a form in order to help admin filter booking by collector name, status of booking, date of booking.

Table 41 - <Admin> View post detail Use Case Specification

2.3.5.5 Activate category

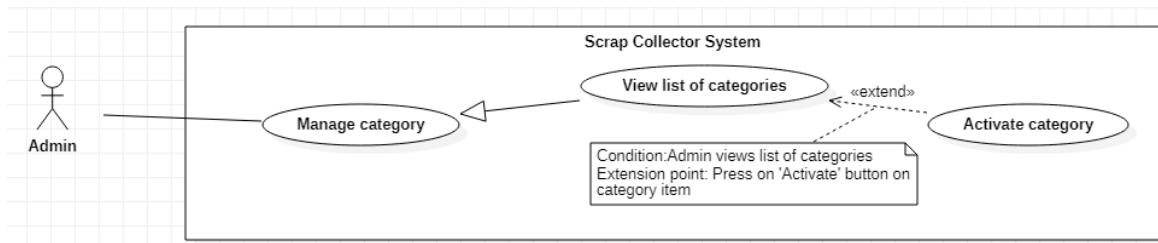


Figure 43 - <Admin> Activate category Use Case

USE CASE – SC_UC_33					
Use Case No.	SC_UC_33	Use Case Version	1.0		
Use Case Name	Activate category				
Author	Tiet Le Bao Khanh				
Date	26/2/2020	Priority	Normal		
Actor:					
- Admin					
Summary:					
- Allow Admin to activate a category.					
Goal:					
- Admin changes status of category so that category can be used.					
Triggers:					
- Admin update category status with status "ACTIVE".					
Preconditions:					
- User must be an Admin					
- Admin view list of categories					
Post conditions:					
- Success: The category is activated.					
- Fail: System shows error messages. Category is not activated.					
Main Success Scenario:					
Step	Actor Action	System Response			
1	Admin clicks on "Update" button on category item	System shows update category form with: - Name (editable): text input - Unit (editable): text input - Status: selection - "Update" button			
2	Admin select status of scrap as "ACTIVE"				
3	Admin clicks "Update" button	System shows result message "Activate category successfully"			
Alternative Scenario: N/A					
Exceptions:					
No	Actor Action	System Response			

1		System shows message "Activate category FAILED" when there is error.
Relationships: Generalized from Manage category use case, [SC_UC_36]		
Business Rules:		
<ul style="list-style-type: none"> - After a category is activated, Homeowner can post scrap belonging to that category, and Collector can search for scrap belonging to that category 		

Table 42 - <Admin> Activate category Use Case Specification

2.3.5.6 Deactivate category

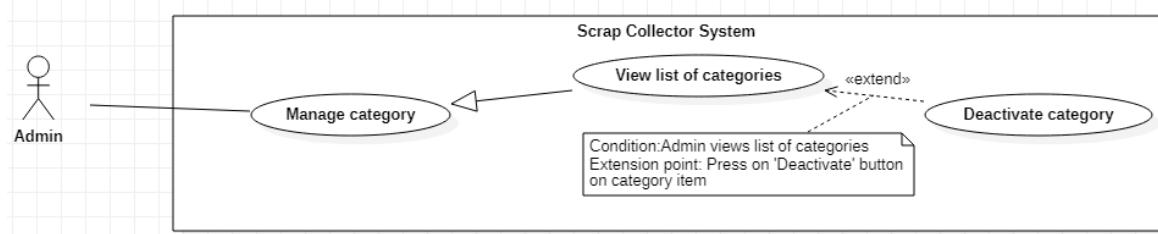


Figure 44 - <Admin> Deactivate category Use Case

USE CASE – SC_UC_34									
Use Case No.	SC_UC_34	Use Case Version	1.0						
Use Case Name	Deactivate category								
Author	Tiet Le Bao Khanh								
Date	26/2/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Admin 								
Summary:	<ul style="list-style-type: none"> - Allow Admin to deactivate a category 								
Goal:	<ul style="list-style-type: none"> - Admin changes status of category so that category cannot be used. 								
Triggers:	<ul style="list-style-type: none"> - Admin update category status with status "DEACTIVE". 								
Preconditions:	<ul style="list-style-type: none"> - User must be an Admin - Admin views list of categories 								
Post conditions:	<ul style="list-style-type: none"> - Success: Category is deactivated. - Fail: System shows error messages. Category is not deactivated. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Admin clicks on "Update" button on category item</td><td> System shows update category form with: <ul style="list-style-type: none"> - Name (editable): text input - Unit (editable): text input </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Admin clicks on "Update" button on category item	System shows update category form with: <ul style="list-style-type: none"> - Name (editable): text input - Unit (editable): text input
Step	Actor Action	System Response							
1	Admin clicks on "Update" button on category item	System shows update category form with: <ul style="list-style-type: none"> - Name (editable): text input - Unit (editable): text input 							

		<ul style="list-style-type: none"> - Status: selection "Update" button
2	Admin select status of scrap as "IN-ACTIVE"	
3	Admin clicks "Update" button	System shows result message "Deactivate category successfully"

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows message "Deactivate category FAILED" when there is error.

Relationships: Generalized from Manage category use case, [SC_UC_36]**Business Rules:**

- Only categories that have no selling scrap can be deactivated.
- After a category is deactivated, Homeowner cannot post scrap belonging to that category, and Collector cannot search for scrap belonging to that category.

Table 43 - <Admin> Deactivate category Use Case Specification

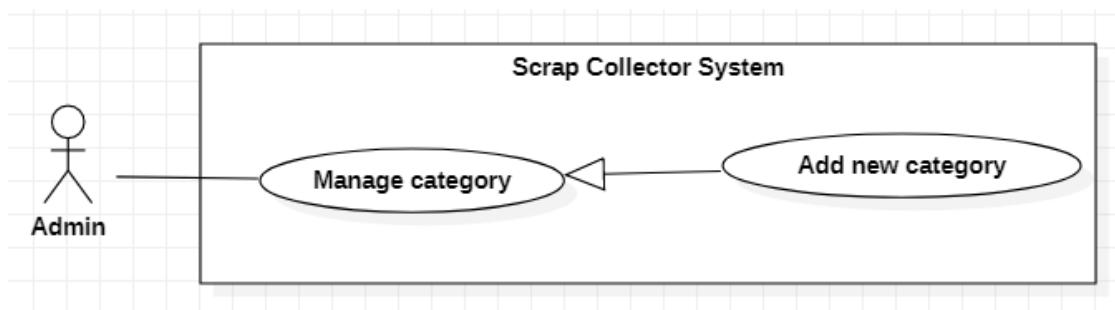
2.3.5.7 Add new category

Figure 45 - <Admin> Add new category Use Case

USE CASE - SC_UC_35			
Use Case No.	SC_UC_35	Use Case Version	1.0
Use Case Name	Add new category		
Author	Tiet Le Bao Khanh		
Date	26/2/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Admin 		
Summary:	<ul style="list-style-type: none"> - Allow Admin to add new category 		
Goal:	<ul style="list-style-type: none"> - Admin adds a new category. 		
Triggers:	<ul style="list-style-type: none"> - Admin presses "Add New category" button. 		

Preconditions:

- User must be an Admin
- Admin views list of category

Post conditions:

- Success: A new category is created.
- Fail: System shows error messages. Category is not created.

Main Success Scenario:

Step	Actor Action	System Response
1	Admin clicks “Add new category” button	Systems shows a modal for Admin to add category, with: <ul style="list-style-type: none"> - Category name (required): text input - Unit (required): text input - “Add” button
2	Admin inputs required fields (category name, unit)	
3	Admin clicks on “Add” button	Systems add category and shows result “Add category successfully” [Exception 1] [Exception 2]

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows message “This category has existed” when the inputted category is duplicated.

Relationships: Generalized from Manage category use case**Business Rules:**

- After a category is added, Homeowner can post scrap belonging to that category, and Collector can search for scrap belonging to that category

Table 44 - <Admin> Add new category Use Case Specification

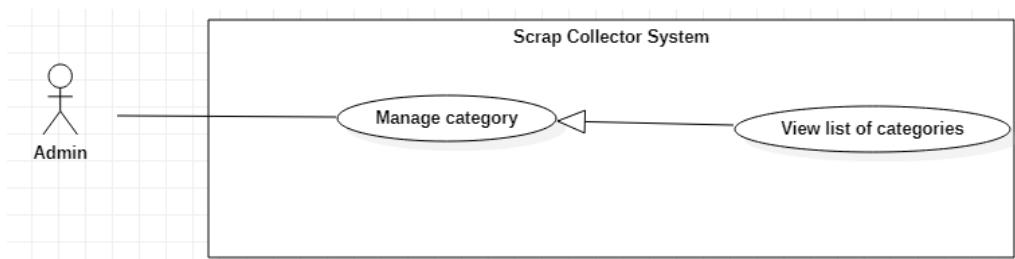
2.3.5.8 View list of categories

Figure 46 - <Admin> View list of categories Use Case

USE CASE – SC_UC_36			
Use Case No.	SC_UC_36	Use Case Version	1.0

Use Case Name	View list of categories				
Author	Tiet Le Bao Khanh				
Date	26/2/2020	Priority	Normal		
Actor:					
<ul style="list-style-type: none"> - Admin 					
Summary:					
<ul style="list-style-type: none"> - Allow Admin to view all categories in the system 					
Goal:					
<ul style="list-style-type: none"> - Admin views all categories. 					
Triggers:					
<ul style="list-style-type: none"> - Admin goes to Category screen. 					
Preconditions:					
<ul style="list-style-type: none"> - User must be an Admin 					
Post conditions:					
<ul style="list-style-type: none"> - Success: List of categories is shown. - Fail: System shows error messages. 					
Main Success Scenario:					
Step	Actor Action	System Response			
1	Admin goes to category screen	<p>System shows list of categories, each category is shown with:</p> <ul style="list-style-type: none"> - Category Name: text - Unit: text - Status: text - “Action” button group with: “View” button, “Edit” button, “Deactivate” button <p>[Exception 1]</p>			
Alternative Scenario: N/A					
Exceptions:					
No	Actor Action	System Response			
1		System shows message "Can not load data" when there is error.			
Relationships: Generalized from Manage category use case					
Business Rules:					
<ul style="list-style-type: none"> - If category is deactivated, the “Deactivate” button is disabled - If category is activated, the “Activate” button is disabled - If a category has scrap that is being sell, that category is marked as cannot be deactivated. 					

Table 45 - <Admin> View list of categories Use Case Specification

2.3.5.9 Deactivate user

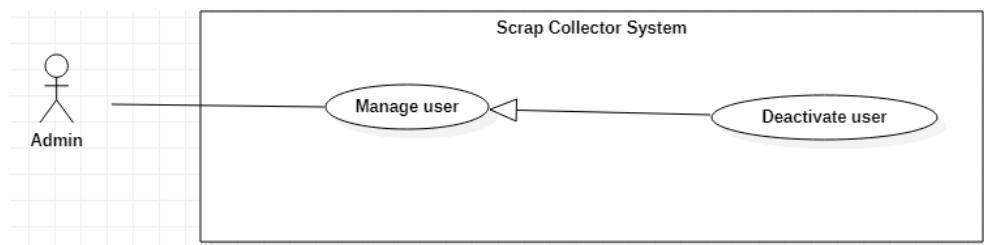


Figure 47 - <Admin> Deactivate user Use Case

USE CASE - SC_UC_2.0_4			
Use Case No.	SC_UC_2.0_4	Use Case Version	2.0
Use Case Name	Deactivate user		
Author	Tiet Le Bao Khanh		
Date	02/04/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Admin 		
Summary:	<ul style="list-style-type: none"> - Allow Admin to deactivate a user 		
Goal:	<ul style="list-style-type: none"> - Admin deactivate a user in the system. 		
Triggers:	<ul style="list-style-type: none"> - Admin presses “Deactivate” button in user detail screen. 		
Preconditions:	<ul style="list-style-type: none"> - User must be an Admin 		
Post conditions:	<ul style="list-style-type: none"> - Success: User is deactivated. - Fail: System shows error messages. User is not deactivated. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Admin presses “Deactivate user” button in user detail screen	System shows a Confirm dialog with: <ul style="list-style-type: none"> - “Are you sure to deactivate this user?” message - “OK” button - “Cancel” button 	
2	Admin presses “OK” button on the Confirm dialog	System deactivates user and shows result message [Exception 1]	
Alternative Scenario:			
No	Actor Action	System Response	
1	Admin clicks on “Cancel” button	System closes Confirm dialog.	
Exceptions:			
No	Actor Action	System Response	

1		System shows message "Deactivate user FAILED" when there is error
Relationships: Generalized from Manage user use case		
Business Rules:		
<ul style="list-style-type: none"> - If the user is a collector, when that user is deactivated, all bookings and reviews of that collector are also deactivated. - If the user is a homeowner, when that user is deactivated, all scraps of that collector are also deactivated. - After a user is deactivated, user cannot log in to the system. 		

Table 46 - <Admin> Deactivate user Use Case Specification

2.3.5.10 Deactivate scrap

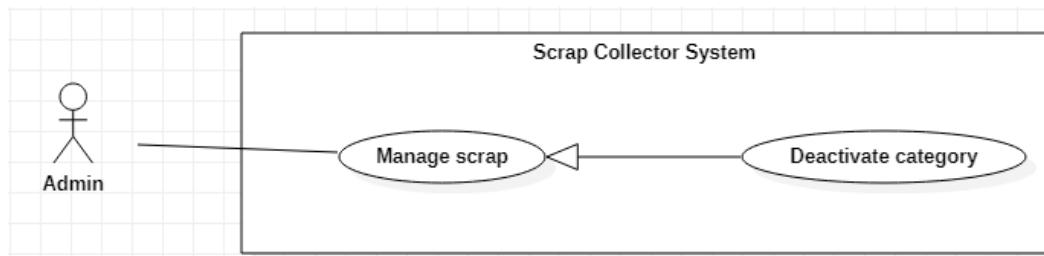


Figure 48 - <Admin> Deactivate scrap Use Case

USE CASE - SC_UC_2.0_5			
Use Case No.	SC_UC_2.0_5	Use Case Version	2.0
Use Case Name	Deactivate scrap		
Author	Tiet Le Bao Khanh		
Date	02/04/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Admin 		
Summary:	<ul style="list-style-type: none"> - Allow Admin to deactivate a scrap 		
Goal:	<ul style="list-style-type: none"> - Admin deactivate reported scrap 		
Triggers:	<ul style="list-style-type: none"> - Admin presses on "Deactivate" on Scrap detail screen. 		
Preconditions:	<ul style="list-style-type: none"> - User must be an Admin 		
Post conditions:	<ul style="list-style-type: none"> - Success: Scrap is deactivated. - Fail: System shows error messages. Scrap is not deactivated. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Admin presses on "Deactivate" on Scrap detail screen	System shows a Confirm dialog with:	

		<ul style="list-style-type: none"> - "Are you sure deactivate this scrap?" message - "OK" button - "Cancel" button
2	Admin presses "OK" button on the Confirm dialog	System deactivates scrap and shows result message [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1	Admin clicks on "Cancel" button	System closes Confirm dialog.

Exceptions:

No	Actor Action	System Response
1		System shows message "Deactivate scrap FAILED" when there is error

Relationships: Generalized from Manage scrap use case**Business Rules:**

- When a scrap is deactivated, all booking belongs to that scrap is also deactivated
- After a scrap is deactivated, system sends notification to alert to the Homeowner of that scrap.
- If that scrap has booking request from Collector, after scrap is deactivated, system sends notification to alert Collector that the scrap is deactivated.

Table 47 - <Admin> Deactivate scrap Use Case Specification

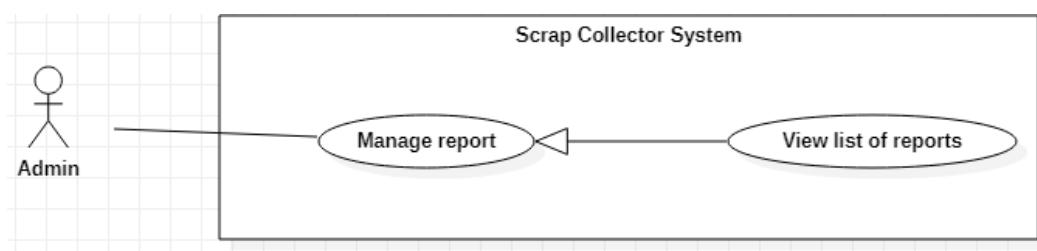
2.3.5.11 View list of reports

Figure 49 - <Admin> View list of reports Use Case

USE CASE - SC_UC_2.0_7			
Use Case No.	SC_UC_2.0_7	Use Case Version	2.0
Use Case Name	View list of reports		
Author	Tiet Le Bao Khanh		
Date	02/04/2020	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Admin 		
Summary:	<ul style="list-style-type: none"> - Allow Admin to view all reports in the system 		
Goal:	<ul style="list-style-type: none"> - Admin views all reports. 		

Triggers:

- Admin goes to Scrap Report Screen or Account Report Screen.

Preconditions:

- User must be an Admin

Post conditions:

- Success: Table of reports is shown.
- Fail: System shows error messages.

Main Success Scenario:

Step	Actor Action	System Response
1	Admin goes to Report screen	<p>System shows list of reports, each report is shown with:</p> <ul style="list-style-type: none"> - Created time: date time - Report Content: text - Creator name: text - Reported object: text - Status: status of report: text - “Action” button group with: “View detail” button, “Resolve” button <p>[Exception 1]</p> <p>System also show an option form for Admin to filter account:</p> <ul style="list-style-type: none"> - Filter report by date - Sort report by created time - Filter report by status

Alternative Scenario: N/A**Exceptions:**

No	Actor Action	System Response
1		System shows message "Can not load data" when there is error.

Relationships: Generalized from Manage report use case**Business Rules:**

- By default, system shows report that having “WAITING” status.
- Reports are shown based on time of creating report, the latest report is shown first.

Table 48 - <Admin> View list of reports Use Case Specification

2.3.5.12 View report detail

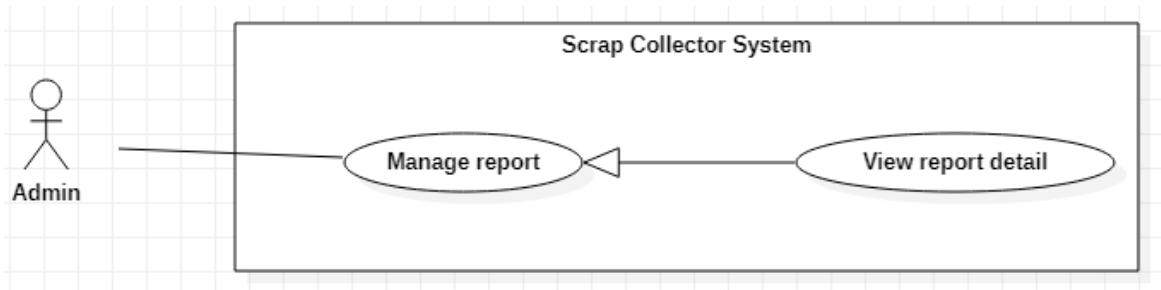


Figure 50 - <Admin> View report detail Use Case

USE CASE – SC_UC_2.0_8									
Use Case No.	SC_UC_2.0_8	Use Case Version	2.0						
Use Case Name	View report detail								
Author	Tiet Le Bao Khanh								
Date	02/04/2020	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Admin 								
Summary:	<ul style="list-style-type: none"> - Allow Admin to view detail of a report 								
Goal:	<ul style="list-style-type: none"> - Admin views report detail. 								
Triggers:	<ul style="list-style-type: none"> - Admin presses "View detail" button on Report screen. 								
Preconditions:	<ul style="list-style-type: none"> - User must be an Admin - Admin view list of reports 								
Post conditions:	<ul style="list-style-type: none"> - Success: Detail of report is shown. - Fail: System shows error messages. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Admin presses "View detail" button on Report screen</td><td> <p>System shows list of category, each category is shown with:</p> <ul style="list-style-type: none"> - Created time: text - Content: text - Creator name: text - Reported object: text <p>[Exception 1]</p> </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Admin presses "View detail" button on Report screen	<p>System shows list of category, each category is shown with:</p> <ul style="list-style-type: none"> - Created time: text - Content: text - Creator name: text - Reported object: text <p>[Exception 1]</p>
Step	Actor Action	System Response							
1	Admin presses "View detail" button on Report screen	<p>System shows list of category, each category is shown with:</p> <ul style="list-style-type: none"> - Created time: text - Content: text - Creator name: text - Reported object: text <p>[Exception 1]</p>							
Alternative Scenario:	N/A								
Exceptions:	<table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td></td><td>System shows message "Cannot load data" when there is error.</td></tr> </tbody> </table>			No	Actor Action	System Response	1		System shows message "Cannot load data" when there is error.
No	Actor Action	System Response							
1		System shows message "Cannot load data" when there is error.							

Relationships: Generalized from Manage report use case

Business Rules:

- If that report belongs to a scrap, when Admin clicks “View detail” button of the report, system will redirect admin to the scrap detail screen.
- If that report belongs to a user, when Admin clicks “View detail” button of the report, system will redirect admin to the user detail screen of the user who is reported.

Table 49 - <Admin> View report detail Use Case Specification

2.3.5.13 Resolve report

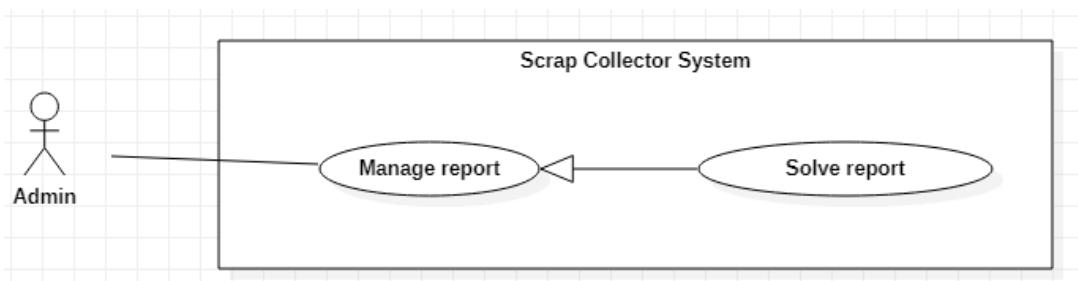


Figure 51 - <Admin> Resolve report Use Case

USE CASE - SC_UC_2.0_9			
Use Case No.	SC_UC_2.0_9	Use Case Version	2.0
Use Case Name	Resolve report		
Author	Tiet Le Bao Khanh		
Date	02/04/2020	Priority	Normal
Actor:			
- Admin			
Summary:			
- Allow Admin to solve report			
Goal:			
- Admin change the status of report to Solved.			
Triggers:			
- Admin presses on “Resolve” button on report item.			
Preconditions:			
- User must be an Admin			
Post conditions:			
- Success: Report is resolved. - Fail: System shows error messages.			
Main Success Scenario:			
Step	Actor Action	System Response	
1	Admin presses on “Resolve” button on report item	System shows confirm dialog with: - “Are you sure to resolve this report ?” message	

		<ul style="list-style-type: none"> - "OK" button - "Cancel" button
2	Admin clicks on "OK" button	System change status of report into "SOLVED" [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1	Admin clicks on "Cancel" button	System closes Confirm dialog.

Exceptions:

No	Actor Action	System Response
1		System shows message "Resolve report FAILED" when there is error.

Relationships: Generalized from Manage report use case**Business Rules:**

- After a report is resolved, systems send notification to the user who created that report.
- If the content of report is not so serious, Admin can send warning to the reported account.
- If report is created but Admin didn't resolve that report, after 1 day, system will send email to notify Admin.

Table 50 - <Admin> Resolve report Use Case Specification

3. Software System Attribute

3.1 Usability

- The system is easy to use that user needs average 2 hours of training to use the system.
- User who does not know about computer science or programming still understands the meaning of user interface

3.2 Reliability

- Every information stored in the database is permanent
- Exception rate is at minimum 5% over all working time

3.3 Availability

- The system must be available at any time 24/7, except for some system maintenances

3.4 Security

- Input data must be validated before being saved to the database
- For id of user, scrap, booking use the data type as UUID (Universal unique identifier) for the sake of security

- Only Admin has fully access to the web application
- Password is encrypted before being saved to the database
- For each HTTP request to rest API from user, server checks user's authorization and authentication by user's token

3.5 Maintainability

- The system is divided into separated sub-systems (Mobile Application, Rest API, Admin Website) and modules for easy maintenance and improvement
- The code is based on popular design patterns in order to easy to maintain and upgrade

3.6 Portability

- The website is running on Windows 7 or above.
- Easy installation from APK for Android version.
- The mobile application can run on Android 6.0.1 or above.

3.7 Performance

- System has successfully test with basic standard
- All requests are handling in maximum duration of 10 seconds

4. Conceptual Diagram

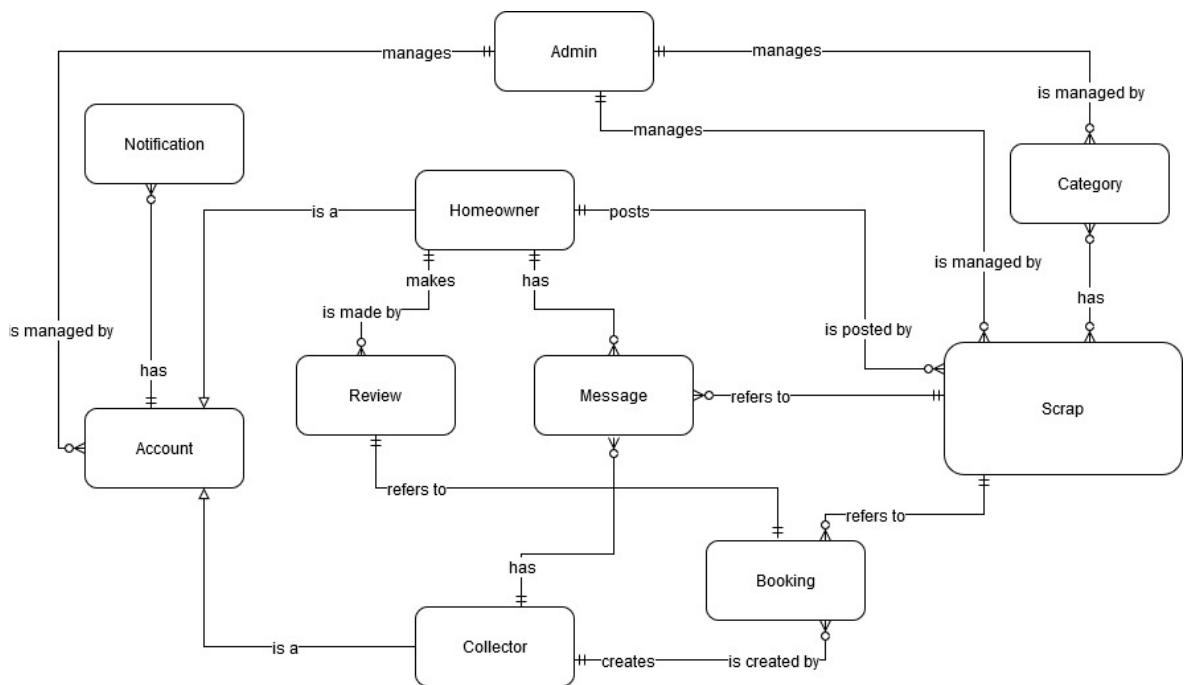


Figure 52 - Conceptual Diagram

Data Dictionary

Entity Data dictionary: describe all content of all entities	
Entity Name	Description
Account	Abstract entity describes a user in system
Homeowner	Contain the homeowner information
Collector	Contain the collector information
Admin	Contain the admin information
Notification	Contain the notification information
Scrap	Contain the scrap information
Category	Contain the category information
Booking	Contain the booking information
Review	Contain the review information
Message	Contain the message information

Table 51 - Conceptual Diagram Data Dictionary

D. Software Design Description

1. Design Overview

- This document describes the technical and user interface design of Scrap Collector System. It includes the architectural design, the detailed design of common functions and business functions and the design of database model.
- The architectural design describes the overall architecture of the system and the architecture of each main component and subsystem.
- The detailed design describes static and dynamic structure for each component and functions. It includes class diagrams, class explanations and sequence diagrams for each use cases.
- The database design describes the relationships between entities and details of each entity.
- Document overview:
 - Section 2: gives an overall description of the system architecture design.
 - Section 3: gives component diagrams that describe the connection and integration of the system.
 - Section 4: gives the detail design description, which includes class diagram, class explanation, and sequence diagram to details the application functions.
 - Section 5: describe screens design.
 - Section 6: describe a fully attributed ERD.
 - Section 7: describe algorithms

2. System Architectural Design

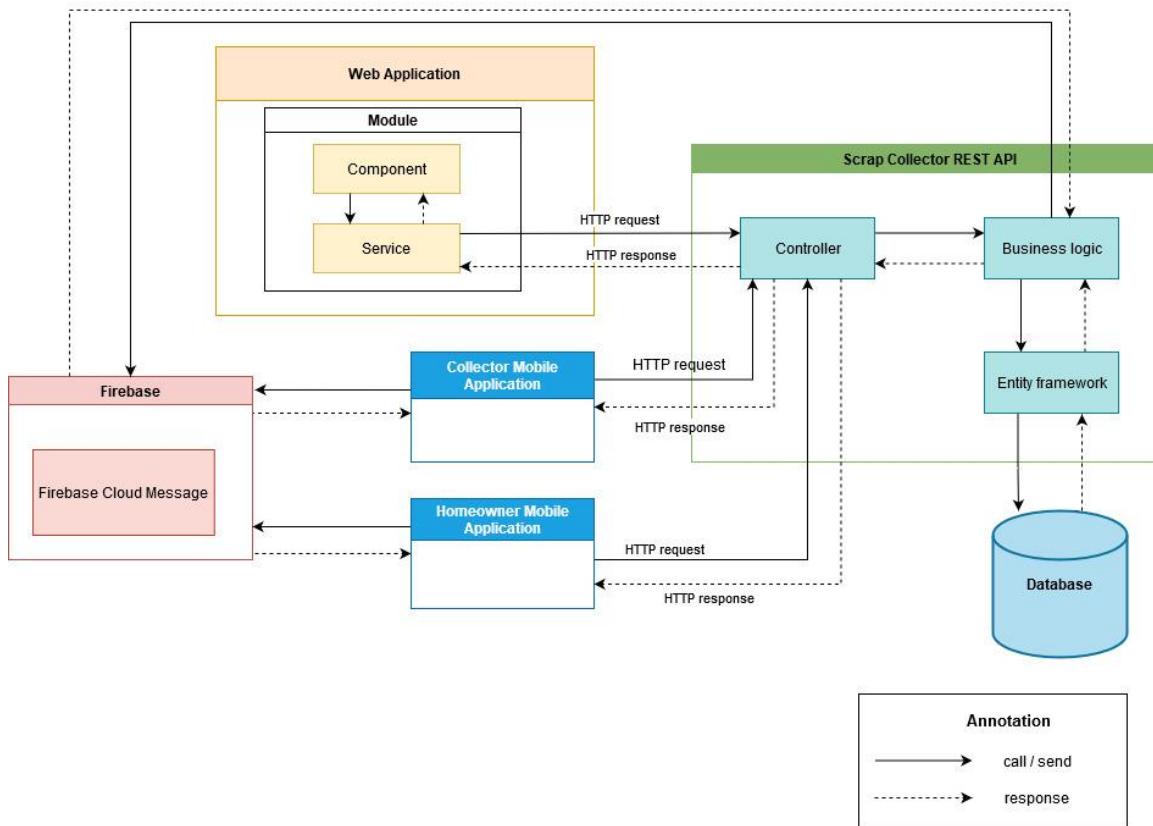


Figure 53 - System Architectural Design

2.1. Web Application Architecture Description

Web application is used by Admin only. We choose Angular to build web application. An Angular application is defined by a set of modules. An app always has at least a root module that enables bootstrapping, and typically has many more feature modules.

Component defines views, which are sets of screen elements that Angular can choose among and modify according to the program logic and data. And components use service to communicate with API and transfer data to each other.

2.2. Mobile Application Architecture Description

Mobile application is used for both Homeowner and Collector. We choose to implement mobile application with React Native because React Native supports our team to build an application that can run on both Android and iOS. Moreover, React Native supports hot-loading feature, which helps our team member to implement code and debug faster.

React introduced a Component-Based-Architecture (CBA) concept, a method for encapsulating individual parts of a large user interface into independent micro-systems. Moreover, CBA splits responsibilities vertically, which is suitable for each member's responsibilities in capstone requirement.

For real-time notification in mobile application, we use Cloud Messaging service of Firebase. Firebase Cloud Messaging helps to send message to cross-platform devices and lets you reliably send message at no cost.

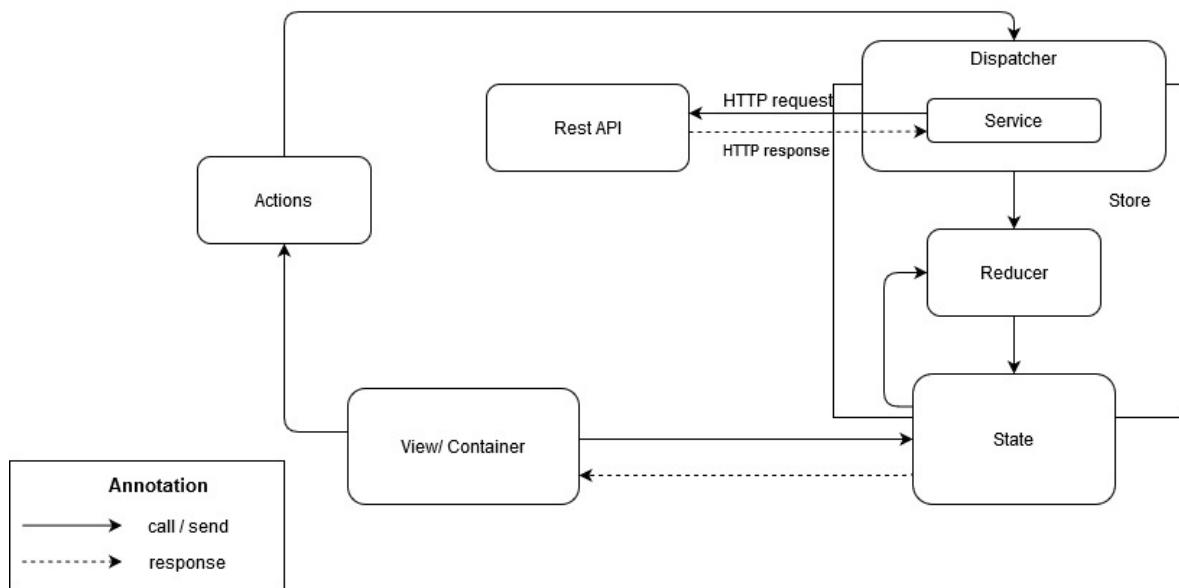


Figure 54 – Mobile Application Architecture

In Scrap Collector Mobile Application, to handle data flow and manage state for smoothing UI, we choose to use React Redux. React Redux helps to read data from store through a global state, dispatch actions to store to update data and call web service (Rest API) through middleware service. In Scrap Collector mobile application, we choose to use Redux Saga, one of middleware service of Redux to catch actions and call web service (Rest API).

2.3. Rest API Architecture Description

In Scrap Collector System, Mobile application and Web application are separated, so they need an interface to retrieve and update data from database. And in Scrap Collector, we choose to use API (Application Programming Interface). API also helps to change business logic easily. In Rest API, we use Controller – Business Logic – Entity Framework structure, which is one of the most popular structures being used in modern systems.

The Controller's job is to translate incoming requests into outgoing responses. In order to do this, the controller must take request data and pass it into the Business Logic layer. The business logic layer is where you tackle the problems your API program was created to solve. Entity Framework is known as Data Access Layer (DAL).

3. Component Diagram

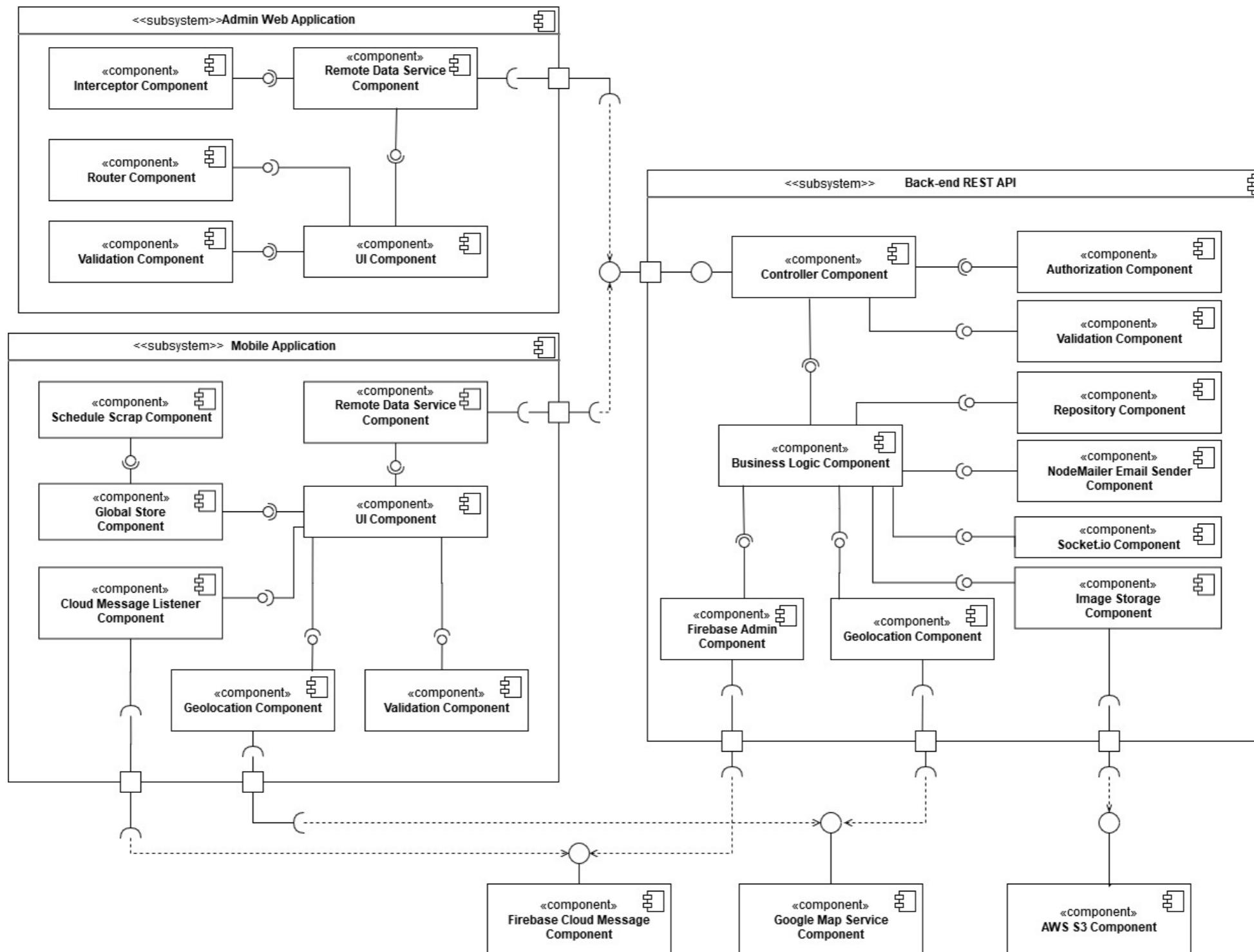


Figure 55 – Component Diagram

COMPONENT DICTIONARY: DESCRIBES COMPONENTS	
Component name	Description
Rest API	Subsystem which contains core flow of Scrap Collector system. Rest API receives request from Web Application and Mobile Application, solves business logic, retrieves data from database and then returns result.
Admin Web Application	Subsystem which handles HTTP requests from Admin
Mobile Application	Subsystem which helps Homeowner and Collector implement features in the system through UI Components
Firebase Cloud Messaging	Component with Cloud messaging service to send notification to Mobile Application
Google Map Service	Component which solve HTTP request of calculating distance and getting direction
AWS S3 (Amazon Web Service: Simple Storage Service)	Component which has responsibility for storage images of scrap and avatar
UI Component	Component which has responsibility to render UI
Validation Component	Component which has responsibility to check validity of data
Remote Data Service Component	Component which has responsibility to send HTTP request and get HTTP response
Interceptor Component	Component which has responsibility to handle HTTP request and HTTP response
Router Component	Component which has responsibility to redirect user to suitable screen
Schedule Scrap Component	Component which has responsibility to make schedule to pick up scrap
Global Store Component	Component which has responsibility to store global data
Geolocation Component	Component which has responsibility to calculate distance and call Google map service
Cloud Message Listener	Component which has responsibility to handle coming notification from Firebase cloud messaging service
Controller Component	Component to handle HTTP request from Web application and Mobile application
Business Logic Component	Component which has responsibility to handle business logic in the system
Repository Component	Component which has responsibility to execute query to database and return result
Authorization Component	Component which has responsibility to check authentication and authorization

Nodemailer Email Sender Component	Component which has responsibility to send email to user
Image Storage Component	Component which has responsibility to send image to AWS S3 storage and return link of image
Firebase Admin Component	Component which has responsibility to send notification
Socket.io Component	Component which has responsibility to create real-time and event-based communication between server and client

Table 52 - Component Diagram Dictionary

4. Detailed Description

4.1 Class Diagram

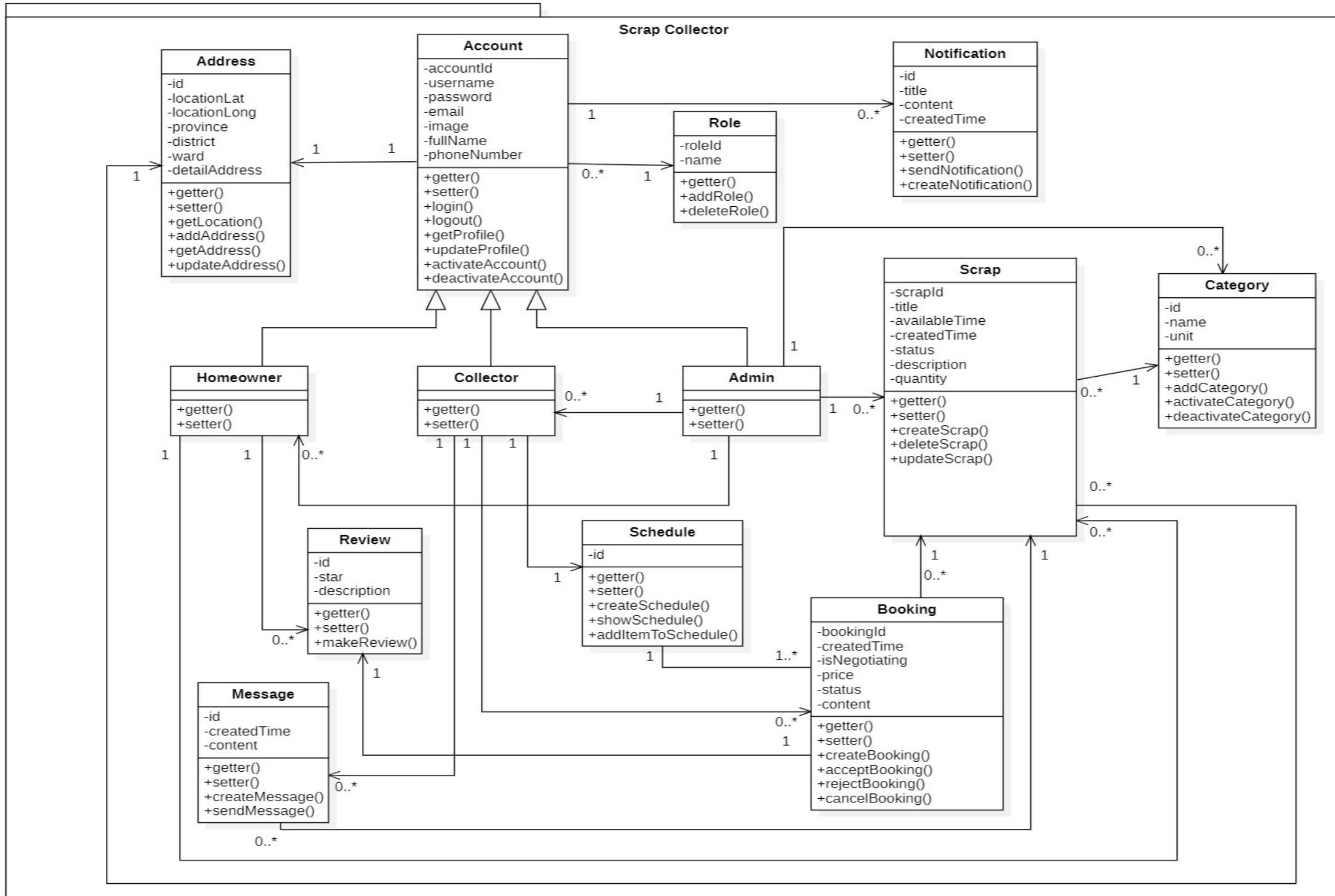


Figure 56 – Class Diagram

Class Diagram Explanation

CLASS DICTIONARY: DESCRIBE CLASS		
Class Name	Mapping column with Conceptual diagram	Description
Account	Account	Contains the account information
Role	N/A	Does not exist in conceptual diagram, but needed in class diagram to contain the role information in general
Homeowner	Homeowner	Contains the homeowner information
Collector	Collector	Contains the collector information
Admin	Admin	Contains the admin information
Address	N/A	Does not exist in conceptual diagram, but needed in class diagram to contain the address information in general
Notification	Notification	Contains the notification information
Review	Review	Contains the review information
Schedule	N/A	Does not exist in conceptual diagram, but needed in class diagram to contain the schedule information in general
Scrap	Scrap	Contains the scrap information
Booking	Booking	Contains the booking information
Category	Category	Contains the category information
Message	Message	Contains the message information in general

Table 53 - Class Diagram Dictionary

4.1.1 Account

Attribute	Type	Visibility	Description
accountId	String	Private	Unique identifier of an account
username	String	Private	Account's username
password	String	Private	Account's password
fullname	String	Private	Account's full name
email	String	Private	Account's email
phoneNumber	String	Private	Account's phone number
image	Image	Private	Account's image

Table 54 - <Class Diagram Attributes> Account

Method	Redirect Type	Visibility	Description
login	Object	Public	Login
logout	Object	Public	Logout
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value
updateProfile	Object	Public	Edit information
getProfile	Object	Public	Get profile
activateAccount	Object	Public	Activate account
deactivateAccount	Void	Public	Deactivate account

Table 55 - <Class Diagram Methods> Account

4.1.2 Role

Attribute	Type	Visibility	Description

roleId	Long	Private	Unique identifier of a role
name	String	Private	Role's name

Table 56 <Class Diagram Attributes> Role

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
addRole	Boolean	Public	Add new role
deleteRole	Boolean	Public	Delete role

Table 57 - <Class Diagram Methods> Role

4.1.3 Homeowner

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value

Table 58 <Class Diagram Methods> Homeowner

4.1.4 Collector

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value

Table 59 - <Class Diagram Methods> Dictionary

4.1.5 Admin

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value

Table 60 - <Class Diagram Methods> Admin

4.1.6 Address

Attribute	Type	Visibility	Description
id	Long	Private	Unique identifier of an address
locationLat	Float	Private	Latitude of the address
locationLong	Float	Private	Longitude of the address
province	String	Private	Name of province or city
district	string	Private	Name of district
ward	String	Private	Name of ward
detailAddress	String	Private	House number and street

Table 61 <Class Diagram Attributes> Address

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value
getLocation	Object	Public	Get latitude and longitude
addAddress	Object	Public	Add new address
getAddress	Object	Public	Get address by id
updateAddress	Object	Public	Update address information

Table 62 <Class Diagram Methods> Address

4.1.7 Notification

Attribute	Type	Visibility	Description
id	Long	Private	Unique identifier of a notification

title	String	Private	Notification's title
content	String	Private	Notification's content
createdTime	Datetime	Private	Notification's time

Table 63 <Class Diagram Attributes> Notification

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value
sendNotification	Boolean	Public	Send notification to user
createNotification	Object	Public	Create a notification

Table 64 <Class Diagram Methods> Notification

4.1.8 Review

Attribute	Type	Visibility	Description
id	Long	Private	Unique identifier of a review
star	Float	Private	Number of stars
description	String	Private	Description of the review

Table 65 <Class Diagram Attributes> Review

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value
makeReview	Object	Public	Create a review

Table 66 <Class Diagram Methods> Review

4.1.9 Schedule

Attribute	Type	Visibility	Description
id	Long	Private	Unique identifier of a schedule

Table 67 <Class Diagram Attributes> Schedule

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value
createSchedule	Object	Public	Create a schedule
showSchedule	Void	Public	Show schedule
addItemToSchedule	Boolean	Public	Add an item into schedule

Table 68 <Class Diagram Methods > Schedule

4.1.10 Scrap

Attribute	Type	Visibility	Description
id	Long	Private	Unique identifier of a post
title	String	Private	Scrap's title
price	String	Private	Scrap's price
avaliableTime	Array	Private	Time Collector can pick up
status	String	Private	Scrap's status
quantity	Float	Private	Quantity of the scrap
createdTime	Datetime	Private	Created Time of the post

Table 69 <Class Diagram Attributes> Scrap

Method	Redirect Type	Visibility	Description

getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value
createScrap	Object	Public	Create a scrap
deleteScrap	Boolean	Public	Delete a scrap
updateScrap	Object	Public	Update scrap information

Table 70 < Class Diagram Methods > Scrap

4.1.11 Category

Attribute	Type	Visibility	Description
id	Long	Private	Unique identifier of a category
name	String	Private	Category name
unit	String	Private	Unit of category

Table 71 <Class Diagram Attributes> Category

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value
addCategory	Object	Public	Add new category
activateCategory	Boolean	Public	Activate a category
deactivateCategory	Boolean	Public	Deactivate a category

Table 72 <Class Diagram Methods> Category

4.1.12 Booking

Attribute	Type	Visibility	Description

bookingId	Long	Private	Unique identifier of a booking
createdTime	Datetime	Private	Created time of booking
price	Float	Private	Price of the booking
status	String	Private	Page's title
content	String	Private	Message from Collector to Homeowner
isNegotiating	Boolean	Private	Whether the price is negotiated or not

Table 73 <Class Diagram Attributes> Booking

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value
createBooking	Object	Public	Create new booking
acceptBooking	Boolean	Public	Accept booking
rejectBooking	Boolean	Public	Reject booking
cancelBooking	Boolean	Public	Cancel a booking

Table 74 <Class Diagram Methods> Booking

4.1.13 Message

Attribute	Type	Visibility	Description
id	Long	Private	Unique identifier of a message
createdTime	Datetime	Private	Created time of the message
content	String	Private	Content of the message

Table 75 <Class Diagram Attributes> Message

Method	Redirect Type	Visibility	Description
getter	Object	Public	Get attribute value
setter	Void	Public	Set attribute value
createMessage	Object	Public	Create new message
sendMessage	Void	Public	Send message

Table 76 <Class Diagram Methods> Message

4.2 Sequence Diagram

4.2.1 Get list of category

Summary: This diagram shows how the Admin gets list of category

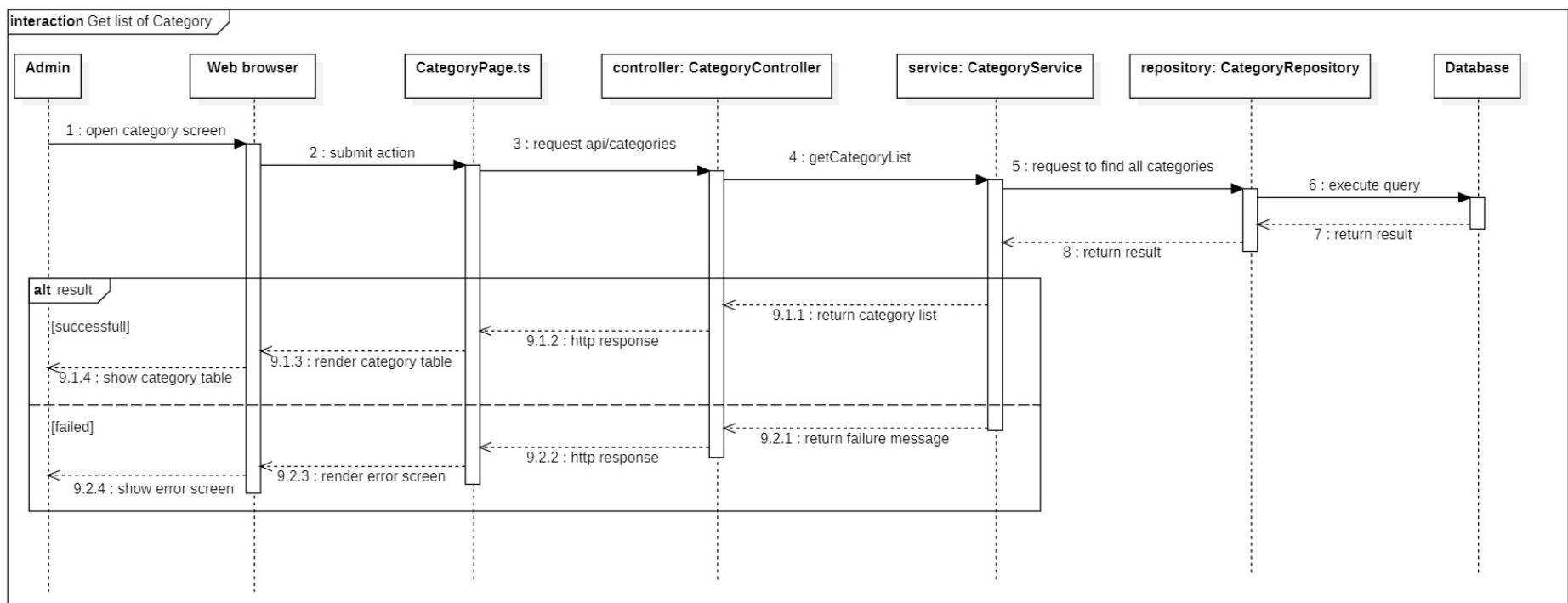


Figure 57 - <Sequence Diagram> Get list of category

4.2.2 Add Category

Summary: This diagram shows how the Admin adds a category

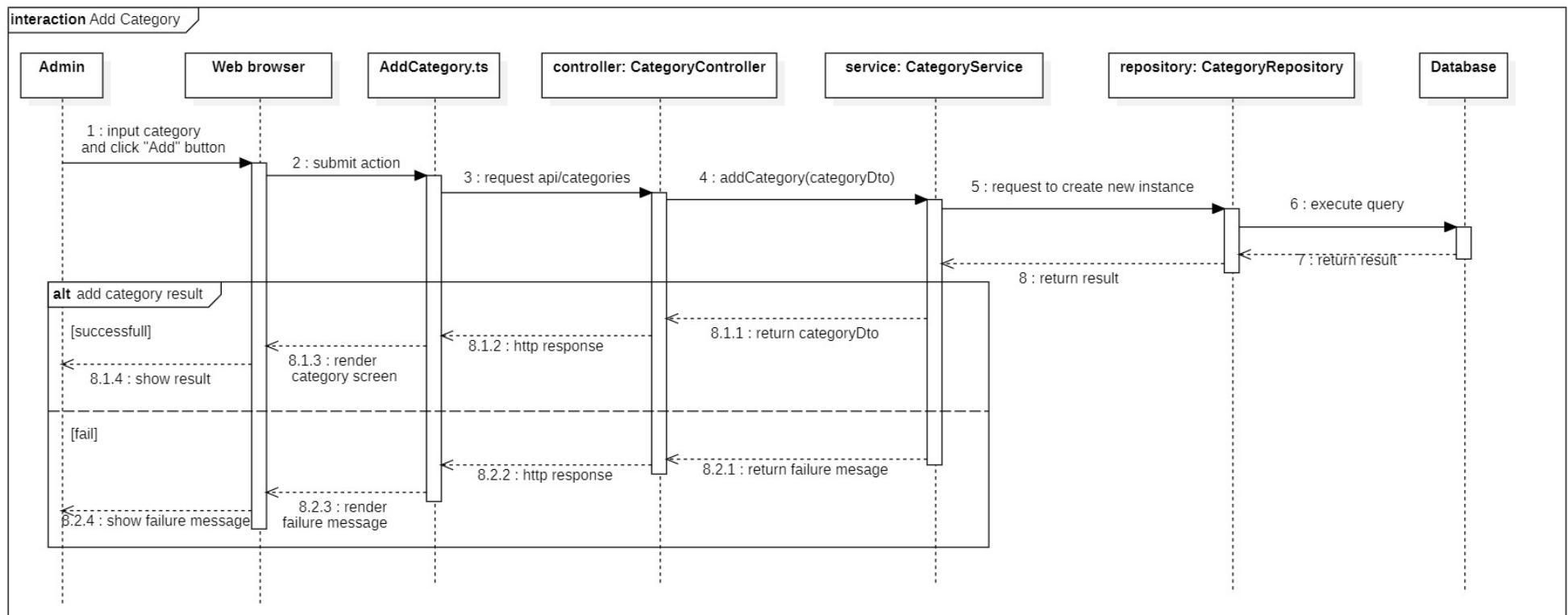


Figure 58 - <Sequence Diagram> Add category

4.2.3 Update Category

Summary: This diagram shows how the Admin updates category information, activates category or deactivates category

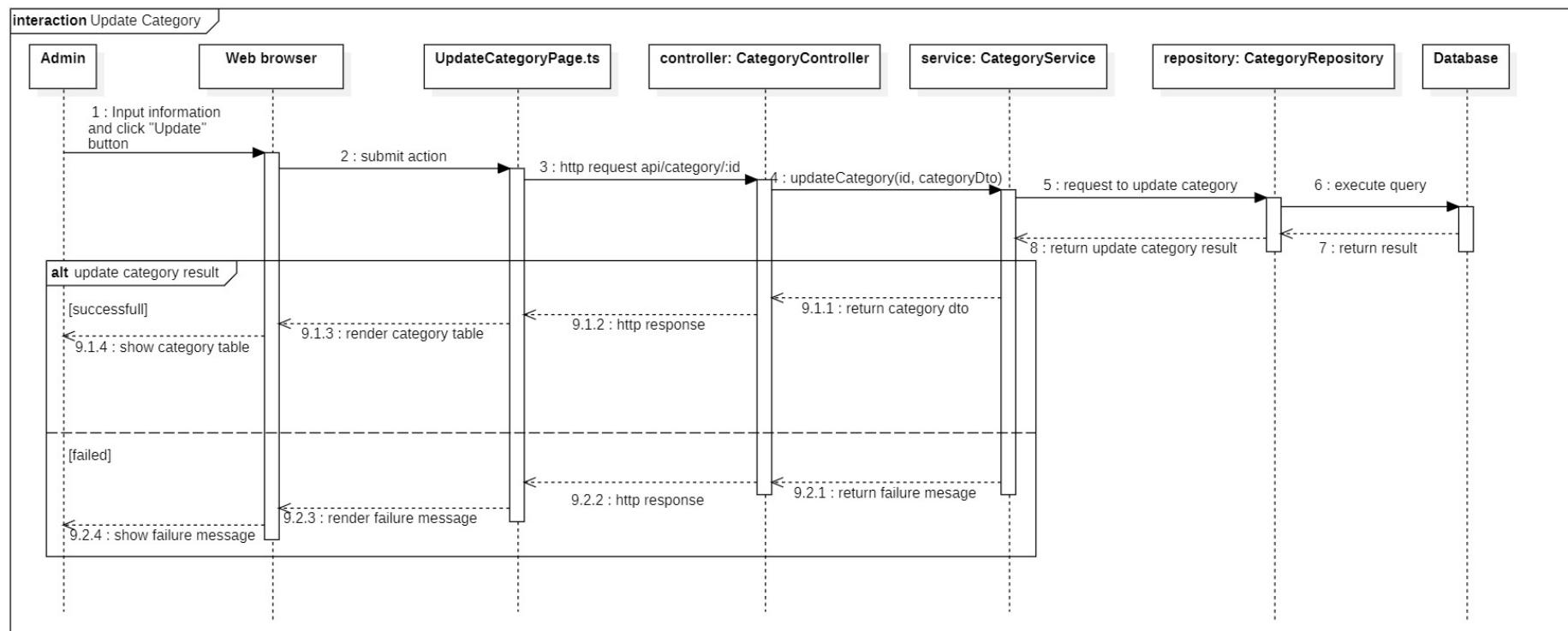


Figure 59- <Sequence Diagram> Update category

4.2.4 Get list of Account

Summary: This diagram shows how the Admin gets list of accounts (Homeowner, Collector and Admin) in Scrap Collector system.

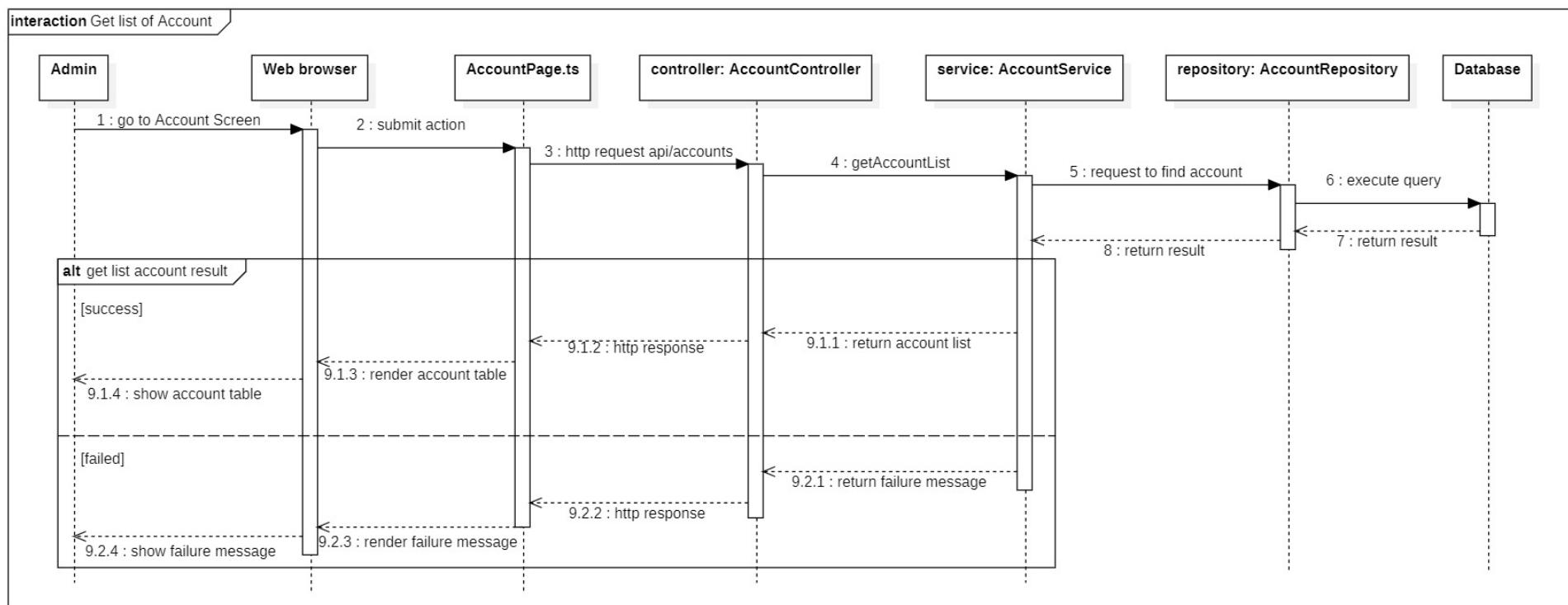


Figure 60 - <Sequence Diagram> Get list of account

4.2.5 Get list of Scrap

Summary: This diagram shows how the Admin gets list of scrap in the system

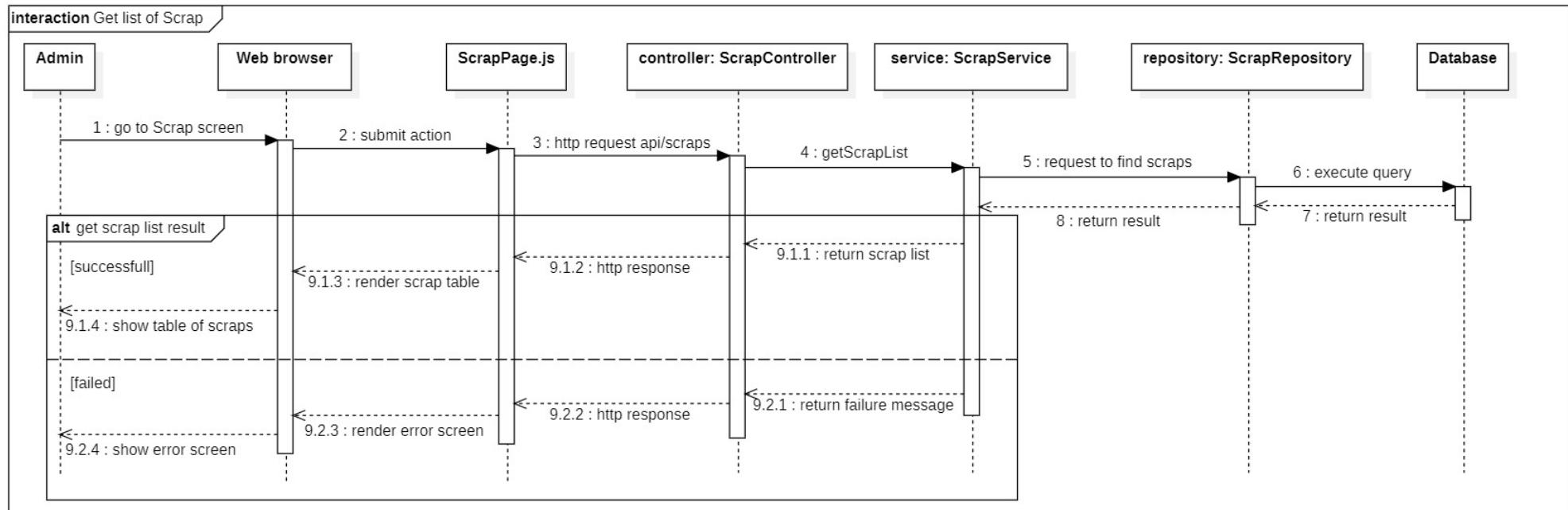


Figure 61 - <Sequence Diagram> Get list of scrap

4.2.6 Get Scrap Detail

Summary: This diagram shows how the Admin views detail information of a scrap in the system.

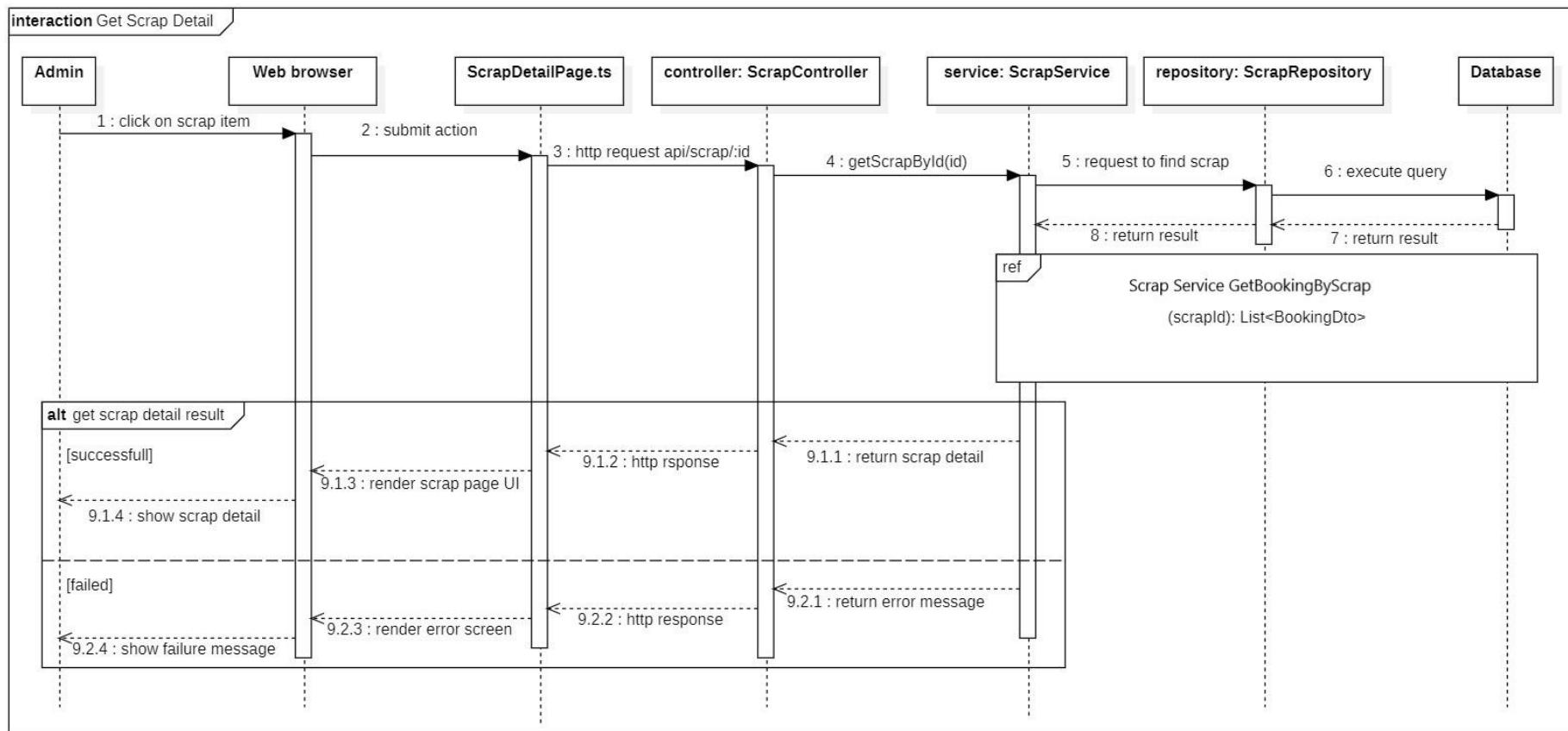


Figure 62 - <Sequence Diagram> Get scrap detail

Summary: This diagram shows how the Admin views all bookings of a scrap in the System.

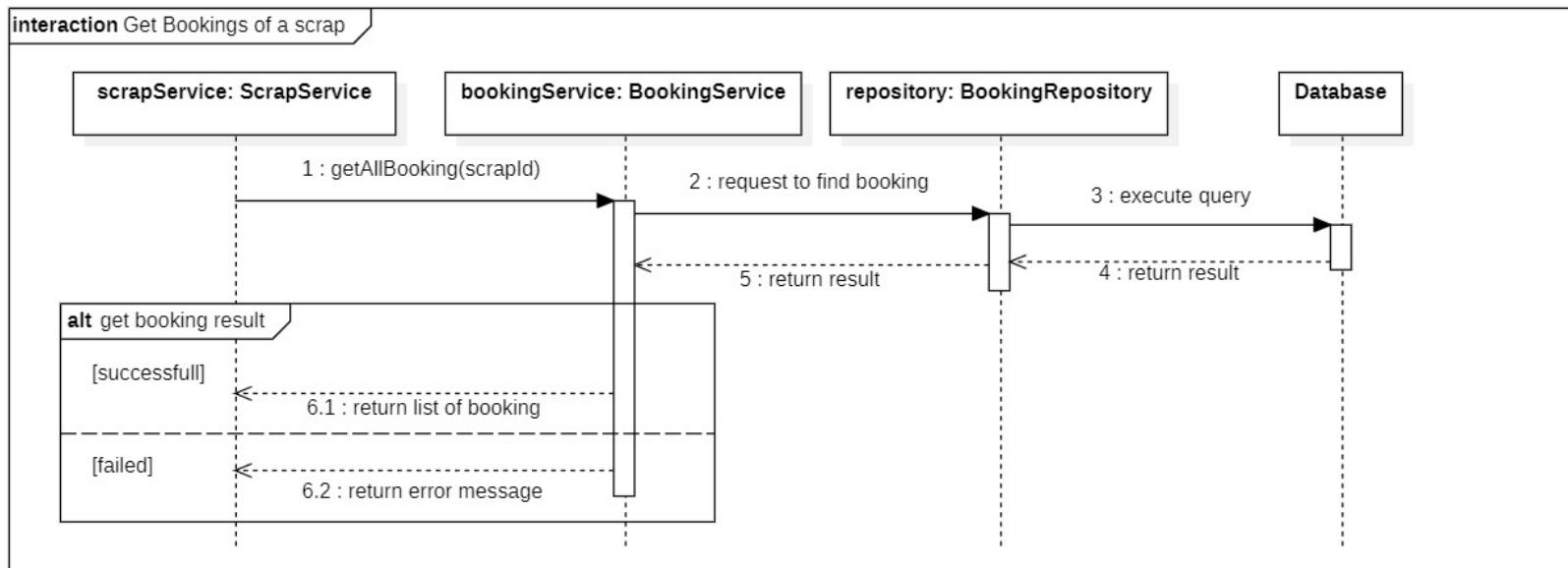


Figure 63 - <Sequence Diagram> Get all bookings of a scrap

4.2.7 Get list of Scrap Report

Summary: This diagram shows how the Admin views all scrap report in the System

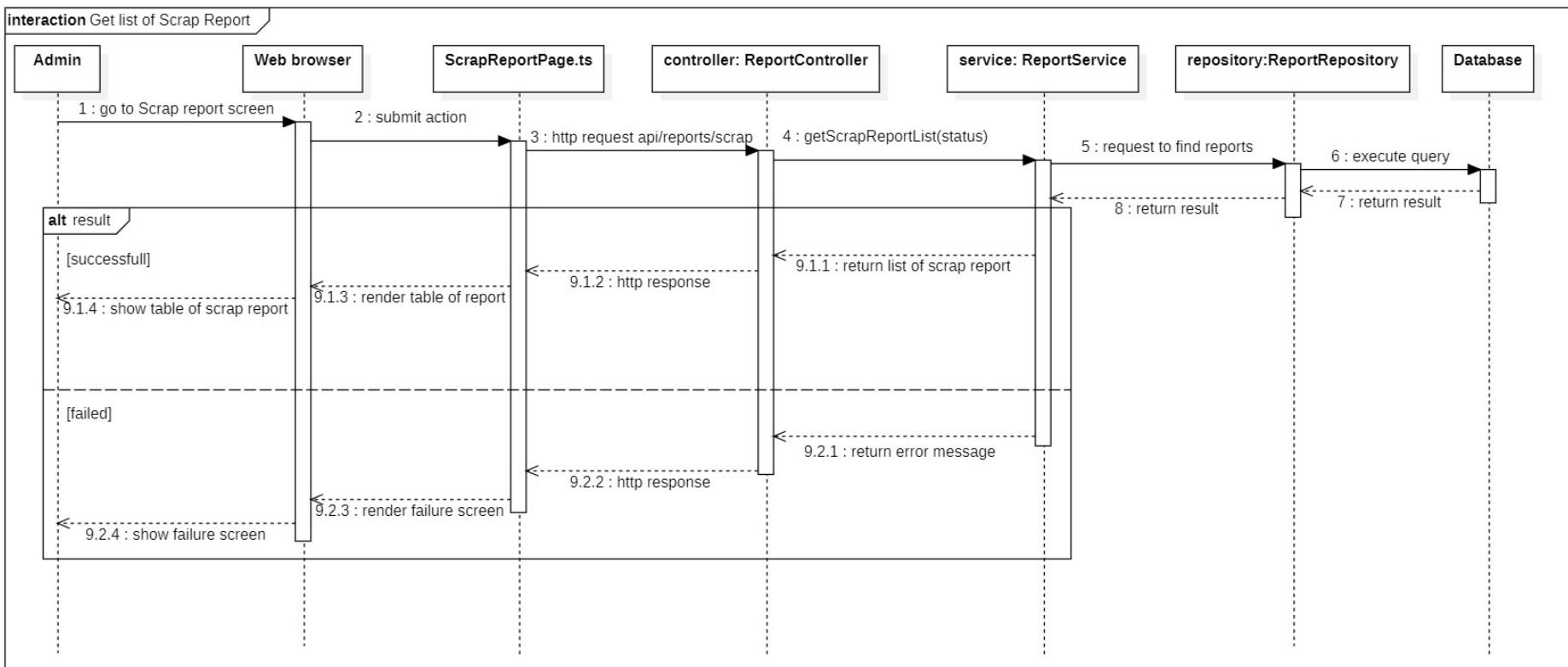


Figure 64 - <Sequence Diagram> Get list of Scrap Report

4.2.8 Get list of Account Report

Summary: This diagram shows how the Admin views all account report in the System

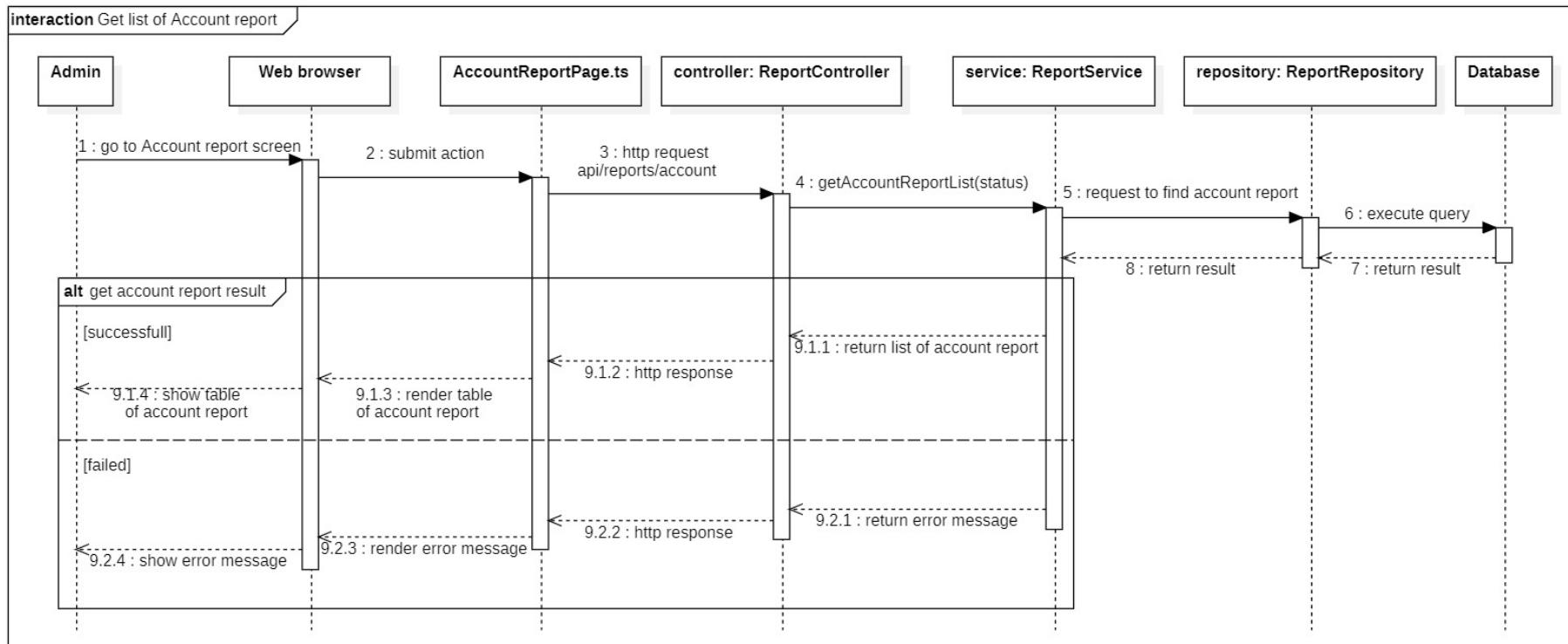


Figure 65 - <Sequence Diagram> Get list of Account Report

4.2.9 Deactivate scrap

Summary: This diagram shows how the Admin deactivate a scrap

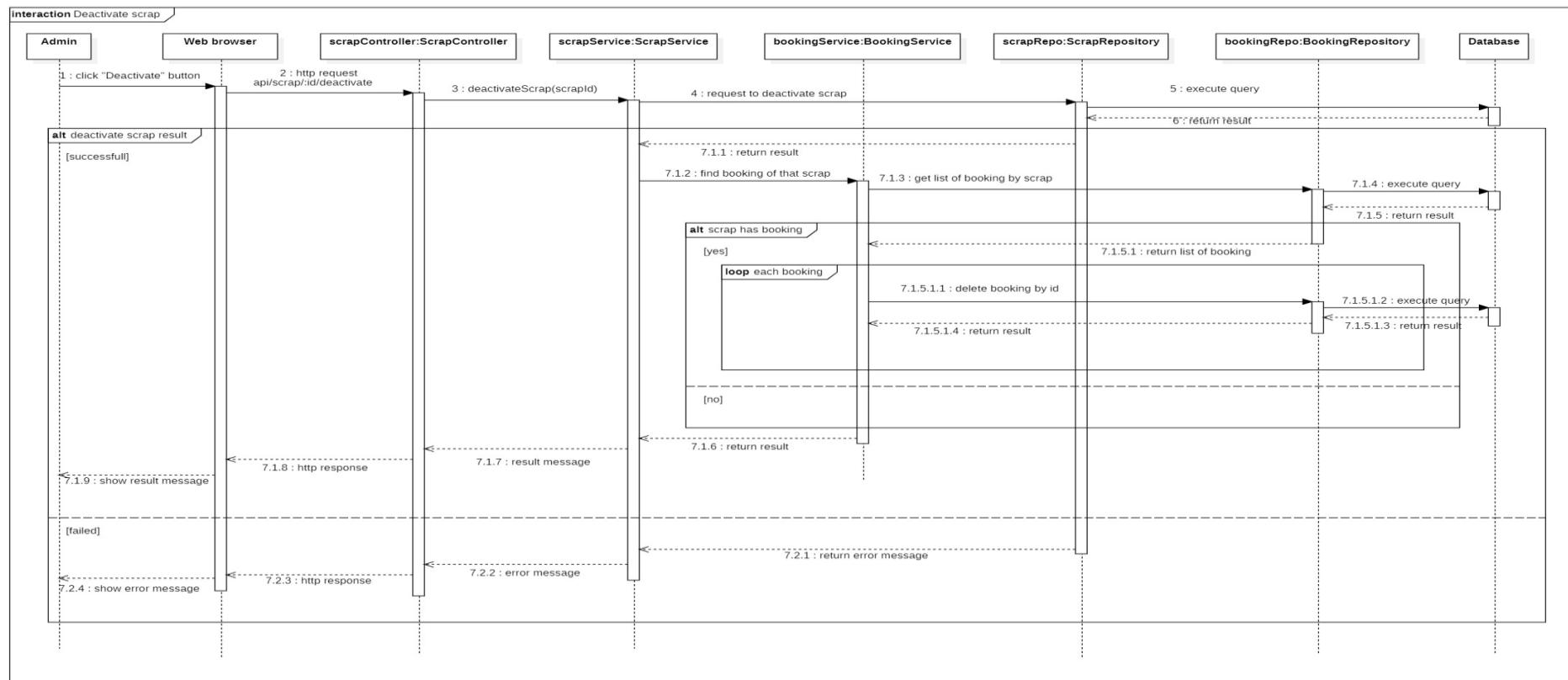


Figure 66 - <Sequence Diagram> Deactivate scrap

4.2.10 Resolve report

Summary: This diagram shows how the Admin resolved a report

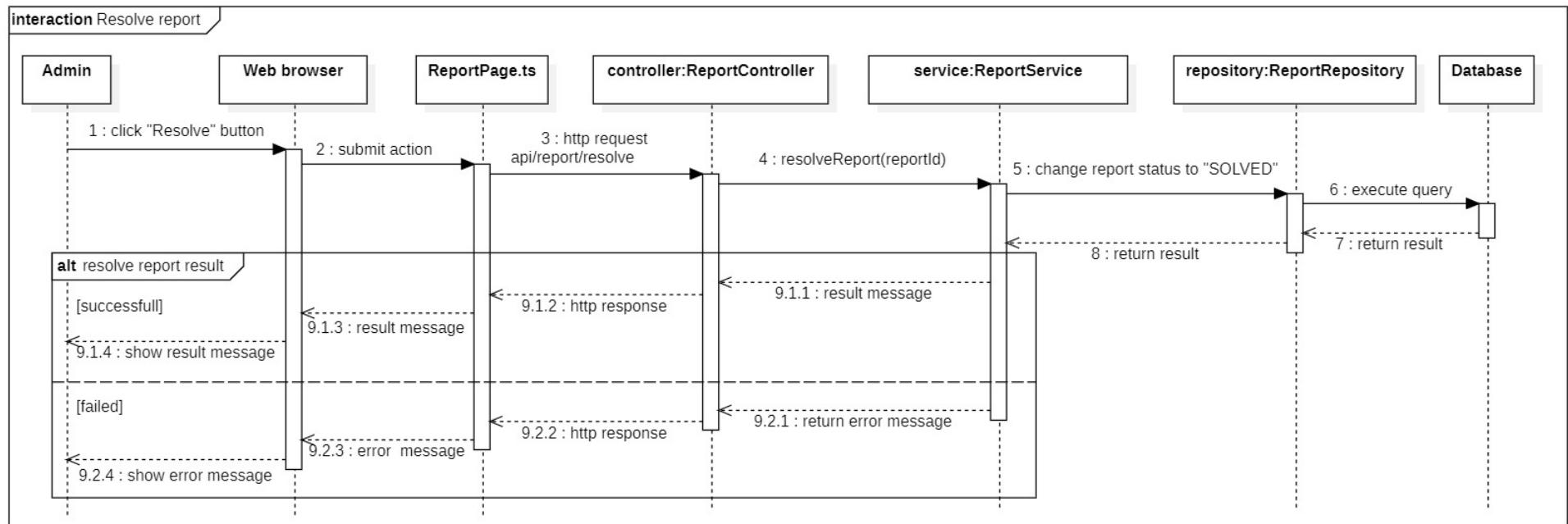


Figure 67 - <Sequence Diagram> Resolve report

4.3 Activity Diagram

4.3.1 Login

Summary: This diagram shows how a user logs into System.

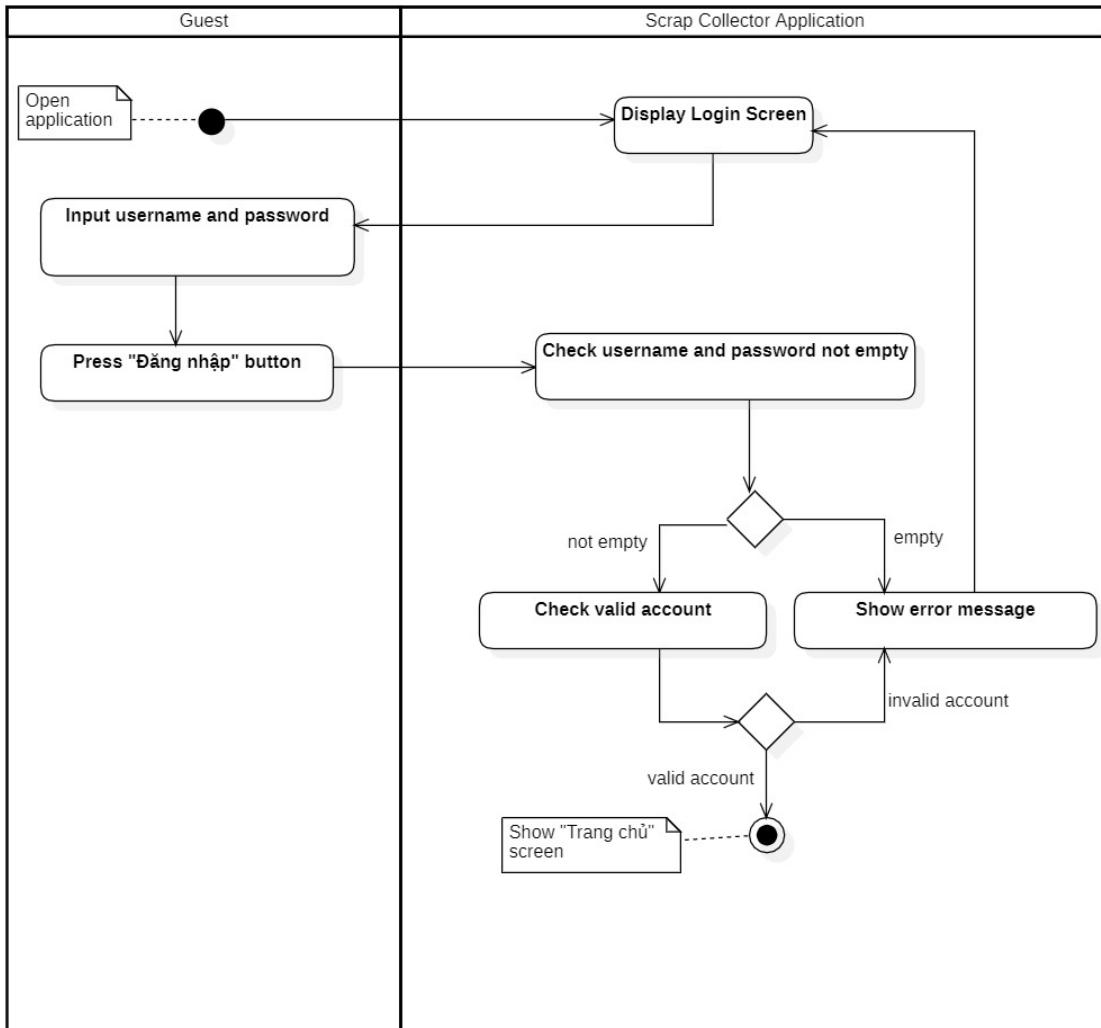


Figure 68 - <Activity Diagram> Login

4.3.2 Register

Summary: This diagram shows how a guest registers an account.

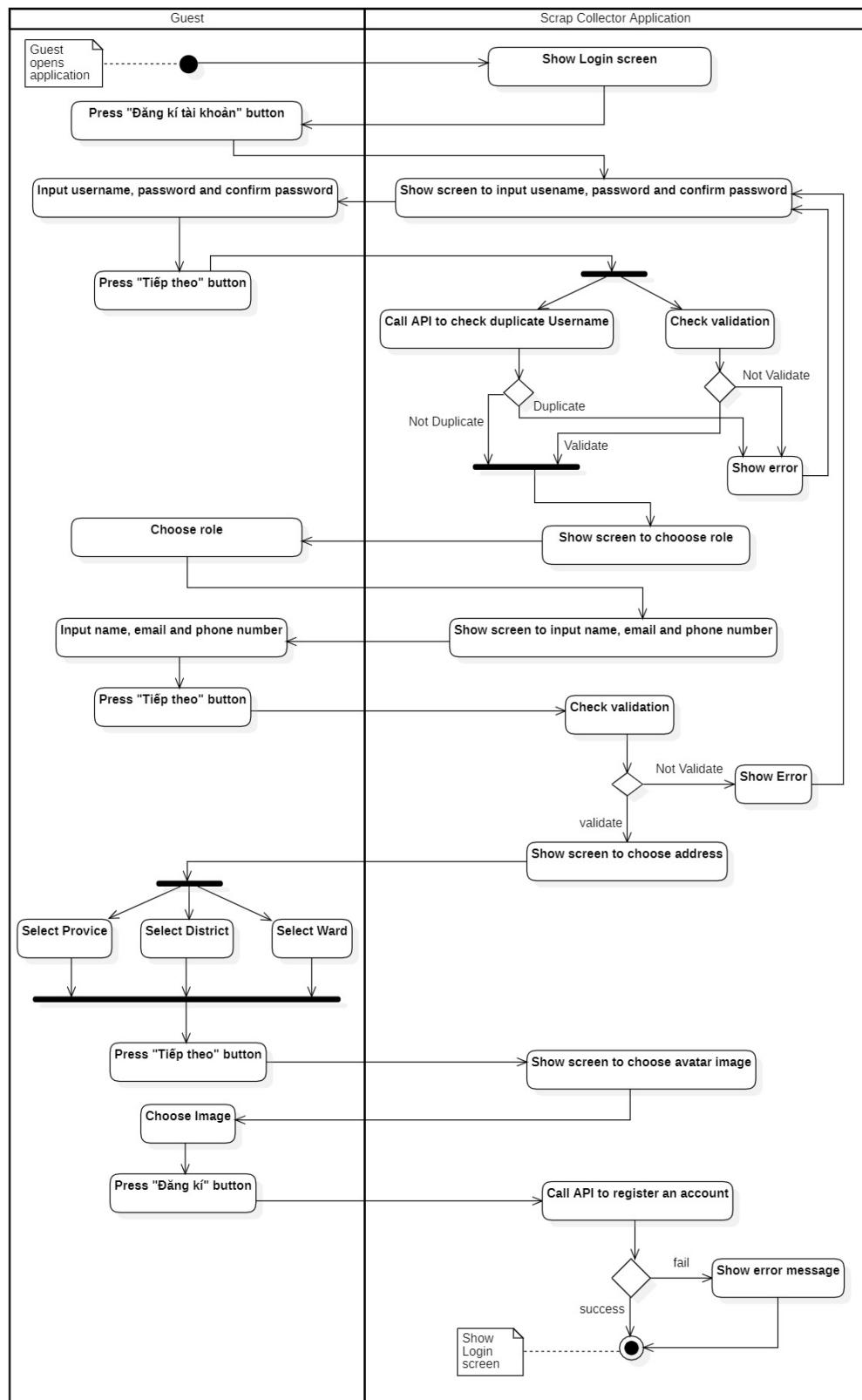


Figure 69 - <Activity Diagram> Register

4.3.3 Post scrap

Summary: This diagram shows how a Homeowner creates a post to sell scrap.

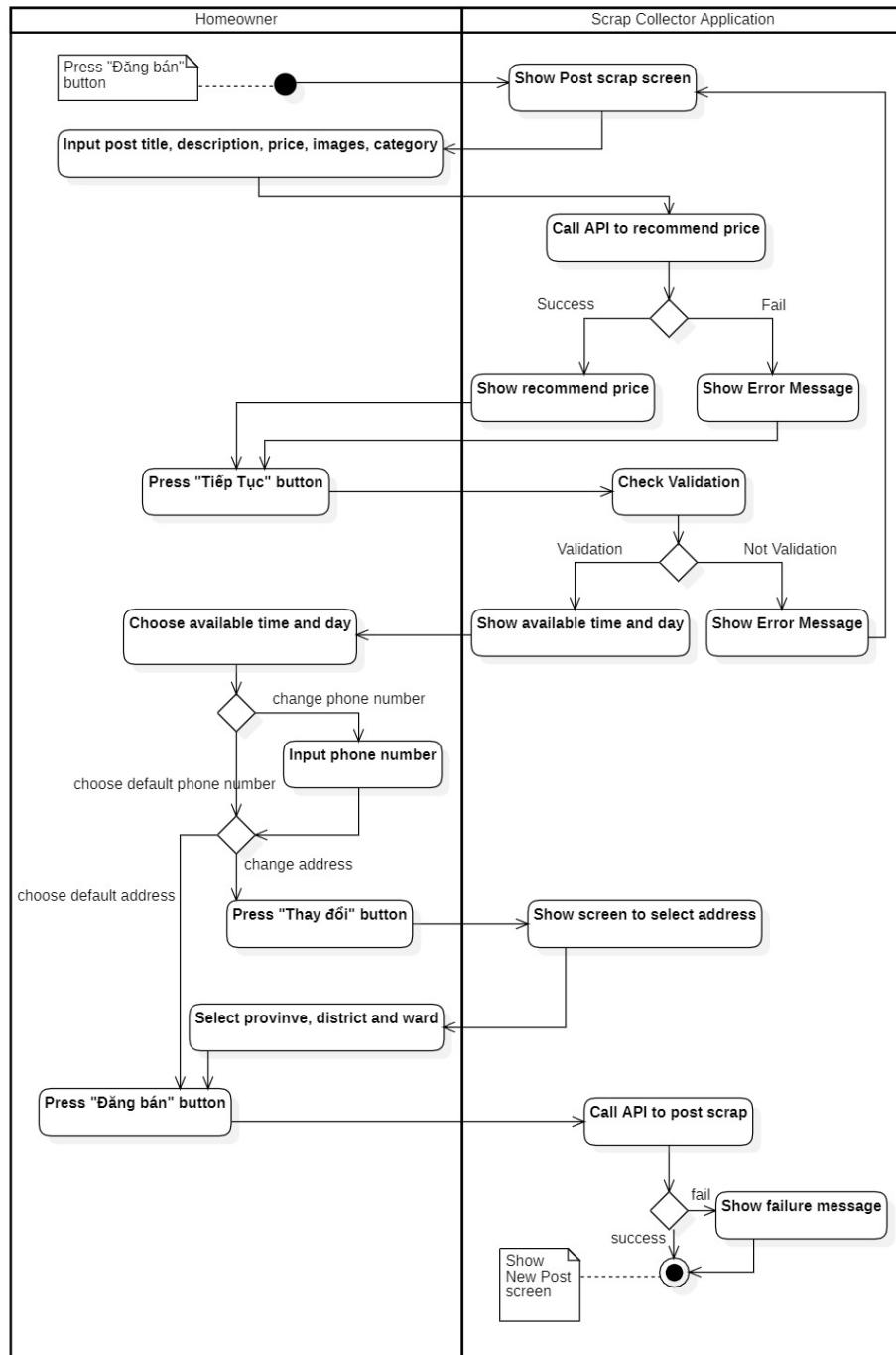


Figure 70 - <Activity Diagram> Post scrap

4.3.4 View booking request

Summary: This diagram shows how a Homeowner views all waiting booking requests.

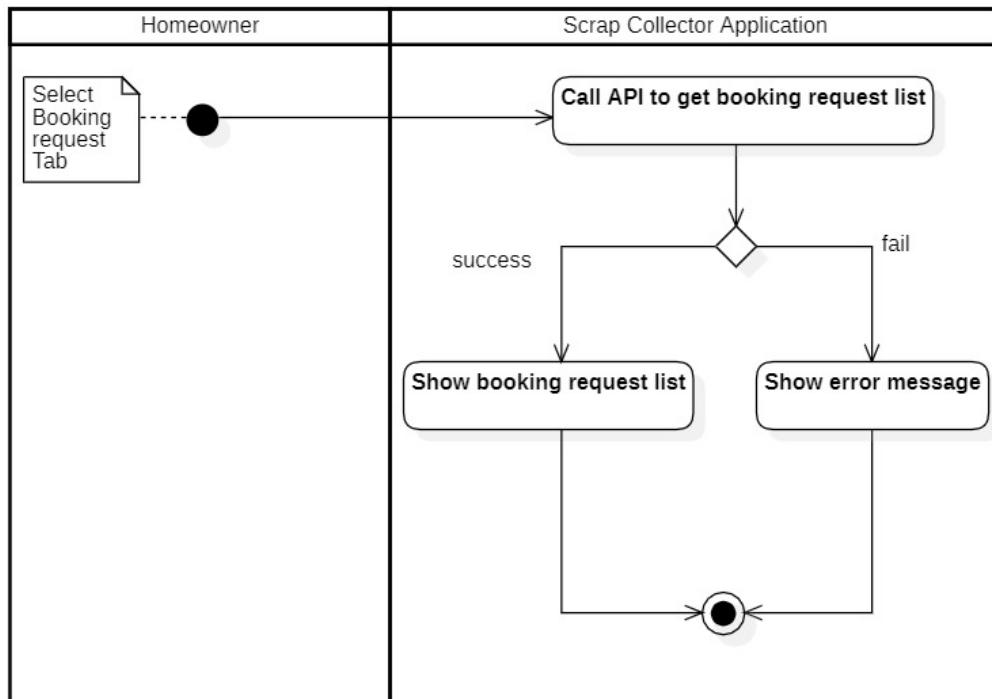


Figure 71 - <Activity Diagram> View booking request

4.3.5 Accept Booking request

Summary: This diagram shows how a Homeowner accepts a booking request.

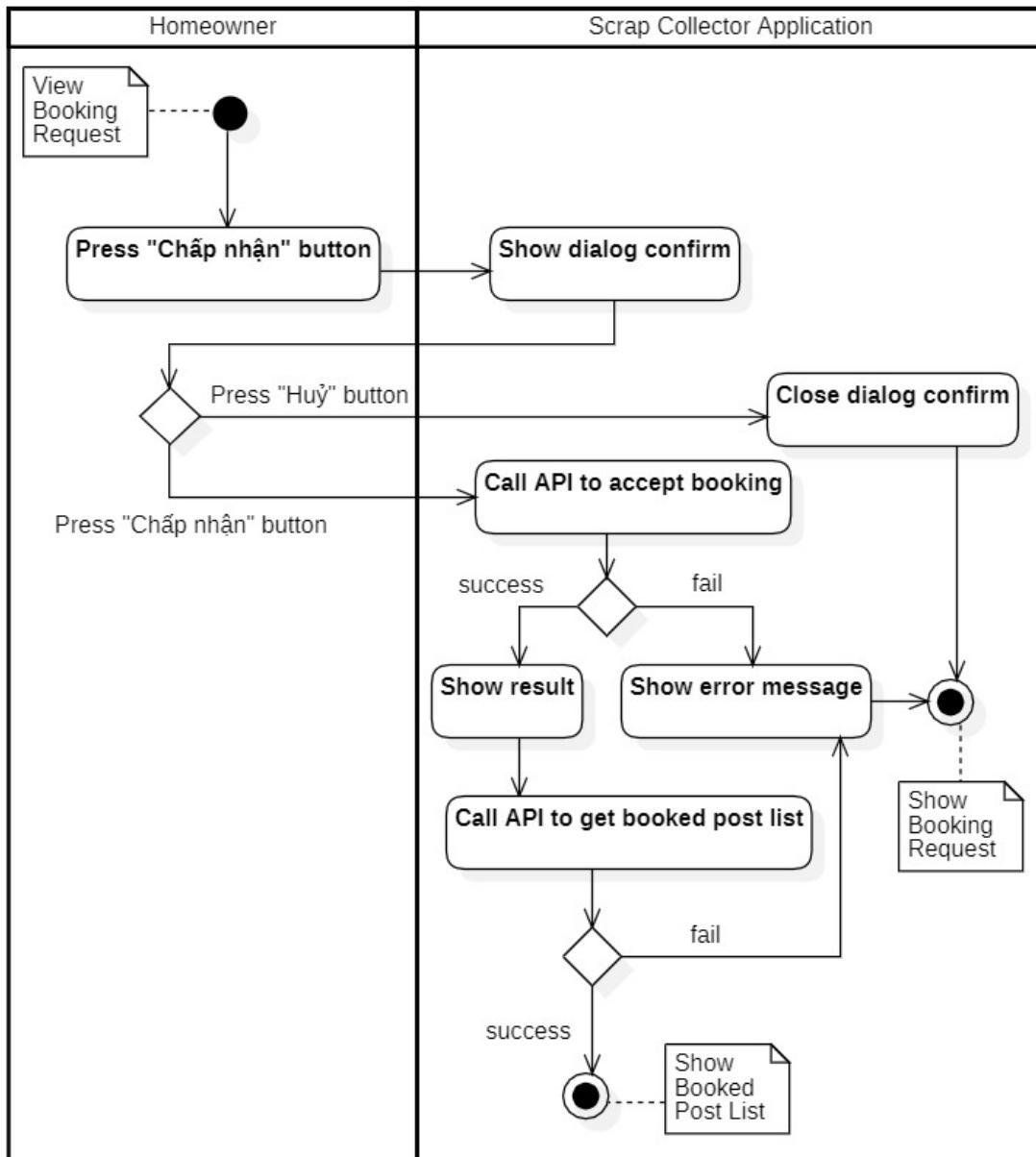


Figure 72 - <Activity Diagram> Accept booking request

4.3.6 Reject Booking request

Summary: This diagram shows how a Homeowner rejects a booking request.

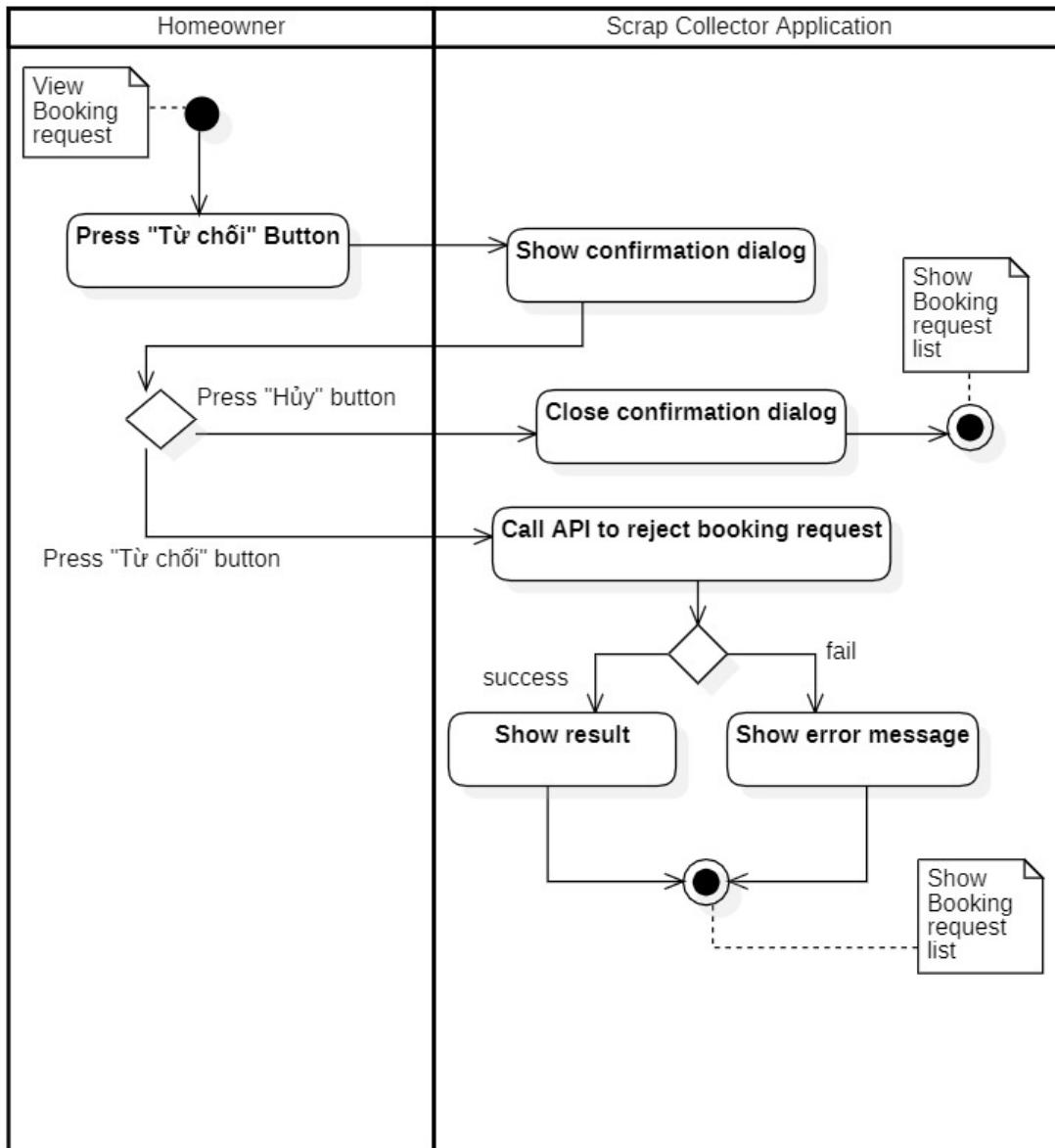


Figure 73 - <Activity Diagram> Reject booking request

4.3.7 Update Profile

Summary: This diagram shows how an user updates his/her profile.

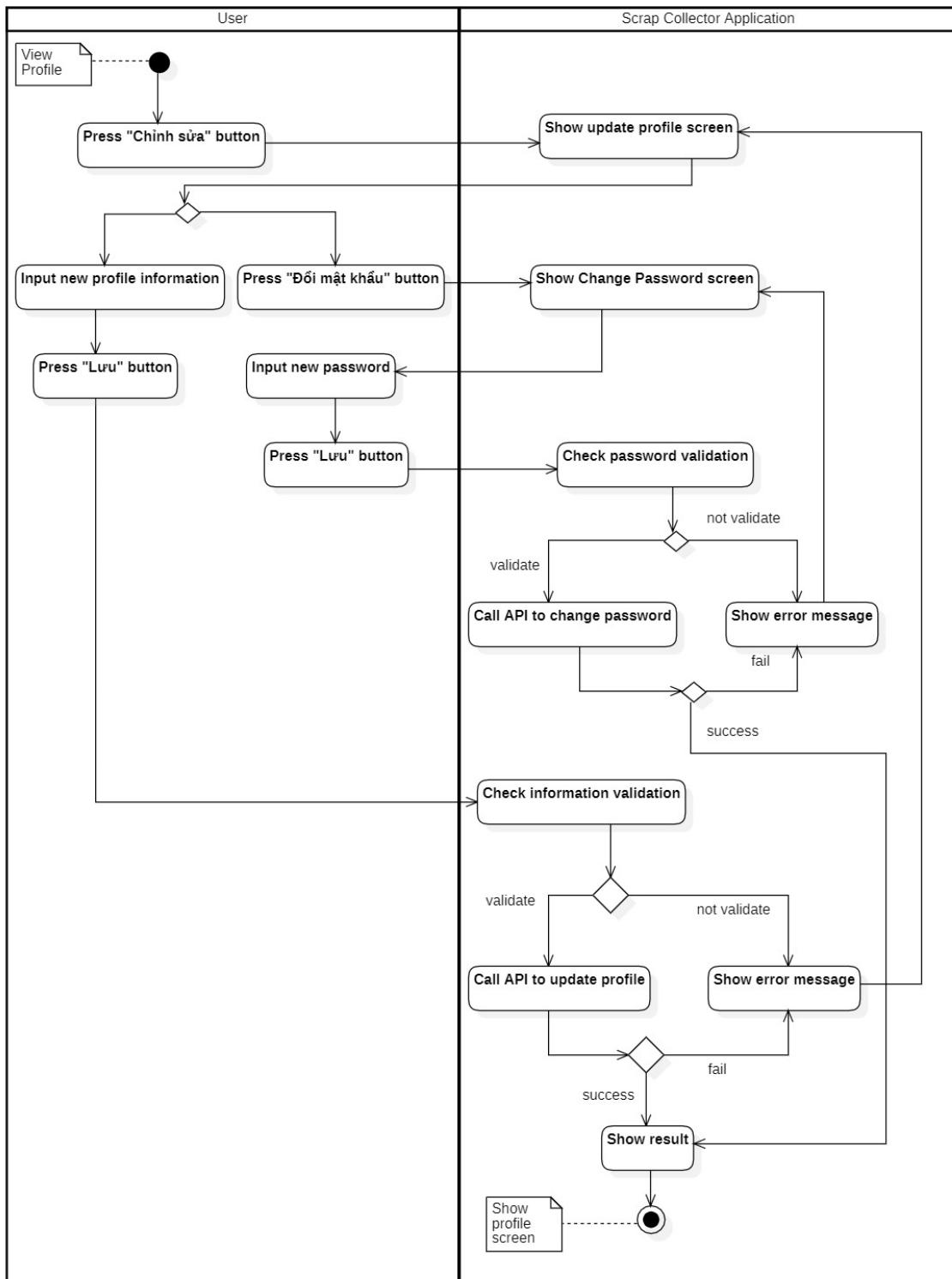


Figure 74 - <Activity Diagram> Update profile

4.3.8 Book Scrap

Summary: This diagram shows how a Collector books scrap.

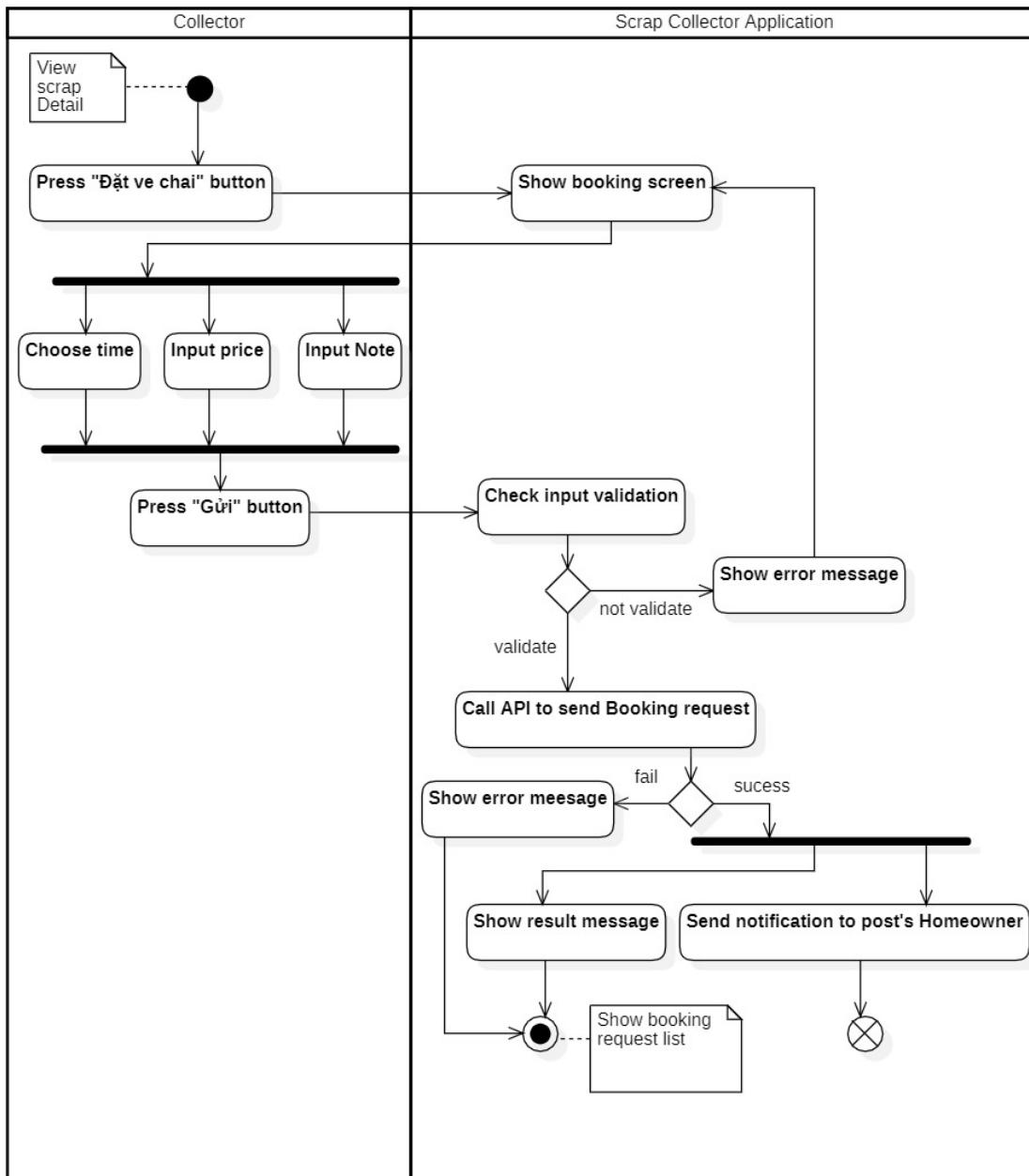


Figure 75 - <Activity Diagram> Book scrap

4.3.9 Search near-by scrap

Summary: This diagram shows how a Collector searches for near-by scraps.

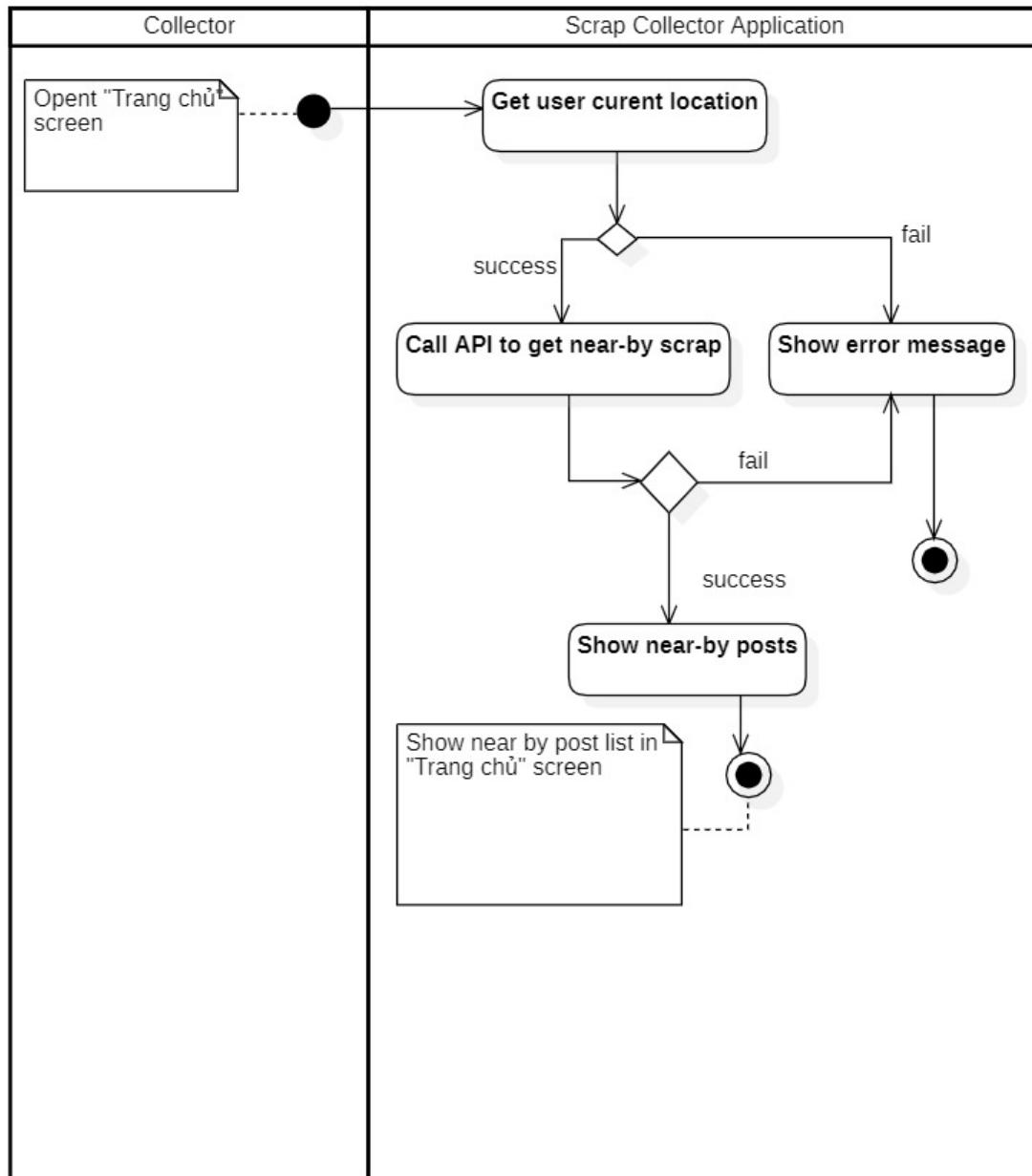


Figure 76 - <Activity Diagram> Search near-by scrap

4.3.10 View schedule

Summary: This diagram shows how a Collector views schedule to pick up scrap.

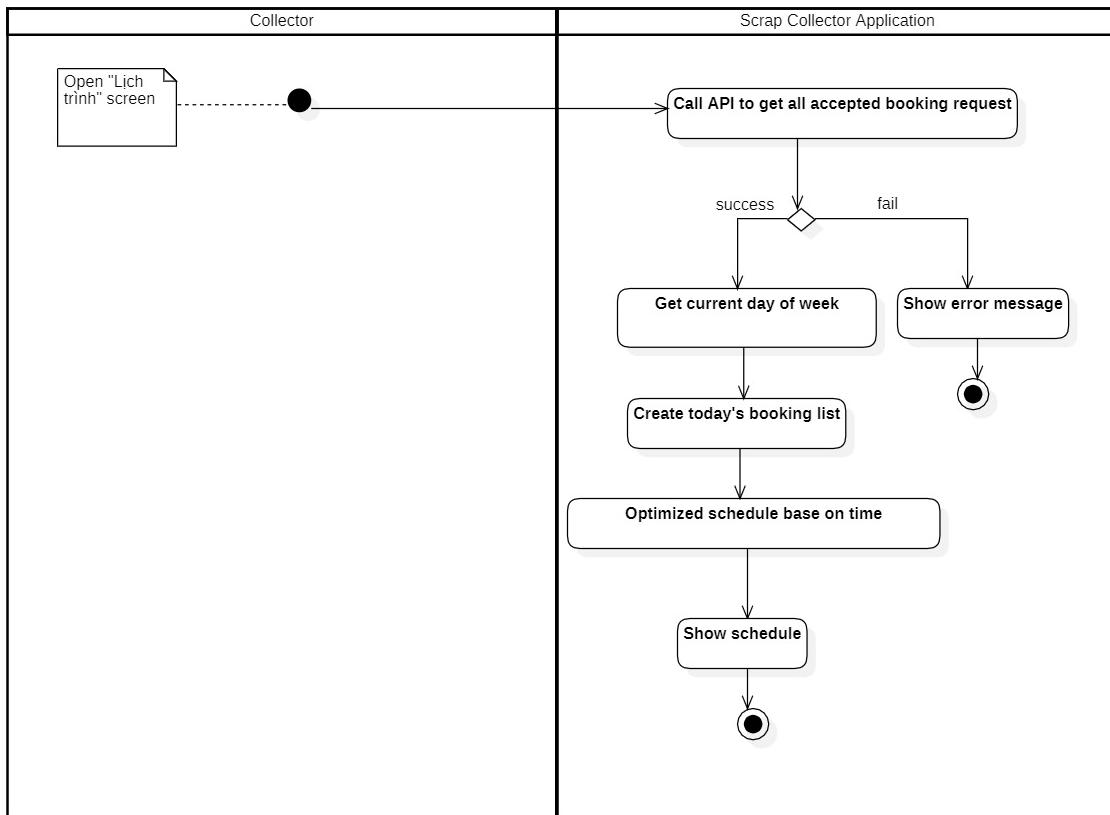


Figure 77 - <Activity Diagram> View schedule

4.3.11 Get Direction

Summary: This diagram shows how a Collector gets direction to the scrap's location.

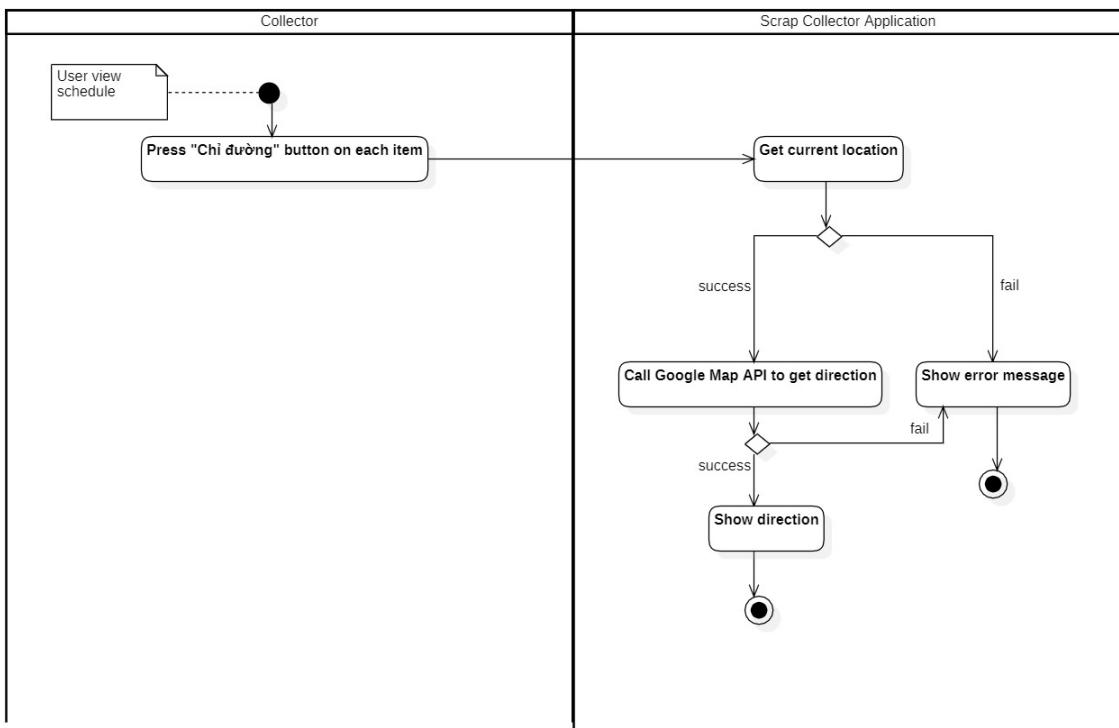


Figure 78 - <Activity Diagram> Get Direction

4.3.12 Review Collector

Summary: This diagram shows how a Homeowner reviews Collector.

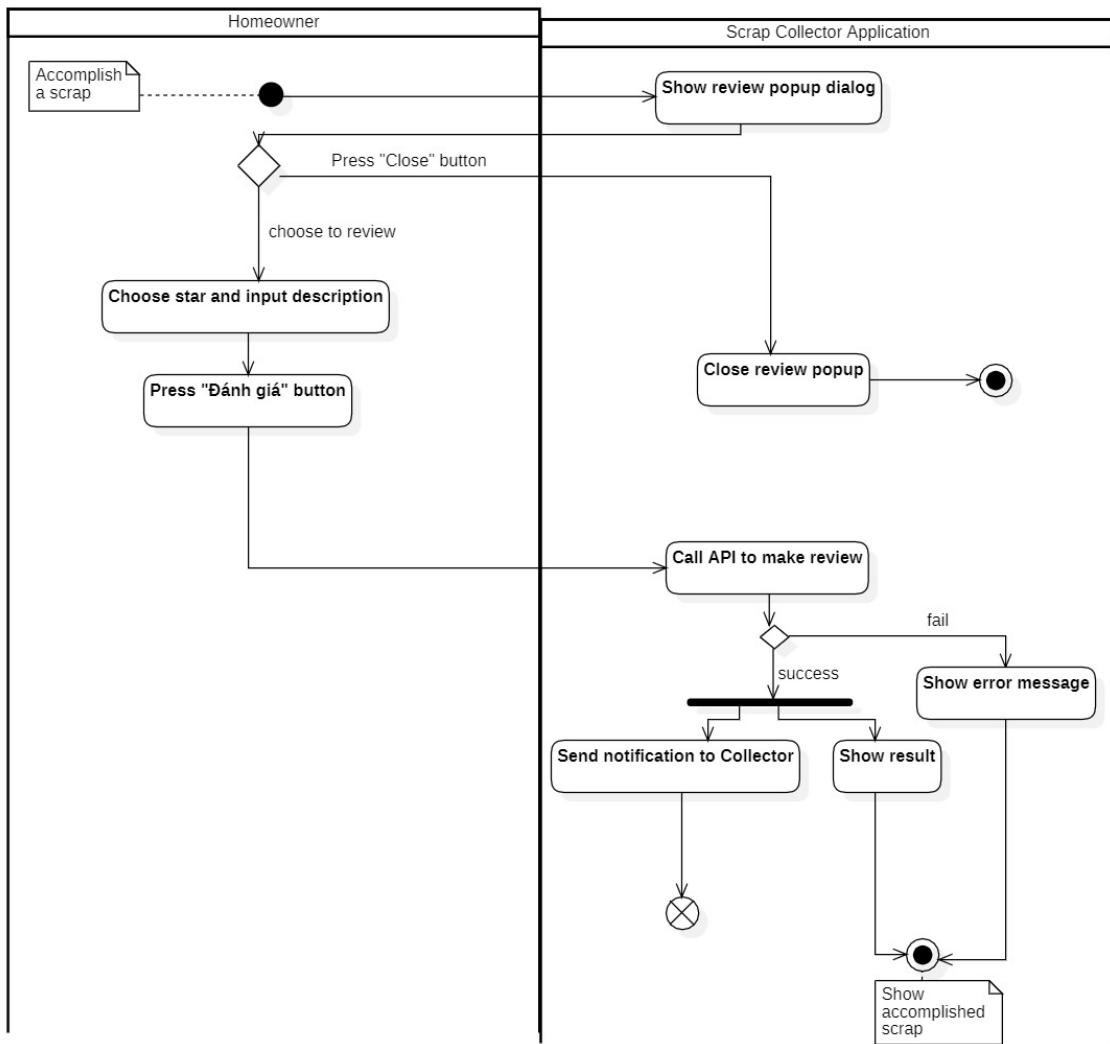


Figure 79 - <Activity Diagram> Review Collector

4.3.13 View history scrap

Summary: This diagram shows how a user views history of scrap.

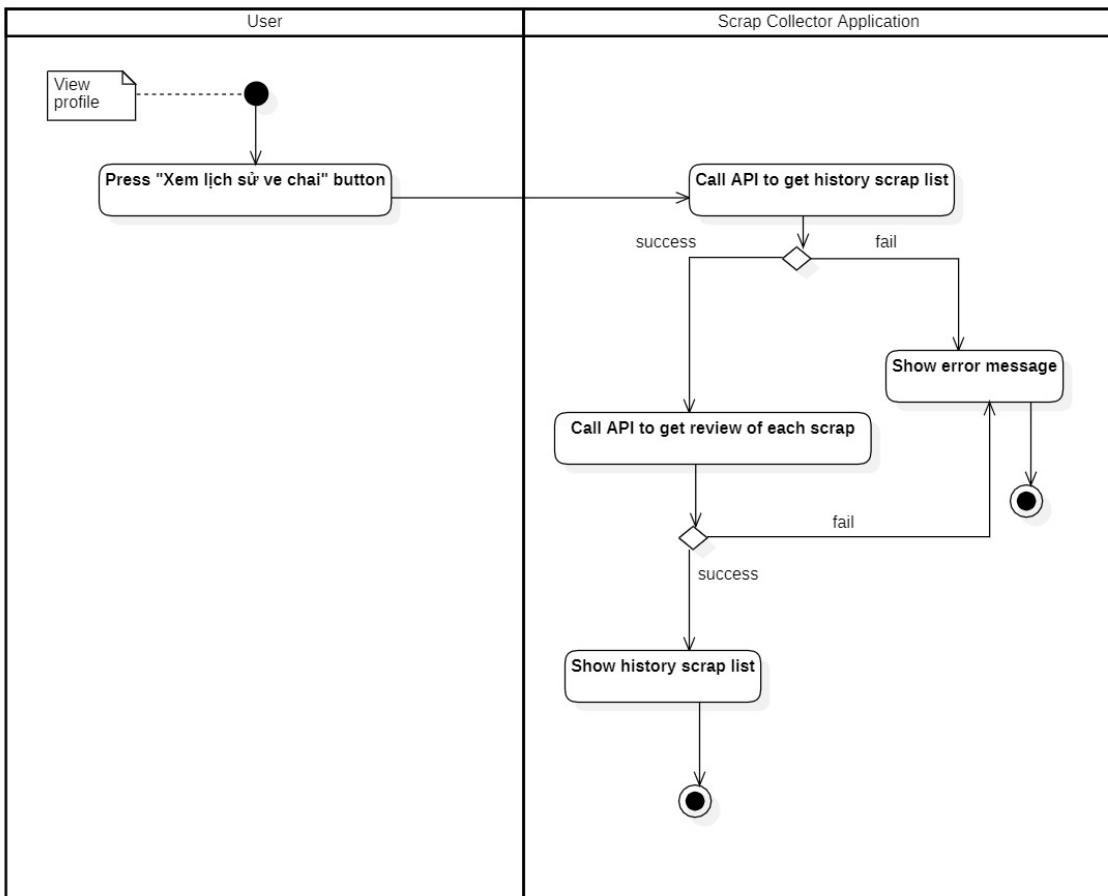


Figure 80 - <Activity Diagram> View history scrap

4.3.14 Report scrap

Summary: This diagram shows how a Collector reports unsuitable scrap.

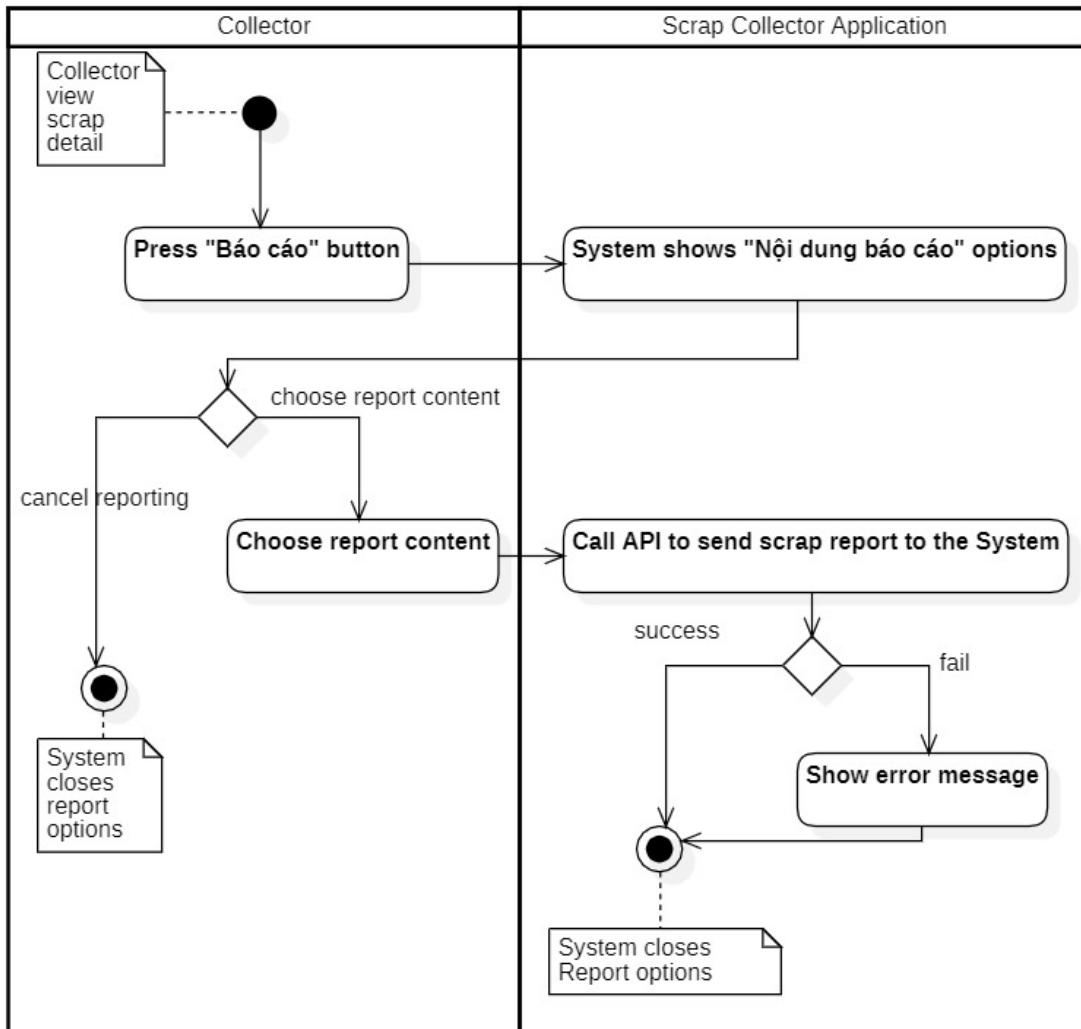


Figure 81 - <Activity Diagram> Report scrap

4.3.15 Report user

Summary: This diagram shows how a user reports other users.

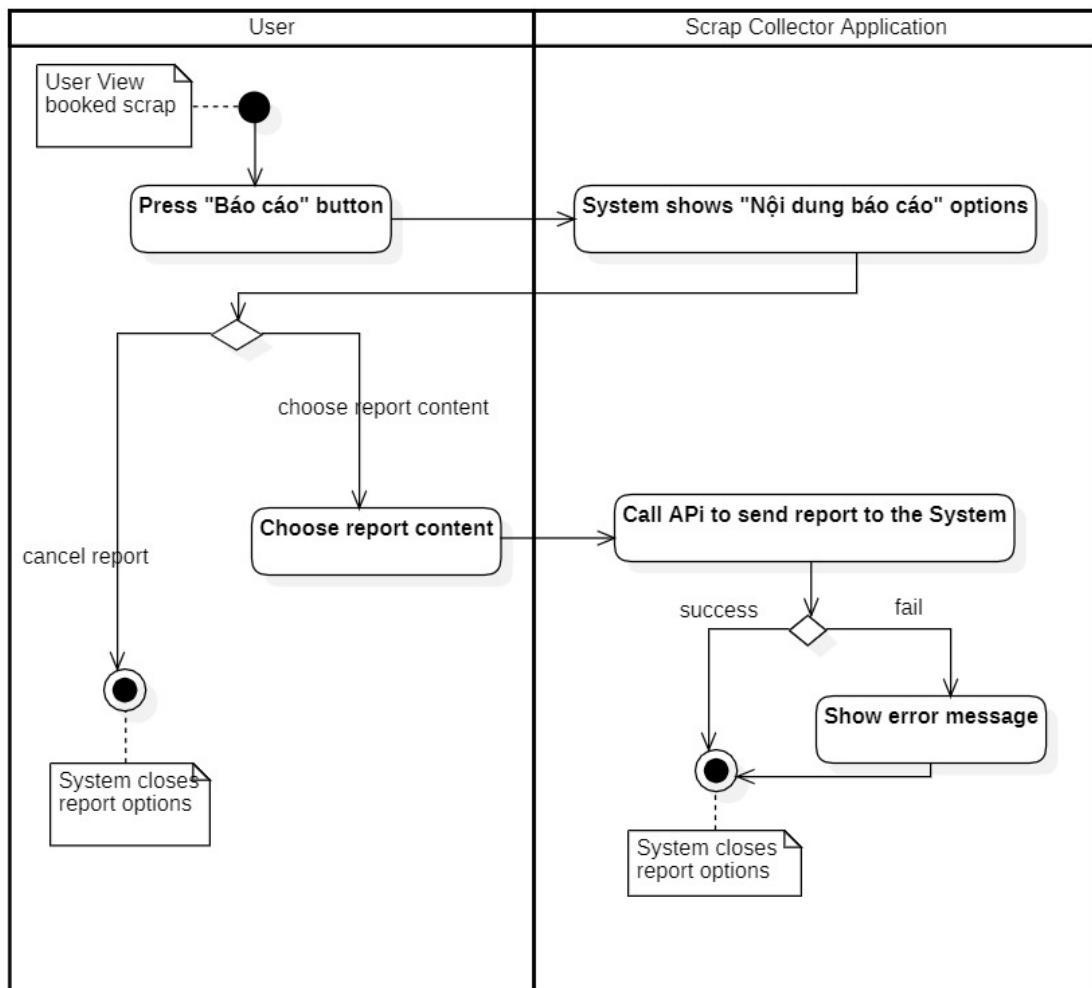


Figure 82 - <Activity Diagram> Report user

4.3.16 Chat

Summary: This diagram shows how a Collector chats to Homeowner.

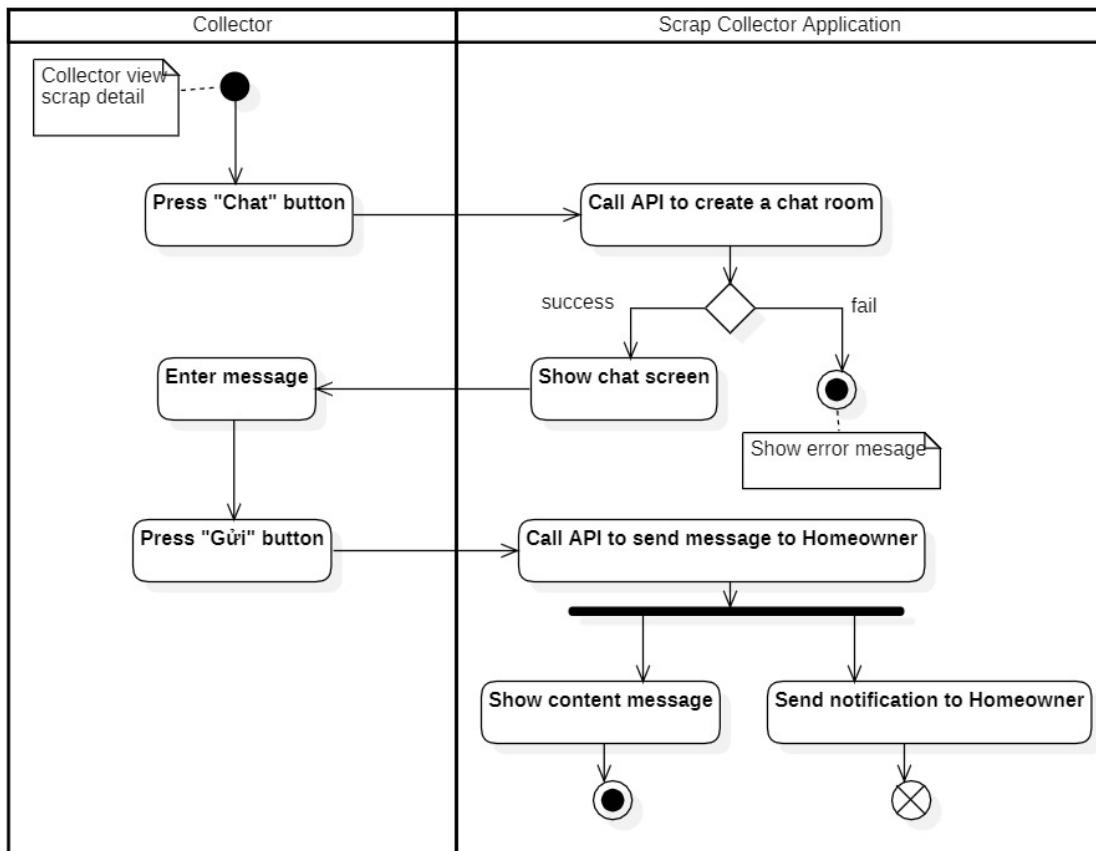


Figure 83 - <Activity Diagram> Chat

4.3.17 Logout

Summary: This diagram shows how a user logout.

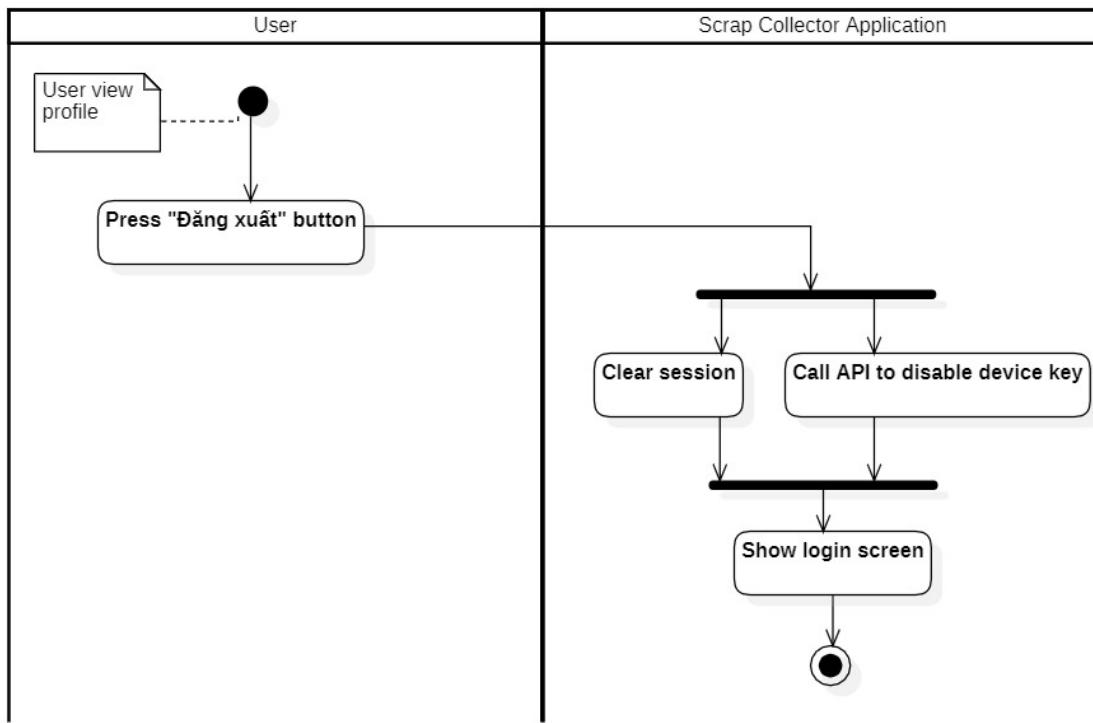


Figure 84 - <Activity Diagram> Logout

4.4 State machine diagram

4.4.1 Scrap State machine Diagram

Summary: This diagram shows state transition of a scrap in the system

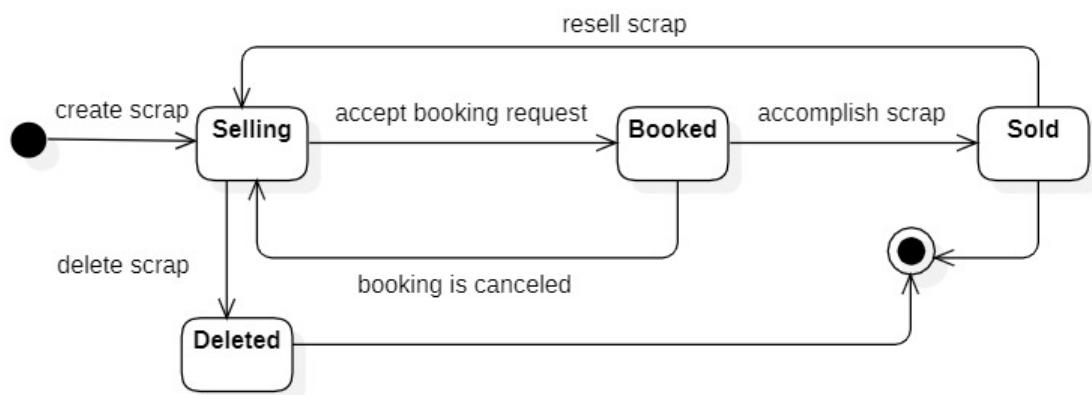


Figure 85 – Scrap State machine diagram

4.4.2 Booking State machine Diagram

Summary: This diagram shows state transition of a booking in the system

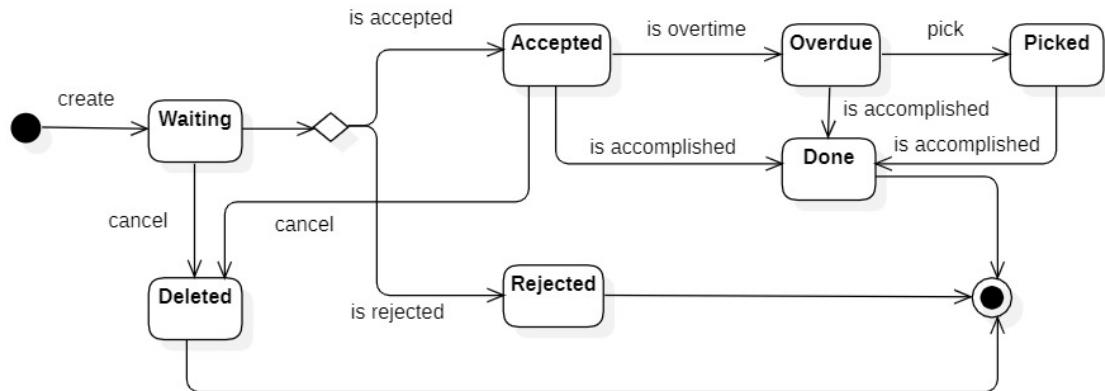


Figure 86 – Booking State machine diagram

4.4.3 Report State machine Diagram

Summary: This diagram shows state transition of a report in the system

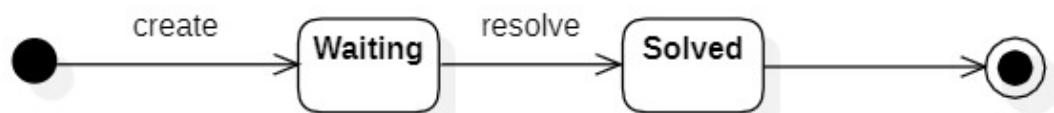


Figure 87 – Report State machine diagram

5. User Interface Design

5.1 Mobile Application

5.1.1 Login



Figure 88 Login

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Tên đăng nhập	Username to login	No	Yes	TextInput	String
2	Mật khẩu	Password to login	No	Yes	TextInput	String

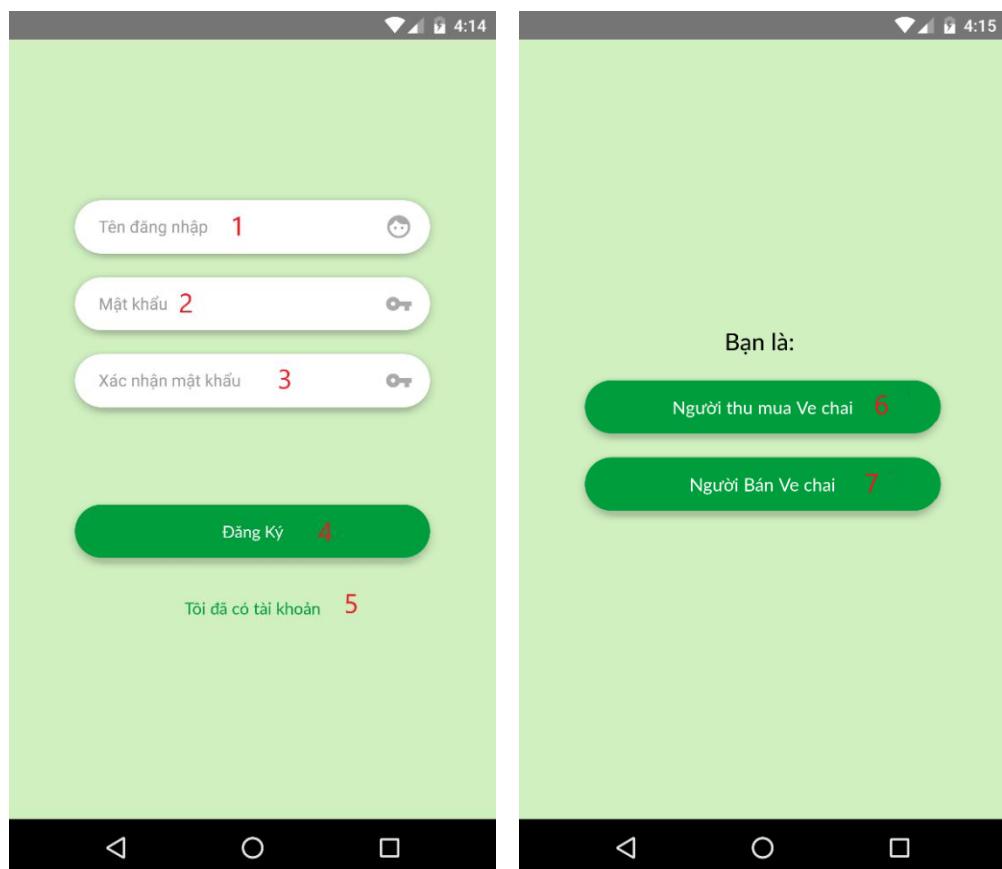
Table 77 <Fields> Login

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
3	Login	Login into the system	Required	Transfer to Home screen
4	Get password when forget	Allow users to get password when they forget password	No	Transfer to Forget Password screen
5	Register	Register an account	No	Transfer to Register screen

Table 78 <Buttons/Hyperlinks> Login

5.1.2 Register



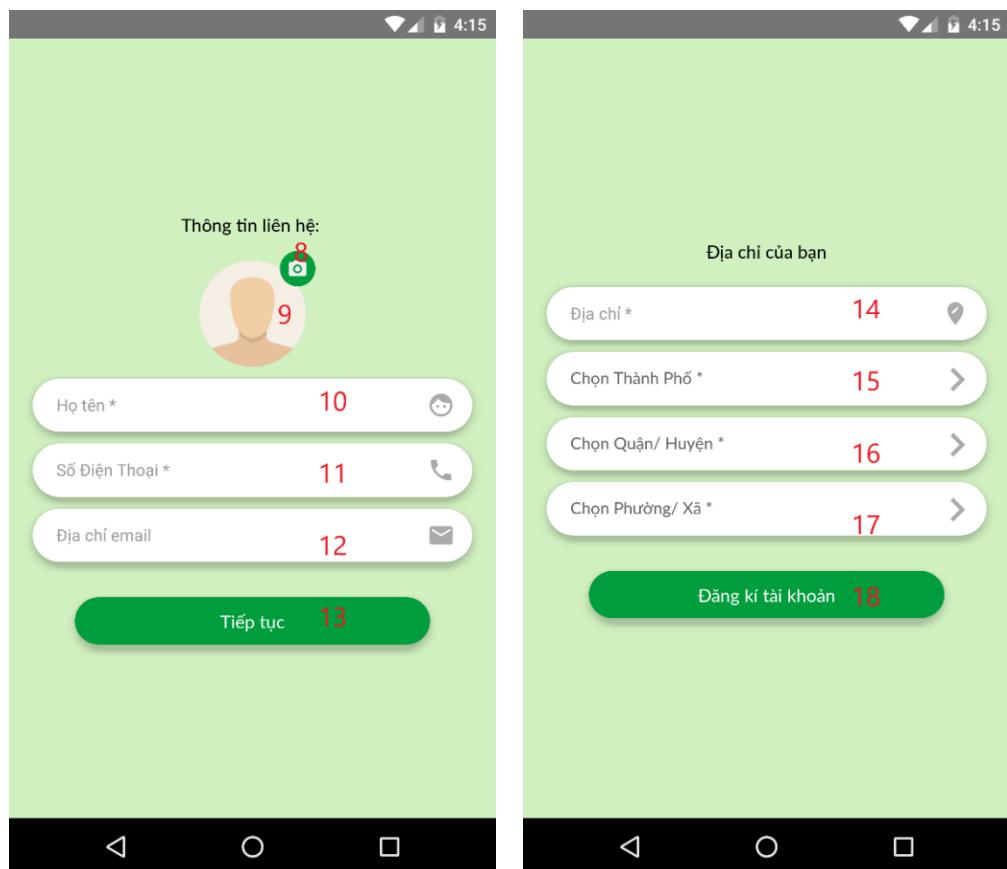


Figure 89 Register

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Tên đăng nhập	Username for registration	No	Yes	TextInput	String
2	Mật khẩu	Password for registration	No	Yes	TextInput	String
3	Xác nhận mật khẩu	Confirm password for registration	No	Yes	TextInput	String
9	Ảnh đại diện	Avatar	No	No	Image	String
10	Họ tên	Full name for registration	No	Yes	TextInput	String

11	Số điện thoại	Phone number for registration	No	Yes	TextInput	String
12	Địa chỉ Email	Email for registration	No	No	TextInput	String
14	Địa chỉ chi tiết	Detail address for registration	No	Yes	TextInput	String

Table 79 <Fields> Register

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
4	Đăng ký	Register account with username and password	Required	Transfer to Choose role registration screen
5	Tôi đã có tài khoản	Direct user to go back to Login screen	N/A	Transfer to Login screen
6	Người thu mua ve chai	User register as a Collector	N/A	Transfer to Detail information registration screen
7	Người bán ve chai	User register as a Homeowner	N/A	Transfer to Detail information registration screen
8	Chọn ảnh	Take an image from device as avatar	N/A	Open Image picker
13	Tiếp tục	Go to next screen	Required	Transfer to Address registration screen
15	Chọn Tỉnh/ Thành phố	Choose province or city	N/A	Transfer to Choose address registration screen

16	Chọn Quận/ huyện	Choose district	Province or city is chosen	Transfer to Choose address registration screen
17	Chọn Phường/ xã	Choose ward	District is chosen	Transfer to Choose address registration screen
18	Đăng ký tài khoản	Finish registration	Required	Transfer to Login screen

Table 80 <Buttons/Hyperlinks> Register

5.1.3 View profile

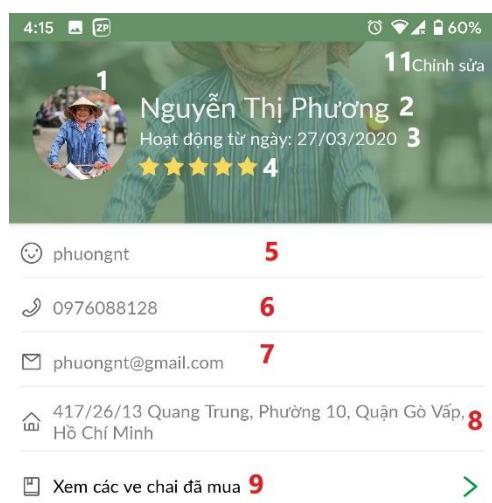


Figure 90 View profile

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type

1	Ảnh đại diện	Avatar of user	Yes	Yes	Text	String
2	Tên	Full name of user	Yes	Yes	Text	String
3	Ngày tạo	Date of creation of user	Yes	Yes	Text	String
4	Số sao	The average review star of the user (for collector only)	Yes	Yes	Star Rating	Number
5	Tên đăng nhập	Username of user	Yes	Yes	Text	String
6	Số điện thoại	Phone number of user	Yes	Yes	Text	String
7	Địa chỉ Email	Email Address of user	Yes	No	Text	String
8	Địa chỉ	Address of user	Yes	Yes	Text	String

Table 81 <Fields> View profile

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
9	Xem lịch sử hoàn thành	View all accomplished scrap of that user	N/A	Transfer to View history screen
10	Đăng xuất	Clear session of user and sign out	N/A	Transfer to Login screen
11	Chỉnh sửa	Update user's profile	N/A	Transfer to Update profile screen

Table 82 <Buttons/Hyperlinks> View profile

5.1.4 Update profile

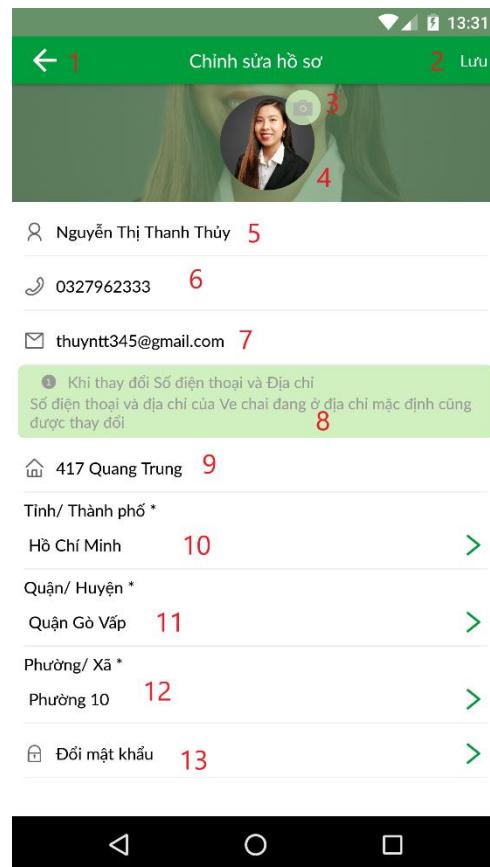


Figure 91 View profile

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
4	Avatar	Avatar of user	No	No	Image	String
5	Full name	Full name of user	No	Yes	TextInput	String
6	Phone number	Phone number of user	No	Yes	TextInput	String
7	Email	Email address of user	No	No	TextInput	String
3	Introduction	Introduction when user update his/her	Yes	No	Text	String

		address and phone number				
9	Detail address	Detail address of user	No	Yes	TextInput	String

Table 83 <Fields> Update Profile

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to Profile screen	N/A	Transfer to Profile screen
2	Lưu	Save changes and update profile	Required	Update profile and transfer to Profile screen
3	Choose image	Choose avatar of user	N/A	Change image in the image box
10	Chọn Tỉnh/ Thành phố	Choose Province or City	N/A	Change Province or City name in the button
11	Chọn Quận/ Huyện	Choose District	Province or City must be chosen	Change District name in the button
12	Chọn Phường/ Xã	Choose Ward	District must be chosen	Change Ward name in the button
13	Đổi mật khẩu	Go to Change password screen	N/A	Transfer to Change password screen

Table 84 <Buttons/Hyperlinks> Update Profile

5.1.5 Change password

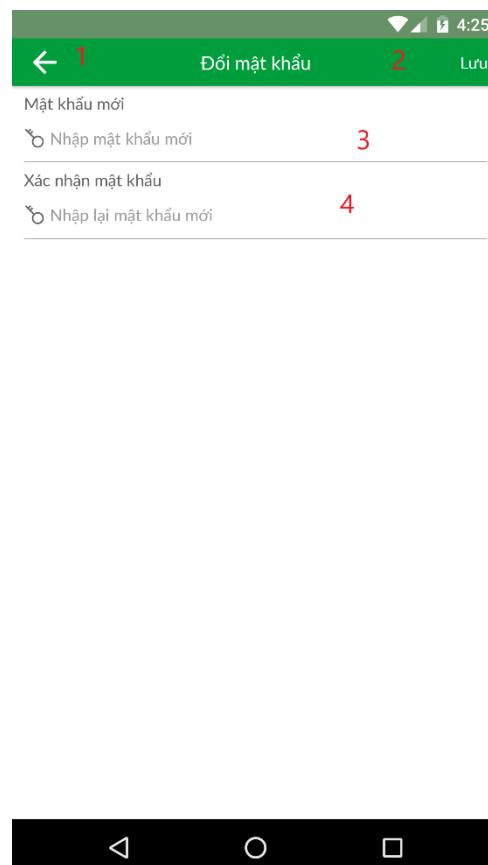


Figure 92 Change Password

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
3	Mật khẩu mới	New password to update	No	Yes	TextInput	String
4	Xác nhận mật khẩu	Confirm new password to update	No	Yes	TextInput	String

Table 85 <Fields> Change Password

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome

1	Go Back	Go back to update profile screen	N/A	Transfer to Update profile screen
2	Lưu	Save new password	Required	Update password of user

Table 86 <Buttons/Hyperlinks> Change Password

5.1.6 Choose Address

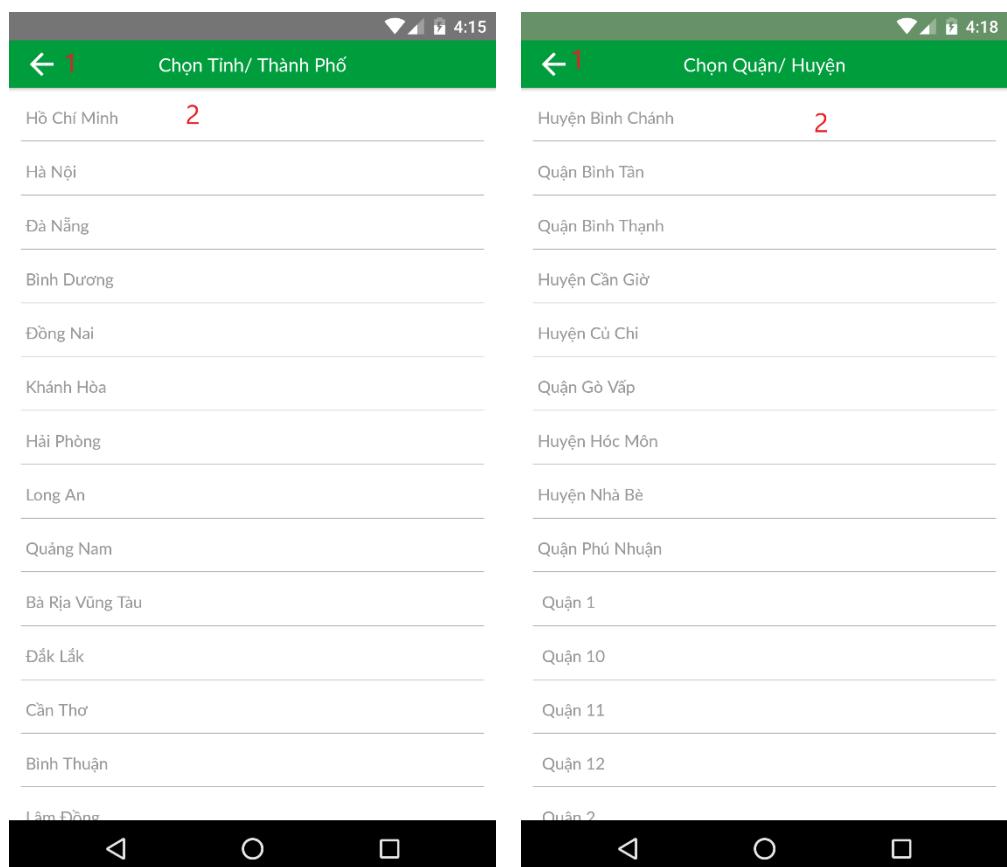


Figure 93 Choose Address

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to previous screen	N/A	Transfer back to previous screen
2	Choose province/ district or ward	Choose province or district or ward	N/A	Save province/ district or ward and transfer back to previous screen

	district or ward			
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Table 87 <Buttons/Hyperlinks> Choose Address

5.1.7 Notification

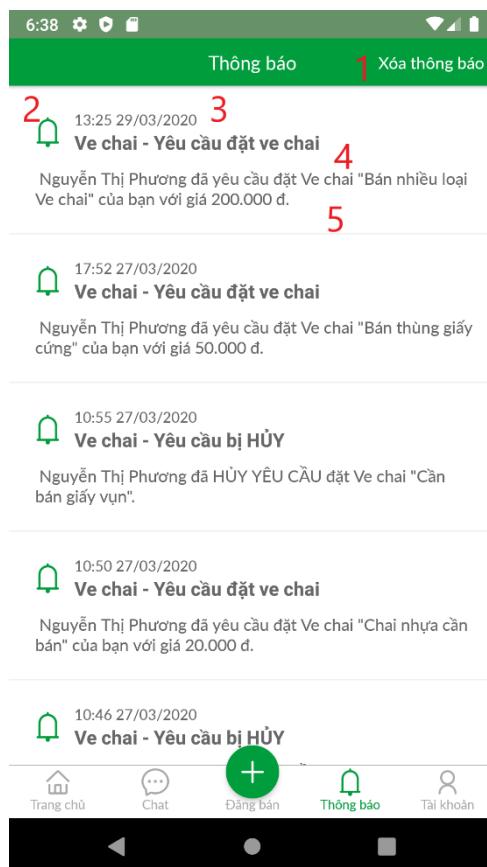


Figure 94 Notification

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Notification icon	Notification icon	Yes	No	Image	Image
3	Notification created time	Notification created time	Yes	No	Text	String
4	Notification title	Notification title	Yes	No	Text	String

5	Notification content	Notification content	Yes	No	Text	String
---	----------------------	----------------------	-----	----	------	--------

Table 88 <Fields> Notification

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Xóa thông báo	Clear all notifications	N/A	System shows message, list of notification is cleared

Table 89 <Buttons/Hyperlinks> Notification

5.1.8 Pop-up notification

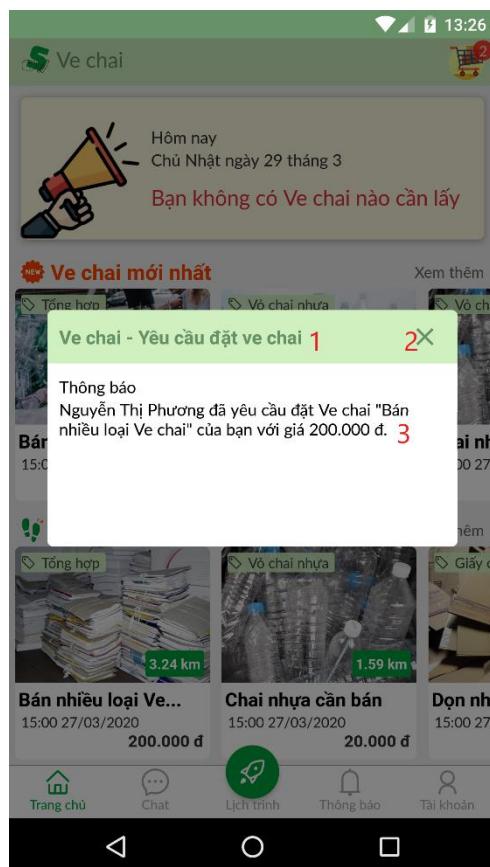


Figure 95 Pop-up notification

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
----	------------	-------------	-----------	-----------	--------------	-----------

1	Notification title	Notification title	Yes	No	Text	String
3	Notification content	Notification content	Yes	No	Text	String

Table 90 <Fields> Pop-up notification

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
2	Close notification modal	Close notification modal	N/A	Notification modal is closed

Table 91 <Buttons/Hyperlinks> Pop-up notification

5.1.9 All Conversations screen

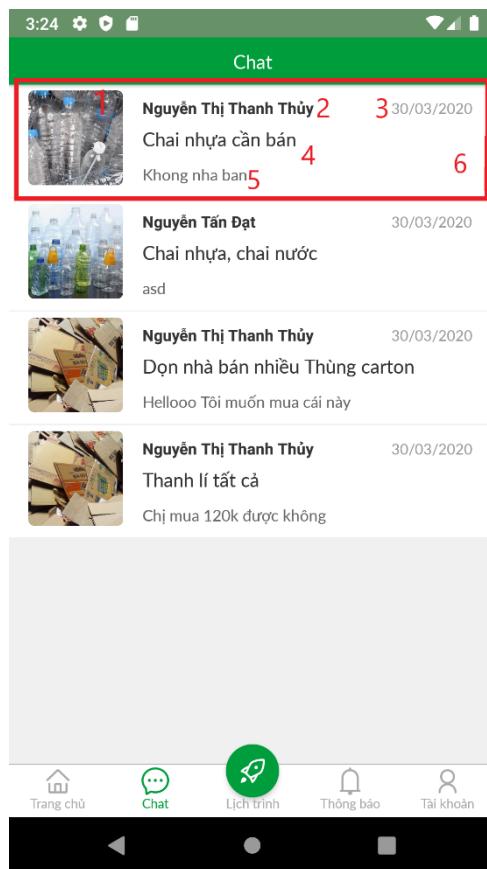


Figure 96 All conversations screen

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Image of scrap	Image of scrap	Yes	No	Image	image
2	Another user's name	The name of the person in that conversation	Yes	No	Text	String
3	Scrap title	Title of scrap	Yes	No	Text	String
4	Latest message	The latest message of that conversation	Yes	No	Text	String
5	Latest time	Time of latest message	Yes	No	Text	String

Table 92 <Fields> All conversations screen

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
6	Go to Chat screen	Go to Chat screen	N/A	Transfer to Chat screen

Table 93 <Buttons/Hyperlinks> All conversations screen

5.1.10 Chat screen



Figure 97 Chat screen

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	User's name	The name of the person in that conversation	Yes	No	Text	String
4	Image of scrap	Image of scrap	Yes	No	Image	image
5	Scrap title	Title of scrap	Yes	No	Text	String
6	Category and Quantity	Category and quantity of scrap	Yes	No	Text	String
7	Scrap price	Price of scrap	Yes	No	Text	String

8	Introduction	Introduction of chatting	Yes	No	Text	String
11	Message	Content of message	No	Yes	TextInput	String

Table 94 <Fields> Chat screen

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to previous screen	N/A	System transfers to previous screen
3	Call	Call the user who you are chatting with	N/A	System calls the user
9	Close introduction panel	Hide the introduction panel	N/A	System hides the introduction panel
10	Choose quick message	Select the quick message to send for the shake of saving time	N/A	System sends the chosen message

Table 95 <Buttons/Hyperlinks> Chat screen

5.1.11 <Homeowner> Bottom Tab bar

Figure 98 <Homeowner> Bottom tab bar

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Trang chủ	Go to Home screen	N/A	Transfer to Home screen
2	Chat	Go to Chat screen	N/A	Transfer to Chat screen

3	Đăng bán	Go to Post scrap screen	N/A	Transfer to Post scrap screen
4	Thông báo	Go to Notification screen	N/A	Transfer to Notification screen
5	Tài khoản	Go to Profile screen	N/A	Transfer to Profile screen

Table 96 <Buttons/Hyperlinks> Homeowner bottom tab bar

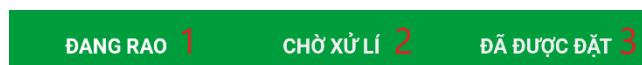
5.1.12 <Homeowner> Home Tab bar

Figure 99 <Homeowner> Home tab bar

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Đang rao	Go to Selling scrap screen	N/A	Transfer to Selling scrap screen
2	Chờ xử lý	Go to Waiting booking screen	N/A	Transfer to Waiting booking screen
3	Đã được đặt	Go to Booked Scrap screen	N/A	Transfer to Booked Scrap screen

Table 97 <Buttons/Hyperlinks> Homeowner Home tab bar

5.1.13 <Homeowner> Post scrap

Đăng bán Ve chai

Tiêu Đề *
Nhập tiêu đề cho Ve chai của bạn 2

Thêm hình ảnh để Ve chai được bán nhanh hơn
Chọn hình 3

Chọn phân loại *
Phân loại ve chai 6 > kg, cái,... 7

Khối lượng/ Số lượng *
Nhập Khối lượng/ Số lượng 8

Giá *
Nhập giá 9

Mô Tả
Nhập mô tả chi tiết Ve chai của bạn 10

Chọn thời gian

Vui lòng chọn khoảng thời gian Người thu mua ve chai có thể đến lấy ve chai của bạn 13

Chọn khoảng thời gian

Từ * Chọn thời gian... Đến * Chọn thời gian... 14 15

Chọn ngày 16

- Cả tuần
- Thứ 2
- Thứ 3
- Thứ 4
- Thứ 5
- Thứ 6
- Thứ 7
- Chủ Nhật

Tiếp Tục 11

Tiếp Tục 17

Thông tin liên lạc

Số điện thoại và Địa chỉ được lấy từ thông tin mặc định của bạn.

Nếu muốn thay đổi thông tin, vui lòng nhập thông tin. 19

0327962333 20

Địa chỉ cụ thể *
417 Quang Trung 21

Tỉnh/ Thành phố *
Hồ Chí Minh 22 >

Quận/ Huyện *
Quận Gò Vấp 23 >

Phường/ Xã *
Phường 10 25 >

Đăng Ve chai 26

Figure 100 <Homeowner> Post scrap

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Tiêu đề	Title of scrap	No	Yes	TextInput	String
4	Hình ảnh	Image of scrap	Yes	Yes	Image	String
7	Đơn vị	Unit of scrap	No	Yes	TextInput	String
8	Khối lượng/ Số lượng	Mass or Quantity of scrap	No	Yes	TextInput	Number
9	Giá	Price of scrap	No	Yes	TextInput	Number
10	Mô tả	Description for scrap	No	No	TextInput	String
13	Description	Description when Homeowner choose time	Yes	No	Text	String
19	Guideline	Description when Homeowner choose scrap address	Yes	No	Text	String
20	Số điện thoại	Contact number of scraps	No	Yes	TextInput	Number
21	Địa chỉ cụ thể	Detail address: home number, building name, street name	No	Yes	TextInput	String

Table 98 <Fields> Post scrap

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Cancel posting scrap	Cancel posting scrap and go back to previous screen	N/A	Transfer to Previous screen
3	Chọn hình	Choose scrap image	N/A	Open device image gallery or open camera for getting image
5	Delete image	Delete image	N/A	Delete that image
6	Chọn phân loại	Choose category of scrap	N/A	Open Choose Category screen for Homeowner to choose category
7	Tiếp tục	Go to next page	All required fields are inputted and validated	Open Choose Time screen
12	Go back	Go to previous screen	N/A	Go to previous screen
14	Chọn thời gian “Từ”	Choose from time	N/A	Open Select box to choose time
15	Chọn thời gian “Đến”	Choose to time	User has chosen from time	Open Select box to choose time
16	Chọn ngày	Choose day of week	N/A	Select day of week
17	Tiếp tục	Go to choose address screen	All required fields are inputted and validated	Open Choose Address screen

18	Go back	Go back to previous screen	N/A	Go back to previous screen
22	Chọn Tỉnh/ Thành phố	Choose Province/City	N/A	Open choose Province screen
23	Chọn Quận/ Huyện	Choose District	Province has been chosen	Open choose District screen
25	Chọn Phường/ Xã	Choose Ward	Ward has been chosen	Open choose Ward screen
26	Đăng ve chại	Post scrap	All required fields are inputted and validated	Post scrap and show message to User

Table 99 <Buttons/Hyperlinks> Post scrap

5.1.14 <Homeowner> Home selling scrap screen

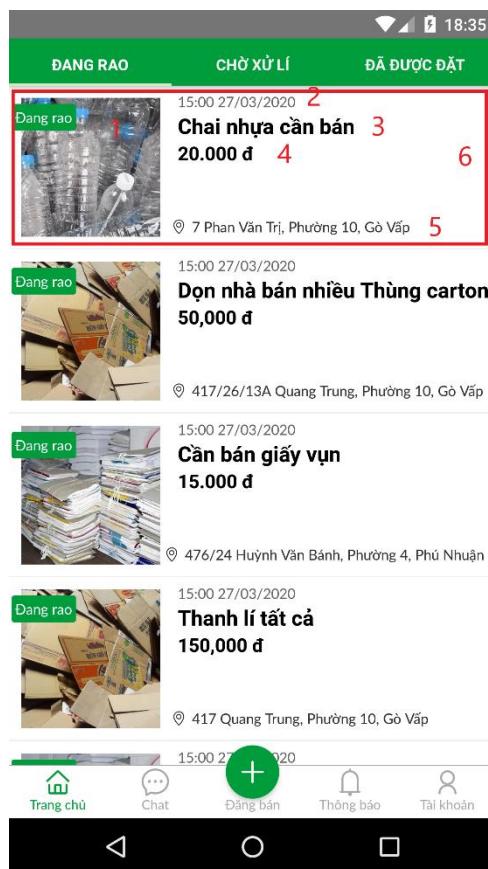


Figure 101 <Homeowner> Home selling scrap screen

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Scrap image	Image of scrap	Yes	No	Image	Image
2	Created time	Time of posting scrap	Yes	No	Text	dateti me
3	Scrap title	Title of scrap	Yes	No	Text	String
4	Scrap price	Price of scrap	Yes	No	Text	Numbe r
5	Scrap's address	Address of scrap	Yes	No	Text	String

Table 100 <Fields> Homeowner home selling scrap

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
6	View scrap detail	View scrap detail information	N/A	System shows detail information of that scrap

Table 101 <Buttons/Hyperlinks> Homeowner home selling scrap

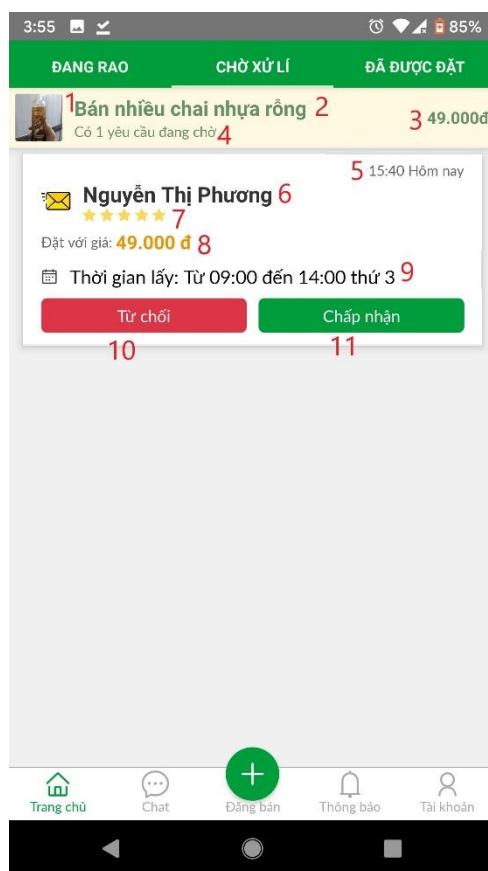
5.1.15 <Homeowner> Home waiting booking screen

Figure 102 <Homeowner> Home waiting booking screen

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Scrap image	Image of scrap	Yes	No	Image	Image

2	Scrap title	Title of scrap	Yes	No	Text	String
3	Scrap price	Price of scrap	Yes	No	Text	Number
4	Scrap's number of waiting booking	Number of waiting booking of that scrap	Yes	No	Text	String
5	Time of booking	The time at which booking is created	Yes	No	Text	String
6	Name of Collector	Name of Collector of the booking	Yes	No	Text	String
7	Review star	The number of review star of the collector	Yes	No	Image	Number
8	Price of booking	The price at which the Collector wants to buy the scrap	Yes	No	Text	String
9	Time of booking	The price at which the Collector comes to pick up scrap	Yes	No	Text	String
9.1	Note of booking	Message from Collector to Homeowner	Yes	No	Text	String

Table 102 <Fields> Homeowner home - waiting booking screen

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome

10	Reject booking	Homeowner rejects the booking from that Collector	N/A	The booking is rejected and system shows result message.
11	Accept booking	Homeowner accepts the booking from that Collector	N/A	The booking is accepted and system shows result message.

Table 103 <Buttons/Hyperlinks> Homeowner home - waiting booking screen

5.1.16 <Homeowner> Home accepted booking screen

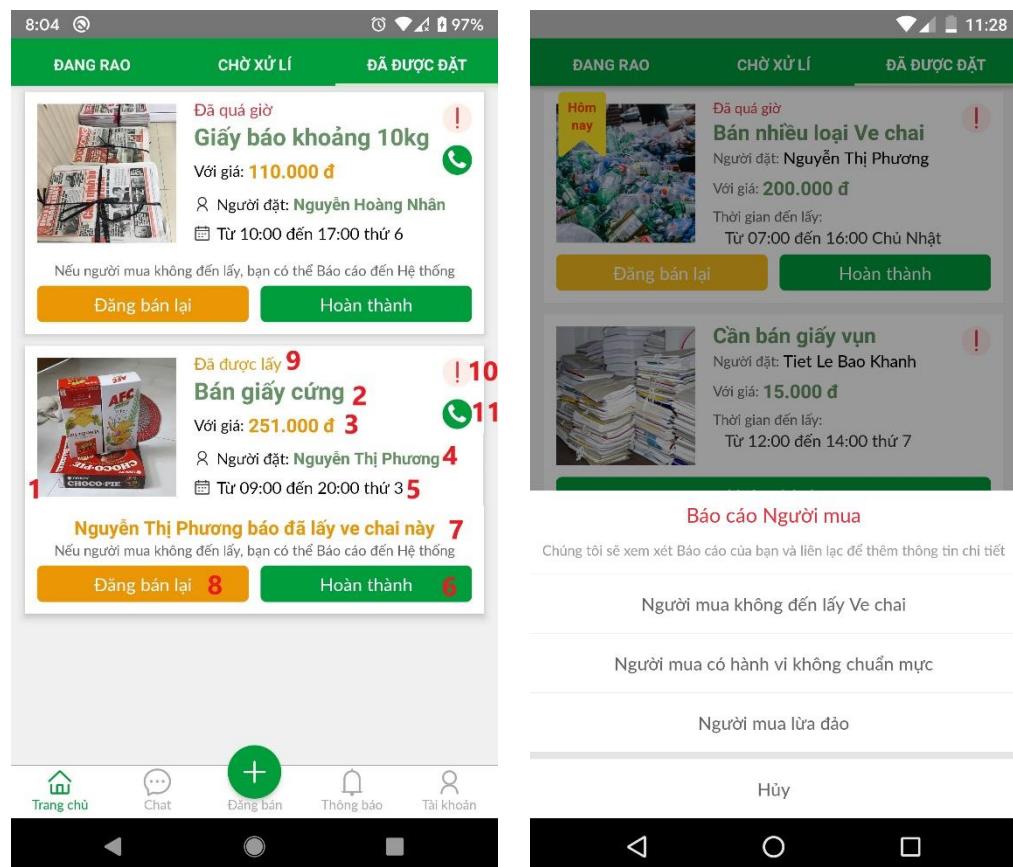


Figure 103 <Homeowner> Home accepted booking screen

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Scrap image	Image of scrap	Yes	No	Image	Image
2	Scrap title	Title of scrap	Yes	No	Text	String

3	"Với giá"	Price at which Collector wants to buy scrap	Yes	No	Text	Number
4	"Người đặt"	Name of Collector of that booking	Yes	No	Text	String
5	"Thời gian đến lấy"	Time at which Collector comes to pick up scrap	Yes	No	Text	String
7	Description	Announcement that Collector has picked up scrap	Yes	No	Text	String
9	Label	Label for marking that Collector has picked up scrap	Yes	No	Text	String

Table 104 <Fields> Homeowner home - accepted booking screen

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
6	Accomplish scrap	Finish selling scrap	N/A	System shows result message
8	Resell scrap	Post scrap for selling again	N/A	System shows result message
10	Report	Send report about Collector to system	N/A	Open report menu to choose report content
11	Call	Contact the Collector by phone	N/A	System calls the Collector

Table 105 <Buttons/Hyperlinks> Homeowner home - accepted booking screen

5.1.17 <Homeowner> Review Collector

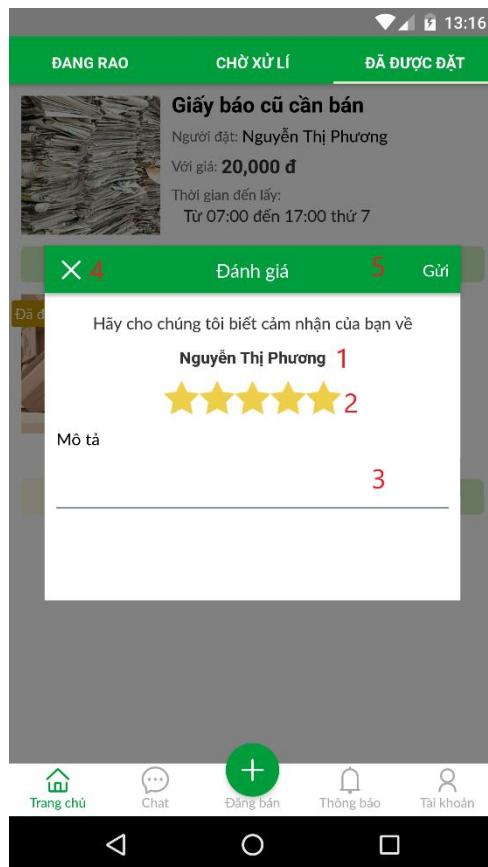


Figure 104 <Homeowner> Review Collector

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Collector name	Name of Collector to make review	Yes	Yes	Text	String
2	Review star	Star that Homeowner reviews Collector	No	Yes	Star Rating	number
3	Review description	Review description from Homeowner to Collector	No	No	Text	String

Table 106 <Fields> Homeowner review Collector

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
4	Close Review modal	Close review modal.	N/A	Review modal is closed
5	Send review	Send review to Collector	N/A	Review is sent and system show result message

Table 107 <Buttons/Hyperlinks> Homeowner review Collector

5.1.18 <Homeowner> View sold scraps

Figure 105 <Homeowner> View sold scraps

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Scrap image	Image of scrap	Yes	No	Image	Image
2	Scrap title	Title of scrap	Yes	No	Text	String
3	Category and quantity	Category of scrap and quantity of scrap	Yes	No	Text	String
4	Sold time	The time when scrap is sold	Yes	No	Text	Date time
5	Collector name	Name of collector that bought this scrap	Yes	No	Text	String
6	Scrap price	Price of scrap	Yes	No	Text	Number
7	Collector name	Name of collector that bought this scrap	Yes	No	Text	String
8	Review star	Number of star of review	Yes	No	Text	Number
9	Review description	Description of review	Yes	No	Text	String

Table 108 <Fields> Homeowner view sold scraps

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
10	Go back	Go back to previous screen	N/A	Transfer to previous screen

11	Contact Collector	Call the collector	N/A	System call the collector
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Table 109 <Buttons/Hyperlinks> Homeowner view sold scraps

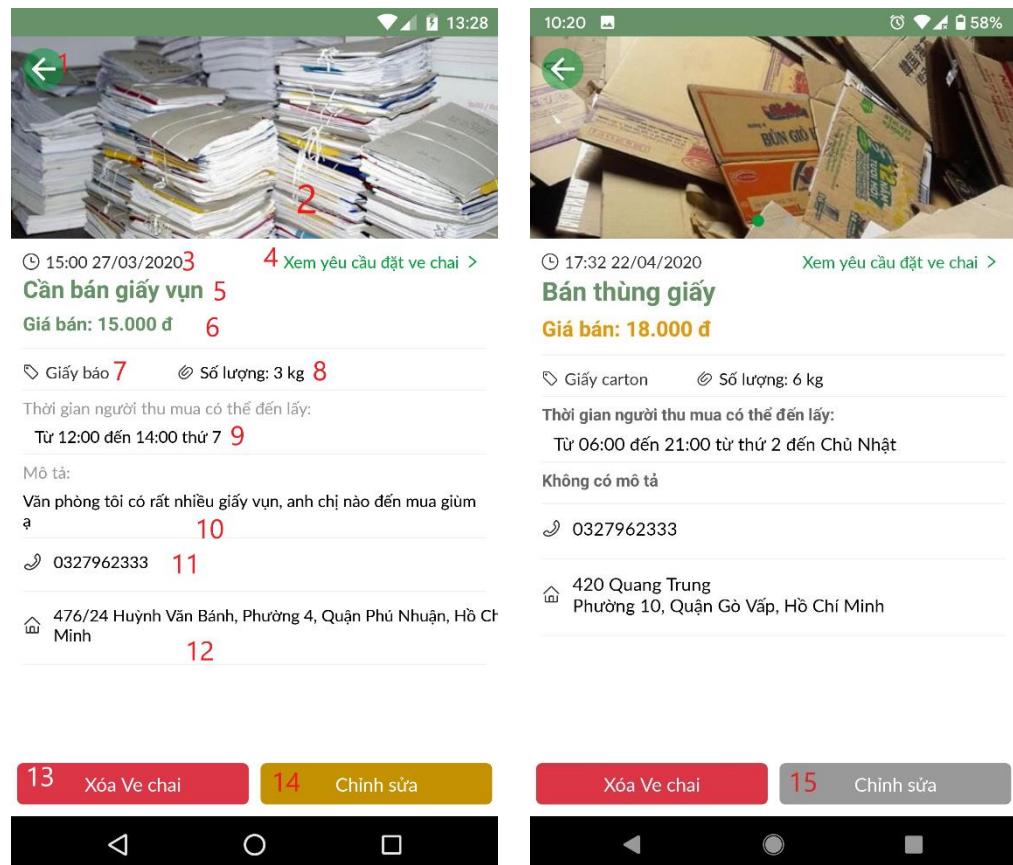
5.1.19 <Homeowner> View scrap detail

Figure 106 <Homeowner> View scrap detail

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Scrap image	Image of scrap	Yes	No	Image	Image
3	Scrap created time	Created time of scrap	Yes	No	Text	Date time
5	Scrap title	Title of scrap	Yes	No	Text	String

6	Scrap price	Price of scrap	Yes	No	Text	Number
7	Category	Category of scrap	Yes	No	Text	String
8	Quantity	Quantity of scrap	Yes	No	Text	Number
9	Available time	Time that Collector can come to pick up scrap	Yes	No	Text	String
10	Scrap description	Description of scrap	Yes	No	Text	String
11	Scrap contact number	Contact number of that scrap	Yes	No	Text	String
12	Scrap address	Address of that scrap	Yes	No	Text	String

Table 110 <Fields> Homeowner view scrap detail

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to previous screen	N/A	Transfer to previous screen
4	View all booking request of that scrap	View all bookings belongs to that scrap	N/A	Transfer to waiting booking screen
13	Delete scrap	Delete scrap	N/A	Open Confirmation modal to confirm deleting scrap
14	Update scrap	Update scrap	N/A	Transfer to update scrap screen

15	Update scrap	If the scrap has booking request, the Update Scrap button is disable	N/A	Do nothing
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Table 111 <Buttons/Hyperlinks> Homeowner view scrap detail

5.1.20 <Homeowner> Update scrap information

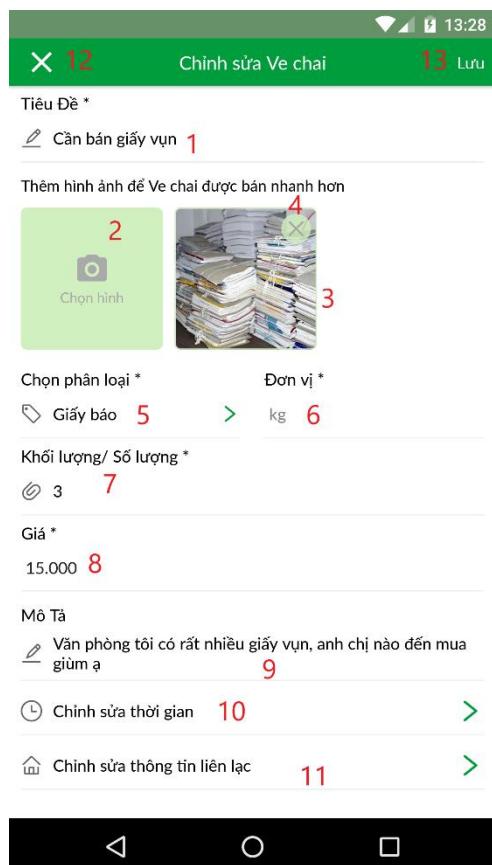


Figure 107 <Homeowner> Update scrap information

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Tiêu đề	Title of scrap	No	Yes	TextInput	String
3	Hình ảnh	Image of scrap	Yes	Yes	Image	String
6	Đơn vị	Unit of scrap	No	Yes	TextInput	String

7	Khối lượng/ Số lượng	Mass or Quantity of scrap	No	Yes	TextInput	Number
8	Giá	Price of scrap	No	Yes	TextInput	Number
9	Mô tả	Description for scrap	No	No	TextInput	String

Table 112 <Fields> Homeowner update scrap information

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
12	Cancel updating scrap	Cancel updating scrap and go back to previous screen	N/A	Transfer to Scrap detail screen
2	Chọn hình	Choose scrap image	N/A	Open device image gallery or open camera for getting image
4	Delete image	Delete image	N/A	Delete that image
5	Chọn phân loại	Choose category of scrap	N/A	Open Choose Category screen for Homeowner to choose category
10	Chỉnh sửa thời gian	Go to update available time screen	N/A	Transfer to update available time screen
11	Chỉnh sửa thông tin liên lạc	Go to update contact information screen	N/A	Transfer to update contact information screen
13	Lưu	Save changes	All required fields are inputted	System shows result message

			and validated	
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Table 113 <Buttons/Hyperlinks> Homeowner update scrap information

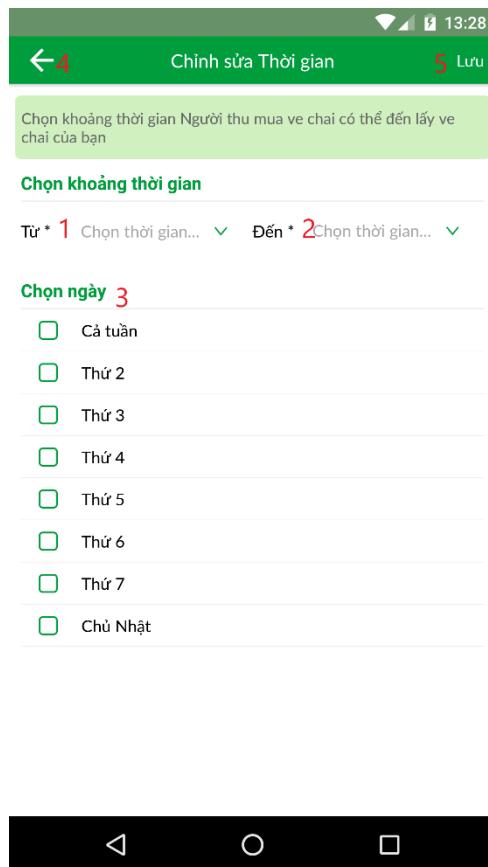
5.1.21 <Homeowner> Update scrap available time

Figure 108 <Homeowner> Update scrap available time

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Chọn thời gian “Từ”	Choose from time	N/A	Open Select box to choose time
2	Chọn thời gian “Đến”	Choose to time	User has chosen from time	Open Select box to choose time
3	Chọn ngày	Choose day of week	N/A	Select day of week

4	Go back	Go to previous screen	N/A	Go to previous screen
5	Lưu	Save changes	All required fields are inputted and validated	System shows result message

Table 114 <Buttons/Hyperlinks> Homeowner - Update scrap available time

5.1.22 <Homeowner> Update scrap contact information

The screenshot shows a mobile application interface for updating contact information. At the top, there's a navigation bar with a back arrow (labeled 6), the title 'Chỉnh sửa Thông tin liên lạc', and a save button (labeled 7). Below the title, there are four address fields: a phone number field (0327962333) with a red '1' error indicator, an address field ('476/24 Huỳnh Văn Bánh') with a red '2' error indicator, a province field ('Hồ Chí Minh') with a red '3' error indicator, and a district field ('Quận Phú Nhuận') with a red '4' error indicator. Each of these fields has a green right-pointing arrow button to its right. Below these fields is a ward field ('Phường 4') with a red '5' error indicator and another green right-pointing arrow button. At the bottom of the screen are standard Android navigation icons: a back arrow, a circle, and a square.

Figure 109 <Homeowner> Update scrap contact information

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Số điện thoại	Contact number of scrap	No	Yes	TextInput	Number

2	Địa chỉ cụ thể	Detail address: home number, building name, street name	No	Yes	TextInput	String
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Table 115 <Fields> Homeowner - Update scrap contact information

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
3	Chọn Tỉnh/ Thành phố	Choose Province/City	N/A	Open choose Province screen
4	Chọn Quận/ Huyện	Choose District	Province has been chosen	Open choose District screen
5	Chọn Phường/ Xã	Choose Ward	Ward has been chosen	Open choose Ward screen
6	Go back	Go to previous screen	N/A	Go to previous screen
7	Lưu	Save changes	All required fields are inputted and validated	System shows result message

Table 116 <Buttons/Hyperlinks> Homeowner update scraps contact information

5.1.23 <Collector> Bottom Tab bar

Figure 110 Choose Address

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
<hr/>				

1	Trang chủ	Go to Home screen	N/A	Transfer to Home screen
2	Chat	Go to Chat screen	N/A	Transfer to Chat screen
3	Lịch trình	Go to Schedule screen	N/A	Transfer to Schedule screen
4	Thông báo	Go to Notification screen	N/A	Transfer to Notification screen
5	Tài khoản	Go to Profile screen	N/A	Transfer to Profile screen

Table 117 <Buttons/Hyperlinks> Collector bottom tab bar

5.1.24 <Collector> Home screen

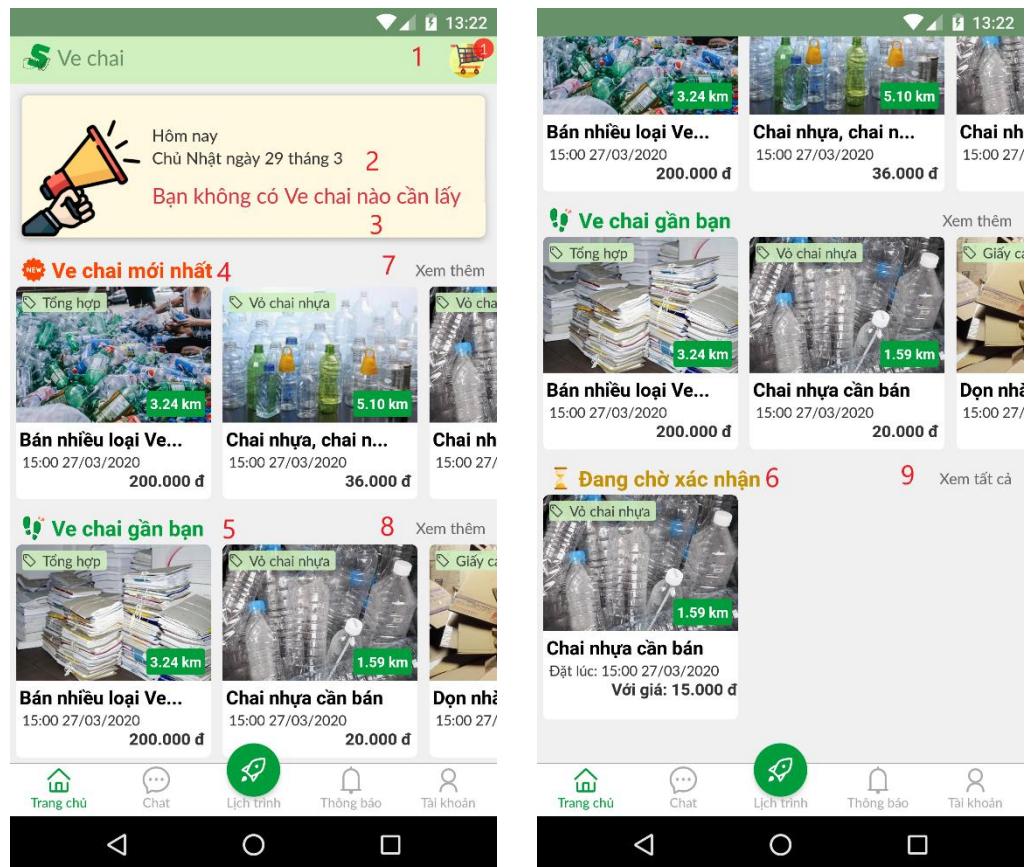


Figure 111 <Collector> Home screen

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Today's date	Today notification	Yes	No	Text	String
3	Schedule Notification	Today's schedule notification	Yes	No	Text	String
4	Ve chai mới nhất	Latest scrap title	Yes	No	Text	String
5	Ve chai gần bạn	Nearby scrap title	Yes	No	Text	String
7	Đang chờ xác nhận	Waiting booking title	Yes	No	Text	String

Table 118 <Fields> Collector Home screen

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	View all waiting bookings	View all waiting bookings	N/A	Transfer to View all waiting booking screen
7	View more latest scrap	View more latest scrap	N/A	Transfer to View more latest scrap screen
8	View more nearby scrap	View more nearby scrap	N/A	Transfer to View more nearby scrap screen
9	View all waiting bookings	View all waiting bookings	N/A	Transfer to View all waiting booking screen

Table 119 <Buttons/Hyperlinks> Collector Home screen

5.1.25 <Collector> View more latest scrap

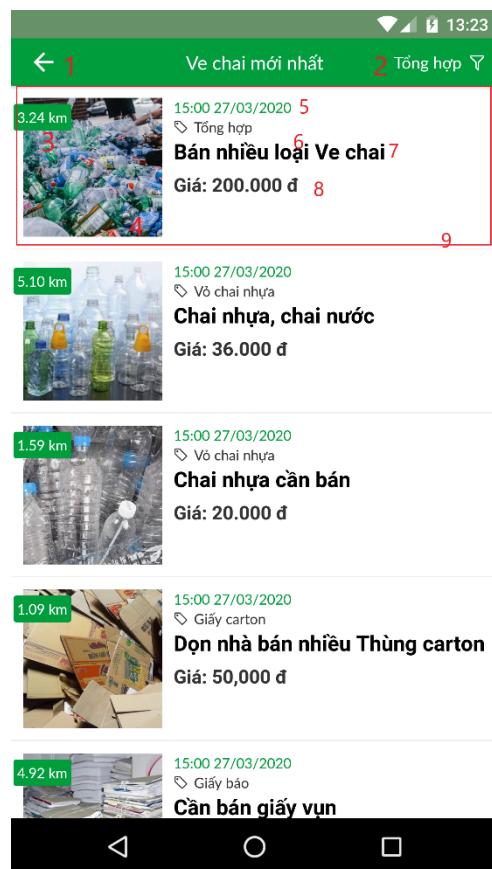


Figure 112 <Collector> View more latest scrap

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
3	Distance	Distance between user's current location to scrap's location	Yes	Yes	Text	Number
4	Scrap image	Image of scrap	Yes	Yes	Image	image
5	Scrap's posted time	Time of posting scrap	Yes	Yes	Text	datetime
6	Scrap category	Category of scrap	Yes	Yes	Text	String

7	Scrap title	Title of scrap	Yes	Yes	Text	String
8	Scrap price	Price of scrap	Yes	Yes	Text	Number

Table 120 <Fields> Collector View more latest scrap

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to previous screen	N/A	Transfer to previous screen
2	Filter scrap by category	Filter scrap by category	N/A	Transfer to choose category screen
9	View scrap detail	View scrap detail	N/A	Transfer to scrap detail screen

Table 121 <Buttons/Hyperlinks> Collector View more latest scrap

5.1.26 <Collector> View more nearby scrap



Figure 113 <Collector> View more nearby scrap

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
4	Distance	Distance between user's current location to scrap's location	Yes	Yes	Text	Number
5	Scrap image	Image of scrap	Yes	Yes	Image	image
6	Scrap's posted time	Time of posting scrap	Yes	Yes	Text	Date time
7	Scrap category	Category of scrap	Yes	Yes	Text	String

8	Scrap title	Title of scrap	Yes	Yes	Text	String
9	Scrap price	Price of scrap	Yes	Yes	Text	Number

Table 122 <Fields> Collector View more nearby scrap

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to previous screen	N/A	Transfer to previous screen
2	Filter scrap by category	Filter scrap by category	N/A	Transfer to choose category screen
3	Filter scrap by distance	Filter scrap by distance	N/A	Open distance selector
10	View scrap detail	View scrap detail	N/A	Transfer to scrap detail screen

Table 123 <Buttons/Hyperlinks> Collector View more nearby scrap

5.1.27 <Collector> View scrap detail

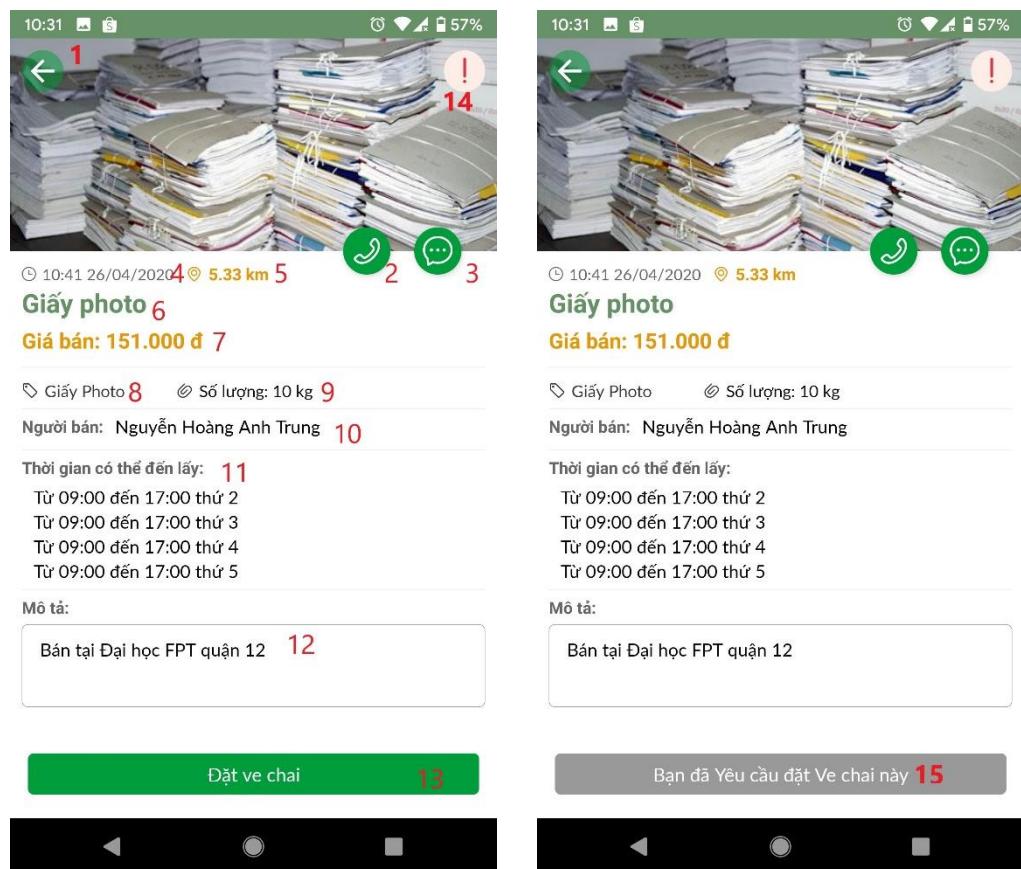


Figure 114 <Collector>View scrap detail

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
4	Scrap created time	Created time of scrap	Yes	No	Text	Date time
5	Distance	Distance between user's current distance to scrap's distance	Yes	No	Text	Number
6	Scrap title	Title of scrap	Yes	No	Text	String
7	Scrap price	Price of scrap	Yes	No	Text	Number

8	Category	Category of scrap	Yes	No	Text	String
9	Quantity	Quantity of scrap	Yes	No	Text	Number
10	Seller's name	The name of the Homeowner of this scrap	Yes	No	Text	String
11	Available time	Time that Collector can come to pick up scrap	Yes	No	Text	String
12	Scrap description	Description of scrap	Yes	No	Text	String

Table 124 <Fields> Collector View scrap detail

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to previous screen	N/A	Transfer to previous screen
2	Call	Call the seller	N/A	Transfer to call screen
3	Chat	Chat with the seller	N/A	Transfer to Chat screen
13	Book scrap	Send booking request	N/A	Transfer to booking screen
14	Report scrap	Send report about that scrap to system	N/A	Open report menu to choose report content
15	Book scrap	If the collector has booked this scrap, the Book scrap button is disabled	N/A	Do nothing

Table 125 <Buttons/Hyperlinks> Collector View scrap detail

5.1.28 <Collector> Report scrap



Figure 115 <Collector>Report scrap

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Title	Title of report scrap	Yes	No	Text	String

Table 126 <Fields> Collector Report scrap

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
2	Choose report content	Let user choose report content	N/A	Report is created

3	Cancel report	Cancel report	N/A	System closes report options
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Table 127 <Buttons/Hyperlinks> Collector Report scrap

5.1.29 <Collector> Book scrap

Figure 116 <Collector> Book scrap

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Giá	Price at which Collector wants to buy scrap	No	Yes	TextInput	Number
4	Ghi chú	Note from Collector to Homeowner	No	No	TextInput	String

Table 128 <Fields> Collector Book scrap

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to previous screen	N/A	Transfer to previous screen
3	Choose time	Choose time to come to pick up scrap	N/A	The selected time is marked as selected
5	Cancel booking	Cancel booking	N/A	Transfer to previous screen
6	Book scrap	Send booking request to Homeowner	All required fields are inputted	System shows result message

Table 129 <Buttons/Hyperlinks> Collector Book scrap

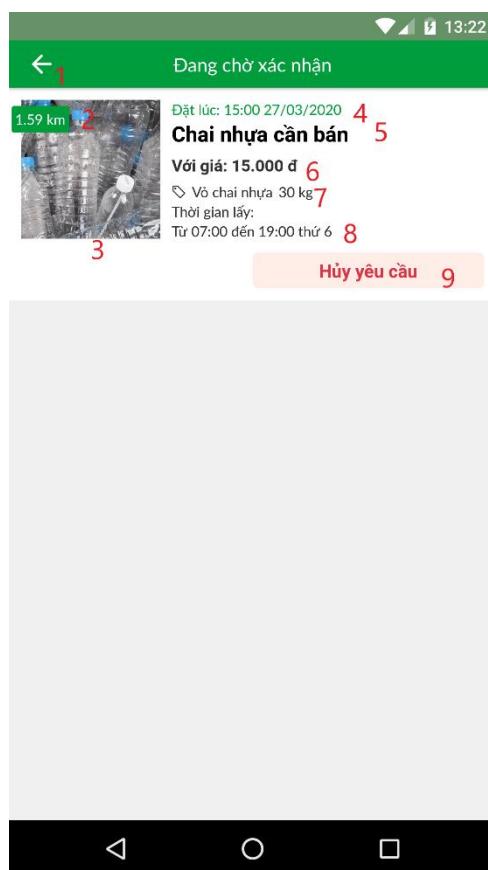
5.1.30 <Collector> View all waiting booking

Figure 117 <Collector> View all booking screen

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Distance	Distance from user's current location to scrap's location	Yes	Yes	Text	Number
3	Scrap image	Image of scrap	Yes	Yes	Image	image
4	Time of booking	Time of sending booking	Yes	No	Text	datetime
5	Scrap title	Title of scrap	Yes	No	Text	String
6	Booking price	Price of booking	Yes	No	Text	Number
7	Category and quantity of scrap	Category and quantity of scrap	Yes	No	Text	String
8	Time	Time to come to pick up scrap	Yes	No	Text	String

Table 130 <Fields> Collector View all waiting booking

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
6	Go back	Go to previous screen	N/A	Go to previous screen
9	Cancel booking request	Cancel booking request	N/A	Booking request is canceled

Table 131 <Buttons/Hyperlinks> Collector View all waiting booking

5.1.31 <Collector> View booking detail



Figure 118 <Collector> View booking detail

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
4	Distance	Distance between user's current distance to scrap's distance	Yes	No	Text	Number
5	Booking created time	Created time of booking	Yes	No	Text	datetime
6	Scrap title	Title of scrap	Yes	No	Text	String
7	Category	Category of scrap	Yes	No	Text	String

8	Quantity	Quantity of scrap	Yes	No	Text	Number
9	Booking price	Price that Collector book	Yes	No	Text	Number
10	Available time	Time that Collector can come to pick up scrap	Yes	No	Text	String
11	Scrap description	Description of scrap	Yes	No	Text	String

Table 132 <Fields> Collector View booking detail

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to previous screen	N/A	Transfer to previous screen
2	Call	Call the seller	N/A	Transfer to call screen
3	Chat	Chat with the seller	N/A	Transfer to Chat screen
12	Cancel booking	Cancel booking request	N/A	Booking request is canceled
13	Update booking	Update booking information	N/A	Transfer to Update booking screen

Table 133 <Buttons/Hyperlinks> Collector View booking detail

5.1.32 <Collector> Update booking

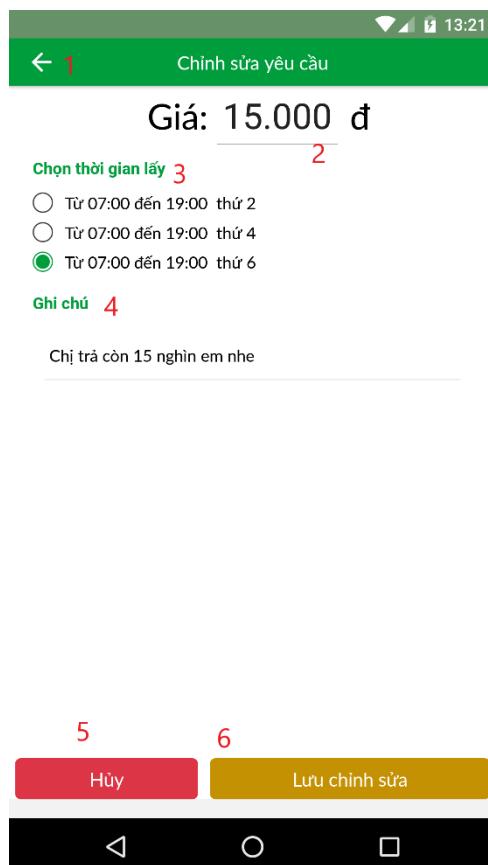


Figure 119 <Collector> Update booking

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Giá	Price at which Collector wants to buy scrap	No	Yes	TextInput	Number
4	Ghi chú	Note from Collector to Homeowner	No	No	TextInput	String

Table 134 <Fields> Collector Update booking

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome

1	Go back	Go back to previous screen	N/A	Transfer to previous screen
3	Choose time	Choose time to come to pick up scrap	N/A	The selected time is marked as selected
5	Cancel updating booking	Cancel updating booking	N/A	Transfer to previous screen
6	Save changes	Update booking information	All required fields are inputted	System shows result message

Table 135 <Buttons/Hyperlinks> Collector Update booking

5.1.33 <Collector> View schedule to pick up scrap

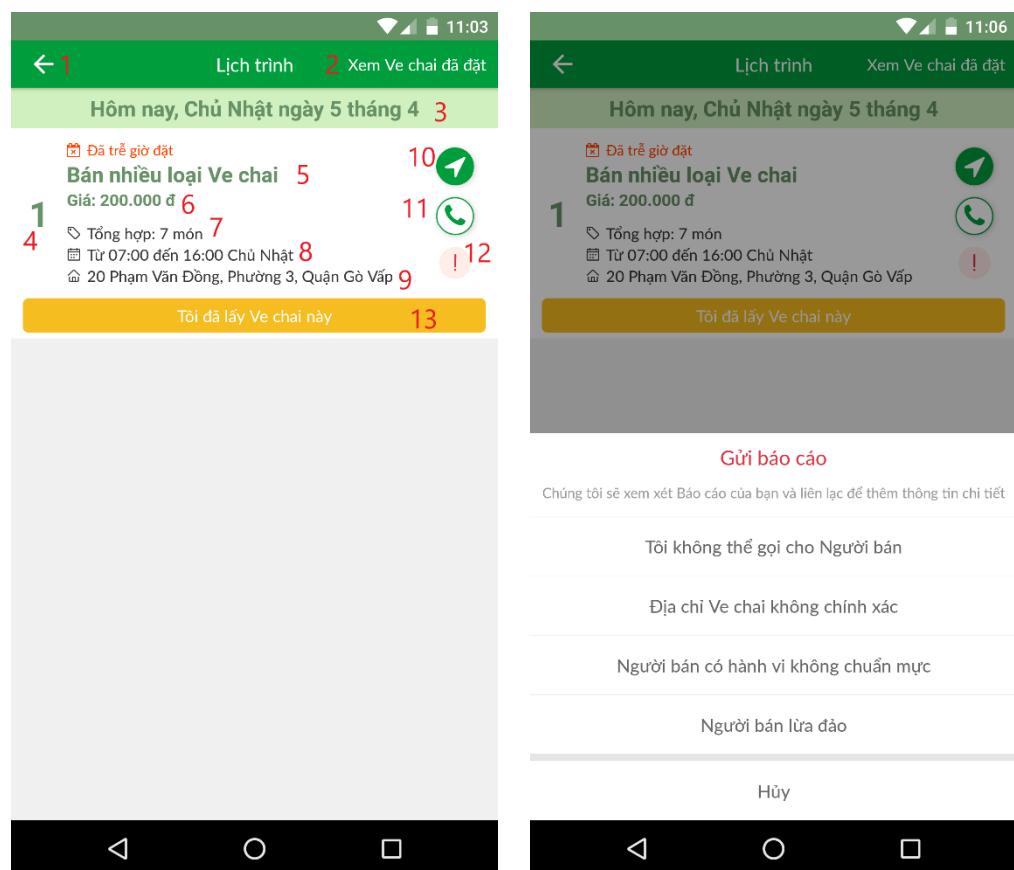


Figure 120 <Collector> View schedule to pick up scrap

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
3	Today's date	Notification today's date	Yes	Yes	Text	String
4	Index of scrap	The index of scrap in today's scrap list	Yes	Yes	Text	Number
5	Scrap title	Title of scrap	Yes	No	Text	String
6	Booking price	Price of booking	Yes	No	Text	Number
7	Category and quantity of scrap	Category and quantity of scrap	Yes	No	Text	String
8	Time	Time to come to pick up scrap	Yes	No	Text	String
9	Scrap's address	Address to come to pick up scrap	Yes	No	Text	String

Table 136 <Fields> View schedule to pick up scrap

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go back to previous screen	N/A	Transfer to previous screen
2	View all accepted bookings	View all bookings that are accepted	N/A	Transfer to View all accepted bookings screen
10	Get direction	Get direction from current location to scrap's location	N/A	Transfer to Direction screen

11	Call the seller	Call the seller of that scrap	N/A	Transfer to Call screen
12	Report problem	Send report to System	N/A	Open report menu
13	Pick up Scrap	Change the status of the booking to "PICKED"	N/A	Open pickup confirm dialog

Table 137 <Buttons/Hyperlinks> View schedule to pick up scrap

5.1.34 <Collector> View accepted booking

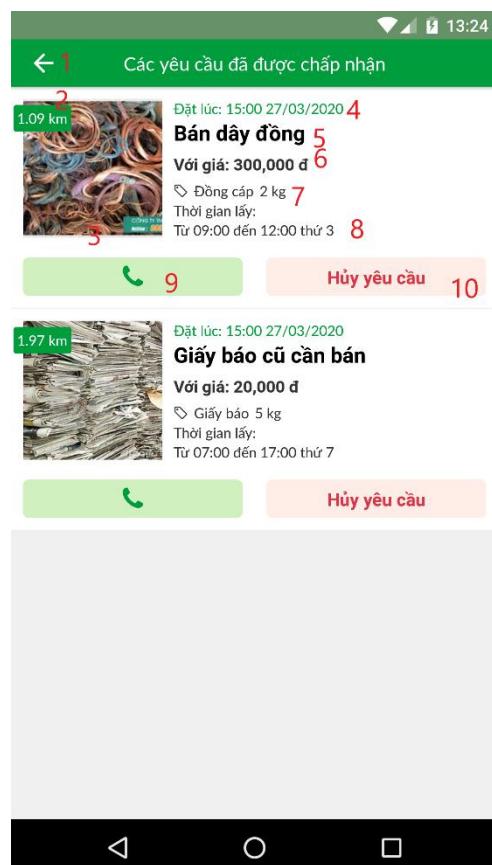


Figure 121 <Collector> View accepted booking

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Distance	Distance from user's current	Yes	Yes	Text	Number

		location to scrap's location				
3	Scrap image	Image of scrap	Yes	Yes	Image	image
4	Time of booking	Time of sending booking	Yes	No	Text	Date time
5	Scrap title	Title of scrap	Yes	No	Text	String
6	Booking price	Price of booking	Yes	No	Text	Number
7	Category and quantity of scrap	Category and quantity of scrap	Yes	No	Text	String
8	Time	Time to come to pick up scrap	Yes	No	Text	String

Table 138 <Fields> Collector View accepted booking

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
6	Go back	Go to previous screen	N/A	Go to previous screen
9	Call the seller	Call the seller of that scrap	N/A	Transfer to Call screen
10	Cancel booking request	Cancel booking request	N/A	Booking request is canceled

Table 139 <Buttons/Hyperlinks> Collector View accepted booking

5.1.35 <Collector> View direction

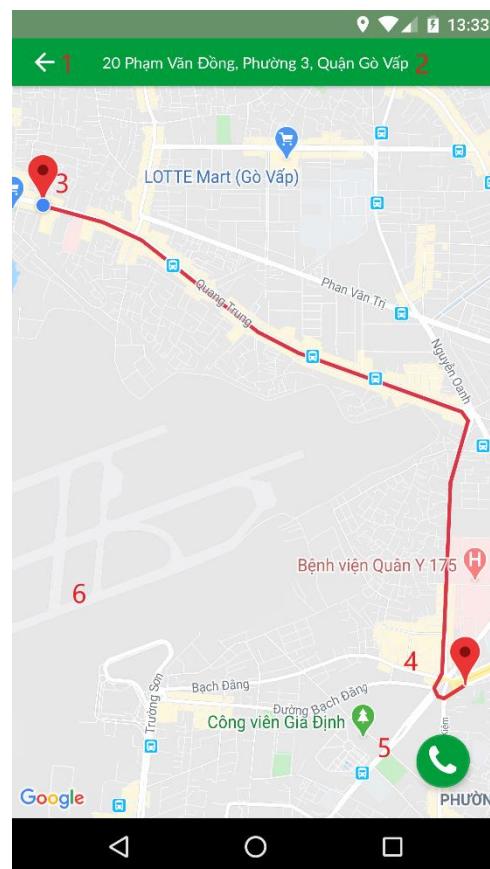


Figure 122 <Collector> View direction

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Scrap's address	Address to come to pick up scrap	Yes	No	Text	String
3	Current's location	User's current location	No	No	Map Marker	Object
4	Scrap's location	Scrap's location	No	No	Map Marker	Object
6	Map	The Map View	No	No	Map View	Object

Table 140 <Fields> Collector View direction

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go to previous screen	N/A	Go to previous screen
5	Call the seller	Call the seller of that scrap	N/A	Transfer to Call screen

Table 141 <Buttons/Hyperlinks> Collector View direction

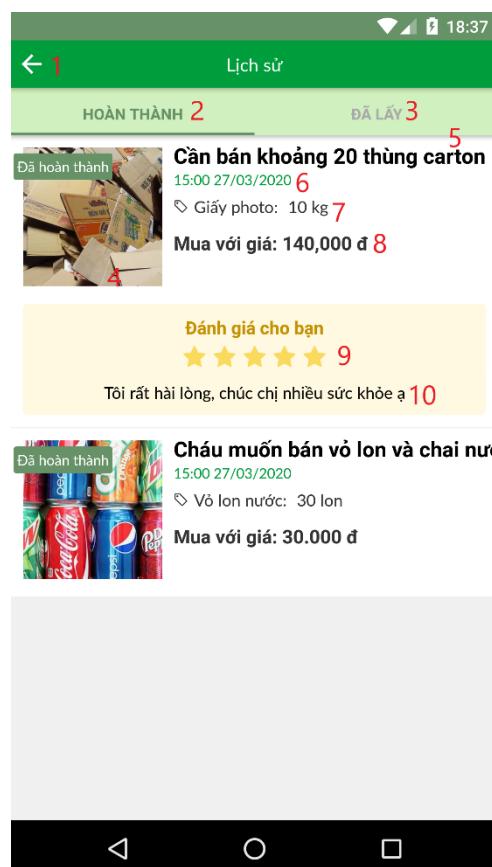
5.1.36 <Collector> View history booking

Figure 123 <Collector> View history booking

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
4	Scrap image	Image of scrap	Yes	No	Image	Image

5	Scrap title	Title of scrap	Yes	No	Text	String
6	Booking time	Created time of booking	Yes	No	Text	Date time
7	Category and quantity	Category of scrap and quantity of scrap	Yes	No	Text	String
8	Scrap price	Price at which you bought scrap	Yes	No	Text	Number
9	Review star	Number of star of review	Yes	No	Text	Number
10	Review description	Description of review	Yes	No	Text	String

Table 142 <Fields> Collector View history booking

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go to previous screen	N/A	Go to previous screen
2	Go to View history booking tab	Go to View history booking tab	N/A	Transfer to View history booking screen
3	Go to View picked scrap tab	Go to View picked scrap tab	N/A	Transfer to View picked scrap screen

Table 143 <Buttons/Hyperlinks> Collector View history booking

5.1.37 <Collector> View picked scrap

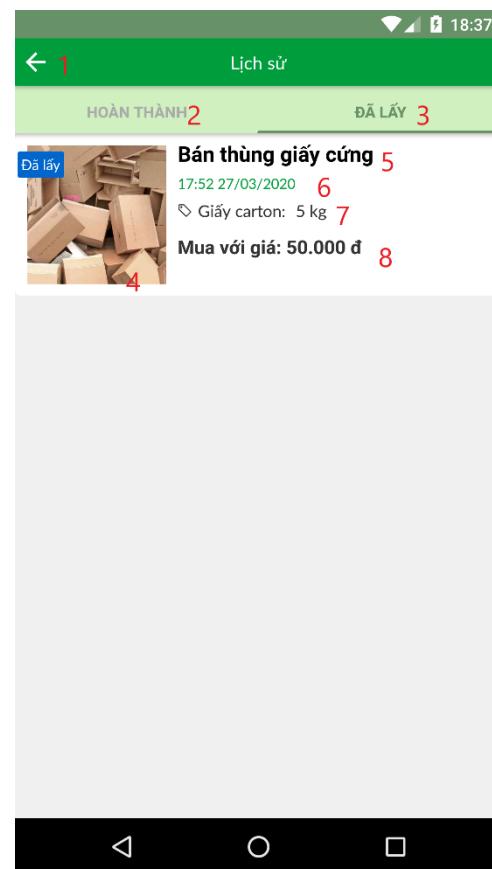


Figure 124 <Collector> View picked scrap screen

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
4	Scrap image	Image of scrap	Yes	No	Image	Image
5	Scrap title	Title of scrap	Yes	No	Text	String
6	Booking time	Created time of booking	Yes	No	Text	Date time
7	Category and quantity	Category of scrap and quantity of scrap	Yes	No	Text	String
8	Scrap price	Price at which you bought scrap	Yes	No	Text	Number

Table 144 <Fields> Collector View picked scrap screen

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go back	Go to previous screen	N/A	Go to previous screen
2	Go to View history booking tab	Go to View history booking tab	N/A	Transfer to View history booking screen
3	Go to View picked scrap tab	Go to View picked scrap tab	N/A	Transfer to View picked scrap screen

Table 145 <Buttons/Hyperlinks> Collector View picked scrap screen

5.2 Web Application**5.2.1 Login**

The image shows a login form titled "Scrap Collector Login". It contains three fields: "Username" (containing '1'), "Password" (containing '2'), and a "Login" button (containing '3').

Figure 125 Login

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Username	Username to login	No	Yes	TextInput	String
2	Password	Password to login	No	Yes	TextInput	String

Table 146 <Fields> Login

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
3	Login	Login into the system	Required	Transfer to Dashboard screen

Table 147 <Buttons/Hyperlinks> Login

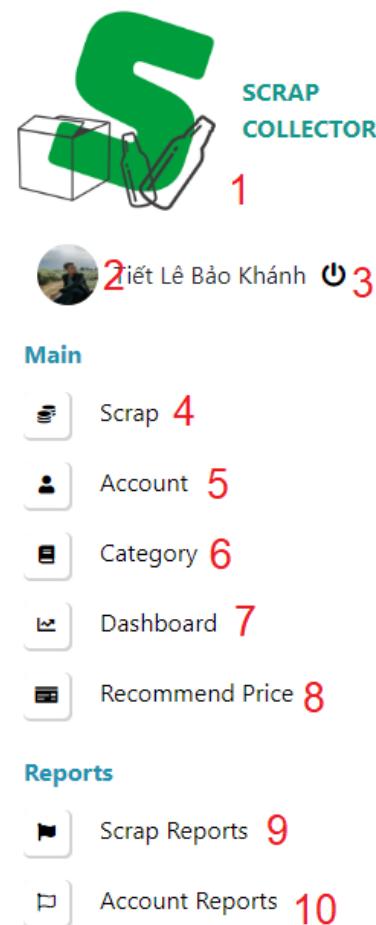
5.2.2 Home side bar

Figure 126 Home side bar

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type

2	User's full name	Name of current user	Yes	Yes	Text	String
---	------------------	----------------------	-----	-----	------	--------

Table 148 <Fields> Home side bar

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Go to Dashboard	Go to Dashboard	N/A	Transfer to Dashboard page
3	Logout	Clear session of current user and logout	N/A	Transfer to Login page
4	Go to Scrap page	Go to Scrap page	N/A	Transfer to Scrap page
5	Go to Account page	Go to Account page	N/A	Transfer to Account page
6	Go to Category page	Go to Category page	N/A	Transfer to Category page
7	Go to Dashboard	Go to Dashboard	N/A	Transfer to Dashboard page
8	Go to recommend price	Go to recommend price	N/A	Transfer to Recommend price page
9	Go to Scrap Reports page	Go to Scrap Reports page	N/A	Transfer to Scraps Reports page
10	Go to Account Reports page	Go to Account Reports page	N/A	Transfer to Account Reports page

Table 149 <Buttons/Hyperlinks> Home side bar

5.2.3 Category page

Categories					New Category	1
Name	Unit	Status	Actions			
Tổng hợp 2	món 3	Active 4				
Sát đặc	kg	Active				
Sát vụn	kg	Active				
Giấy photo	kg	Active				
Vỏ lon nước	lon	Active				

Figure 127 Category page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
2	Name	Category name	Yes	Yes	Text	String
3	Unit	Category unit	Yes	Yes	Text	String
4	Status	Category's status	Yes	Yes	Text	String

Table 150 <Fields> Category page

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
1	Add category	Add new category	N/A	Open modal to add category
5	View category detail	View category detail	N/A	Transfer to Category detail page
6	Edit category	Edit category information	N/A	Open modal to edit category
7	Deactivate category	Deactivate category	N/A	Open modal to deactivate category

Table 151 <Buttons/Hyperlinks> Category page

5.2.4 Category Detail page

The screenshot shows a web-based application interface for managing scrap items. At the top, it displays the category name "Category: Giấy photo 1" and a unit count of "2 Unit: kg". Below this, there is a link "List scraps of category Giấy photo". A table lists two items:

Title	Price	Quantity	Category	Status	Actions
Thanh lí tất cả 3	4 150000	5 10	6 Giấy photo	7 SELLING	8
Giấy học sinh cuối học kì CORO	72.000	5	Giấy photo	SELLING	

Figure 128 Category Detail page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Category	Category name	Yes	Yes	Text	String
2	Unit	Category unit	Yes	Yes	Text	String
3	Title	Scrap title	Yes	Yes	Text	String
4	Price	Scrap price	Yes	Yes	Text	Number
5	Quantity	Quantity of scrap	Yes	Yes	Text	Number
6	Category	Category of scrap	Yes	Yes	Text	String
7	Status	Scrap's status	Yes	Yes	Text	String

Table 152 <Fields> Category Detail page

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
8	View scrap detail	View scrap detail information	N/A	Transfer to Scrap detail page

Table 153 <Buttons/Hyperlinks> Category Detail page

5.2.5 Add category page

Add New Category

Name:

Unit:

3

Add

Figure 129 Add new category page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Category name	Category name	No	Yes	TextInput	String
2	Unit	Category unit	No	Yes	TextInput	String

Table 154 <Fields> Add new category page

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
3	Add category	Add new category to the system	N/A	System adds category and shows result

Table 155 <Buttons/Hyperlinks> Add new category page

5.2.6 Account page

The screenshot shows a table of user accounts with columns: Name, Username, Phone, Role, and Actions. A red box labeled 1 highlights the first user's name. Another red box labeled 2 highlights the first user's username. A red box labeled 3 highlights the first user's phone number. A red box labeled 4 highlights the first user's role. A red box labeled 5 highlights the first user's actions button. Below the table, a navigation bar shows page 1 of 8, with red boxes 6, 7, and 8 highlighting the page numbers.

Account					Add New Admin 9
Name	Username	Phone	Role	Actions	Option
Trung Nguyen 1	TrungNHA_Admin_1 2 0973722454 3	ADMIN 4	5		Search by Role ALL 10
Trung Nguyen	TrungNHA_Admin	0973722454	ADMIN	6	Sort By LATEST ACCOUNT 11
Nhân	nhanAdmin	090222222	ADMIN	7	Search by Name Name 12
Nguyễn Hoàng Nhân	nhanCollector5	0345510437	COLLECTOR	8	Search by Phone Phone 13
Nguyễn Hoàng Nhân	nhanCollector4	0345510437	COLLECTOR	6	Date From Date 14
Nguyễn Hoàng Nhân	nhanCollector3	0345510437	COLLECTOR	7	15
Nguyễn Hoàng Nhân	nhanCollector2	0345510437	COLLECTOR	8	
Nguyễn Hoàng Nhân	nhanCollector1	0345510437	COLLECTOR	6	Apply

Previous 1 2 3 Next

Figure 130 Account page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Name	Name of user	Yes	Yes	Text	String
2	Username	Username of user	Yes	Yes	Text	String
3	Phone	Phone number of user	Yes	Yes	Text	String
4	Role	Role of user	Yes	Yes	Text	String
12	Search by Name	Key for search user by name	No	No	TextInput	String
13	Search by Phone	Key for search user by phone number	No	No	TextInput	String

Table 156 <Fields> Account page

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
5	View account	View account detail information	N/A	Transfer to Account detail screen
6	Go to previous table	Go to previous table	N/A	Go to previous table
7	Number of tables	Go to table in pagination	N/A	Go to table in pagination
8	Go to next table	Go to next table	N/A	Go to next table
9	Add new Admin	Add new Admin account to the system	N/A	Transfer to Add new Admin screen
10	Search by role	Choose role to filter user	N/A	Open drop box to choose role
11	Sort by created time	Sort list of users by latest or oldest	N/A	Open drop box to choose option
14	Search by Date	Choose date to filter user	N/A	Open calendar to choose date
15	Apply	Apply filter condition	N/A	System filter user by selected conditions

Table 157 <Buttons/Hyperlinks> Account page

5.2.7 Add new Admin page

Add New Admin

User Name: 7 Choose File No file chosen

Password:

Confirm Password:

Full Name:

Email:

Phone:

8 Add

Figure 131 Add new Admin page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Username of Admin	Username of new Admin	No	Yes	TextInput	String
2	Password	Password of new Admin	No	Yes	TextInput	String
3	Confirm password	Confirm password of new Admin	No	Yes	TextInput	String
4	Full name	Full name of new Admin	No	Yes	TextInput	String
5	Email	Email address of new Admin	No	Yes	TextInput	String
6	Phone	Phone number of new Admin	No	Yes	TextInput	String

Table 158 <Fields> Add new Admin page

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
7	Choose image	Choose avatar of new Admin	N/A	Open Image chooser to choose image
8	Add	Create new Admin	All required fields are inputted	System adds new Admin and shows result

Table 159 <Buttons/Hyperlinks> Add new Admin page

5.2.8 Scrap page

Scraps							
Title	Price	Quantity	Category	Status	Created Time	Actions	Options
Bán gấp số chai nhựa 1	240.000	2	10 3	Vỏ chai nhựa 4	SELLING 5	4/1/20, 3:53 PM 6	7
Bán gấp số lon và giấy cứng	200.000	2	Tổng hợp	SELLING	4/1/20, 3:46 PM		
Nồi cơm điện cũ	20.000	2	Sắt vụn	BOOKED	4/1/20, 1:51 PM		
Cần bán ít giấy vụn	116.000	10	Giấy báo	BOOKED	3/31/20, 8:05 PM		
Chai nhựa cần bán	20.000	30	Vỏ chai nhựa	BOOKED	3/27/20, 3:00 PM		
Cháu muốn bán vỏ lon và chai nước ngọt	30.000	30	Vỏ lon nước	SOLD	3/27/20, 3:00 PM		
Cần bán giấy vụn	15.000	3	Giấy báo	BOOKED	3/27/20, 3:00 PM		
Giấy học sinh cuối học kì	72.000	5	Giấy photo	BOOKED	3/27/20, 3:00 PM		

Category Filter: Tổng hợp 11

Status Filter: ALL 12

Sort By: LATEST SCRAPS 13

Search by Title: Scrap Title 14

Price (VND): From 15 To 16

Date: 17

Apply 18

8 Previous 9 2 10 Next

Figure 132 Scrap page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Title	Title of scrap	Yes	Yes	Text	String
2	Price	Price of scrap	Yes	Yes	Text	Number

3	Quantity	Mass or quantity of scrap	Yes	Yes	Text	Number
4	Category	Category name of scrap	Yes	Yes	Text	String
5	Status	Status of scrap	Yes	Yes	Text	String
6	Created time	Time of posting scrap	Yes	Yes	Text	Date time
14	Search by Title	Key for search user by name	No	No	TextInput	String
15	From price	Key for search scrap by price	No	No	TextInput	Number
16	To price	Key for search scrap by price	No	No	TextInput	Number

Table 160 <Fields> Scrap page

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
7	View scrap detail	View detail of scrap	N/A	Transfer to Scrap detail page
8	Go to previous table	Go to previous table	N/A	Go to previous table
9	Number of tables	Go to table in pagination	N/A	Go to table in pagination
10	Go to next table	Go to next table	N/A	Go to next table
11	Choose category	Choose category to filter scrap	N/A	Open dropdown to choose category

12	Choose status to filter	Choose status to filter scrap	N/A	Open dropdown to choose status
13	Sort by created time of scrap	Choose condition to sort scrap	N/A	Open dropdown to choose condition to sort scrap
17	Search by Date	Choose date to filter scrap	N/A	Open calendar to choose date
18	Apply	Apply filter condition	N/A	System filter user by selected conditions

Table 161 <Buttons/Hyperlinks> Scrap page

5.2.9 Scrap detail page

The screenshot shows a scrap detail page with the following elements:

- Product Image:** A bottle of Aquafina water labeled '1'.
- Title:** Bán gấp số chai nhựa '2'.
- Status:** Deactive (button '14').
- Selling Status:** SELLING (button '3').
- Price:** 240.000 '4'.
- Quantity:** 10 '5'.
- Category:** Vỏ chai nhựa '6'.
- Phone:** 0327962333 '7'.
- Address:** 17/1A Phường Nguyễn Cư Trinh Quận 1 Hồ Chí Minh '8'.
- Homeowner:** Nguyễn Thị Thanh Thủy '9'.
- Created Time:** Apr 1, 2020, 3:53:39 PM '10'.
- Description:** Chai nhựa nhiều kích cỡ khác nhau '11'.
- Images:** An image of the water bottles '12'.
- Available Time:**
 - Monday : 10:00 - 18:00 '13'
 - Tuesday : 10:00 - 18:00
 - Wednesday : 10:00 - 18:00
- Booking List:** 15

Collector Name	Price	Chosen Time	Status	Created Time
Nguyễn Hoàng Nhân '16'	200.000 '17'	10:00 - 18:00 '18'	WAITING '19'	Apr 2, 2020, 7:13:13 PM '20'
Nguyễn Hoàng Nhân	230.000	10:00 - 18:00	WAITING	Apr 2, 2020, 7:12:06 PM
Nguyễn Hoàng Nhân	240.000	10:00 - 18:00	WAITING	Apr 2, 2020, 7:14:05 PM
Nguyễn Thị Phương	210.000	10:00 - 18:00	REJECTED	Apr 1, 2020, 5:12:59 PM

Figure 133 Scrap detail page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Image	Image of scrap	Yes	Yes	Image	Image
2	Title	Title of scrap	Yes	Yes	Text	String
3	Status	Status of scrap	Yes	Yes	Text	String
4	Price	Price of scrap	Yes	Yes	Text	Number

5	Quantity	Quantity of scrap	Yes	Yes	Text	Number
6	Category	Category of scrap	Yes	Yes	Text	String
7	Phone	Contact number of scraps	Yes	Yes	Text	String
8	Address	Address of scrap	Yes	Yes	Text	String
9	Homeowner	Name of the homeowner who sell the scrap	Yes	Yes	Text	String
10	Created time	Time of posting scrap	Yes	Yes	Text	Date time
11	Description	Description of scrap	Yes	Yes	Text	String
12	Image list of scrap	All images of the scrap	Yes	Yes	Image	Image
13	Available time	Available time of scrap	Yes	Yes	Text	String
15	Booking list	All booking belongs to the scrap	Yes	Yes	Table	Object
16	Collector	Name of Collector who book that scrap	Yes	Yes	Text	String
17	Price	Price of booking	Yes	Yes	Text	Number
18	Chosen Time	Time to come to pick up scrap	Yes	Yes	Text	String
19	Status	Status of booking	Yes	Yes	Text	String

20	Created time	Time of booking	Yes	Yes	Text	String
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Table 162 <Fields> Scrap detail page

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
14	Deactivate	Deactivate scrap	N/A	Open deactivate scrap confirm dialog
21	Go to previous table	Go to previous table	N/A	Go to previous table
22	Number of tables	Go to table in pagination	N/A	Go to table in pagination
23	Go to next table	Go to next table	N/A	Go to next table

Table 163 <Buttons/Hyperlinks> Scrap detail page

5.2.10 Scrap Report page

Scrap Reports

Scrap Title	Report Details	Announcer	Created Time	Status	Actions	Options
Cần bán ít giấy vụn 1	Tôi không thể gọi cho Người bán 2	Nguyễn Thị Phương 3	4/2/20, 8:55 PM 4	WAITING 5	6 7	Status Filter: WAITING 11 Sort By: LATEST REPORTS 12 Date: From Date 13, To Date 14 <input style="background-color: #007bff; color: white; border: none; padding: 5px; margin-top: 5px;" type="button" value="Apply"/>
Bán gấp số chai nhựa	Hình ảnh không hợp lệ	Nguyễn Thị Phương	4/2/20, 8:53 PM	WAITING		

8 9 10
Previous 1 Next

Figure 134 Scrap Report page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
----	------------	-------------	-----------	-----------	--------------	-----------

1	Scrap title	Title of reported scrap	Yes	Yes	Text	String
2	Report detail	Content of report	Yes	Yes	Text	String
3	Annunciator	Name or collector who reported scrap	Yes	Yes	Text	String
4	Created Time	Time of creating scrap	Yes	Yes	Text	Date time
5	Status	Status of report	Yes	Yes	Text	String

Table 164 <Fields> Scrap Report page

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
6	View report detail	View report detail	N/A	Transfer to report detail screen
7	Resolve report	Change status of report to "RESOLVED"	N/A	System changes status of report to "RESOLVED"
8	Go to previous table	Go to previous table	N/A	Go to previous table
9	Number of table	Go to table in pagination	N/A	Go to table in pagination
10	Go to next table	Go to next table	N/A	Go to next table
11	Choose status to filter	Choose status to filter report	N/A	Open dropdown to choose status

12	Sort by created time of scrap	Choose condition to sort report	N/A	Open dropdown to choose condition to sort scrap
13	Search by Date	Choose from date to filter report	N/A	Open calendar to choose date
14	Search by Date	Choose to date to filter report	N/A	Open calendar to choose date
15	Apply	Apply filter condition	N/A	System filter user by selected conditions

Table 165 <Buttons/Hyperlinks> Scrap Report page

5.2.11 Account Report page

The screenshot shows a table of account reports with the following data:

Reported Account	Report Details	Annunciator	Created Time	Status	Actions
Tiet Le Bao Khanh 1	Người mua không đến lấy Ve chai 2	Nguyễn Thị Thanh Thủy 3	4/11/20, 1:58 PM	WAITING 4 5	6 7 8
Nguyễn Thị Phương	Người mua có hành vi không chuẩn mực	Nguyễn Thị Thanh Thủy	4/2/20, 8:46 PM	WAITING	9 10 11

On the right side, there are filter and sorting options:

- Options**: Status Filter (WAITING 12)
- Sort By**: LATEST REPORTS 13
- Date**: From Date 14, To Date 15
- Buttons**: Previous, Next, Apply (16)

Figure 134 Account Report page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type
1	Reported Account	Name person being reported.	Yes	Yes	Text	String
2	Report details	Content of report	Yes	Yes	Text	String

3	Annunciator	Name or collector who reported scrap	Yes	Yes	Text	String
4	Created Time	Time of creating scrap	Yes	Yes	Text	Date time
5	Status	Status of report	Yes	Yes	Text	String

Table 165 <Fields> Account Report page

Buttons/Hyperlinks:

No	Function	Description	Validation	Outcome
6	View account detail	View account detail	N/A	Transfer to account detail screen
7	Send warning	Send warning to account	N/A	System send notification warning to account.
8	Resolve report	Change status of report to "RESOLVED"	N/A	System changes status of report to "RESOLVED"
9	Go to previous table	Go to previous table	N/A	Go to previous table
10	Number of tables	Go to table in pagination	N/A	Go to table in pagination
11	Go to next table	Go to next table	N/A	Go to next table
12	Choose status to filter	Choose status to filter report	N/A	Open dropdown to choose status
13	Sort by created	Choose condition to sort report	N/A	Open dropdown to choose condition to sort scrap

	time of scrap			
14	Search by Date	Choose from date to filter report	N/A	Open calendar to choose date
15	Search by Date	Choose to date to filter report	N/A	Open calendar to choose date
16	Apply	Apply filter condition	N/A	System filter user by selected conditions

Table 166 <Buttons/Hyperlinks> Account Report page

6. Database Design

6.1 Entity relationship diagram (ERD)

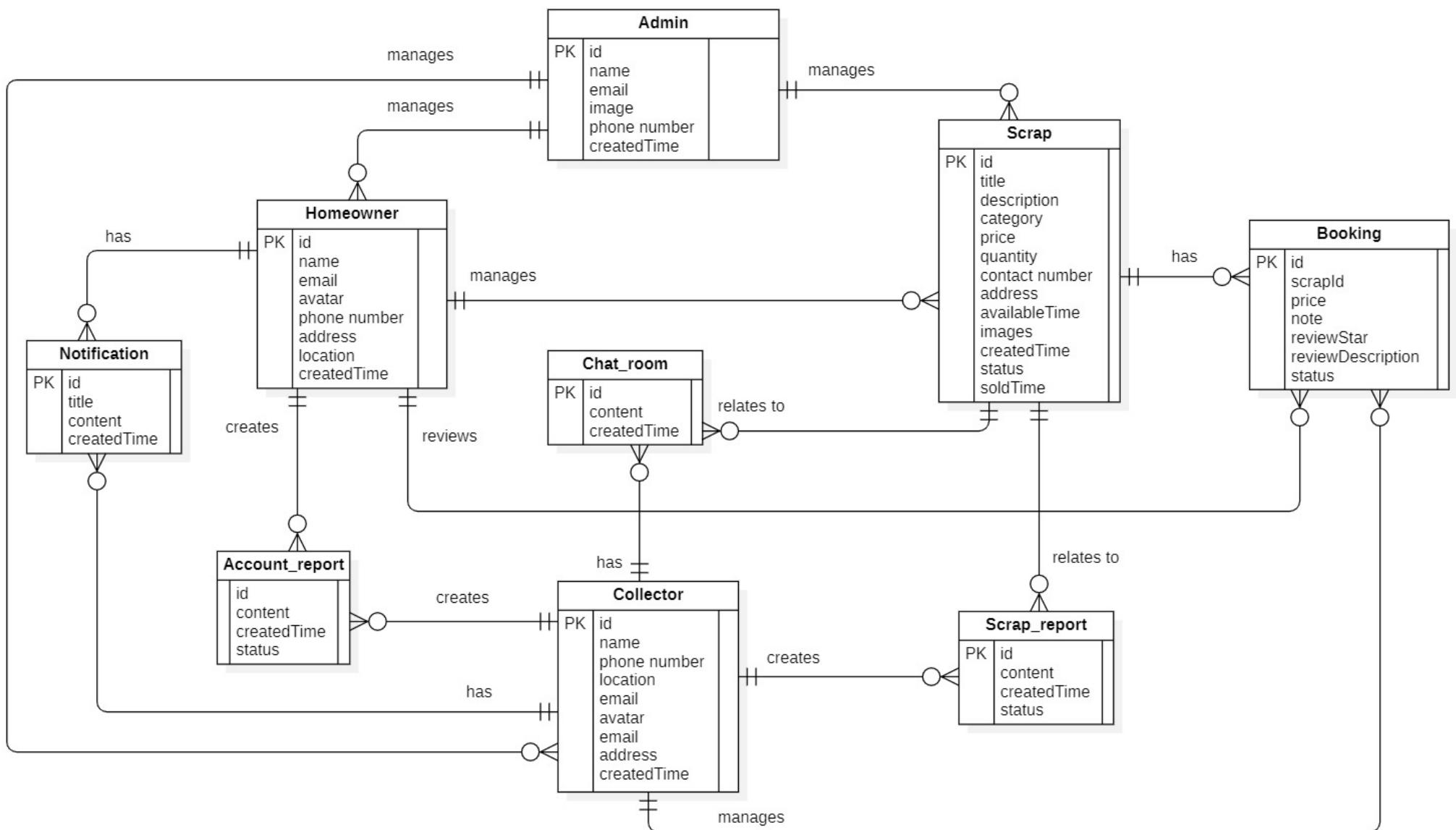


Figure 135 Entity Relationship Diagram

6.2 Entity Data Dictionary

Entity Data Dictionary: describe content of all entities	
Entity name	Description
Admin	Contains admin's information
Homeowner	Contains homeowner information
Collector	Contains collector information
Scrap	Contains scrap information
Booking	Contains booking information
Notification	Contains review's information
Chat_room	Contains Chat room's information
Scrap_report	Contain scrap report's information
Account_report	Contain account report's information

Table 166 - Entity Data Dictionary

7. Algorithms

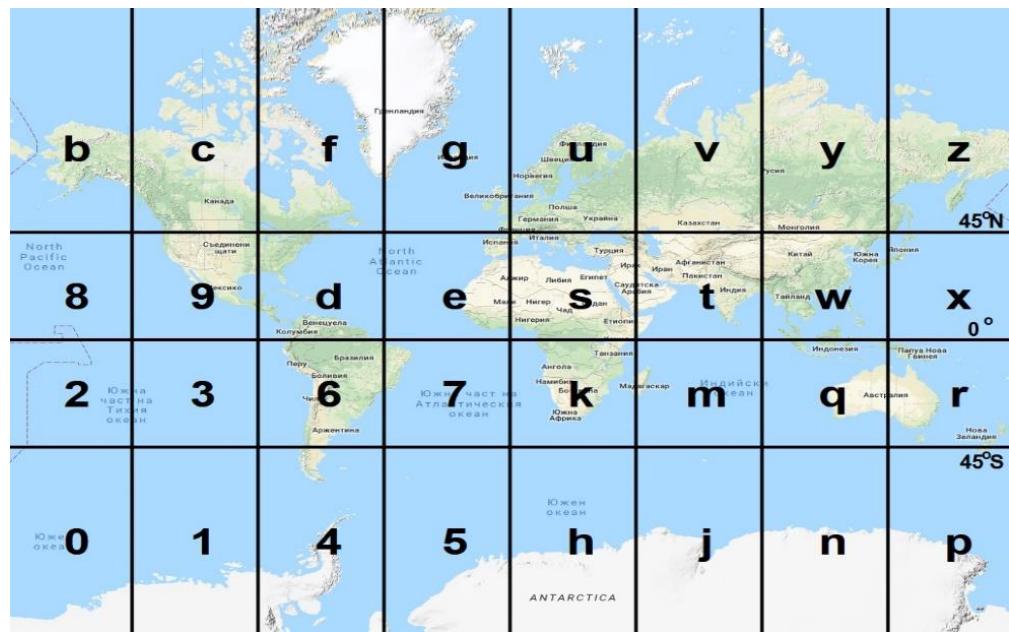
7.1 Search nearby Scrap implementing Geohash (Proximity Searching)

7.1.1 Definition

Geohash uses Base-32 alphabet encoding (characters can be from 0 to 9 and from b to z, except "a", "i", "l" and "o") to encode latitude and longitude of a coordinate.

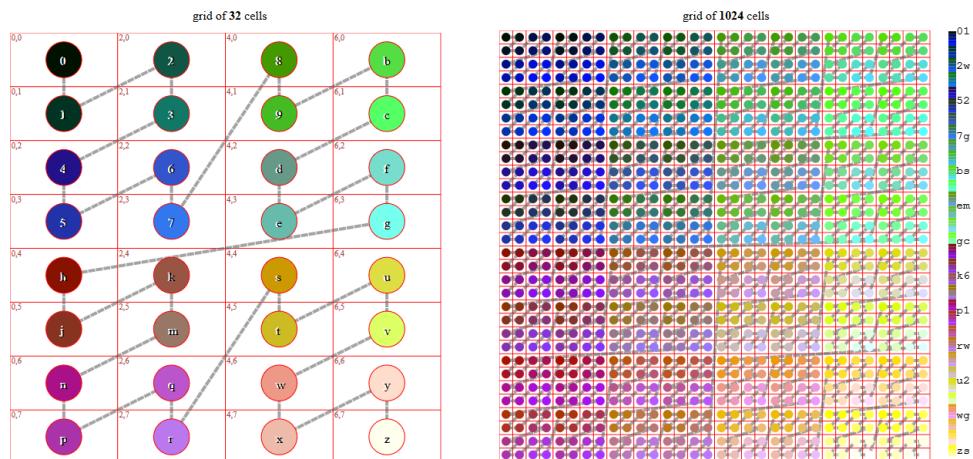
Imagine the world is divided into a grid with 32 cells. The first character in a geohash identifies the initial location as one of the 32 cells. This cell will also contain 32 cells, and each one of these will contain 32 cells (and so on repeatedly). Adding characters to the geohash sub-divides a cell, effectively zooming in to a more detailed area.

For example, the geohash code for the coordinate of *FPT University* ($10.84205101, 106.80930885$) is **w3gvwt8pt2c1**, the geohash code for the coordinate of *7elevent store in FPT University* ($10.841523, 106.810463$) is **w3gvwt9h2nme**.



Reference: <https://petrov.free.bg/academic/publication/geohash-eas-modified-geohash-geocoding-system-equal-area-spaces/>

Figure 136 - Initial Earth map division into 32 spaces using the original Geohash system



Reference: <https://en.wikipedia.org/wiki/Geohash>

Figure 137 – How Geohash works

7.1.2 Define problem

For those collectors who buy scrap, the most important thing is how they can know which scraps are for sale in their living place, maybe about 5km or 10km, because scrap collectors do not want to go too far just for buying scrap.

Moreover, with traditional searching algorithms, the Scrap Collector system has to get all for-sale-scrap, then the system has to check if the distance from collector's

current position to scrap's position is suitable then creates a list of scrap to be shown to the collector. The longer time the system runs, the greater amount of scrap, and the longer it takes the collector to find nearby scraps.

7.1.3 Solution

Step 1: Encode latitude and longitude to geohash code

A geohash is a series of bits that repeatedly bisects a search space of latitudes and longitudes. The first bit bisects the longitude, the next one latitude, the next longitude, etc, which means that the even bits are taken for the longitude code and the odd bits are taken for the latitude code.

Pseudocode:

Input the latitude and longitude of scrap

Input the number of bit of result geohash

Initialize minimum latitude as -90 and maximum latitude as 90

Initialize minimum longitude as -180 and maximum longitude as 180

Initialize result as 0

Initialize counter as 0

While counter is less than the number of bit of result

If the counter is an *even* number

Calculate the middle point = $(\text{min longitude} + \text{max longitude}) / 2$

If inputted *longitude* less than the middle point, push a 0 bit to result and reduce the max longitude to the middle point, **otherwise**, push a 1 bit to the result and increase the min longitude to the middle point

Increase counter by 1

Otherwise (the counter is an *odd* number)

Calculate the middle point = $(\text{min latitude} + \text{max latitude}) / 2$

If inputted *latitude* less than the middle point, push a 0 bit to result and reduce the max latitude to the middle point, **otherwise**, push a 1 bit to the result and increase the min latitude to the middle point

Increase counter by 1

Convert geohash from string of bits to base32 encode

Return the geohash code

Step 2: Search and get near-by scraps based on geohash code

After the coordinate of scrap is encoded in geohash format, we encode the coordinate of current position of the collector, then do the compare to check if that scrap is in collector region or not. As a consequence of geohashing, nearby places often present similar prefixes. The longer a shared prefix is, the closer the two places are.

Pseudocode:

```

Input the latitude and longitude of collector's current position and the radius distance
Check the inputted radius distance value, if value is not null, get radius value, otherwise, get the default configure radius value
Get the id of scrap, latitude and longitude of scraps with "SELLING" status.
For each scrap in the scraps result list, hash scrap's position to geohash.
Get all 8 neighbors (north, northern east, east, southern east, south, southern west, west and northern west) around collector's position based on radius.
Based on the set of neighbors, create a set of ranges to search scrap, each range contains lower range geohash and upper range geohash.
Initialize the array of scraps as empty array.
For each range in the set of ranges
    Initialize the result as empty array
    Search for scrap that has position's geohash between the lower range geohash and upper range geohash.
    If the result array is not null
        Push the result array into array of scraps
For each result in the array of scraps, get detail information from database based on the id of scrap.
Return the array of nearby scraps.

```

7.1.4 Complexity

For encoding n positions to geohash coding by geohash, the complexity is $O(\log(n))$.

For searching near-by scrap based on hash code, with Binary search algorithm, in average and worst case, the complexity is $O(\log(n))$; in the best case, because we have build a hashmap based on geohash code for scrap's position, the system can access data directly, so the time complexity in the best case is $O(1)$.

7.1.5 Flowchart

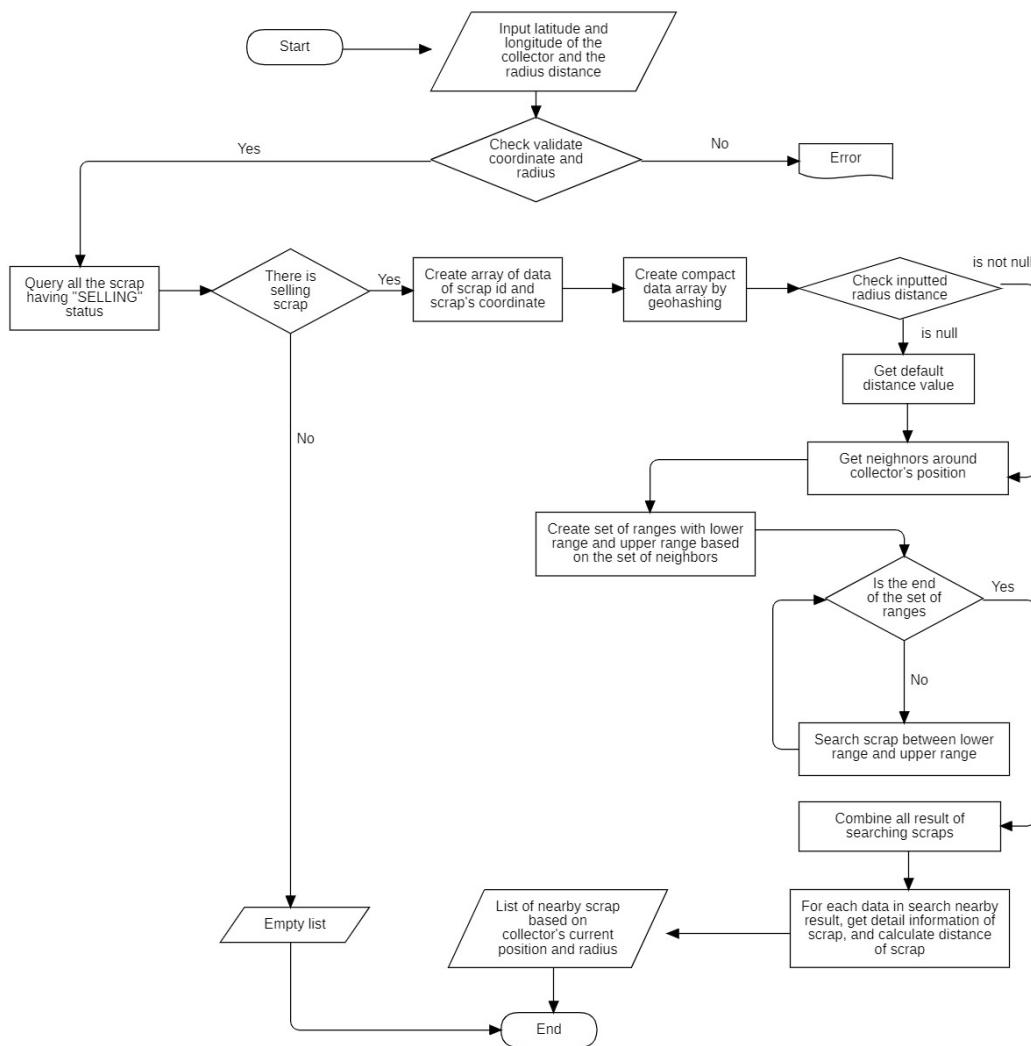


Figure 138 – Flowchart – Search nearby scrap implementing Geohash

7.2 Best price recommendation by Linear Regression

7.2.1 Definition

Linear regression is a linear approach to modeling the relationship between a *dependent variable* (also called *scalar response*) and one or more *independent variables* (or *explanatory variables*). In *Linear Regression*, the relationships are modeled by *linear predictor functions* in which unknown model *parameters* are estimated from real data collected by researches.

The Linear Regression algorithm was developed by Sir Francis Galton in order to study of the relationships between the height of fathers (x) and the height of sons(y). Galton fit a least squares line and used it to predict the son's height from the father's height. Consequently, Galton referred to the least squares line as a regression line.

One of the most popular practical uses of Linear Regression is *prediction*. Linear Regression can be used to fit a predictive model for an observed data set of values of the dependent variable (the response) and independent variables (explanatory variables). After developing a linear model, it can use that model to make prediction of the response from inputted explanatory variables.

7.2.2 Define problem

For the Homeowner who wants to post scrap for selling, they usually don't know about price of scrap, so they find it very hard to set the price of scrap. Therefore, by implementing Linear Regression, we develop a Best Price Recommendation for Homeowner so that they can sell scrap at the most suitable price.

7.2.3 Solution

In fitting a linear regression model, it is much more convenient to express the mathematical operations using **matrix notation**. Suppose that there are k independent variables and n observations, the model relating the independent variables to the response is

$$y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \cdots + \beta_k x_{ik} \quad i = 1, 2, \dots, n$$

This model of n equations can be expressed in matrix notation as

$$\mathbf{y} = \mathbf{X}\boldsymbol{\beta}$$

Where

$$\mathbf{y} = \begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_n \end{bmatrix} \quad \mathbf{X} = \begin{bmatrix} 1 & x_{11} & x_{12} & \cdots & x_{1k} \\ 1 & x_{21} & x_{22} & \cdots & x_{2k} \\ \vdots & \vdots & \vdots & & \vdots \\ 1 & x_{n1} & x_{n2} & \cdots & x_{nk} \end{bmatrix} \quad \boldsymbol{\beta} = \begin{bmatrix} \beta_0 \\ \beta_1 \\ \vdots \\ \beta_k \end{bmatrix}$$

According to the least squares estimate of $\boldsymbol{\beta}$, we have the equation:

$$\hat{\boldsymbol{\beta}} = (\mathbf{X}'\mathbf{X})^{-1} \mathbf{X}' \mathbf{y}$$

To implement in our Best Price Recommendation, there are two parameters including the mass of Scrap and the price of Scrap. The collected data helps form linear equation in which the independent variable is *mass of Scrap* and the dependent variable is *price of Scrap*.

The mass of Scrap and the price of Scrap of specific category are collected from bookings that are accomplished and from observations.

=> Hence, for each category of scrap in system, there is an equation:

$$Y = \beta_0 + \beta_1 X$$

Y: the recommended price

X: the mass or quantity of scrap

β_0 : the slope of the linear equation, depicting the increasing level of Y where X decreases by 1 unit.

β_1 : depicts the estimated value of Y if the value of X = 0, which means the value of Y does not depend on the value of X

The statistic table for each Category in the system is shown as below table

Mass/Quantity of Scrap (X)	Price of Scrap (Y)
x_{11}	y_1
x_{21}	y_2
x_{31}	y_3
...	...
x_{n1}	y_n

Step 1: Define 3 matrices: X, Y and β . In which, n is the number of observations. X is a $(n \times 2)$ matrix, Y is a $(n \times 1)$ matrix and β is a (2×1) matrix

$$X = \begin{bmatrix} 1 & x_{11} \\ 1 & x_{21} \\ 1 & x_{31} \\ \dots & \dots \\ 1 & x_{n1} \end{bmatrix} \quad Y = \begin{bmatrix} y_1 \\ y_2 \\ y_3 \\ \dots \\ y_n \end{bmatrix} \quad \beta = \begin{bmatrix} \beta_0 \\ \beta_1 \end{bmatrix}$$

Step 2: Define the transpose of matrix X, call X' . Then we have X' , a $(2 \times n)$ matrix

$$X = \begin{bmatrix} 1 & x_{11} \\ 1 & x_{21} \\ 1 & x_{31} \\ \dots & \dots \\ 1 & x_{n1} \end{bmatrix} \quad \Rightarrow \quad X' = \begin{bmatrix} 1 & 1 & 1 & \dots & 1 \\ x_{11} & x_{21} & x_{31} & \dots & x_{n1} \end{bmatrix}$$

Step 3: Define matrix $X'X$ by multiply matrix transpose X' with matrix X. Then we have $X'X$, a (2×2) square matrix.

Step 4: Invert the matrix $X'X$, then we have $(X'X)^{-1}$, a (2×2) square matrix.

Step 5: Multiply the inversion matrix $(X'X)^{-1}$ with matrix X' , we have $(X'X)^{-1}X'$, a $(2 \times n)$ matrix

Step 6: Multiply the result $(X'X)^{-1}X'$ in step 5 with matrix Y, we have $(X'X)^{-1}X'Y$, a (2×1) matrix

Step 7: result is a matrix has 1 column and 2 rows. 2 items in matrix is β_0 and β_1 .

7.2.4 Complexity

Declare n the number of observations and p the number of weights.

The problem of finding the vector of weights β in a linear regression boils down to evaluating the following equation:

$$\beta = (X'X)^{-1}X'Y$$

X is a $(n \times p)$ matrix, and X' is a $(p \times n)$ matrix

The most computationally intensive part is to evaluate the product $X'X$, which is done in $p * n * p = p^2n$ operations. After that, we invert the result of $X'X$, which is a $(p \times p)$ square matrix, and the inversion is finished in p^3 operations.

Though most implementations prefer to use a gradient descent to solve the system of equations $(X'X)\beta = X'Y$, the complexity remains the same.

In conclusion, the overall complexity of “Best price recommendation by Linear Regression” should be $p^2n + p^3$.

7.2.5 Example

For scrap of crude iron category, we have a table of data as below:

Mass of Scrap (X)	Price of Scrap (Y)
0.5 kg	7,000
0.3 kg	5,000
1 kg	15,000
1 kg	16,000
0.8 kg	12,000

The equation we have to find is: $Y = \beta_0 + \beta_1 * X$, in which, Y is the recommended price and X is the mass of scrap

First, define 2 matrices: matrix X has 2 columns and matrix Y has 1 column

$$X = \begin{bmatrix} 1 & 0.5 \\ 1 & 0.3 \\ 1 & 1 \\ 1 & 1 \\ 1 & 0.8 \end{bmatrix} \quad Y = \begin{bmatrix} 7000 \\ 5000 \\ 15000 \\ 16000 \\ 12000 \end{bmatrix}$$

The result matrix needed to be found is: $\beta = \begin{bmatrix} \beta_0 \\ \beta_1 \end{bmatrix}$

Second, define matrix transpose of matrix X, call X'

$$X' = \begin{bmatrix} 1 & 1 & 1 & 1 & 1 \\ 0.5 & 0.3 & 1 & 1 & 0.8 \end{bmatrix}$$

After that, multiply matrix transpose X' with matrix X

$$X'X = \begin{bmatrix} 5 & 3.6 \\ 3.6 & 2.98 \end{bmatrix}$$

Then, invert the result matrix of $X'X$, we have

$$(X'X)^{-1} = \begin{bmatrix} 1.54 & -1.85 \\ -1.85 & 2.58 \end{bmatrix}$$

Next, multiply $(X'X)^{-1}$ with transpose matrix X'

$$(X'X)^{-1} X' = \begin{bmatrix} 0.6 & 0.97 & -0.32 & -0.32 & 0.051 \\ -0.56 & -1.08 & 0.72 & 0.72 & 0.206 \end{bmatrix}$$

Multiply $(X'X)^{-1} X'$ with matrix Y then we have result

$$\beta = (X'X)^{-1} X' Y = \begin{bmatrix} 0.6 & 0.97 & -0.32 & -0.32 & 0.051 \\ -0.56 & -1.08 & 0.72 & 0.72 & 0.206 \end{bmatrix} * \begin{bmatrix} 7000 \\ 5000 \\ 15000 \\ 16000 \\ 12000 \end{bmatrix}$$

$$= \begin{bmatrix} -134.02 \\ 15463.91 \end{bmatrix}$$

Which means that $\beta_0 = -134.02$ and $\beta_1 = 15463.91$

Then, we have equation for recommended price of scrap belonging to crude iron category:

$$\text{recommended price} = -134.02 + 15463.91 * \text{mass of scrap} \quad (2)$$

If we want to know what price is suitable for selling 2 kilogram of crude iron, just set the mass of scrap as 2 in equation (2), then we can know the recommended price is: 30,793.8 VND. Then the system will round up the price and suggest the Homeowner to sell scrap at price of 31,000 VND.

7.2.6 Flowchart

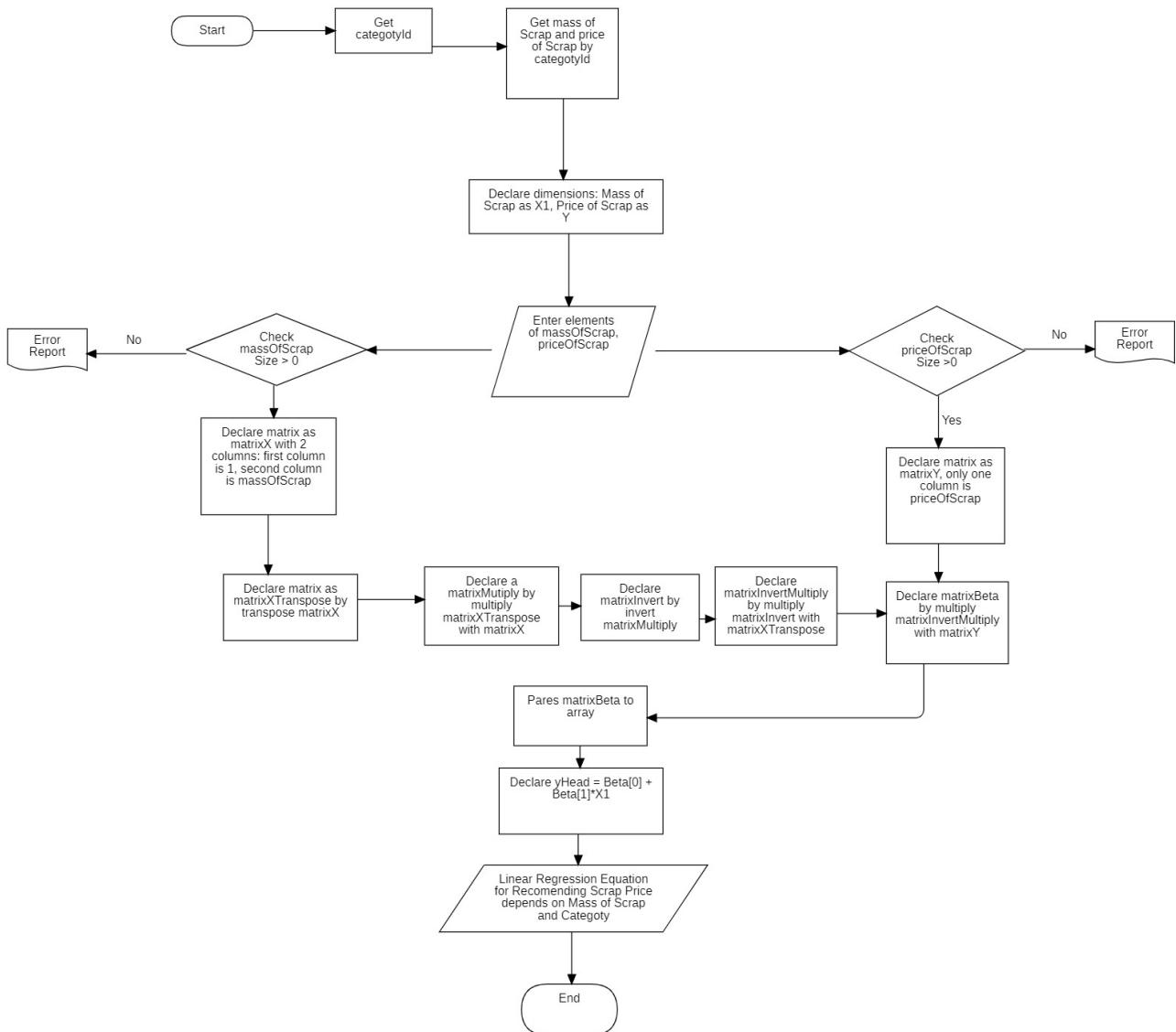


Figure 139 – Flowchart - Recommendation Scrap Price by Linear Regression

7.3 Schedule to pick up scraps in a day based on time

7.3.1 Definition

This algorithm makes a list of scrap that the Collector has to pick up in the current day.

7.3.2 Define problem

In a day, scrap collector can have one or more scrap to pick up.

Every scrap has an available of time, which is the period of time that Homeowner is free and can sell scrap. The Collector has to come to scrap's place in the

period of available time to buy scrap, otherwise, the booking will be marked as "Overdue".

7.3.3 Solution

- Call (TodayScraps) is the list of all scraps that the Collector must come to pick up in today.
- Call (AllAcceptedBookingList) is the list of all bookings that the Collector has dealt with Homeowner.
- Get all booking that need to pick up in today:
 - For each accepted booking: if the day of week of booking is equal to day of week of today, add accepted booking to TodayScrap
- Schedule TodayScraps based on time:
 - Schedule scrap based on available from time: scrap with earlier from time is placed before.
 - If two scraps have the same available from time, continue to schedule based on available to time: scrap with earlier from time is placed before.

7.3.4 Complexity

Declare n the number of scraps that Collector needs to come and pickup in today. In the worst case, the overall complexity of "Schedule to pick up scraps in a day based on time" is $O(n^2)$.

7.3.5 Example

Today is Thursday, and the Collector has 4 scraps to collect. The TodayScraps list is shown as the below table:

Scrap name	Time to pick up: From time	Time to pick up: To time
Scrap 1	12:00	16:00
Scrap 2	8:00	14:00
Scrap 3	8:00	11:00
Scrap 4	7:00	11:00

After being scheduled based on available time, the TodayScraps list is:

Index	Scrap name	Time to pick up
1	Scrap 4	From 7:00 to 11:00
2	Scrap 3	From 8:00 to 11:00
3	Scrap 2	From 8:00 to 14:00
4	Scrap 1	From 12:00 to 16:00

7.3.6 Flowchart

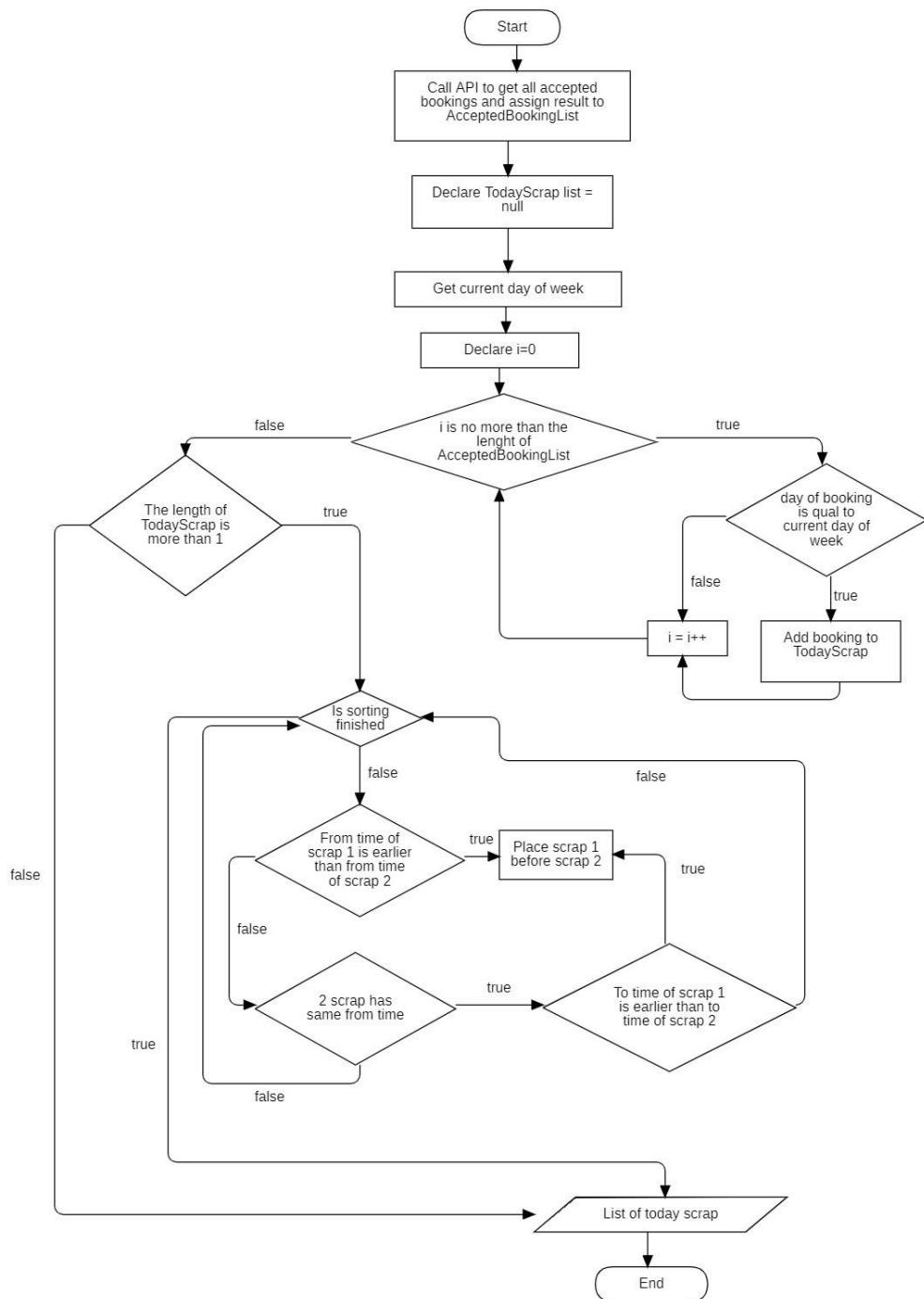


Figure 140 – Flowchart - Schedule to pick up scraps in a day based on time

E. System Implementation & Test

1. Introduction

1.1 Overview

This section describes approach and methodologies used by our team to plan, organize and manage implementing and testing process of Scrap Collector system.

It provides all necessary information about implementation and testing procedure of the system including physical database diagram, test plans, test cases, test results and pass/fail criteria as well as testing flow to cover all possible cases.

1.2 Test Approach

- **Goal:** Test main features in the whole SC based on core flow
- **Method:** Black-box testing

2. Data Relationship Diagram

2.1 Physical Diagram

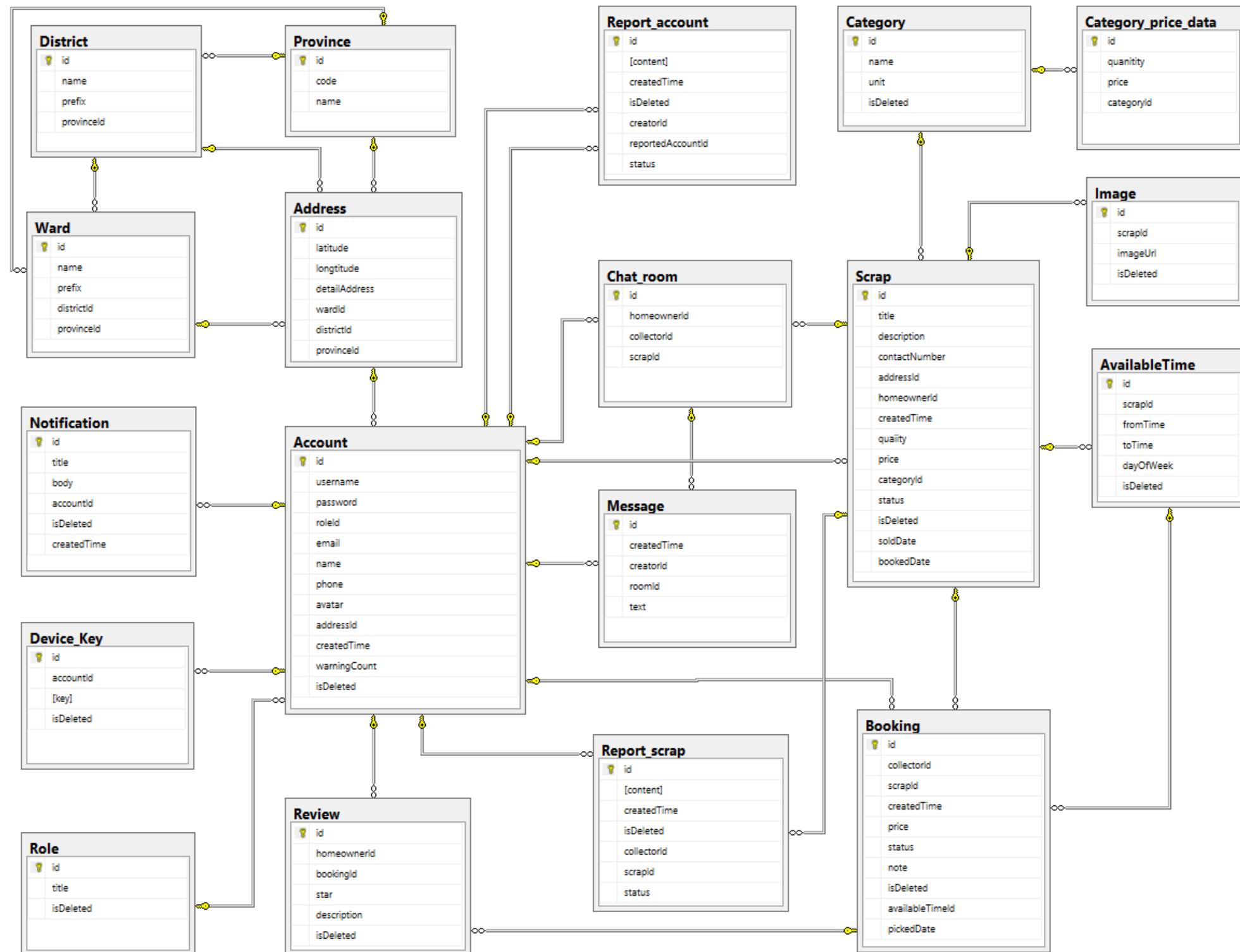


Figure 141 Physical Diagram

2.2 Data Dictionary

Physical Diagram Data Dictionary: Describe content of all tables		
No	Table Name	Description
1	account	Contain account information
2	role	Contain role information
3	address	Contain address information
4	province	Contain province information of all provinces in Vietnam
5	district	Contain district information of all districts in Vietnam
6	ward	Contain ward information of all wards in Vietnam
7	device_key	Contain key of the device which the user logs in to. The device key is saved for Firebase Cloud Message.
8	message	Contain message of user
9	category	Contain category information
10	scrap	Contain scrap information
11	image	Contain image information
12	available_time	Contain available time information
13	booking	Contain booking information
14	review	Contain review information
15	chat_room	Contain chat room information
16	category_price_data	Contain data for Linear Regression Algorithm
17	report_scrap	Contain scrap report information
18	report_account	Contain account report information

Table 167 - Physical Diagram Dictionary

Entity Name	Attributes	Description	Domain	Null
account	id	Unique id of each account	varchar(255)	N
	username	Unique username of each account	varchar(50)	N
	password	Password of account	varchar(50)	N
	roleId	Id of the role of account	int	N
	email	Email address of account	varchar(255)	Y
	name	Full name of account	varchar(255)	N
	phone	Phone number of account	varchar(15)	N
	avatar	Link of avatar of account	varchar(255)	Y
	addressId	Id of address of account	int	N
	createdTime	Time of creation of account	datetime	N
role	warningCount	Number of warning report of that account	int	Y
	isDeleted	Check if the account is deleted or not	boolean	N
role	id	Unique id of each role	int	N
	name	Name of role	varchar(50)	N

	isDeleted	Check if the role is deleted or not	boolean	N
address	id	Unique id of address	int	N
	detailAddress	Detail address of address: home number, street name, building name	varchar(255)	N
	provinceId	Id of province of address	int	N
	districtId	Id of district of address	int	N
	wardId	Id of ward of address	int	N
	latitude	Latitude of address	double	N
	longitude	Longitude of address	double	N
province	id	Unique id of province	int	N
	code	Code of province	varchar(20)	N
	name	Name of province	varchar(50)	N
district	id	Unique id of district	int	N
	provinceId	Id of province	int	N
	prefix	Prefix name of district	varchar(50)	N
	name	Name of district	varchar(50)	N
ward	id	Unique id of ward	int	N
	districtId	Id of district	int	N
	provinceId	Id of province	int	N

	prefix	Prefix name of ward	int	N
	name	Name of ward	int	N
device_key	id	Unique id of device key	int	N
	accountId	Id of account	varchar(255)	N
	key	Key of device	varchar(255)	N
	isDeleted	Check if the device key is deleted or not	boolean	N
message	id	Unique id of message	varchar(255)	N
	creatorId	Id of creator	varchar(255)	N
	roomId	Id of chat room that the message belongs to	int	N
	text	Content of message	varchar(255)	N
	createdTime	Time of creation of message	datetime	N
category	id	Unique id of category	int	N
	name	Name of category	varchar(255)	N
	unit	Unit of category	varchar(255)	N
	isDeleted	Check if the category is deleted or not	boolean	N
scrap	id	Unique id of scrap	varchar(255)	N
	title	Title of scrap	varchar(255)	N
	description	Description of scrap	varchar(255)	N
	price	Price of scrap	double	N

	quantity	Quanity of scrap	double	N
	categoryId	Id of category	int	N
	homeownerId	Id of the homeowner posting scrap	varchar(255)	N
	contactNumber	Phone number	varchar(20)	N
	addressId	Id of address	int	N
	status	Status of scrap	varchar(20)	N
	createdTime	Time of posting scrap	datetime	N
	bookedDate	Time at which scrap is booked	datetime	N
	soldDate	Time at which scrap is sold	datetime	N
	isDeleted	Check if scrap is deleted or not	boolean	N
image	id	Unique id of each image	int	N
	scrapId	Id of scrap	varchar(255)	N
	imageUrl	Url link of image	varchar(255)	N
	isDeleted	Check if the image is deleted or not	boolean	N
available_time	id	Unique id of available time	int	N
	scrapId	Id of scrap	varchar(255)	N
	fromTime	From time	time	N
	toTime	To time	time	N

	dayOfWeek	Day of week of available time	int	N
	isDeleted	Check if the available time is deleted or not	boolean	N
booking	id	Unique id of booking	int	N
	fromCollector	Id of Collector	varchar(255)	N
	scrapId	Id of scrap	varchar(255)	N
	price	Price of booking	double	N
	note	Note of booking	varchar(255)	N
	status	Status of booking	varchar(20)	N
	createdTime	Time of creating booking	datetime	N
	pickedDate	Time when collector pick up scrap	datetime	N
	isDeleted	Check if the booking is deleted or not	boolean	N
review	id	Unique id of each review	int	N
	fromHomeowner	Id of Homeowner	varchar(255)	N
	bookingId	Id of booking	varchar(255)	N
	star	Number of star	int	N
	description	Description of review	varchar(255)	Y
	isDeleted	Check if the review is deleted or not	boolean	N

chat_room	id	Unique id of each chat room	int	N
	homeownerId	Id of Homeowner	varchar(255)	N
	collectorId	Id of Collector	varchar(255)	N
	scrapId	Id of scrap belonging to that chat room	varchar(255)	N
category_price_data	id	Unique id of each data	int	N
	quantity	Quantity of scrap	int	N
	price	Price of scrap	int	N
	categoryId	Id of category of scrap	int	N
report_scrap	id	Id of report	int	N
	content	Content of report	varchar(MAX)	N
	collectorId	Id of collector who created report	varchar(255)	N
	scrapId	Id of scrap which is reported	varchar(255)	N
	createdTime	Time of creating report	datetime	N
	status	Status of report	boolean	N
	isDeleted	Check if report is deleted or not	boolean	N
report_account	id	Id of report	int	N
	content	Content of report	varchar(MAX)	N

	creatorId	Id of account who created report	varchar(255)	N
	reportedAccountId	Id of account which is reported	varchar(255)	N
	createdTime	Time of creating report	datetime	N
	status	Status of report	boolean	N
	isDeleted	Check if report is deleted or not	boolean	N

Table 168 - Physical Diagram Attribute Data Dictionary

3. Technology, Framework

3.1 Technology

3.1.1 Continuous integration and continuous delivery (CI/CD)

In Scrap Collector Web Admin, whenever developer commit into master branch or developer branch, Gitlab pipeline would automatically build and deploy web application to server.

Status	Pipeline	Triggerer	Commit	Stages	Duration	Time Ago
passed	#134961910	Pipeline	2256282a	Account Report	00:07:39	1 hour ago
passed	#134505925	Pipeline	661620a1	Fix Add Duplicate Category Name	00:09:58	1 day ago
passed	#134399077	Pipeline	5c9aff553	Fix bugs pagination	00:09:14	1 day ago
passed	#134390061	Pipeline	b8a9b136	Update Apis Link	00:05:42	1 day ago
passed	#134219439	Pipeline	581925dc	Fix sidebar	00:05:09	2 days ago
canceled	#134216865	Pipeline	dfc5c7a4	Login	00:00:29	2 days ago

Figure 142 - Gitlab CI/CD Pipeline View

After being built and deployed, the Web Admin will be available in Firebase Hosting service. The address of Scrap Collector Web Admin is <https://scrap-admin.web.app/>

Status	Time	Deploy	Files
Current	Apr 11, 2020 3:35 PM	khanhtiet6001@gmail.com 62ab91	33
Deployed	Apr 9, 2020 11:41 PM	khanhtiet6001@gmail.com acb28f	33

Figure 143 - Firebase Hosting console for Scrap Collector Web Admin

3.1.2 Google Cloud app engine

We use Google Could app engine to deploy API of Scrap Collector System.

URI	Requests/Minute current	Requests last 24 hours	Runtime Metrics last hour	Average latency last hour	Traces last 24 hours
/api/accounts/scraps/booking	0	168	367	721 ms	View Traces
/socket.io/	0	159	0	-	View Traces
/api/admin/profile/8a0aff32-7ac1-408e-a955-6cf04844262	0.6	89	10	112 ms	View Traces
/api/chat/rooms	0	81	108	314 ms	View Traces
/api/admin/categories/top	0	50	0	-	View Traces
/api/categories	0.6	37	45	61 ms	View Traces
/api/admin/scraps	0.6	37	2,018	129 ms	View Traces
/api/scraps/latest	0	29	0	-	View Traces
/api/auth/login	0	27	0	-	View Traces
/api/admin/scraps/status	0	25	0	-	View Traces
/api/admin/new	0	25	0	-	View Traces
/api/scraps/hearst	0	24	0	-	View Traces
/api/accounts/scraps	0	24	0	-	View Traces
/api/admin/categories/price	0	24	0	-	View Traces
/api/account	0	22	139	263 ms	View Traces
/api/auth/logout	0	22	0	-	View Traces
/api/admin/reports/account	0	20	0	-	View Traces
/api/admin/roles	0	20	0	-	View Traces

Figure 144 Google Cloud Platform console screen

3.1.3 Amazon Simple Storage Service

Amazon Simple Storage Service (S3) helps us to storage images of scrap as well as avatar of all user in the system. Our system sends images in the format of base64 image string to the S3 and S3 returns the link of image.

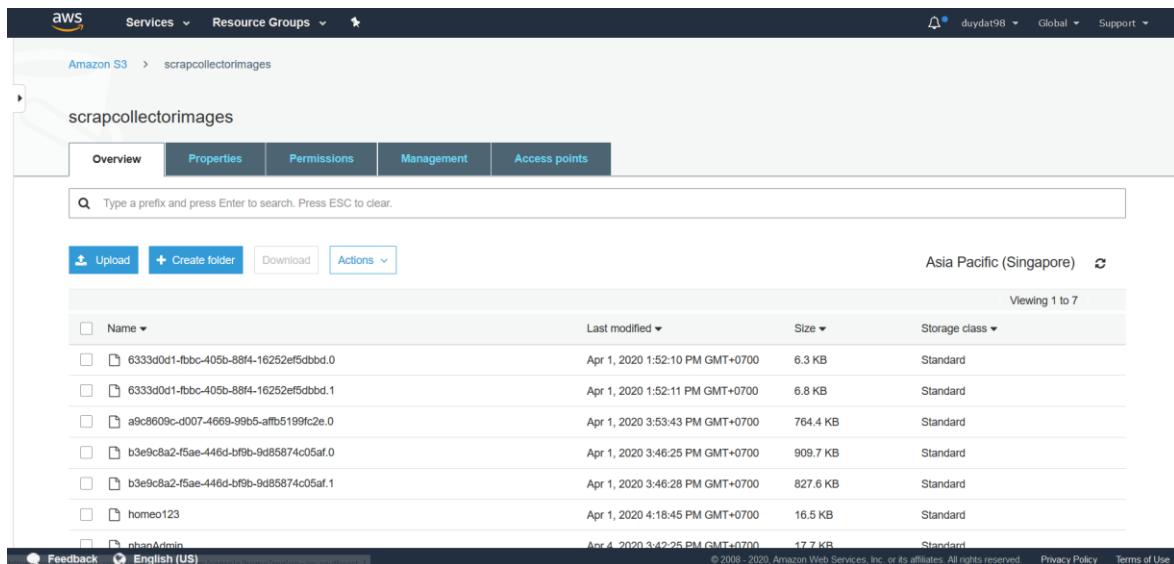


Figure 145 Amazon Simple Storage Service Console Screen

3.1.4 Sheety – Turn Google sheet into an API

For the list of defined category unit, it is not necessary to save category unit into a table in database, so we choose to use Sheety. Sheety helps to convert Google sheet into a fully RESTful JSON API. That means you can GET, POST, PUT and DELETE to any spreadsheet with just a few lines of code.

The API to get category unit is:

<https://v2-api.sheety.co/9bead215f416c134009ebf8f3ff2aca2/categoryUnit/unit>

Id	A	B	C	D	E	F	G	H	I	J	K	L
1	Name											
2	1 kg											
3	2 mòn											
4	3 gram											
5	4 cái											
6	5 lơn											
7	6 châí											
8												

Figure 146 Sheety – Turn Google Sheet into an API

3.2 Server Framework

3.2.1 NestJS

Nest (NestJS) is a framework for building efficient and scalable Node.js sever-side applications.

3.2.2 Firebase Cloud Message

We use firebase cloud message to send notification to devices of Collector and Homeowner automatically.

The screenshot shows the Firebase Cloud Messaging console for the project 'ScrapCollector'. The left sidebar includes sections for Develop (Authentication, Database, Storage, Hosting, Functions, ML Kit), Quality (Crashlytics, Performance, Test Lab, App Distribution), Analytics, and Extensions. The main area is titled 'Cloud Messaging' and shows a table of notifications. The table has columns for Notification, Status, Platform, Start/Send, End, Sends, and Opens. There are ten notifications listed, all completed, with various send times on March 24, 2020, and zero opens.

Notification	Status	Platform	Start/Send	End	Sends	Opens
Phòng dịch Corona, khi giao dịch...	Completed		24 Mar 2020 10:22	—	<1,000	0%
Phòng dịch Corona, khi giao dịch...	Completed		24 Mar 2020 10:21	—	<1,000	0%
Duy Đạt đã đánh giá bạn	Completed		24 Mar 2020 10:20	—	<1,000	0%
Duy Đạt đã đánh giá bạn	Completed		24 Mar 2020 10:19	—	<1,000	0%
Phòng dịch Corona, khi giao dịch...	Completed		24 Mar 2020 09:36	—	<1,000	0%
Phòng dịch Corona, khi giao dịch...	Completed		24 Mar 2020 08:09	—	<1,000	0%
Phòng dịch Corona, khi giao dịch...	Completed		24 Mar 2020 08:09	—	<1,000	0%
Phòng dịch Corona, khi giao dịch...	Completed		24 Mar 2020 08:03	—	<1,000	0%
Phòng dịch Corona, khi giao dịch...	Completed		24 Mar 2020 08:02	—	<1,000	0%

Figure 147 Firebase Cloud Messaging Console Screen

3.2.3 Socket.io

Socket.IO is a library that enables real-time, bidirectional and event-based communication between the browser and the server. In our system, when a Collector want to chat to the Homeowner, the Collector will create a chat room of 2 users and that room is related to scrap.

3.3 Web Application Framework

3.3.1 Angular

Angular is a TypeScript-based open-source web application framework led by the Angular Team at Google and by a community of individuals and corporations.

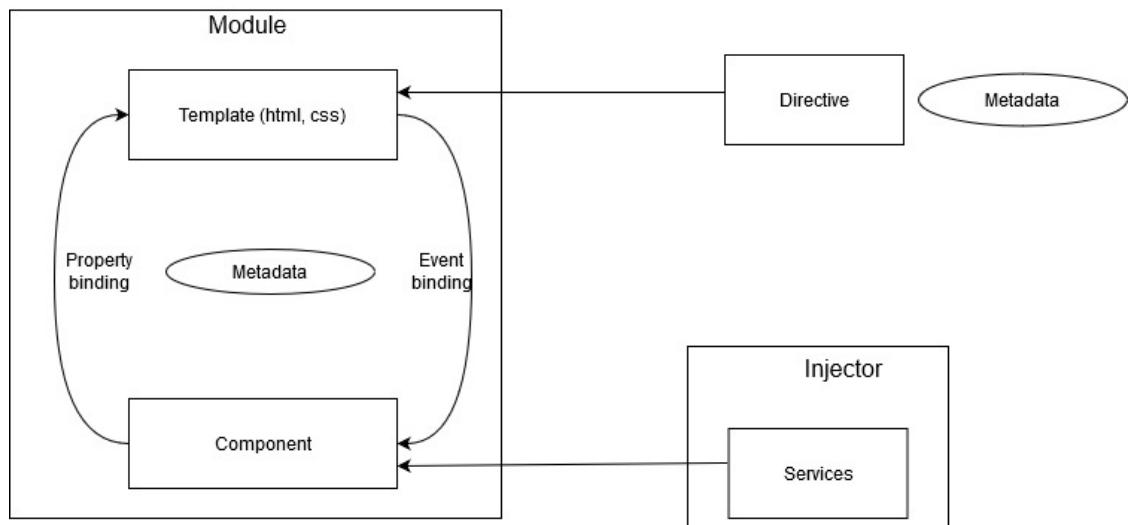


Figure 148- Angular framework architecture

3.4 Application Framework

3.4.1 React Native Gifted Chat

Beside Socket.io, React Native Gifted Chat helps us to build and implement Chat feature in mobile application.

4. Test Plan

The overall purpose of testing is to ensure WCS meets its entire technical, functional and business requirement. The purpose of this document is to describe the test plan and strategy for testing the WCS. The following part will describe which features to be tested and which will not.

4.1 Features to be tested

- Guest
 - Login
 - Register
- Authorized user
 - View profile
 - Update profile
 - Logout
- Homeowner
 - Post scrap for selling
 - Delete scrap
 - Update scrap information
 - Get booking request from Collector
 - Accept booking request
 - Reject booking request
 - Review Collector
 - Chat with Collector
 - View history scrap list
- Collector
 - Search latest scrap
 - Book scrap
 - Cancel booking scrap
 - Call the homeowner
 - Update booking request
 - Negotiate scrap price
 - View all booking request
 - View schedule to collect scrap
 - View direction to come to pick up scrap
 - Chat with homeowner
 - View history scrap

- Admin
 - View list of users in the system
 - View list of scrap
 - View list of category
 - Add new category
 - Update category
 - View list of reports

4.2 Features not to be tested

- Collector
 - Search nearby scrap
 - Get notification
 - View direction to pick-up scrap
- Admin
 - View dashboard

5. System Testing Test Case

5.1 Test case

5.1.1 Mobile Application Test Case

5.1.1.1 <Guest> Login

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
LI_1	Login successfully	Guest is at “Đăng nhập” screen.	1. In “Tên đăng nhập” field: Enter “thuynnt” 2. In “Mật khẩu” field: Enter “123456” 3. Press button “Đăng nhập”.	System shows “Trang chủ” screen	N/A	Passed	30/3/2020
LI_2	Inputted data is blank: - “Tên đăng nhập” is blank.	Guest is at “Đăng nhập” screen.	1. In “Tên đăng nhập” field: No Input. 2. In “Mật khẩu” field: Enter “duyDat123@” 3. Press button “Đăng nhập”.	System shows error message: “Vui lòng nhập Tên đăng nhập”.	N/A	Passed	30/3/2020
LI_3	“Mật khẩu” is blank.	Guest is at “Đăng nhập” screen.	1. In “Tên đăng nhập” field: Enter “datnd” 2. In “Mật khẩu” field: No Input.	System shows error message: “Vui lòng nhập Mật khẩu”	N/A	Passed	30/3/2020

			3. Press button “Đăng nhập”.				
LI_4	- “Tên đăng nhập” is blank. - “Mật khẩu” is blank.	Guest is at “Đăng nhập” screen.	1. In “Tên đăng nhập” field: No Input. 2. In “Mật khẩu” field: No Input. 3. Press button “Đăng nhập”.	System shows error message: - In “Tên đăng nhập” field: “Vui lòng nhập Tên đăng nhập.”	N/A	Passed	30/3/2020
LI_5	Username or Password not correct	Guest is at “Login” screen	1. In “Tên đăng nhập” field: Enter “datnd” 2. In “Mật khẩu” field: Enter “duyDat123456@” 3. Press button “Đăng nhập”.	System shows error message “Tên đăng nhập hoặc mật khẩu không đúng.”	N/A	Passed	30/3/2020
LI_6	System remember user	User login successfully	1. User exit the app then open app again.	System moves to “Trang chủ” screen without login again	LI_1	Passed	30/3/2020

Table 169 <Test case> Login

5.1.1.2 <Guest> Register

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
REG_1	Register successfully	Guest is at “Đăng ký tài khoản” screen	1. In “Tên đăng nhập” field: Enter “nhan123”. 2. In “Mật khẩu” field: Enter “12011nhaN@”. 3. In “Xác nhận mật khẩu” field: Enter “12011nhaN@”. 4. Press button “Đăng ký”. 5. Choose “Người thu mua ve chai” or “Người Bán Ve chai”. Switch to “Thông tin liên hệ” part. 6. Choose “Ảnh đại diện”. 7. In “Họ tên” field: Enter “Nguyễn Duy Đạt”. 8. In “Số điện thoại” field: Enter “032796233”. 9. In “Địa chỉ Email” field: Enter: “datndse@fpt.edu.vn”.	System shows message “Tài khoản đã được đăng ký thành công”	N/A	Passed	30/3/2020

			<p>10. Press button “Tiếp tục”. Switch to “Địa chỉ của bạn” part.</p> <p>11. In “Địa chỉ” field: Enter: “417 Quang Trung”.</p> <p>12. In “Chọn Thành Phố” field: Choose “Hồ Chí Minh”.</p> <p>13. In “Chọn Quận/ Huyện” field: Choose “Quận Gò Vấp”.</p> <p>14. In “Chọn Phường/ Xã” field: Choose “Phường 10”.</p> <p>15. Press button “Đăng ký tài khoản”.</p>				
REG_2	Inputted data is blank. “Tên đăng nhập” rỗng.	Guest is at “Đăng ký” screen	<p>1. In “Tên đăng nhập” field: No Input.</p> <p>2. In “Mật khẩu” field: Enter “12011nhan@”.</p> <p>3. In “Xác nhận mật khẩu” field: Enter “12011nhan@”.</p> <p>4. Press button “Đăng ký”.</p>	System shows error message: “Vui lòng điền Tên Đăng Nhập”	N/A	Passed	30/3/2020

REG_3	Inputted data is blank. “Mật khẩu rỗng” rỗng.	Guest is at “Đăng ký” screen	1. In “Tên đăng nhập” field: Enter “nhan123” 2. In “Mật khẩu” field: No Input. 3. In “Xác nhận mật khẩu” field: No Input. 4. Press button “Đăng ký”.	System shows error message: “Vui lòng điền mật khẩu”	N/A	Passee d	30/3/2020
REG_4	Inputted data is blank. “Tên đăng nhập” rỗng. “Mật khẩu rỗng” rỗng.	Guest is at “Đăng ký” screen	1. In “Tên đăng nhập” field: No Input. 2. In “Mật khẩu” field: No Input. 3. In “Xác nhận mật khẩu” field: No Input. 4. Press button “Đăng ký”.	System shows error message: “Vui lòng điền Tên đăng nhập.”	N/A	Passee d	30/3/2020
REG_5	Check password validation	Guest is at “Đăng ký” screen	1. In “Tên đăng nhập” field: Enter “nhan123” 2. In “Mật khẩu” field: Enter “12011nhan”. 3. In “Xác nhận mật khẩu” field:	System shows error message “Mật khẩu Có ít Nhất 8 Ký Tự Bao Gồm Chữ Thường, Chữ Hoa, Chữ Số	N/A	Passee d	30/3/2020

			Enter “12011nhan”. 4. Press button “Đăng ký”.	và Ký Tự Đặc Biệt (!, @, #, ...)			
REG_6	Check confirm password not correct	Guest is at “Đăng ký” screen	1. In “Tên đăng nhập” field: Enter “nhan123” 2. In “Mật khẩu” field: Enter “12011nhaN@”. 3. In “Xác nhận mật khẩu” field: Enter “12011nhan”. 4. Press button “Đăng ký”.	System shows error message “Xác nhận mật khẩu không khớp.”	N/A	Passed	30/3/2020
REG_7	Register with existed username	Guest is at “Đăng ký” screen System already has an account with username “trungnha”	1. In “Tên đăng nhập” field: Enter “nhan123” 2. In “Mật khẩu” field: Enter “12011nhaN@”. 3. In “Xác nhận mật khẩu” field: Enter “12011nhaN@”. 4. Press button “Đăng ký”.	System shows error message “Tên đăng nhập này đã có người sử dụng”	N/A	Passed	31/3/2020
REG_8	Input wrong Phone number format	Guest is at “Đăng ký” screen. “Thông tin liên hệ” part.	1. Choose “Ảnh đại diện”. 2. In “Họ tên” field: Enter “Nguyễn Duy Đạt”. 3. In “Số điện thoại” field: Enter “asd5454asd54c”.	System shows error message “Vui lòng điền đúng định dạng số điện thoại”	N/A	Passed	30/3/2020

			4. In “Địa chỉ Email” field: Enter: datndse@fpt.edu.vn. 5. Press button “Tiếp tục”.				
REG_9	Input wrong Email format	Guest is at “Đăng ký” screen. “Thông tin liên hệ” part.	1. Choose “Ảnh đại diện”. 2. In “Họ tên” field: Enter “Nguyễn Duy Đạt”. 3. In “Số điện thoại” field: Enter “032796233”. 4. In “Địa chỉ Email” field: Enter: datndse54fpt.edu.vn. 5. Press button “Tiếp tục”.	System shows error message “Vui lòng điền đúng định dạng email”	N/A	Passee d	30/3/202 0
REG_10	Not input Address	Guest is at “Sign Up” screen. “Địa chỉ của bạn” part	1. In “Địa chỉ” field: No Input. 2. In “Chọn Thành Phố” field: Not Choose. 3. In “Chọn Quận/ Huyện” Not Choose. 4. In “Chọn Phường/ Xã” field: Not Choose. 5. Press button “Đăng ký tài khoản”.	System shows error message “Vui lòng nhập địa chỉ”	N/A	Passee d	30/3/202 0

Table 170 <Test case> Register

5.1.1.3 <Authorized User > View profile

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
VP_1	View user profile successfully	Login successfully	1. Press on “Tài khoản” tab.	System shows information of current user.	REG_1	Passee d	30/3/2020

Table 171 <Test case> View profile

5.1.1.4 <Authorized User > Update profile

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
UP_1	The Update profile screen shows right information of current user	Login successfully	1. Press on “Tài khoản” tab. Switch to “Hồ sơ cá nhân” screen. 2. Press “Chỉnh sửa” on top. Switch to “Chỉnh sửa hồ sơ” screen.	In the Update profile screen, system shows information same as information in user's profile	N/A	Passee d	02/04/2020

UP_2	Update profile successfully	- Login successfully - User views profile	1 Press “Chỉnh sửa” on top. Switch to “Chỉnh sửa hồ sơ” screen. 2. In field name, phone, mail and address change information. 3. Press “Lưu” button on top navigation.	System shows message: “Tài khoản được Cập nhật thành công”	UP_1	Passed	02/04/2020
UP_3	Check blank data when update.	- Login successfully - User views profile	1. Press “Chỉnh sửa” on top. Switch to “Chỉnh sửa hồ sơ” screen. 2. Leave the field name blank 3. Press “Lưu” button on top navigation.	System shows error message: “Vui lòng nhập tên”	UP_1	Passed	02/04/2020
UP_4	Check blank data when update.	- Login successfully - User views profile	1. Press on “Tài khoản” tab. Switch to “Hồ sơ cá nhân” screen. 2. Press “Chỉnh sửa” on top. Switch to “Chỉnh sửa hồ sơ” screen. 3. Leave the field phone number blank 4. Press “Lưu” button on top navigation.	System shows error message: “Vui lòng nhập Số điện thoại”	UP_1	Passed	02/04/2020

UP_5	Check wrong format of phone number when update.	- Login successfully - User views profile	<ol style="list-style-type: none"> Press on “Tài khoản” tab. Switch to “Hồ sơ cá nhân” screen. Press “Chỉnh sửa” on top. Switch to “Chỉnh sửa hồ sơ” screen. In field “Số điện thoại”, input “032abcdef” Press “Lưu” button on top navigation. 	Systems shows error message: “Số điện thoại không hợp lệ”	UP_1	Passed	02/04/2020
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Table 172 <Test case> Update profile

5.1.1.5 <Authorized User> Change Password

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
CP_1	Change password successfully	User login successfully	<ol style="list-style-type: none"> Press on “Tài khoản” tab. Press on “Chỉnh sửa” button. Press on “Đổi mật khẩu”. In “Mật khẩu mới” field: Enter password that user want to change, for example: “thuyntT123@” 	System shows message: “Thay đổi mật khẩu thành công”.	N/A	Passed	31/3/2020

			5. In “Xác nhận mật khẩu” field: Re-Enter password that user enter in “Mật khẩu mới” field, for example: “thuyntT123@”				
CP_2	Password incorrect format	User login successfully	1. Press on “Tài khoản” tab. 2. Press on “Chỉnh sửa” button. 3. Press on “Đổi mật khẩu”. 4. In “Mật khẩu mới” field: “thuyntt”. 5. In “Xác nhận mật khẩu” field: “thuyntt”.	System shows error message “Mật khẩu Có ít Nhất 8 Ký Tự Bao Gồm Chữ Thường, Chữ Hoa, Chữ Số và Ký Tự Đặc Biệt (!, @, #, ...)”	N/A	Passed	31/3/2020
CP_3	Not input password	User login successfully	1. Press on “Tài khoản” tab. 2. Press on “Chỉnh sửa” button. 3. Press on “Đổi mật khẩu”. 4. In “Mật khẩu mới” field: No Input. 5. In “Xác nhận mật khẩu” field: No Input.	System shows error message “Vui lòng điền mật khẩu”	N/A	Passed	31/3/2020

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Table 173 <Test case> Change Password

5.1.1.6 <Collector> Book Scrap

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
BS_1	Book Scrap successfully	- Login as Collector. - User is at “Đặt ve chai” screen.	1. In “Giá” field: Enter “50,000”. 2. In “Chọn thời gian” field: Choose 1 time. 3. Press button “Đặt ve chai”.	System shows message: “Yêu cầu của bạn đã được gửi đi”.	N/A	Passed	31/3/2020
BS_2	Not choose available time to get scrap.	- Login as Collector. - User is at “Đặt ve chai” screen.	1. In “Giá” field: Enter “50,000”. 2. In “Chọn thời gian” field: Not choose anything. 3. Press button “Đặt ve chai”.	System shows message error: “Vui lòng chọn thời gian lấy”.	N/A	Passed	31/3/2020

BS_3	Input negative price in "Giá" field.	- Login as Collector. - User is at "Đặt ve chai" screen.	1. In "Giá" field: Try to input negative price "-50,000". 2. In "Chọn thời gian" field: Choose 1 time. 3. Press button "Đặt ve chai".	System reformats to number types	N/A	Passed	31/3/2020
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Table 174 <Test case> Book Scrap

5.1.1.7 <Collector> Cancel booking scrap

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
CBS_1	Cancel booking successfully	- Login as Collector. - User is at "Yêu cầu đặt ve chai" screen.	1. Press button "Hủy đặt ve chai". 2. Pop up notification show up "Bạn chắc chắn xóa yêu cầu này". 3. Press "Xóa" button.	System shows "Yêu cầu đã được hủy". The canceled booking is no more shown.	N/A	Passed	31/3/2020
CBS_2	No Cancel Book Scrap	- Login as Collector. - User is at "Yêu cầu đặt	1. Press button "Hủy đặt ve chai".	Turn off popup. Stay on "Yêu cầu đặt ve chai" screen.	N/A	Passed	31/3/2020

		ve chai" screen.	2. Pop up notification show up “Bạn chắc chắn xóa yêu cầu này”. 3. Press “Bỏ qua” button.				
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Table 175 <Test case> Cancel booking Scrap

5.1.1.8 <Collector> View schedule

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
VSS_1	Show list scrap has been booked and has been organized according to the schedule of the given date.	Login as Collector.	1. Press “Lịch trình”. Switch to “Lịch trình” screen.	System shows list of scrap has been booked and has been organized according to the schedule of the given date.	ABR_1	Passed	31/3/2020
VSS_2	Booking is scheduled by available time	Login as Collector That Collector has more than one scrap that need to be take in today.	1. Press “Lịch trình”. Switch to “Lịch trình” screen.	The booking is scheduled by available time: - Booking having sooner “from	ABR_1	Passed	12/4/2020

				time" is placed first - If two booking has the same "from time", then the booking having sooner "to time" is placed first			
VSS_3	Show message "Đã trễ giờ đặt" when a booking is overdue.	Login as Collector	1. Press "Lịch trình". Switch to "Lịch trình" screen.	If day of week and to time in app lower than current, system shows message for that booking: "Đã trễ giờ đặt" and the button with title: "Tôi đã lấy Ve chai này"	ABR_1	Passed	31/3/2020
VSS_4	Pick up scrap	Login as Collector.	1. Press "Lịch trình". Switch to "Lịch trình" screen. 2. On the booking that has been marked as "Đã trễ giờ	The system navigates to "lịch sử" screen on tab "Đã lấy".	N/A	Passed	31/3/2020

			đặt", press "Tôi đã lấy ve chai này" button.				
VSS_5	Contact the Homeowner	Login as Collector. Collector view schedule of the day	1. Press "Lịch trình". Switch to "Lịch trình" screen. 2. On the booking item, press the button with "Call" logo	Application calls the Homeowner by the phone number that Homeowner has registered	N/A	Passed	31/3/2020
VSS_6	View direction	Login as Collector. Collector view schedule of the day	1. Press "Lịch trình". Switch to "Lịch trình" screen. 2. On the booking item, press the button with "Direction" logo	Application opens Google Map Application and show direction from the Collector's current location to the address of the scrap	N/A	Passed. But the direction sometimes not working.	31/3/2020

Table 176 <Test case> View schedule

5.1.1.9 <Collector> Search Scrap

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
SC_1	Show scrap list in “Trang chủ” screen.	Login as Collector.		Show list scrap order by latest, nearest scrap and list booking request.	N/A	Passed	31/3/2020
SC_2	Search scrap latest by category “Tổng hợp”	Login as Collector.	1. In “Ve chai mới nhất” part, press “Xem thêm”. Switch to “Ve chai mới nhất” screen. 2. In “Phân loại” tab, choose: “Tổng hợp”.	Show list latest scrap by category “Tổng hợp”.	N/A	Passed	31/3/2020
SC_3	Search scrap latest by category “Giấy vụn”	Login as Collector.	1. In “Ve chai mới nhất” part, press “Xem thêm”. Switch to “Ve chai mới nhất” screen. 2. In “Phân loại” tab, choose: “Giấy vụn”.	Show list latest scrap by category “Giấy vụn”.	N/A	Passed	31/3/2020

SC_4	Search scrap nearest by category “Tổng hợp”	Login as Collector.	1. In “Ve chai gần bạn” part, press “Xem thêm”. Switch to “Ve chai gần bạn” screen. 2. In “Phân loại” tab, choose: “Tổng hợp”.	Show list nearest scrap by category “Tổng hợp”.	N/A	Failed	31/3/2020
SC_5	Search scrap nearest by category “Vỏ lon nước”	Login as Collector.	1. In “Ve chai gần bạn” part, press “Xem thêm”. Switch to “Ve chai gần bạn” screen. 2. In “Phân loại” tab, choose: “Vỏ lon nước”.	Show list nearest scrap by category “Vỏ lon nước”.	N/A	Passed	31/3/2020
SC_6	Show list booking request	Login as Collector.	1. In “Đang chờ xác nhận” part. Press “Xem tất cả”, switch to “Yêu cầu đang chờ” screen.	Show list of waiting booking request.	N/A	Passed	31/3/2020

Table 177 <Test case> Search scrap

5.1.1.10 <Collector> Update booking

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
UB_1	Update booking successfully	Login as Collector. - User is at “Chỉnh sửa”	1. In “Đang chờ xác nhận” part. Choose 1 booking request.	System shows message: “Yêu cầu của bạn đã được chỉnh sửa”.	BS_1	Passed	31/3/2020

		yêu cầu" screen.	2. Press "Chỉnh sửa" button. Switch to "Chỉnh sửa yêu cầu" screen. 3. In "Giá" field: Enter "90,000". 4. In "Chọn thời gian" field: Choose 1 time. 5. Press button "Chỉnh sửa".				
UB_2	Cancel Update booking successfully	Login as Collector. - User is at "Chỉnh sửa yêu cầu" screen.	1. In "Giá" field: Enter "90,000". 2. In "Chọn thời gian" field: Choose 1 time. 3. Press button "Hủy".	Return to "Yêu cầu đặt ve chai screen".	BS_1	Passed	31/3/2020

Table 178 <Test case> Update booking

5.1.1.11 <Collector> View history booking

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date

CVH_1	The Collector views the history of scrap that have been done or picked.	Login as Collector.	<ol style="list-style-type: none"> 1. Press on “Tài khoản” tab. 2. Press on “Xem các ve chai đã mua”. Switch to “Lịch sử” screen. 3. in tabs “Hoàn thành” and “Đã lấy”. 	System shows list of scrap that have been done in “Hoàn thành” tab and picked in “Đã lấy”. If there is no scrap. System shows message “Bạn chưa hoàn thành ve chai nào” in “Hoàn thành” tab or “Bạn chưa lấy ve chai nào” in “Đã lấy” tab.	N/A	Passed	31/3/2020
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Table 179 <Test case> View booking history

5.1.1.12 <Collector> Receive notification from Homeowner

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date

RNFH_1	Collector receives notification from Homeowner when Homeowner reject booking from collector.	Login as Collector.	Homeowner reject booking request from collector.	System at role Collector shows notification reject.	BS_1, RBR_1	Passed	31/3/2020
RNFH_2	Collector receives notification from Homeowner when Homeowner accepts booking from collector.	Login as Collector.	Homeowner accept booking request from collector.	System at role Collector shows notification accept	BS_1, ABR_1	Passed	31/3/2020
RNFH_3	Collector receives notification from Homeowner	Login as Collector. Collector booked scrap having title: "Cần bán giấy vụn"	Homeowner deletes scrap named "Cần bán giấy vụn".	System at role Collector shows notification: "Ve chai "Cần bán giấy vụn" bạn đặt đã bị	DS_1	Passed	31/3/2020

	when the Homeowner deletes scrap that Collector has booked.			XÓA. Yêu cầu đặt ve chai của bạn sẽ tự động được từ chối”.			
RNFH _4	Collector receives notification from Homeowner when the Homeowner reviews scrap that Collector has booked.	Login as Collector.	Homeowner review scrap.	System at role Collector shows notification review.	RS_1	Passed	31/3/2020

Table 180 <Test case> Receive notification from Homeowner

5.1.1.13 <Homeowner> Post Scrap

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
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PS_1	Post scrap successfully	<ul style="list-style-type: none"> - Login as Homeowner. - User is at “Đăng bán ve chai” screen 	<ol style="list-style-type: none"> 1. In “Tiêu đề” field: Enter “Cần bán Sắt Vụn”. 2. Select from 1 to 5 images. 3. In “Chọn phân loại” field: pick “Sắt vụn”. 4. In “Khối lượng/Số lượng” field: Enter “50”. 5. In “Giá” field: Enter “500,000”. 6. In “Mô tả” field: Enter “Sắt đã gỉ sét”. 7. Press button “Tiếp tục”. 8. User in “Chọn thời gian” Screen. 9. In “Chọn giờ” field: <ul style="list-style-type: none"> - In “Từ” field: choose “8:00”. - In “Đến” field: choose “17:00”. 	System show message: “Ve chai đã được đăng bán”.	N/A	Passed	01/04/2020
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			<p>10. In “Chọn ngày” field: choose “Cả tuần”.</p> <p>11. Press button “Tiếp tục”.</p> <p>12. User in “Thông tin liên lạc” Screen.</p> <p>13. In “Số điện thoại” field: Enter “0344510437”.</p> <p>14. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”.</p> <p>15. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”.</p> <p>16. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”.</p> <p>17. In “Phường/ Xã” field: Choose “Phường 10”.</p> <p>18. Press button “Đăng Ve chai”.</p>			
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PS_2	Inputted data is blank in “Đăng bán ve chai” screen	- Login as Homeowner. - User is at “Đăng bán ve chai” screen	1. In “Tiêu đề” field: No Input. 2. In “Thêm hình ảnh” field: No images. 3. In “Chọn phân loại” field: No Input. 4. In “Khối lượng/Số lượng” field: No Input 5. In “Giá” field: No Input 6. In “Mô tả” field: No Input. 7. Press button “Tiếp tục”.	System shows error message: - In “Tiêu đề” field: “Không để tiêu đề trống”. - In “Thêm hình ảnh” field: “Yêu cầu từ 1 đến 5 hình ảnh”. - In “Chọn phân loại” field: “Không để phân loại trống”. - In “Khối lượng/Số lượng” field: “Không để Khối lượng/Số lượng trống”. - In “Giá” field: “Không để giá trống”.	N/A	Passed	01/04/2020
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	Blank datas: “Thêm hình ảnh”, “Chọn phân loại”, “Khối lượng/Số lượng”, “Giá”, “Mô tả”.	- Login as Homeowner. - User is at “Đăng bán ve chai” screen	1. In “Tiêu đề” field: Enter “Cần bán Sắt Vụn”. 2. In “Thêm hình ảnh” field: No images. 3. In “Chọn phân loại” field: No Input. 4. In “Khối lượng/Số lượng” field: No Input 5. In “Giá” field: No Input 6. In “Mô tả” field: No Input. 7. Press button “Tiếp tục”.	System shows error message: - In “Thêm hình ảnh” field: “Yêu cầu từ 1 đến 5 hình ảnh”. - In “Chọn phân loại” field: “Không để phân loại trống”. - In “Khối lượng/Số lượng” field: “Không để Khối lượng/Số lượng trống”. - In “Giá” field: “Không để giá trống”.	N/A	Passed	01/04/2020
	Blank datas: “Chọn phân loại”, “Khối lượng/Số	- Login as Homeowner. - User is at “Đăng bán ve chai” screen	1. In “Tiêu đề” field: Enter “Cần bán Sắt Vụn”. 2. In “Thêm hình ảnh” field: Pick between 1 to 5 images.	System shows error message: - In “Chọn phân loại” field: “Không	N/A	Passed	01/04/2020

	lượng”,”Giá”, “Mô tả”.		3. In “Chọn phân loại” field: No Input. 4. In “Khối lượng/Số lượng” field: No Input 5. In “Giá” field: No Input 6. In “Mô tả” field No Input. 7. Press button “Tiếp tục”.	để phân loại trống”. - In “Khối lượng/Số lượng” field: “Không để Khối lượng/Số lượng trống”. - In “Giá” field: “Không để giá trống”.			
	Blank datas: “Khối lượng/Số lượng”, “Giá”, “ Mô tả”.	- Login as Homeowner. - User is at “Đăng bán ve chai” screen	1. In “Tiêu đề” field: Enter “Cần bán Sắt Vụn”. 2. In “Thêm hình ảnh” field: Pick between 1 to 5 images. 3. In “Chọn phân loại” field: Pick “Sắt vụn”. 4. In “Khối lượng/Số lượng” field: No Input 5. In “Giá” field: No Input 6. In “Mô tả” field No Input.	System shows error message: - In “Khối lượng/Số lượng” field: “Không để Khối lượng/Số lượng trống”. - In “Giá” field: “Không để giá trống”.	N/A	Passe d	01/04/20 20

			7. Press button “Tiếp tục”.				
	Blank datas: "Giá","Mô tả".	- Login as Homeowner. - User is at “Đăng bán ve chai” screen	1. In “Tiêu đề” field: Enter “Cần bán Sắt Vụn”. 2. In “Thêm hình ảnh” field: Pick between 1 to 5 images. 3. In “Chọn phân loại” field: pick “Sắt vụn”. 4. In “Khối lượng/Số lượng” field: Enter “50”. 5. In “Giá” field: No Input 6. In “Mô tả” field No Input. 7. Press button “Tiếp tục”.	System shows error message: - In “Giá” field: “Không để giá trống”.	N/A	Passe d	01/04/20 20
	Blank datas: “Mô tả”.	- Login as Homeowner. - User is at “Đăng bán ve chai” screen	1. In “Tiêu đề” field: Enter “Cần bán Sắt Vụn”. 2. In “Thêm hình ảnh” field: Pick between 1 to 5 images.	Switch to “Chọn thời gian” screen.	N/A	Passe d	01/04/20 20

			<p>3. In “Chọn phân loại” field: pick “Sắt vụn”.</p> <p>4. In “Khối lượng/Số lượng” field: Enter “50”.</p> <p>5. In “Giá” field: Enter “500,000”.</p> <p>6. In “Mô tả” field No Input.</p> <p>7. Press button “Tiếp tục”.</p>				
PS_3	Inputted data is blank in “Chọn thời gian” screen.	User is at “Chọn thời gian” screen.	<p>1. In “Chọn giờ” field:</p> <ul style="list-style-type: none"> - In “Từ” field: Not Choose. - In “Đến” field: Not Choose. <p>2. In “Chọn ngày” field: Not Choose</p> <p>3. Press button “Tiếp tục”.</p>	<p>System shows error message:</p> <ul style="list-style-type: none"> - In “Chọn giờ” field: “Bạn chưa chọn thời gian”. - In “Chọn ngày” field: “Chọn ít nhất 1 ngày”. 		Passed	01/04/2020
	Blank datas: “Đến”, “Chọn ngày”.	User is at “Chọn thời gian” screen.	<p>1. In “Chọn giờ” field:</p> <ul style="list-style-type: none"> - In “Từ” field: choose “8:00”. - In “Đến” field: Not Choose 	<p>System shows error message:</p>	N/A	Passed	01/04/2020

			<p>2. In “Chọn ngày” field: Not Choose.</p> <p>3. Press button “Tiếp tục”.</p>	<p>- In “Chọn giờ” field: “Bạn chưa chọn thời gian”.</p> <p>- In “Chọn ngày” field: “Chọn ít nhất 1 ngày”.</p>			
	Blank datas: “Chọn ngày”.	User is at “Chọn thời gian” screen.	<p>1. In “Chọn giờ” field:</p> <ul style="list-style-type: none"> - In “Từ” field: choose “8:00”. - In “Đến” field: choose “17:00”. <p>2. In “Chọn ngày” field: Not Choose.</p> <p>3. Press button “Tiếp tục”.</p>	<p>System shows error message:</p> <ul style="list-style-type: none"> - In “Chọn ngày” field: “Chọn ít nhất 1 ngày”. 	N/A	Passed	01/04/2020
	No blank data.		<p>1. In “Chọn giờ” field:</p> <ul style="list-style-type: none"> - In “Từ” field: Choose “8:00”. - In “Đến” field: Choose “17:00”. 	Switch to “Thông tin liên lạc” screen.	N/A	Passed	01/04/2020

			2. In “Chọn ngày” field: Choose “Cả tuần”. 3. Press button “Tiếp tục”.				
PS_4	-Data on this screen is default by account. - Test input data is blank. - Blank data: “Số điện thoại”.	User is at “Thông tin liên lạc” screen.	1. In “Số điện thoại” field: No Enter. 2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”. 3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”. 4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”. 5. In “Phường/ Xã” field: Choose “Phường 10”. 6. Press button “Đăng Ve chai”.	System shows error message: - In “Số điện thoại” field: “Số điện thoại không hợp lệ”.	N/A	Passed	01/04/2020
	“Số điện thoại” is wrong format.	User is at “Thông tin liên lạc” screen.	1. In “Số điện thoại” field: Enter “09055511asd”	System shows error message:	N/A	Passed	01/04/2020

			<p>2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”.</p> <p>3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”.</p> <p>4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”.</p> <p>5. In “Phường/ Xã” field: Choose “Phường 10”.</p> <p>6. Press button “Đăng Ve chai”. Switch to “Thông tin liên lạc” screen.</p>	<p>- In “Số điện thoại” field: “Số điện thoại không hợp lệ”.</p>			
	“Địa chỉ cụ thể” is blank.	User is at “Thông tin liên lạc” screen.	<p>1. In “Số điện thoại” field: Enter “032796233”</p> <p>2. In “Địa chỉ cụ thể” field: No Input.</p> <p>3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”.</p> <p>4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”.</p>	<p>System shows error message:</p> <ul style="list-style-type: none"> - In “Địa chỉ cụ thể” field: “Không để Địa chỉ trống”. 	N/A	Passed	01/04/2020

			5. In “Phường/ Xã” field: Choose “Phường 10”. 6. Press button “Đăng Ve chai”.				
	“Quận/ Huyện”, “Phường/ Xã” are blanks.	User is at “Thông tin liên lạc” screen.	1. In “Số điện thoại” field: Enter “032796233” 2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung” 3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”. 4. In “Quận/ Huyện” field: No Choose. 5. In “Phường/ Xã” field: No Choose. 6. Press button “Đăng Ve chai”.	System shows error message: - In “Quận/ Huyện” field: “Vui long chọn Quận/ Huyện”. - In “Phường/ Xã” field: “Vui long chọn Phường/ Xã”.	N/A	Passe d	01/04/20 20
	“Phường/ Xã” is blank.	User is at “Thông tin liên lạc” screen.	1. In “Số điện thoại” field: Enter “032796233” 2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”	System shows error message:	N/A	Passe d	01/04/20 20

			<p>3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”.</p> <p>4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”.</p> <p>5. In “Phường/ Xã” field: No Choose.</p> <p>6. Press button “Đăng Ve chai”.</p>	- In “Phường/ Xã” field: “Vui long chọn Phường/ Xã”.			
	Input full data and right format.	User is at “Thông tin liên lạc” screen.	<p>1. In “Số điện thoại” field: Enter “032796233”</p> <p>2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”</p> <p>3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”.</p> <p>4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”.</p> <p>5. In “Phường/ Xã” field: Choose “Phường 10”.</p> <p>6. Press button “Đăng Ve chai”.</p>	System show message: “Ve chai đã được đăng bán thành công”.	N/A	Passed	01/04/2020

	<p>Choose randomly “Tỉnh/ Thành Phố”. “Quận/ Huyện” and “Phường/ Xã” will show correctly follow “Tỉnh/ Thành Phố”.</p>	<p>User is at “Thông tin liên lạc” screen.</p>	<ol style="list-style-type: none"> 1. In “Số điện thoại” field: Enter “032796233” 2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung” 3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”. 4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”. 5. In “Phường/ Xã” field: Choose “Phường 10”. 6. Press button “Đăng Ve chai”. 	<p>System show message: “Ve chai đã được đăng bán thành công”.</p>	N/A	Passed	01/04/2020
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Table 181 <Test case> Post scrap

5.1.1.14 <Homeowner> Delete Scrap

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date

DS_1	Homeowner cancels delete scrap.	Login as Homeowner	1. In “Đang rao” tab. Choose 1 scrap. Switch to “Chi tiết ve chai” screen. 2. Press “Xóa ve chai” button. Show popup notification. 3. Press “BỎ qua” button.	Popup disappears. Return to “Chi tiết ve chai screen”.	PS_1	Passed	31/3/2020
DS_2	Homeowner deletes scrap.		1. In “Đang rao” tab. Choose 1 scrap. Switch to “Chi tiết ve chai” screen. 2. Press “Xóa ve chai” button. Show popup notification. 3. Press “Xóa” button.	System shows message: “Ve chai đã được xóa”. Return to “Trang chủ”. In “Đang rao” tab, recently deleted posts are not displayed.	PS_1	Passed	31/3/2020

Table 182 <Test case> Delete scrap

5.1.1.15 <Homeowner> Update Scrap

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
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US_1	Update scrap successfully	Login as Homeower.	<p>1. In “Đang rao” tab. Choose 1 scrap.</p> <p>2. Press “Chỉnh sửa” button. Switch to “Chỉnh sửa ve chai” screen.</p> <p>3. In “Tiêu đề” field: Enter “Cần bán Giấy vụn”.</p> <p>4. Input between 1 to 5 images.</p> <p>5. In “Chọn phân loại” field: pick “Giấy vụn”.</p> <p>6. In “Khối lượng/Số lượng” field: Enter “100”.</p> <p>7. In “Giá” field: Enter “1,000,000”.</p> <p>8. In “Mô tả” field: Enter “Giấy cát tông”.</p> <p>9. Press button “Tiếp tục”.</p> <p>10. User in “Chọn thời gian” Screen.</p> <p>11. In “Chọn giờ” field:</p>	<p>Systems shows message “Chỉnh sửa ve chai thành công”.</p> <p>In “Đang rao” tab. Choose again scrap that updated.</p> <p>Information have already updated.</p>	PS_1	Passed	07/04/2020
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		<ul style="list-style-type: none">- In “Tù” field: choose “10:00”.- In “Đến” field: choose “15:00”.12. In “Chọn ngày” field: choose “Thứ ba”.13. Press button “Tiếp tục”.14. User in “Thông tin liên lạc” Screen.15. In “Số điện thoại” field: Enter “0344510437”.16. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”.17. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”.18. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”.19. In “Phường/ Xã” field: Choose “Phường 10”.			
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			20. Press button “Chỉnh sửa ve chai”.				
US_2	Inputted data is blank in “Chỉnh sửa ve chai” screen	- Login as Homeowner. - User is at “Chỉnh sửa ve chai” screen	1. In “Tiêu đề” field: No Input. 2. In “Thêm hình ảnh” field: No images. 3. In “Chọn phân loại” field: No Input. 4. In “Khối lượng/Số lượng” field: No Input 5. In “Giá” field: No Input 6. In “Mô tả” field: No Input. 7. Press button “Tiếp tục”.	System shows error message: - In “Tiêu đề” field: “Không để tiêu đề trống”. - In “Thêm hình ảnh” field: “Yêu cầu từ 1 đến 5 hình ảnh”. - In “Chọn phân loại” field: “Không để phân loại trống”. - In “Khối lượng/Số lượng” field: “Không để Khối lượng/Số lượng trống”.	N/A	Passed	07/04/2020

				- In “Giá” field: “Không để giá trống”.			
US_3	Blank datas: “Thêm hình ảnh”, “Chọn phân loại”, “Khối lượng/Số lượng”, “Giá”, “Mô tả”.	- Login as Homeowner. - User is at “Chỉnh sửa ve chai” screen	<ol style="list-style-type: none"> 1. In “Tiêu đề” field: Enter “Cần bán Sắt Vụn”. 2. In “Thêm hình ảnh” field: No images. 3. In “Chọn phân loại” field: No Input. 4. In “Khối lượng/Số lượng” field: No Input 5. In “Giá” field: No Input 6. In “Mô tả” field No Input. 7. Press button “Tiếp tục”. 	<p>System shows error message:</p> <ul style="list-style-type: none"> - In “Thêm hình ảnh” field: “Yêu cầu từ 1 đến 5 hình ảnh”. - In “Chọn phân loại” field: “Không để phân loại trống”. - In “Khối lượng/Số lượng” field: “Không để Khối lượng/Số lượng trống”. - In “Giá” field: “Không để giá trống”. 	N/A	Passe d	07/04/20 20

US_4	Blank datas: "Chọn phân loại", "Khối lượng/Số lượng", "Giá", "Mô tả".	- Login as Homeowner. - User is at "Chỉnh sửa ve chai" screen	1. In "Tiêu đề" field: Enter "Cần bán Sắt Vụn". 2. In "Thêm hình ảnh" field: Pick between 1 to 5 images. 3. In "Chọn phân loại" field: No Input. 4. In "Khối lượng/Số lượng" field: No Input 5. In "Giá" field: No Input 6. In "Mô tả" field: No Input. 7. Press button "Tiếp tục".	System shows error message: - In "Chọn phân loại" field: "Không để phân loại trống". - In "Khối lượng/Số lượng" field: "Không để Khối lượng/Số lượng trống". - In "Giá" field: "Không để giá trống".	N/A	Passed	07/04/2020
US_5	Blank datas: "Khối lượng/Số lượng", "Giá", "Mô tả".	- Login as Homeowner. - User is at "Chỉnh sửa ve chai" screen	1. In "Tiêu đề" field: Enter "Cần bán Sắt Vụn". 2. In "Thêm hình ảnh" field: Pick between 1 to 5 images. 3. In "Chọn phân loại" field: Pick "Sắt vụn".	System shows error message: - In "Khối lượng/Số lượng" field: "Không để Khối lượng/Số lượng trống".	N/A	Passed	07/04/2020

			4. In “Khối lượng/Số lượng” field: No Input 5. In “Giá” field: No Input 6. In “Mô tả” field No Input. 7. Press button “Tiếp tục”.	- In “Giá” field: “Không để giá trống”.			
US_6	Blank datas: “Giá”, “Mô tả”.	- Login as Homeowner. - User is at “Chỉnh sửa ve chai” screen	1. In “Tiêu đề” field: Enter “Cần bán Sắt Vụn”. 2. In “Thêm hình ảnh” field: Pick between 1 to 5 images. 3. In “Chọn phân loại” field: pick “Sắt vụn”. 4. In “Khối lượng/Số lượng” field: Enter “50”. 5. In “Giá” field: No Input 6. In “Mô tả” field No Input. 7. Press button “Tiếp tục”.	System shows error message: - In “Giá” field: “Không để giá trống”.	N/A	Passed	07/04/2020
US_7	Blank datas: “Mô tả”.	- Login as Homeowner. - User is at “Chỉnh sửa ve chai” screen	1. In “Tiêu đề” field: Enter “Cần bán Sắt Vụn”.	Switch to “Chọn thời gian” screen.	N/A	Passed	07/04/2020

			<p>2. In “Thêm hình ảnh” field: Pick between 1 to 5 images.</p> <p>3. In “Chọn phân loại” field: pick “Sắt vụn”.</p> <p>4. In “Khối lượng/Số lượng” field: Enter “50”.</p> <p>5. In “Giá” field: Enter “500,000”.</p> <p>6. In “Mô tả” field No Input.</p> <p>7. Press button “Tiếp tục”.</p>				
US_8	Inputted data is blank in “Chọn thời gian” screen.	User is at “Chọn thời gian” screen.	<p>1. In “Chọn giờ” field:</p> <ul style="list-style-type: none"> - In “Từ” field: Not Choose. - In “Đến” field: Not Choose. <p>2. In “Chọn ngày” field: Not Choose</p> <p>3. Press button “Tiếp tục”.</p>	<p>System shows error message:</p> <ul style="list-style-type: none"> - In “Chọn giờ” field: “Bạn chưa chọn thời gian”. - In “Chọn ngày” field: “Chọn ít nhất 1 ngày”. 	Passed	07/04/2020	

	Blank datas: "Đến", "Chọn ngày".	User is at "Chọn thời gian" screen.	1. In "Chọn giờ" field: - In "Từ" field: choose "8:00". - In "Đến" field: Not Choose 2. In "Chọn ngày" field: Not Choose. 3. Press button "Tiếp tục".	System shows error message: - In "Chọn giờ" field: "Bạn chưa chọn thời gian". - In "Chọn ngày" field: "Chọn ít nhất 1 ngày".	N/A	Passed	07/04/2020
US_9	Blank datas: "Chọn ngày".	User is at "Chọn thời gian" screen.	1. In "Chọn giờ" field: - In "Từ" field: choose "8:00". - In "Đến" field: choose "17:00". 2. In "Chọn ngày" field: Not Choose. 3. Press button "Tiếp tục".	System shows error message: - In "Chọn ngày" field: "Chọn ít nhất 1 ngày".	N/A	Passed	07/04/2020
US_10	No blank data.		1. In "Chọn giờ" field: - In "Từ" field:	Switch to "Thông tin liên lạc" screen.	N/A	Passed	07/04/2020

			<p>Choose “8:00”.</p> <p>- In “Đến” field:</p> <p>Choose “17:00”.</p> <p>2. In “Chọn ngày” field: Choose “Cả tuần”.</p> <p>3. Press button “Tiếp tục”.</p>				
US_11	<ul style="list-style-type: none"> -Data on this screen is default by account. - Test input data is blank. - Blank data: “Số điện thoại”. 	User is at “Thông tin liên lạc” screen.	<p>1. In “Số điện thoại” field: No Enter.</p> <p>2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”.</p> <p>3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”.</p> <p>4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”.</p> <p>5. In “Phường/ Xã” field: Choose “Phường 10”.</p>	<p>System shows error message: - In “Số điện thoại” field: “Số điện thoại không hợp lệ”.</p>	N/A	Passed	07/04/2020

			6. Press button “Đăng Ve chai”.				
US_12	“Số điện thoại” is wrong format.	User is at “Thông tin liên lạc” screen.	1. In “Số điện thoại” field: Enter “09055511asd” 2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”. 3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”. 4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”. 5. In “Phường/ Xã” field: Choose “Phường 10”. 6. Press button “Đăng Ve chai”.	System shows error message: - In “Số điện thoại” field: “Số điện thoại không hợp lệ”.	N/A	Passed	07/04/2020
US_13	“Địa chỉ cụ thể” is blank.	User is at “Thông tin liên lạc” screen.	1. In “Số điện thoại” field: Enter “032796233” 2. In “Địa chỉ cụ thể” field: No Input.	System shows error message: - In “Địa chỉ cụ thể” field: “Không để Địa chỉ trống”.	N/A	Passed	07/04/2020

			3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”. 4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”. 5. In “Phường/ Xã” field: Choose “Phường 10”. 6. Press button “Đăng Ve chai”.				
US_14	“Quận/ Huyện”, “Phường/ Xã” are blanks.	User is at “Thông tin liên lạc” screen.	1. In “Số điện thoại” field: Enter “032796233” 2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung” 3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”. 4. In “Quận/ Huyện” field: No Choose. 5. In “Phường/ Xã” field: No Choose.	System shows error message: - In “Quận/ Huyện” field: “Vui long chọn Quận/ Huyện”. - In “Phường/ Xã” field: “Vui long chọn Phường/ Xã”.	N/A	Passed	07/04/20 20

			6. Press button “Đăng Ve chai”.				
US_15	“Phường/ Xã” is blank.	User is at “Thông tin liên lạc” screen.	1. In “Số điện thoại” field: Enter “032796233” 2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung” 3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”. 4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”. 5. In “Phường/ Xã” field: No Choose. 6. Press button “Đăng Ve chai”.	System shows error message: - In “Phường/ Xã” field: “Vui long chọn Phường/ Xã”.	N/A	Passed	07/04/2020
US_16	Input full data and right format.	User is at “Thông tin liên lạc” screen.	1. In “Số điện thoại” field: Enter “032796233” 2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”	System show message: “Ve chai đã được đăng bán thành công”.	N/A	Passed	07/04/2020

			<p>3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”.</p> <p>4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”.</p> <p>5. In “Phường/ Xã” field: Choose “Phường 10”.</p> <p>6. Press button “Đăng Ve chai”.</p>				
US_1	Choose randomly “Tỉnh/ Thành Phố”. “Quận/ Huyện” and “Phường/ Xã” will show correctly follow “Tỉnh/ Thành Phố”.	User is at “Thông tin liên lạc” screen.	<p>1. In “Số điện thoại” field: Enter “032796233”</p> <p>2. In “Địa chỉ cụ thể” field: Enter “417 Quang Trung”</p> <p>3. In “Tỉnh/ Thành phố” field: Choose “Hồ Chí Minh”.</p> <p>4. In “Quận/ Huyện” field: Choose “Quận Gò Vấp”.</p> <p>5. In “Phường/ Xã” field: Choose “Phường 10”.</p>	System show message: “Ve chai đã được đăng bán thành công”.	N/A	Passed	07/04/2020

			6. Press button “Đăng Ve chai”.				
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Table 183 <Test case> Update scrap

5.1.1.16<Homeowner> View Booking request

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
VBR_1	View all Booking requests	- Login as Homeowner. - User is in “Trang chủ” screen	1. Choose the “Chờ xử lý” tab in the tab bar on the top of “Trang chủ” Screen	System shows list of Booking requests. Booking request is grouped by Title of Scrap. Each booking request contain the name of Collector of Booking, price of Booking, note of booking, time to pick up scrap, “Chấp nhận”	N/A	Passed	31/3/2020

				button, and “Tù chối” button			
VBR_2	Receive notification from Collector when collector books scrap.	Login as Homeowner.	1. Click on notification from Collector.	Automatically log into the app.	BS_1	Passed	31/3/2020
VBR_3	View All Booking when there is no booking request	- Login as Homeowner. - User is in “Trang chủ” screen - That Homeowner doesn't have any booking request	1. Choose the “Chờ xử lý” tab in the tab bar on the top of “Trang chủ” Screen	System shows Screen with message “Bạn chưa có yêu cầu đặt ve chai nào”	N/A	Passed	31/3/2020

Table 184 <Test case> View booking request

5.1.1.17 <Homeowner> Accept Booking request

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date

ABR_1	Accept Booking	- Login as Homeowner. - User is in "Chờ xử lý" tab in "Trang chủ" screen	1. Press on "Đồng ý" button on each Booking. 2. Systems show Confirm Dialog with message "Bạn chấp nhận yêu cầu này?" 3. Press on "Chấp nhận" button on Confirm Dialog.	System shows message "Yêu cầu đã được chấp nhận". If the scrap has more than 1 booking, other booking requests is rejected.	VBR_1	Passed	31/3/2020
ABR_2	Cancel accept Booking	- Login as Homeowner. - User is in "Đang chờ" tab in "Trang chủ" screen	1. Press on "Đồng ý" button on each Booking. 2. Systems show Confirm Dialog with message "Bạn chấp nhận yêu cầu này?" 3. Press on "Hủy" button on Confirm Dialog	System closes Confirm Dialog, booking is not accepted.	VBR_1	Passed	31/3/2020

Table 185 <Test case> Accept booking request

5.1.1.18 <Homeowner> Reject Booking request

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
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RBR_1	Reject Booking	- Login as Homeowner. - User is in "Chờ xử lý" tab in "Trang chủ" screen	1. Press on "Tù chối" button on each Booking 2. System shows Confirm Dialog with message "Bạn muốn Từ chối yêu cầu này?" 3. Press on "Tù chối" button on Confirm Dialog	System shows message "Yêu cầu đã được từ chối". If the scrap has more than 1 booking, other booking requests is not rejected.	VBR_1	Passed	31/3/2020
RBR_2	Cancel reject Booking	- Login as Homeowner. - User is in "Chờ xử lý" tab in "Trang chủ" screen	1. Press on "Tù chối" button on each Booking 2. Systems show Confirm Dialog with message "Bạn chắc chắn từ chối yêu cầu này không?" 3. Press on "Hủy" button on Confirm Dialog	System closes Confirm Dialog, booking is not rejected.	VBR_1	Passed	31/3/2020

Table 186 <Test case> Reject booking request

5.1.1.19 <Homeowner> View history

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
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HVH_1	The Homeowner views the history of scraps that have been sold.	Login as Homeowner.	1. Press on “Tài khoản” tab. 2. Press on “Xem lịch sử đã bán”. Switch to “Lịch sử” screen.	System shows list of scrap that have been sold. If there is no scrap. System shows message “Bạn chưa có ve chai nào đã được hoàn thành”.	N/A	Passed	31/3/2020
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Table 187 <Test case> View history

5.1.1.20 <Homeowner> Review Collector

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
RC_1	Homeowner reviews collector that has bought homeowner's scrap.	Login as Homeowner. Homeowner accomplishes a scrap.	1. Press on “Đã được đặt” tab. App shows list booked scrap. 2. Press on “Hoàn thành” button. 3. System shows Review dialog 4. Select review star 5. Input review description. 6. Press “Gửi” button.	System shows message: “Đánh giá của bạn đã được gửi”.	N/A	Passed	31/3/2020

RC_2	Cancel review	Login as Homeowner.	1. Press on “Đã được đặt” tab. App shows list booked scrap. 2. Press on “Hoàn thành” button. 3. System shows Review dialog 4. Press “Hủy” button.	System closes Review dialog	N/A	Passed	31/3/2020

Table 188 <Test case> Review Collector

5.1.1.21 <Homeowner> Receive notification from Collector

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
RNFC_1	Homeowner receives notification from collector when Collector books scrap.	Login as Homeowner	Collector books scrap.	System at role Homeowner shows notification book scrap from Collector.	BS_1	Passed	31/3/2020

RNFC_2	Homeowner receives notification from collector when Collector cancels booking.	Login as Homeowner	Collector cancels booking.	System at role Homeowner shows notification cancel booking from collector.	CBS_1	Passed	31/3/2020
RNFC_3	Homeowner receives notification from collector when Collector has picked booking.	Login as Homeowner	Collector picks up scrap.	System at role Homeowner shows notification picked booking from collector.	VSS_3	Passed	31/3/2020
RNFC_4	Notification when Collector chats to Homeowner.	Login as Homeowner	Collector sends message to Homeowner.	System at role Homeowner shows notification.	CH_1	Passed	1/4/2020

Table 189 <Test case> Receive notification from Collector

5.1.1.22 <Authorized User> Call

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
CA_1	Collector calls Homeowner	Login as Collector	1. Choose 1 scrap. Switch to “Chi tiết ve chai” screen. 2. Press on icon phone in scrap detail.	System navigates call function on phone.	N/A	Passed	1/4/2020

Table 190 <Test case> Call

5.1.1.23 <Authorized User> Chat

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
CH_1	Homeowner and Collector chat together.	User in “Chat” screen.	1. User “phuongnt” chat with user “thuyntt”	System shows conversation between 2 users	N/A	Passed	1/4/2020
CH_2	View scrap of the chat room.	User in “Chat” screen.	1. User press on Scrap tittle on top in “Chat” screen.	Switch to “Chi tiết ve chai” screen.	N/A	Passed	1/4/2020

Table 191 <Test case> Chat

5.1.2 Web Admin Test Case

5.1.2.1 Login

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
LI_1	Login successfully	Guest is at "Login" screen.	1. In "Username" field: Enter "khanhAdmin" 2. In "Password" field: Enter "khanhAdmin123@" 3. Press button "Login".	System shows "Dashboard" screen	N/A	Passed	30/3/2020
LI_2	Inputted data is blank: - "Username" is blank.	Guest is at "Login" screen.	1. In "Username" field: No Input. 2. In "Password" field: Enter "duyDat123@"	System disables "Login" button	N/A	Passed	30/3/2020
LI_3	"Password" is blank.	Guest is at "Login" screen.	1. In "Username" field: Enter "khanhAdmin" 2. In "Password" field: No input	System disables "Login" button	N/A	Passed	30/3/2020
LI_4	Username or Password not correct	Guest is at "Login" screen	1. In "Username" field: Enter "khanhAdmin" 2. In "Password" field: Enter "khanhAdmin" 3. Press button "Login".	System shows error message "Invalid username or password."	N/A	Passed	30/3/2020

LI_5	System remember user	User login successfully	1. User exits the app then open app again.	System moves to “Dashboard” screen without login again	LI_1	Passee d	30/3/202 0
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Table 192 <Test case> Login

5.1.2.2 Logout

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
LO_1	Logout successfully	Login as an admin.	1. Press “Logout” button on side bar menu.	System transfers to Login screen. When press Back button, system transfer to Login screen.	N/A	Passee d	07/04/20 20

Table 193 <Test case> Logout

5.1.2.3 Add new Admin

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date

ANA_1	Add new Admin form is displayed successfully.	Login as an admin.	1. Choose Account tab in side menu. 2. Press "Add New Admin" button.	System shows "Add new Admin" form with these fields: - Username - Password - Confirm password - Full name - Email - Phone - "Choose avatar" button - "Add" button	N/A	Passed	07/04/2020	
ANA_2	Add new admin successfully	Login as an admin. Admin is at "Add new Admin" screen.	1. In "Username" field: Input "DatAdmin" 2. In "Password" field: Enter "duyDat123@"	3. In "Confirm password" field: Enter "duyDat123@"	System shows message "Add Admin successfully"	ANA_1	Pased	07/04/2020

			4. In "Full name" field: Enter "Nguyễn Duy Đạt 5. In "Email" field: Enter "datndse63093@fpt.edu.vn 6. In "Phone" field: Enter "0327962333 7. Choose avatar 8. Press "Add" button				
ANA_3	Check validate when all fields are left blank	Login as an admin. Admin is at "Add new Admin" screen.	1. Leave all fields blank	"Add" button is disabled	ANA_1	Passed	07/04/2020
ANA_4	Check validate when any field is left blank	Login as an admin. Admin is at "Add new Admin" screen.	1. Leave "Username" field blank 2. In "Password" field: Enter "duyDat123@" 3. In "Confirm password" field: Enter "duyDat123@" 4. In "Full name" field: Enter "Nguyễn Duy Đạt 5. In "Email" field: Enter "datndse63093@fpt.edu.vn 6. In "Phone" field: Enter "0327962333	"Add" button is disabled	ANA_1	Passed	07/04/2020

			7. Choose avatar 8. Press “Add” button				
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Table 194 <Test case> Add new Admin

5.1.2.4 View all categories in the System

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
VAC_1	View all categories successfully.	Login as an admin.	1. Choose Category tab in side menu.	System shows Category screen with “Add new Category” button and the table of all categories in the system with these fields: - Name - Unit - Status	N/A	Passed	07/04/2020

				- “Actions” button group			
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Table 195 <Test case> View all categories in the System

5.1.2.5 Add new category

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
ANC_1	Add new Category form is displayed successfully.	- Login as an admin. - Admin views all categories successfully.	1. Press “Add new Category” button.	System shows “Add new Category” form with these fields: - Name - Unit - “Add” button	VAC_1	Passee d	07/04/20 20
ANC_2	Add new Category successfully.	- Login as an admin. - Admin views all categories successfully.	1. In “Name” field: Enter “Giấy vụn” 2. In “Unit” field: Enter “kg” 3. Press “Add” button	System shows message “Add category successfully”	ANC_1	Passee d	07/04/20 20

ANC_3	Leave all fields blank.	- Login as an admin. - Admin views all categories successfully.	1. Leave "Name" field blank 2. Leave "Unit" field blank	"Add" button is disable.	ANC_1	Passed	07/04/2020
ANC_4	Leave "Category name" field blank.	- Login as an admin. - Admin views all categories successfully.	1. Leave "Name" field blank 2. In "Unit" field: Enter "kg"	"Add" button is disable.	ANC_1	Passed	07/04/2020
ANC_5	Leave "Category unit" field blank.	- Login as an admin. - Admin views all categories successfully.	1. In "Name" field: Enter "Giấy vụn" 2. Leave "Unit" field blank	"Add" button is disable.	ANC_1	Passed	07/04/2020

Table 196 <Test case> Add new category

5.1.2.6 Update category

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date

UC_1	Update Category form is displayed successfully.	- Login as an admin. - Admin views all categories successfully.	1. Press "Update" button in "Inox" category item.	System shows "Update Category" form with these fields: - "Name" is displayed with "Inox" value - "Unit" is displayed with "kg" value - "Status" is displayed with "ACTIVE" value - "Update" button	VAC_1	Passed	07/04/2020
UC_2	Update Category name successfully.	- Login as an admin. - Admin views all categories successfully.	1. In "Name" field: Enter "Inox cũ" 3. Press "Update" button	System shows message "Update category successfully"	UC_1	Passed	07/04/2020
UC_3	Update Category unit successfully.	- Login as an admin.	1. In "Unit" field: Enter "kí lô" 3. Press "Update" button	System shows message "Update category successfully"	UC_1	Passed	07/04/2020

		- Admin views all categories successfully.					
UC_4	Leave all fields blank and update category.	- Login as an admin. - Admin views all categories successfully.	1. Leave "Name" field blank 2. Leave "Unit" field blank 3. Press "Update" button	System shows error message "Invalid category information"	UC_1	Passee d	07/04/20 20
UC_5	Activate category	- Login as an admin. - Admin views all categories successfully.	1. In "Status" field: select "ACTIVE" 2. Press "Update" button	System shows message "Update category successfully"	UC_1	Passee d	07/04/20 20
UC_6	Deactivate category	- Login as an admin. - Admin views all categories successfully.	1. In "Status" field: select "IN-ACTIVE" 2. Press "Update" button	System shows message "Update category successfully"	UC_1	Passee d	07/04/20 20

Table 197 <Test case> Update category

5.1.2.7 View all accounts in the System

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
VAA_1	View all accounts successfully.	Login as an admin.	1. Choose Account tab in side menu.	System shows Account screen with “Add new Admin” button and the table of all accounts in the system with these fields: - Name - Username - Phone - Role - “Actions” button group - Filter form	N/A	Passed	07/04/2020

VAA_2	Filter account by role	- Login as an admin. - Admin views all account in the system.	1. In filter form, choose role "COLLECTOR" 2. Press "Apply" button	System shows table of all account that having role named "COLLECTOR".	N/A	Passed	07/04/2020
VAA_2	Sort list of accounts by created time	- Login as an admin. - Admin views all account in the system.	1. In sort option, choose "Latest" 2. Press "Apply" button	System shows table of account that has been sorted, the newest account is placed at the top of the table.	N/A	Passed	07/04/2020

Table 198 <Test case> View all accounts in the System

5.1.2.8 View all scraps in the System

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
VAS_1	View all scraps successfully.	Login as an admin.	1. Choose Scrap tab in side menu.	System shows Scrap screen with the table of all scraps in the system with these fields:	N/A	Passed	07/04/2020

				<ul style="list-style-type: none"> - Title - Price - Quantity - Category - Created Time - Status - “Actions” button group 			
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Table 199 <Test case> View all scraps in the System

5.1.2.9 View all scrap reports in the System

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
VSR_1	View all scrap reports successfully.	Login as an admin.	1. Choose Scrap Reports tab in side menu.	System shows Scrap Reports screen with the table of all scrap reports in the	N/A	Passed	07/04/2020

				system with these fields: - Scrap Title - Report Details - Annunciator - Created Time - Status - “Actions” button group			
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Table 200 <Test case> View all scrap reports in the System

5.1.2.10 View all account reports in the System

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
VAR_1	View all scraps successfully.	Login as an admin.	1. Choose Scrap tab in side menu.	System shows Scrap screen with the table of all scraps in the	N/A	Passed	07/04/2020

				system with these fields: - Title - Price - Quantity - Category - Created Time - Status - “Actions” button group			
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Table 201 <Test case> View all account reports in the System

5.1.2.11 Resolve scrap report

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
RSR_1	Resolve report	- Login as an admin. - Admin views all scrap reports.	1. Press in “Resolve” button on report item 2. System shows resolve report cofirm dialog.	System shows message “Report is resolved”	VSR_1	Passee d	07/04/20 20

			3. Press “Resolve” button.				
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Table 202 <Test case> Resolve scrap report

5.1.2.12 View Scrap detail

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
VSD_1	View Scrap Detail in Main Scrap	- Login as an admin. - Admin views all scrap.	1. Press in “View” button on scrap item.	System shows Scrap Detail screen.	N/A	Passed	07/04/2020
VSD_2	View Scrap Detail in Report Scrap	- Login as an admin. - Admin views all scrap reports.	1. Press in “View” button on scrap report item.	System shows Scrap Detail screen.	N/A	Passed	07/04/2020

Table 203 <Test case> View scrap detail

5.1.2.13 Deactivate Scrap

ID	Test Case Description	Precondition	Test case procedure	Expected output	Inner-test case dependence	Result	Test Date
DeS_1	Deactive Scrap	- Login as an admin. - Admin views all scrap.	1. Press in “View” button. Switch to Scrap Detail Screen 2. Press in “Deactive” button. 3. Press “OK” button.	Scrap has been deactive.	VSD_1, VSD_2	Passee d	07/04/2020

Table 204 <Test case> Deactivate scrap

5.2 テストケース

5.2.1 モバイルアプリケーションのテストケース



5.2.1.1 <ゲスト> ログイン

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
LI_1	ログインを成功しました。	ゲストは「Đăng nhập」画面にいます。	1. 「Tên đăng nhập」に「thuyntt」を入力する。 2. 「Mật khẩu」に「123456」を入力する。 3. 「Đăng nhập」ボタンを押す。	「Trang chủ」画面にいます。	N/A	Passed	30/3/2020
LI_2	データは空白 「Tên đăng nhập」は空白。	ゲストは「Đăng nhập」画面にいます。	1. 「Tên đăng nhập」にデータは空白。 2. 「Mật khẩu」に「123456」を入力する。 3. 「Đăng nhập」ボタンを押す。	エラーメッセージが表示される： 「Vui lòng nhập Tên đăng nhập」。	N/A	Passed	30/3/2020

	「Mật khẩu」は空白。	ゲストは「Đăng nhập」画面にい う。	1. 「Tên đăng nhập」に 「thuyntt」を入力する。 2. 「Mật khẩu」にデータは 空白。 3. 「Đăng nhập」ボタンを押 す。	エラーメッセージ が表示される： 「Vui lòng nhập mật khẩu」。	N/A	Passe d	30/3/202 0
LI_3	「Tên đăng nhập」は空白 。 「Mật khẩu」 は空白。	ゲストは「Đăng nhập」画面にい う。	1. 「Tên đăng nhập」にデー タは空白。 2. 「Mật khẩu」にデータは 空白。 3. 「Đăng nhập」ボタンを押 す。	エラーメッセージ が表示される： 「Vui lòng nhập Tên đăng nhập」。	N/A	Passe d	30/3/202 0
LI_4	ユーザー名ま たはパスワー ドが正しくな い。	ゲストは「Đăng nhập」画面にい う。	1. 「Tên đăng nhập」に 「thuyntt」を入力する。 2. 「Mật khẩu」に 「1234562」を入力する。	エラーメッセージ を表示する： 「Tên đăng nhập hoặc mật khẩu không đúng」。	N/A	Passe d	30/3/202 0

			3. 「Đăng nhập」 ボタンを押す。				
LI_5	システムはユーザーを記憶する。	ユーザーはログインに成功しました。	1. ユーザーがアプリを終了し、アプリを再度開く。	「Trang chủ」 画面にいう。	LI_1	Passed	30/3/2020

Table 205 <テストケース> ログイン

5.2.1.2 <ゲスト>アカウントに登録します

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
REG_1	登録を成功しました。	ゲストは 「Đăng ký tài khoản」 画面にいる。	1. 「Tên đăng nhập」 に 「nhan123」 を入力する。 2. 「Mật khẩu」 に 「12011nhaZ@」 を入力する。	メッセージ[Đăng ký thành công]を表示する。	N/A	Passed	30/3/2020

		<p>3. 「Xác nhận mật khẩu」 に「12011nhaZ@」を入力する。</p> <p>4. 「Đăng ký」 ボタンを押す。</p> <p>5. 「Người thu mua ve chai」 それとも 「Người Bán Ve chai」 を選ぶ。</p> <p>「Thông tin liên hệ」 画面にいう</p> <p>6. 「Ảnh đại diện」 に写真を選ぶ。</p> <p>7. 「Họ tên」 に 「Nguyễn Hoàng Nhân」 を入力する。</p> <p>8. 「Số điện thoại」 に 「0 3 4 5 5 1 0 4 3 7」 を入力する。</p>			
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		<p>9. 「Địa chỉ Email」に「datndse@fpt.edu.vn」を入力する。</p> <p>10. 「Tiếp tục」ボタンを押す。「Địa chỉ của bạn」画面にいう。</p> <p>11. 「Địa chỉ」に「417 Quang Trung」を入力する。</p> <p>12. 「Chọn Thành Phố」に「Hồ Chí Minh」を選ぶ。</p> <p>13. 「Chọn Quận/ Huyện」に「Quận Gò Vấp」を選ぶ。</p> <p>14. 「Chọn Phường/ Xã」に「Phường 10」を選ぶ。</p>			
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			15. 「Đăng ký tài khoản」 ボタンを押す。				
REG_2	データは空白。 「Tên đăng nhập」 は空白。	ゲストは 「Đăng ký tài khoản」 画面に いう。	1. 「Tên đăng nhập」 は空白。 2. 「Mật khẩu」 に 「12011nhaZ@」 を入力する。 3. 「Xác nhận mật khẩu」 に 「12011nhaZ@」 を入力する。 4. 「Đăng ký」 ボタンを押す。	エラーメッセージ を表示する 「Vui long điền Tên Đăng Nhập」	N/A	Passed	30/3/2020
	「Mật khẩu」 は空白。		1. 「Tên đăng nhập」 に 「nhan123」 を入力する。 2. 「Mật khẩu」 は空白。	エラーメッセージ を表示する： 「Vui lòng điền mật khẩu」	N/A	Passed	30/3/2020

			3. 「Xác nhận mật khẩu」 は 空白。 4. 「Đăng ký」 ボタンを押 す。				
	「Tên đăng nhập」と「 Mật khẩu」 は空白。		1. 「Tên đăng nhập」 は空白 。 2. 「Mật khẩu」 は空白。 3. 「Xác nhận mật khẩu」 は 空白。 4. 「Đăng ký」 ボタンを押 す。	エラーメッセージ を表示する： 「Vui lòng điền Tên đăng nhập」	N/A	Passed	30/3/2020
REG_3	パスワードの 確認	ゲストは「Đăng ký tài khoản」画面に いう。	1. 「Tên đăng nhập」 に 「nhan123」 を入力する。 2. 「Mật khẩu」 に 「12011nha」 を入力する。	エラーメッセージ を表示する：「 Mật khẩu Có ít Nhất 8 Ký Tự Bao	N/A	Passed	30/3/2020

			3. 「Xác nhận mật khẩu」 に 「12011nha」 を入力する。 4. 「Đăng ký」 ボタンを押 す。	Gồm Chữ Thường, Chữ Hoa, Chữ Số và Ký Tự Đặc Biệt (!, @, #, ...)			
REG_4	パスワードが間違っていることを確認	ゲストは「Đăng ký tài khoản」画面にいう。	1. 「Tên đăng nhập」 に 「nhan123」 2. 「Mật khẩu」 に 「12011nhaZ@」 を入力する。 3. 「Xác nhận mật khẩu」 に 「12011nha@」 を入力する。 4. 「Đăng ký」 ボタンを押す。	エラーメッセージを表示する： 「Xác nhận mật khẩu không khớp」	N/A	Passted	30/3/2020

REG_5	既存のユーザ一名で登録	ゲストは「Đăng ký tài khoản」画面にい。う。	1. 「Tên đăng nhập」に「trungnhan」 2. 「Mật khẩu」に「12011nhaZ@」を入力する。 3. 「Xác nhận mật khẩu」に「12011nhaZ@」を入力する。 4. 「Đăng ký」ボタンを押す。	エラーメッセージを表示する： 「Tên đăng nhập này đã có người sử dụng」	N/A	Passed	30/3/2020
REG_6	間違った電話番号の形式を入力する。	ゲストは「Thông tin liên hệ」画面にい。う。	1. 「Ảnh đại diện」に写真を選ぶ。 2. 「Họ tên」に「Nguyễn Hoàng Nhân」を入力する。 3. 「Số điện thoại」に「AAASSSS」を入力する。	エラーメッセージを表示する： 「Vui lòng điền đúng định dạng số điện thoại」	N/A	Passed	30/3/2020

			4. 「Địa chỉ Email」に「nhannhse63259@fpt.edu.vn」を入力する。 5. 「Tiếp tục」ボタンを押す。				
REG_7	間違ったメール形式を入力する。	ゲストは「Thông tin liên hệ」画面にいう。	1. 「Ảnh đại diện」に写真を選ぶ。 2. 「Họ tên」に「Nguyễn Hoàng Nhân」を入力する。 3. 「Số điện thoại」に「0345510437」を入力する。 4. 「Địa chỉ Email」に「nhannhse63259fpt.edu.vn」を入力する。 5. 「Tiếp tục」ボタンを押す。	エラーメッセージを表示する：「Vui lòng điền đúng định dạng email」	N/A	Passed	30/3/2020

REG_8	住所は空白	「Địa chỉ của bạn」画面にいう。	1. 「Địa chỉ」は空白。 2. [Chọn Thành Phố] に選択されていません。 3. [Chọn Quận/ Huyện] に選択されていません。 4. [Chọn Phường/ Xã] に選択されていません。 5. [Đăng ký tài khoản] に選択されていません。	エラーメッセージを表示する： 「Vui lòng nhập địa chỉ」	N/A	Passed	30/3/2020 0
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Table 206 <テストケース>アカウントに登録します

5.2.1.3 <許可されたユーザー> プロフィールを表示

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
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VP_1	ユーザープロフィールを表示する。	ログインを成功した。	1. 「Tài khoản」 ハイパーリンクを押す。	システムは、以前に登録したユーザー アカウントの情報を表示する。	REG_1	Passed	30/3/2020
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Table 207 <テストケース>プロフィールを表示

5.2.1.4 <許可されたユーザー> プロフィールを更新

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
UP_1	プロファイルの更新画面には、そのユーザーの正しい情報が表示されます。	ログインを成功した。	1. 「Tài khoản」 タブを押します。 2. 上部の「Chỉnh sửa」 を押します。 「Chỉnh sửa hồ sơ」 画面に切り替えます。	プロファイルの更新画面で、システムはユーザーのプロファイルの情報と同じ情報を表示します。	VP_1	Passed	02/04/2020

UP_2	プロファイルを更新しました。	ログインを成功しました。 ユーザーはプロファイルを表示します。	1 上にある 「Chỉnh sửa」 を押します。 2. フィールド名、電話番号、メールアドレス、住所変更情報。 3. 上部の 「Lưu」 を押します。	システムはメッセージ 「Tài khoản được Cập nhật thành công」 を表示します。	VP_1, UP_1	Passed	02/04/2020
UP_3	空白データを確認します。	ログインを成功しました。 ユーザーはプロファイルを表示します。	11. 上部の 「Chỉnh sửa」 を押します。 「Chỉnh sửa hồ sơ」 画面に切り替えます。 2. フィールド名を空白のままにします。 3. 上部の 「Lưu」 を押します。	システムはメッセージ 「Vui lòng nhập tên」 を表示します。	VP_1, UP_1	Passed	02/04/2020
UP_4	空白データを確認します。	ログインを成功しました。	1. 上部の 「Chỉnh sửa」 を押します。 「Chỉnh sửa hồ sơ」 画面に切り替えます。	システムはメッセージ 「Vui lòng nhập Số điện	VP_1, UP_1	Passed	02/04/2020

		ユーザーはプロファイルを表示します。	2. フィールドの電話番号を空白のままにします。 3. 上部の「Lưu」を押します。	「thoại」を表示します。			
UP_5	更新時に電話番号の形式を確認します。	ログインを成功しました。 ユーザーはプロファイルを表示します。	1. 上部の「Chỉnh sửa」を押します。「Chỉnh sửa số」画面に切り替えます。 2. 「Số điện thoại」フィールドに、「032abcdef」と入力します。 3. 上部の「Lưu」を押します。	システムはメッセージ「Số điện thoại không hợp lệ」を表示します。	VP_1, UP_1	Passed	02/04/2020

Table 208 <テストケース> プロフィールを更新

5.2.1.5 <許可されたユーザー> パスワードを変更する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
SCRAP COLLECTOR							

CP_1	パスワードを変更しました。	ログインを成功しました。	<p>1. 「Tài khoản」 タブを押します。</p> <p>2. 「Chỉnh sửa」 ボタンを押します。</p> <p>3. 「Đổi mật khẩu」 を押します。</p> <p>4. 「Mật khẩu mới」 フィールド： ユーザーが変更するパスワードを入力します。例： 「thuyntT123 @」</p> <p>5. 「Xác nhận mật khẩu」 フィールド： ユーザーが 「Mật khẩu mới」 フィールドに入力したパスワードを再入力します。例： 「thuyntT123 @」</p> <p>6. 「Lưu」 ボタンを押します</p>	システムはメッセージを表示します： 「Thay đổi mật khẩu thành công」。	N/A	Passed	31/3/2022 0
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CP_2	パスワードの形式が正しくありません	ログインを成功しました。	<p>1. 「Tài khoản」 タブを押します。</p> <p>2. 「Chỉnh sửa」 ボタンを押します。</p> <p>3. 「Đổi mật khẩu」 を押します。</p> <p>4. 「Mật khẩu mới」 フィールド： ユーザーが変更するパスワードを入力します。例： 「thuyntt」</p> <p>5. 「Xác nhận mật khẩu」 フィールド： ユーザーが 「Mật khẩu mới」 フィールドに入力したパスワードを再入力します。例： 「thuyntt」</p> <p>6. 「Lưu」 ボタンを押します</p>	エラーメッセージ 「Mật khẩu có ít nhất 8 ký tự bao gồm chữ thường, chữ hoa, chữ số và ký tự đặc biệt (!, @, #, ...)」 が表示されます。	N/A	Passed	31/3/2020 0
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CP_3	パスワードを入力しない	ログインを成功した。	1. 「Tài khoản」 タブを押します。 2. 「Chỉnh sửa」 ボタンを押します。 3. 「Đổi mật khẩu」 を押します。 4. 「Mật khẩu mới」 フィールド： 入力されません。 5. 「Xác nhận mật khẩu」 フィールド： 入力されません。 6. 「Lưu」 ボタンを押します	「Vui lòng điền mật khẩu」 というエラーメッセージが表示される。	N/A	Passed	31/3/2020 0
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Table 209 <テストケース> パスワードを変更する

5.2.1.6 <コレクター> スクラップを予約する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
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BS_1	スクラップの予約に成功した。	コレクターとしてログインする。「Đặt ve chai」画面にい	1. 「Giá」に「50,000」を入力する。 . 2. 「Chọn thời gian」に一つ選ぶ。 3. 「Đặt ve chai」ボタンを押す。	メッセージを表示する：「Bạn đã đặt ve chai thành công」。	N/A	Passed	31/3/2020
BS_2	「Chọn thời gian」に選ばないで。	「Đặt ve chai」画面にい	1. 「Giá」に「50,000」を入力する。 . 2. 「Chọn thời gian」に選ばないで. 3. 「Đặt ve chai」ボタンを押す。	エラーメッセージを表示する「Yêu cầu chọn 1 thời gian」。	N/A	Passed	31/3/2020
BS_3	「Giá」に負数を入力する。	「Đặt ve chai」画面にい	1. 「Giá」に負数を入力する。 2. 「Chọn thời gian」に一つ選ぶ。	エラーメッセージを表示する「Giá không hợp lệ」。	N/A	Passed	31/3/2020

			3. 「Đặt ve chai」 ボタンを押す。				
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Table 210 <テストケース> スクラップを予約する

5.2.1.7 <コレクター> 待機中の予約をキャンセルする

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
CBS_1	予約をキャンセルしました。	-コレクターとしてログインします。 -ユーザーは「Yêu cầu đặt ve chai」画面にいます。	1.ボタン「Hủy đặt ve chai」を押します。 2.ポップアップ通知が「Bạn chắc chắn xóa yêu cầu này」を表示します。 3.「Xóa」ボタンを押します。	システムに「Yêu cầu đã được hủy」と表示されます。 キャンセルされた予約は表示されなくなります。	N/A	Passed	31/3/2020

CBS_2	予約リクエストをキャンセルしません。	-コレクターとしてログインします。 -ユーザーは「Yêu cầu đặt ve chai」画面にいます。	1.ボタン「Hủy đặt ve chai」を押します。 2.ポップアップ通知が「Bạn chắc chắn xóa yêu cầu này」を表示します。 3.「Hủy」ボタンを押します。	システムは確認ダイアログを閉じます。	N/A	Passed	31/3/2020
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Table 211 <テストケース>待機中の予約をキャンセルする

5.2.1.8 <コレクター> スクラップのスケジュールを表示

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
VSS_1	スクラップのは、指定された日付のスケジュールに従って予約および登録を行った後、コレクターとしてログインする。		1. 「Lộ trình」リンクをおす。「Lộ trình」画面を切り返す。	スクラップのは、指定された日付のスケジュールに従って予約および登録されています	ABR_1	Passed	31/3/2020

	び整理されて います						
VSS_2	メッセージ 「Đã trễ giờ đặt」	コレクターとして ログインする。	1. 「Lộ trình」 リンクをおす。 「Lộ trình」 画面を切り返す。	曜日がアプリの現在時刻よりも低い場合、システムに「Đã trễ giờ đặt」というメッセージが表示されます。	ABR_1	Passed	31/3/2020
VSS_3	メッセージ「 Tôi đã lấy ve chai này」	コレクターとして ログインする。	1. 「Lộ trình」 リンクをおす。 「Lộ trình」 画面を切り返す。 2. 「Tôi đã lấy ve chai này」ボタンを押す。	予約はタブ「Đã lấy」の「Lịch sử」画面に移動します。	CVH_1	Passed	31/3/2020

Table 212 <テストケース> スクラップのスケジュールを表示

5.2.1.9 <コレクター> スクラップを探す

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
SC_1	「Trang chủ」にスクラップ一覧表を表示する。	コレクターとしてログインする。		最新のスクラップ、最も近いスクラップのリスト、予約一覧表を表示する。	N/A	Passed	31/3/2020
SC_2	最新のスクラップをカテゴリ「Tổng hợp」でさがす。	コレクターとしてログインする。	1. 「Ve chai mới nhất」に「Xem thêm」リンクを押す。 「Ve chai mới nhất」画面を切り返す。 2. 「Phân loại」に「Tổng hợp」を選ぶ。	最新のスクラップの「Tổng hợp」の一覧表を表示する。	N/A	Passed	31/3/2020

SC_3	最新のスクラップをカテゴリ「Giấy vụn」でさがす。	コレクターとしてログインする。	1. 「Ve chai mới nhất」に「Xem thêm」リンクを押す。 「Ve chai mới nhất」画面を切り返す。 2. 「Phân loại」に「Giấy vụn」を選ぶ。	最新のスクラップの「Giấy vụn」の一覧表を表示する。	N/A	Passed	31/3/2020
SC_4	最も近いのスクラップをカテゴリ「Tổng hợp」でさがす。	コレクターとしてログインする。	1. 「Ve chai mới nhất」に「Xem thêm」リンクを押す。 「Ve chai mới nhất」画面を切り返す。 2. 「Phân loại」に「Tổng hợp」を選ぶ。	最も近いのスクラップの「Tổng hợp」の一覧表を表示する。	N/A	Failed	31/3/2020
SC_5	最も近いのスクラップをカテゴリ「Giấy vụn」でさがす。	コレクターとしてログインする。	1. 「Ve chai mới nhất」に「Xem thêm」リンクを押す。 「Ve chai mới nhất」画面を切り返す。	最も近いのスクラップの「Giấy vụn」の一覧表を表示する。	N/A	Failed	31/3/2020

			2. 「Phân loại」に「Giấy vụn」を選ぶ。				
SC_6	予約リクエスト一覧表を表示する。	コレクターとしてログインする。	1. 「Đang chờ xác nhận」に「Xem tất cả」リンクを押す。 「Yêu cầu đang chờ」画面を切り返す。	予約リクエスト一覧表を表示する。	N/A	Passed	31/3/2020

Table 213 <テストケース> スクラップを探す

5.2.1.10 <コレクター> 待機中の予約を更新する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日

UB_1	予約を更新しました。	- コレクターとしてログインする。 - ユーザーは「Chỉnh sửa yêu cầu」画面にいます。	1. 「Đang chờ xác nhận」画面で、1つの予約要求を選択します。 2. 「Chỉnh sửa」ボタンを押します。「Chỉnh sửa yêu cầu」画面に切り替えます。 3. 「Giá」フィールドに「90,000」と入力します。 4. 「Chọn thời gian」フィールドで、1回選択します。 5. 「Chỉnh sửa Yêu cầu」ボタンを押します。	システムはメッセージ「Yêu cầu của bạn đã được chỉnh sửa」を表示します。 予約リクエストを更新しました。	BS_1	Passed	31/3/2020
UB_2	予約を更新ことをキャンセルします。	- コレクターとしてログインする。 - ユーザーは「Chỉnh sửa yêu	1. 「Đang chờ xác nhận」画面で、1つの予約要求を選択します。 2. 「Chỉnh sửa」ボタンを押します。	「Yêu cầu đã đặt ve chai」画面に戻ります。	BS_1	Passed	31/3/2020

		cầu」画面にいます。	「Chỉnh sửa yêu cầu」画面に切り替えます。 5. 「Hủy」ボタンを押します。				
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Table 214 <テストケース> 待機中の予約を更新する

5.2.1.11 <コレクター> 履歴の予約を表示する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
CVH_1	コレクターは、完了または選択されたスクラップの履歴を表示します。	コレクターとしてログインする。	1. 「Tài khoản」タブを押します。 2. 「Xem các ve chai đã mua」を押します。	システムは、「Hoàn thành」タブで実行され、「Đã lấy」で選択されたスクラップのリストを表示します。	N/A	Passed	31/3/2020

				スクラップがない場合。システムは、「Hoàn thành」タブに「Bạn chưa hoàn thành ve chai nào」、または「Đã lấy」タブに「Bạn chưa lấy ve chai nào」というメッセージを表示します。			
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Table 215 <テストケース> 履歴の予約を表示する

5.2.1.12 <コレクター>家主から通知を受け取る

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
SCRAP COLLECTOR							

RNFH_1	住宅所有者がコレクターからの予約を拒否すると、コレクターは住宅所有者から通知を受け取ります。	コレクターとしてログインする。	住宅所有者がコレクターからの予約を拒否します。	役割コレクターのシステムが拒否通知を表示します。	BS_1, RBR_1	Passed	31/3/2020
RNFH_2	住宅所有者がコレクターからの予約を受け入れると、コレクターは住宅所有者から通知を受け取ります。	コレクターとしてログインする。	住宅所有者がコレクターからの予約を受け入れます。	役割コレクターのシステムは、承認通知を表示します。	BS_1, ABR_1	Passed	31/3/2020

RNFH _3	コレクターが予約したスクラップを住宅所有者が削除すると、コレクターは住宅所有者から通知を受け取ります。	- コレクターとしてログインする。 - コレクターが「Cần bán giấy vụn」という名前のスクラップを削除します。 コレクターは住宅所有者から通知を受け取ります。	住宅所有者は、「Cần bán giấy vụn」という名前のスクラップを削除します。	役割コレクターのシステムは、「Ve chai Cần bán giấy vụn bạn đặt đã bị XÓA, Yêu cầu đặt ve chai của bạn sẽ tự động được từ chối」という通知を表示します。	DS_1	Passed	31/3/2020
RNFH _4	住宅所有者がコレクターをレビューすると、コレクターは住宅所有者から通知を	コレクターとしてログインする。	住宅所有者はコレクターをレビューします。	役割コレクターのシステムは通知レビューを表示します。	RS_1	Passed	31/3/2020

	受け取ります。						
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Table 216 <テストケース> 家主から通知を受け取る

5.2.1.13 <家主> スクラップを載せる

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テスト依存	結果	テスト日
PS_1	スクラップの載せることを成功した。	家主としてログインする。 「Đăng bán ve chai」画面にいう。	1. [Tiêu đề] に 「Cần bán Sắt Vụn」 を入力する。 2. 1~5 枚の画像を入力する。	メッセージを表示する: 「Ve chai đã được đăng bán thành công」。	N/A	Passed	01/04/2020

		<p>3. 「Chọn phân loại」 に 「Sắt vụn」 を選ぶ。</p> <p>4. 「Khối lượng/Số lượng」 に 「50」 を入力する。</p> <p>5. 「Giá」 に 「500,000」 を 入力する。</p> <p>6. 「Mô tả」 に 「Sắt đã gi sét」 を入力する。</p> <p>7. 「Tiếp tục」 ボタンを押 す。</p> <p>8. ユーザーは 「Chọn thời gian」 画面にいす。</p> <p>9. 「Chọn giờ」 に</p>			
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		<ul style="list-style-type: none">- 「Tù」に「8:00」を選ぶ。- 「Đến」に「17:00」を選ぶ。10. 「Chọn ngày」に「Cá tuần」を選ぶ。11. 「Tiếp tục」ボタンを押す。12. 「Thông tin liên lạc」画面にいう。13. 「Số điện thoại」に「0344510437」を入力する。14. 「Địa chỉ cụ thể」に「417 Quang Trung」を入力する。			
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			<p>15. 「Tỉnh/ Thành phố」に 「Hồ Chí Minh」を選ぶ。</p> <p>16. 「Quận/ Huyện」に 「Quận Gò Vấp」を選ぶ。</p> <p>17. 「Phường/ Xã」に 「Phường 10」を選ぶ。</p> <p>18. 「Đăng Ve chai」ボタン を選ぶ。</p>			
PS_2	「Đăngbánve chai」画面で 入力データが 空白になる。	家主としてログイ ンする。 「Đăng bán ve chai 」画面にいって ください。	<p>1. [Tiêu đề] に 「Cần bán Sắt Vụn」は空白。</p> <p>2. 1~5 枚の画像は空白。3. 「Chọn phân loại」に 「Sắt vụn」を選ばないで。</p> <p>4. 「Khối lượng/Số lượng」 は空白。</p>	エラーメッセージを 表示する: <p>1. 「Tiêu đề」に 「Không để tiêu đề trống」を表示する。</p> <p>2. 「Thêm hình ảnh 」に 「Yêu cầu từ</p>	N/A Passed	01/04/20 20

			<p>5. 「Giá」は空白。</p> <p>6. 「Mô tả」は空白。</p> <p>7. 「Tiếp tục」ボタンを押す。</p>	<p>「1đến 5 hình ảnh」を表示する。</p> <p>3. 「Chọn phân loại」に「Không để phân loại trống」を表示する。</p> <p>4. 「Khối lượng/Số lượng」に「Không để khối lượng/Số lượng trống」を表示する。</p> <p>5. 「Giá」に「Không để giá trống」を表示する。</p>			
PS_3	「Thông tin liên lạc」画面で入力データ	家主としてログインする。 「Thông tin liên lạc」画面にいう。	<p>1 「Số điện thoại」は空白。</p> <p>2. 「Địa chỉ cụ thể」は空白。</p>	<p>エラーメッセージを表示する:</p> <p>1. 「Số điện thoại」に「Số điện thoại</p>	N/A	Passted	01/04/2020

	<p>が空白になる。 この画面のデータは、アカウントのデフォルト。 テスト入力データが空白。</p>	<p>3. 「Tỉnh/ Thành phố」を選ばないで。 4. 「Quận/ Huyện」を選ばないで。 5. 「Phường/ Xã」を選ばないで。 6. 「Đăng Ve chai」をボタンを押す。</p>	<p>không hợp lệ」を表示する。 2. 「Địa chỉ cụ thể」に「Không để Địa chỉ trống」を表示する。 3. 「Tỉnh/ Thành phố」に「Vui lòng chọn Tỉnh/ Thành phố」を表示する。 4. 「Quận/ Huyện」に「Vui lòng chọn Quận/ Huyện」を表示する。 5. 「Phường/ Xã」に「Vui lòng chọn</p>		
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				Phường/ Xã」を表示する。			
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Table 217 <テストケース> スクラップを載せる

5.2.1.14 <家主> スクラップを削除する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
DS_1	スクラップの削除をキャンセルします。	家主としてログインする。	1. 「Đang rao」タブ。スクラップを1つ選択してください。 「チチベットチャイ」画面に切り替えます。 2. 「Xóa ve chai」ボタンを押します。 システムは確認ダイアログを表示します。	ポップアップが消えます。 「Chi tiết ve chai screen」に戻る。	PS_1	Passted	31/3/2020

			3. 「BỎ qua」 ボタンを押します。				
DS_2	スクラップを削除しました。.	家主としてログインする。	<p>1. 「Đang rao」 タブ。スクラップを 1 つ選択してください。 「チチベットチャイ」画面に切り替えます。</p> <p>2. 「Xóa ve chai」 ボタンを押します。</p> <p>システムは確認ダイアログを表示します。</p> <p>3. 「Xóa」 ボタンを押します。</p>	<p>システムに 「Ve chai đã được xóa」 というメッセージが表示されます。 「Đang rao」 タブでは、削除されたスクラップは表示されません。</p>	PS_1	Passe d	31/3/2020

Table 218 <テストケース> スクラップを削除する

5.2.1.15 <家主> スクラップの情報を更新する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
US_1	スクラップを更新しました。	- 家主としてログインする。 - ユーザーは「Chỉnh sửa ve chai」画面にいます。	1. 「Đang rao」タブ。スクラップを1つ選択してください。 2. 「Chỉnh sửa」ボタンを押します。「Chỉnh sửa ve chai」画面に切り替えます。 3. 「Tiêu đề」フィールドに「Cần bán Giấy vụn」と入力します。 4. 1~5枚の画像を入力します。 5. 「Chọn phân loại」フィー	システムは「Chỉnh sửa ve chai thành công」というメッセージを表示します。「Đang rao」タブの情報は既に更新されています。	PS_1	Passed	07/04/2020

		<p>ルドで、「Giấy vụn」を選択します。</p> <p>6. [Khối lượng/Số lượng] フィールドに「100」と入力します。</p> <p>7. 「Giá」フィールドに、「1,000,000」と入力します。</p> <p>8. 「Mô tả」フィールドに「Giấy cát tông」と入力します。</p> <p>9. ボタン「Tiếp tục」を押します。</p> <p>10. 「Chọn thời gian」画面のユーザー。</p> <p>11. 「Chọn giờ」 フィールド：</p>			
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		<ul style="list-style-type: none">- 「Tù」フィールドで「10:00」を選択します。- 「Đến」フィールド：「15:00」を選択します。 <p>12. 「Chọn ngày」フィールドで、「Thứ ba」を選択します。</p> <p>13. ボタン「Tiếp tục」を押します。</p> <p>14. 「Thông tin liên lạc」画面のユーザー。</p> <p>15. 「Số điện thoại」フィールドに「0344510437」と入力します。</p> <p>16. 「Địa chỉ cụ thể」フィールドに「417 Quang Trung」と入力します。</p>			
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			<p>17. 「Tỉnh/Thành phố」 フィールドで、「Hồ Chí Minh」を選択します。</p> <p>18. 「Quận/Huyện」 フィールド： 「Quận Gò Vấp」を選択します。</p> <p>19. 「Phường/Xã」 フィールドで、「Phường10」を選択します。</p> <p>20. 「Chỉnh sửa ve chai」 ボタンを押します。</p>				
US_2	「Chỉnh sửa ve chai」画面で入力したデータが空白になる。	<ul style="list-style-type: none"> - 家主としてログインする。 - ユーザーは「Chỉnh sửa ve 	<p>1. 「Tiêu đề」 フィールド：入力なし。</p> <p>2. 「Thêm hình ảnh」 フィールド：画像なし。</p> <p>3. 「Chọn phân loại」 フィー</p>	<p>システムはエラーメッセージを表示します：</p> <ul style="list-style-type: none"> - [Tiêu đề] フィールド：「Không để tiêu 	N/A	Passted	07/04/2020

		<p>「Chai」画面にいます。</p> <p>ルド：入力なし。</p> <p>4. [Khối lượng/Số lượng] フィールド：入力なし</p> <p>5. [Giá] フィールド：入力なし</p> <p>6. 「Mô tả」フィールドに入力なし。</p> <p>7. ボタン「Tiếp tục」を押します。</p>	<p>đề trống」。</p> <ul style="list-style-type: none"> - 「Thêm hình ảnh」 <p>フィールド：「Yêu cầu từ 1 đến 5 hình ảnh」。</p> <ul style="list-style-type: none"> - 「Chọn phân loại」 <p>フィールド：</p> <p>「Không để phân loại trống」。</p> <ul style="list-style-type: none"> - [Khối lượng/Số lượng] フィールド：「Không để Khối lượng/Số lượng trống」。 - [Giá] フィールド：「Không để giá trống」。 		
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US_3	<p>空白のデータ : 「Thêm hình ảnh」、 「Chọn phân loại」、「Khối lượng/Số lượng」、「Giá」、「Mô tả」。</p>	<ul style="list-style-type: none"> - 家主としてログインする。 - ユーザーは 「Chỉnh sửa ve chai」 画面にいます。 	<ol style="list-style-type: none"> 1. [Tiêu đề] フィールドに 「Cần bán Sắt Vụn」 と入力します。 2. 「Thêm hình ảnh」 フィールド：画像なし。 3. 「Chọn phân loại」 フィールド：入力なし。 4. [Khối lượng/Số lượng] フィールド：入力なし 5. [Giá] フィールド：入力なし 6. 「Mô tả」 フィールドに入力なし。 7. ボタン 「Tiếp tục」 を押します。 	<p>システムはエラーメッセージを表示します：</p> <ul style="list-style-type: none"> - 「Thêm hình ảnh」 フィールド： 「Yêu cầu từ 1 đến 5 hình ảnh」。 - 「Chọn phân loại」 フィールド： 「Không để phân loại rõ ràng」。 - [Khối lượng/Số lượng] フィールド： 「Không để Khối lượng/Số lượng rõ ràng」。 - [Giá] フィールド： 	N/A	Passted	07/04/2020
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				「Không thể giá trống」。			
US_4	空白のデータ : 「Chọn phân loại」、 「Khối lượng/ Số lượng」、 「Giá」、「 Mô tả」。	- 家主としてログイ ンする。 - ユーザーは 「Chỉnh sửa ve chai」画面にいま す。	1. [Tiêu đề] フィールドに 「Cần bán Sắt Vụn」と入力 します。 2. 「Thêm hình ảnh」 フィー ルドで、1~5枚の画像を選 択します。 3. 「Chọn phân loại」 フィー ルド: 入力なし。 4. [Khối lượng/Số lượng] フ ィールド: 入力なし 5. [Giá] フィールド: 入力な し 6. 「Mô tả」 フィールドに入 力なし。	システムはエラーメ ッセージを表示しま す: - 「Chọn phân loại」 フィールド: 「Không thể phân loại trống」。 - [Khối lượng/Số lượng] フィールド: 「Không thể Khối lượng/ Số lượng trống」。 - [Giá] フィールド:	N/A	Passe d	07/04/20 20

			7.ボタン「Tiếp tục」を押します。	「Không thể giá trống」。			
US_5	空白のデータ：「Khối lượng/Số lượng」、「Giá」、「Mô tả」。	- 家主としてログインする。 - ユーザーは「Chỉnh sửa ve chai」画面にいます。	1. [Tiêu đề] フィールドに「Cần bán Sắt Vụn」と入力します。 2. 「Thêm hình ảnh」フィールドで、1~5枚の画像を選択します。 3. 「Chọn phân loại」フィールドで、「Sắt vụn」を選択します。 4. [Khối lượng/Số lượng] フィールド：入力なし 5. [Giá] フィールド：入力なし 6. 「Mô tả」フィールドに入力なし。	システムはエラーメッセージを表示します： - [Khối lượng/Số lượng] フィールド：「Không thể Khối lượng/Số lượng trống」。 - [Giá] フィールド：「Không thể giá trống」。	N/A	Passed	07/04/2020

			7.ボタン「Tiếp tục」を押します。				
US_6	空白のデータ： 「Giá」、 「Mô tả」。	- 家主としてログインする。 - ユーザーは「Chỉnh sửa ve chai」画面にいます。	1. [Tiêu đề] フィールドに「Cần bán Sắt Vụn」と入力します。 2. 「Thêm hình ảnh」フィールドで、1~5枚の画像を選択します。 3. 「Chọn phân loại」フィールドで、「Sắt vụn」を選択します。 4. [Khối lượng/Số lượng] フィールドに「50」と入力します。 5. [Giá] フィールド：入力なし 6. 「Mô tả」フィールドに入	システムはエラーメッセージを表示します： - [Giá] フィールド：「Không để giá trống」。	N/A	Passed	07/04/2020

			力なし。 7.ボタン「Tiếp tục」を押します。				
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Table 219 <テストケース> スクラップの情報を更新する

5.2.1.16 <家主> すべての予約リクエストを見る

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
VBR_1	すべての予約リクエストを見る	家主としてログインする。	1. 「Trang chủ」の上部にあるタブバーの「Chờ xử lý」タブを選択します	予約リクエストのリストが表示されます。 予約リクエストは、スクラップのタイトルごとにグループ化されています。 各予約リクエストに	N/A	Passed	02/04/2020

				は、予約のコレクターの名前、予約の価格、予約のメモ、スクラップを受け取る時間、「Chấp nhận」ボタン、および「Tù chối」ボタンが含まれています			
VBR_2	予約依頼がない場合で、すべての予約リクエストを見る	家主としてログインする。この家主はぜんぜん予約リクエストがない	1. 「Trang chủ」の上部にあるタブバーの「Chờ xử lý」タブを選択します	画面に「Bạn chưa có yêu cầu đặt ve chai nào」というメッセージが表示されます	N/A	Passed	02/04/2020

Table 220 <テストケース> すべての予約リクエストを見る

5.2.1.17 <家主> 予約リクエストを受け入れる

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
ABR_1	予約リクエストを受け入れる	- 家主としてログインする。 - 「Trang chủ」画面の「Đang chờ」タブにいる	1. 各予約の「Chấp nhận」ボタンを押します。 2. システムは「Bạn muốn chấp nhận yêu cầu này?」というメッセージが表示された確認ダイアログを表示します。 3. 確認ダイアログの「Chấp nhận」ボタンを押します。	システムはメッセージ「Yêu cầu đã được chấp nhận」を表示します。 スクラップに複数の予約がある場合、他の予約リクエストは自動的に拒否されます。	VBR_1	Passed	02/04/2020
ABR_2	予約リクエストを受け入れることをキャンセルする	- 家主としてログインする。	1. 各予約の「Chấp nhận」ボタンを押します。 2. システムは「Bạn muốn chấp nhận yêu cầu này?」	システムは確認ダイアログを閉じ、予約は受け入れられません。	VBR_1	Passed	02/04/2020

		<p>- 「Trang chủ」画面の「Đang chờ」タブにいる</p> <p>3. 確認ダイアログの「Hủy」ボタンを押します。</p>	というメッセージが表示された確認ダイアログを表示します。				
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Table 221 <テストケース> 予約リクエストを受け入れる

5.2.1.18 <家主> 予約リクエストを拒否する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
RBR_1	予約リクエストを拒否する	<ul style="list-style-type: none"> - 家主としてログインする。 - 「Trang chủ」画面の「Đang chờ」タブにいる 	<ol style="list-style-type: none"> 1. 各予約の「Tùchọn」ボタンを押します。 2. システムは「Bạn muốn Tùchọn yêu cầu này?」というメッセージが表示された 	システムはメッセージ「Yêu cầu đã được tùchọn」を表示します。スクロップに複数の予約がある場合、	VBR_1	Passted	02/04/2020

			確認ダイアログを表示します。 3. 確認ダイアログの「Tù chối」ボタンを押します。	他の予約リクエストは拒否されません。			
RBR_2	予約リクエストを拒否するをキャンセルする	- 家主としてログインする。 - 「Trang chủ」画面の「Đang chờ」タブにいる	1. 各予約の「Tù chối」ボタンを押します。 2. システムは「Bạn muốn Tù chối yêu cầu này?」というメッセージが表示された確認ダイアログを表示します。 3. 確認ダイアログの「Hủy」ボタンを押します。	システムは確認ダイアログを閉じ、予約は拒否されません。	VBR_1	Passed	02/04/2020

Table 222 <テストケース> 予約リクエストを拒否する

5.2.1.19 <家主> 売ったスクラップを見る

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
VHS_1	家主はすべての売ったスクラップを見ます。	- 家主としてログインする。	1. 「Tài khoản」タブを押します。 2. 「Xem lịch sử đã bán」を押します。	システムは、販売されたスクラップのリストを表示します。 スクラップがない場合。システムはメッセージ「Bạn chưa có ve chai nào đã được hoàn thành」を表示します。	N/A	Passed	02/04/2020

Table 223 <テストケース> 売ったスクラップを見る

5.2.1.20 <家主> 脣を集める人をレビューする

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
RC_1	屑を集める人をレビューする	家主としてログインする。	<p>1. 「Đã được đặt」 タブを押します。 アプリは予約済みスクラップのリストを表示します。</p> <p>2. 「Hoàn thành」 ボタンを押します。</p> <p>3. システムはレビューダイアログを表示します</p> <p>4. レビューの星を選択</p> <p>5. レビューの説明を入力します。</p> <p>6. 「Gửi」 ボタンを押します。</p>	「Đánh giá của bạn đã được gửi」というメッセージが表示されます。	N/A	Passed	31/3/2020

RC_2	屑を集める人をレビューすることをキャンセルする	家主としてログインする。	<ol style="list-style-type: none"> 1. 「Đã được đặt」 タブを押します。 アプリは予約済みスクラップのリストを表示します。 2. 「Hoàn thành」 ボタンを押します。 3. システムはレビューダイアログを表示します 4. 「Hủy」 ボタンを押します。 	システムはレビューダイアログを閉じます.	N/A	Passed	31/3/2020
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Table 224 <テストケース> 屑を集める人をレビューする

5.2.1.21 <家主> コレクターから通知を受け取る

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
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RNFC_1	住宅所有者は、本のスクラップを収集するときにコレクターから通知を受け取ります。	家主としてログインする。	コレクターの本のスクラップ。	役割の住宅所有者のシステムは、コレクターからの本の通知を表示します。	BS_1	Passed	31/3/2020
RNFC_2	コレクターが予約をキャンセルすると、住宅所有者はコレクターから通知を受け取ります。	家主としてログインする。	コレクターは予約をキャンセルします。	役割の住宅所有者のシステムに、コレクターからの通知キャンセル予約が表示されます。	CBS_1	Passed	31/3/2020
RNFC_3	コレクターが予約を選択すると、住宅所	家主としてログインする。	コレクターは予約を選びました。	役割の住宅所有者のシステムは、コレクターからの予	VSS_3	Passed	31/3/2020

	有者はコレクターから通知を受け取ります。			約を選んだ通知を示しています。			
RNFC_4	コレクターが住宅所有者とチャットしたときの通知。	家主としてログインする。	コレクターが住宅所有者にメッセージを送信します。	住宅所有者のシステムが通知を表示します。	CH_1	Passed	1/4/2020

Table 225 <テストケース> コレクターから通知を受け取る

5.2.1.22 <許可されたユーザー>電話をかける

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
CA_1	コレクターが住宅所有者に電話する	コレクターとしてログインする。	1.スクラップを1つ選択します。 「Chi tiết Ve chai」画面に切り替えます。	システムが電話の通話機能をナビゲートします。	N/A	Passed	31/3/2020

			2.スクラップの詳細でアイコンの電話を押します。				
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Table 226 <テストケース> 電話をかける

5.2.1.23 <許可されたユーザー>チャットする

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
CH_1	住宅所有者とコレクターは一緒にチャットします。	「Chat」画面にいる	1.チャットコンテンツ「Chào bạn」を入力します。 2.「Gửi」ボタンを押します。	システムは2人のユーザー間の会話を表示します。	N/A	Passed	31/3/2020
CH_2	スクラップの詳細を表示する	「Chat」画面にいる	1.「チャット」画面上部のスクラップアイテムを押します。	「Chi tiết Về chai」画面に切り替えます。	N/A	Passed	31/3/2020

Table 227 <テストケース> チャットする

5.2.2 管理者のウェブサイトのテストケース

5.2.2.1 ログイン

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
U_1	ログインを成功しました。	ゲストは「Login」画面にいる。	1. 「Username」に「khanhAdmin」を入力する。 2. 「Password」に「khanhAdmin123@」を入力する。 3. 「Login」ボタンを押す。	「Dashboard」画面にいう。	N/A	Passed	30/3/2020
U_2	データは空白 「Username」は空白。	ゲストは「Login」画面にいる。	1. 「Username」にデータは空白。 2. 「Password」に「123456」を入力する。	「Login」ボタンが無効になっています	N/A	Passed	30/3/2020

U_3	「Password」は空白。	ゲストは「Login」画面にいる。	1. 「Username」に「khanhAdmin」を入力する。 2. 「Password」にデータは空白。	「Login」ボタンが無効になっています	N/A	Passed	30/3/2020
U_4	ユーザー名またはパスワードが正しくない。	ゲストは「Login」画面にいる。	1. 「Username」に「khanhAdmin」を入力する。 2. 「Password」に「khanhAdmin」を入力する。 3. 「Login」ボタンを押す。	エラーメッセージを表示する：「Invalid username or password」。	N/A	Passed	30/3/2020

Table 228 <テストケース> ログイン

5.2.2.2 ログアウト

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
LO_1	正常にログアウト	管理者としてログインします。	1. サイドバーメニューの [Logout] ボタンを押します。	ログイン画面に移行します。 戻るボタンを押すと、ログイン画面に移行します。	N/A	Passed	07/04/20 20

Table 229 <テストケース> ログアウト

5.2.2.3 新しい管理者を追加する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
ANA_1	新しい管理者追加のフォー	管理者としてログインします。	1. サイドメニューの「Account」タブを選択します。	次のフィールドを含む「新しい管理者の追加」フォーム	N/A	Passed	07/04/20 20

	ムが正常に表示されます。		2. 「Add new admin」 ボタンを押します。	ムが表示されます。 -ユーザー名 -パスワード -パスワードを認証する -フルネーム -Eメール -電話 -「Choose image」 ボタン -「Add」 ボタン			
ANA_2	新しい管理者を追加しました。	管理者としてログインします。管理者は「Add new admin」 画面にあります。	1. 「Username」 フィールドに「DatAdmin」と入力します 2. 「Password」 フィールドに「duyDat123 @」と入力	システムに「Add Admin successfully」というメッセージが表示されます。	ANA_1	Pased	07/04/2020

			<p>します</p> <p>3. 「Confirm Password」 フィールドに 「duyDat123@」 と入力します</p> <p>4. 「Full name」 フィールド： 「Nguyễn Duy Đạt」 と入力します</p> <p>5. 「Email」 フィールド： 「datndse63093@fpt.edu.vn」 と入力します</p> <p>6. 「Phone」 フィールドに 「0327962333」 と入力します</p> <p>7. アバターを選択</p> <p>8. 「Add」 ボタンを押します</p>				
ANA_3	すべてのフィールドが空白	管理者としてログインします。	1.すべてのフィールドを空白のままにします。	「Add」 ボタンは無効です。	ANA_1	Passted 20	07/04/20

	のままになっているときに検証を確認します。	管理者は「Add new admin」画面にあります。					
ANA_4	いずれかのフィールドが空白のままになっているときに検証を確認します。	管理者としてログインします。 管理者は「Add new admin」画面にあります。	1. 「Username」フィールドは空白のままにします。 2. 「Password」フィールドに「duyDat123 @」と入力します 3. 「Confirm Password」フィールドに「duyDat123 @」と入力します 4. 「Full name」フィールド：「Nguyễn Duy Đạt」と入力します 5. 「Email」フィールド：「datndse63093@fpt.edu.vn」	「Add」ボタンは無効です。	ANA_1	Passe d	07/04/2020

			」と入力します 6. 「Phone」 フィールドに 「0327962333」と入力しま す 7. アバターを選択 8. 「Add」 ボタンを押します				
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Table 230 <テストケース>新しい管理者を追加する

5.2.2.4 システム内のすべてのカテゴリを表示する

ID	テストケース の説明	前提条件	テストケース手順	期待される出力	内部テストケ ース依存	結果	テスト日
VAC_1	すべてのカテ ゴリを正常に 表示します。	管理者としてログ インします。	1. サイドメニューの 「Category」タブを選択し ます。	「Add new Category」ボタン を含むカテゴリ画 面と、システム内 のすべてのカテゴ リのテーブルと、	N/A	Pass ed	07/04/20 20

				<p>次のフィールドが表示されます。</p> <ul style="list-style-type: none"> - Name - Unit - Status - 「Actions」 ボタングループ 			
--	--	--	--	------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--

Table 231 <テストケース>システム内のすべてのカテゴリを表示する

5.2.2.5 新しいカテゴリを追加する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
ANC_1	新しいカテゴリの追加フォームが正しく表示されます。	-管理者としてログインします。 -管理者はすべてのカテゴリを正常に表示します。	1. 「Add new Category」 ボタンを押します。	次のフィールドを含む「Add new Category」 フォームが表示されます。	VAC_1	Passed	07/04/2020

				- Name - Unit - 「Add」 ボタン			
ANC_2	新しいカテゴリを追加しました。	-管理者としてログインします。 -管理者はすべてのカテゴリを正常に表示します。	1. 「Name」 フィールドに 「Giấy vụn」 と入力します 2. 「Unit」 フィールドに 「kg」 と入力します 3. 「Add」 ボタンを押します	「Add Category successfully」というメッセージが表示されます。	ANC_1	Passed	07/04/2020
ANC_3	すべてのフィールドを空白のままにします。	-管理者としてログインします。 -管理者はすべてのカテゴリを正常に表示します。	1. 「Name」 フィールドは空白のままにします。 2. 「Unit」 フィールドは空白のままにします。	「Add」 ボタンは無効です。	ANC_1	Passed	07/04/2020
ANC_4	「Name」 フィールドは空白のままにします。	-管理者としてログインします。 -管理者はすべての	1. 「Name」 フィールドは空白のままにします。	「Add」 ボタンは無効です。	ANC_1	Passed	07/04/2020

		カテゴリを正常に表示します。	2. 「Unit」 フィールドに「kg」と入力します				
ANC_5	「Unit」 フィールドは空白のままにします。	-管理者としてログインします。 -管理者はすべてのカテゴリを正常に表示します。	1. 「Name」 フィールドに「Giấy vụn」と入力します 2. 「Unit」 フィールドは空白のままにします。	「Add」 ボタンは無効です。	ANC_1	Passed	07/04/2020

Table 232 <テストケース>新しいカテゴリを追加する

5.2.2.6 カテゴリを更新する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
UC_1	カテゴリの更新フォームが正常に表示されます。	-管理者としてログインします。 -管理者はすべての	1. 「Inox」 カテゴリ項目の「Update」 ボタンを押します。	システムは、次のフィールドを持つ「Update	VAC_1	Passed	07/04/2020

		カテゴリを正常に表示します。		Category」 フォームを表示します。 - 「Name」 は「Inox」 の値で表示されます - 「Unit」 は「kg」 の値で表示されます - 「Status」 は「アクティブ」 の値で表示されます - 「Update」 ボタン			
UC_2	カテゴリ名を更新しました。	-管理者としてログインします。 -管理者はすべての	1. 「Name」 フィールドに「Inox cū」 と入力します 2. 「Update」 ボタンを押します	「Category updated successfully」と	UC_1	Passed	07/04/2020

		カテゴリを正常に表示します。		いうメッセージが表示されます。			
UC_3	カテゴリユニットを更新しました。	-管理者としてログインします。 -管理者はすべてのカテゴリを正常に表示します。	1. 「Unit」フィールドに「Inox cū」と入力します 2. 「Update」ボタンを押します	「Category updated successfully」というメッセージが表示されます。	UC_1	Passed	07/04/2020
UC_4	すべてのフィールドを空白のままにして、カテゴリを更新します。	-管理者としてログインします。 -管理者はすべてのカテゴリを正常に表示します。	1. 「Name」フィールドは空白のままにします 2. 「Unit」フィールドは空白のままにします 3. 「Update」ボタンを押します	「Invalid category information」というエラーメッセージが表示されます。	UC_1	Passed	07/04/2020
UC_5	カテゴリをアクティブ化します。	-管理者としてログインします。 -管理者はすべての	1. [Status]フィールド：[ACTIVE]を選択します 2. 「Update」ボタンを押します	「Category updated successfully」というメッセージが表示されます。	UC_1	Passed	07/04/2020

		カテゴリを正常に表示します。		いうメッセージが表示されます。			
UC_6	カテゴリを非アクティブ化します。	-管理者としてログインします。 -管理者はすべてのカテゴリを正常に表示します。	1. [Status] フィールド : [INACTIVE] を選択します 2. 「Update」 ボタンを押します	「Category updated successfully」というメッセージが表示されます。	UC_1	Passed	07/04/2020

Table 233 <テストケース> カテゴリを更新する

5.2.2.7 システム内のすべてのアカウントを表示する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
VAA_1	すべてのアカウントを正常に表示します。	-管理者としてログインします。	1. サイドメニューの「Account」タブを選択します。	「Add new admin」ボタンのあるアカウント画面と、次のフィー	N/A	Passed	07/04/2020

				ルドを持つシステム内のすべてのアカウントのテーブルが表示されます。 - Name - Username - Phone - Role - “Actions” ボタングループ			
--	--	--	--	-------------------------------------------------------------------------------------------------------	--	--	--

Table 234 <テストケース>システム内のすべてのアカウントを表示する

5.2.2.8 システム内のすべてのスクラップを表示する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
VAS_1	すべてのスクラップを正常に表示します。	-管理者としてログインします。	1. サイドメニューの「Scrap」タブを選択します。	システムには、次のフィールドを持つシステム内のすべてのスクラップのテーブルを含むスクラップ画面が表示されます。 - Title - Price - Quantity - Category	N/A	Passed	07/04/2020

				- Created Time - Status - “Actions” ボタン グループ			
--	--	--	--	-------------------------------------------------------	--	--	--

Table 235 <テストケース>システム内のすべてのスクラップを表示する

5.2.2.9 システム内のすべてのスクラップレポートを表示する

ID	テストケース の説明	前提条件	テストケース手順	期待される出力	内部テストケ ース依存	結果	テスト日
VSR_1	すべてのスクラップレポートを正常に表示します。	-管理者としてログインします。	1. サイドメニューの「Scrap Reports」タブを選択します。	システムにスクラップレポート画面が表示され、システム内のすべてのスクラップレポートの表に次のフィ	N/A	Passem ed	07/04/20 20

				<p>ールドが表示されます。</p> <ul style="list-style-type: none"> - Scrap Title - Report Details - Announcer - Created Time - Status - “Actions” ボタングループ 			
--	--	--	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--

Table 236 <テストケース>システム内のすべてのスクラップレポートを表示する

5.2.2.10 システム内のすべてのアカウントレポートを表示する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日

VSR_1	すべてのスクラップレポートを正常に表示します。	-管理者としてログインします。	1. サイドメニューの「Scrap Reports」タブを選択します。	システムにスクラップレポート画面が表示され、システム内のすべてのスクラップレポートの表に次のフィールドが表示されます。 - Scrap Title - Report Details - Announcer - Created Time - Status - “Actions” ボタングループ	N/A	Passted	15/04/2020
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Table 237 <テストケース>システム内のすべてのアカウントレポートを表示する

5.2.2.11 スクラップレポートを解決する

ID	テストケース の説明	前提条件	テストケース手順	期待される出力	内部テストケ ース依存	結果	テスト日
RSR_1	レポートを解 決する	-管理者としてログ インします。 -管理者はすべてのス クラップレポートを 表示します。	1. レポートアイテムの 「Resolve」ボタンを押しま す 2. システムは、解決レポー トの確認ダイアログを表示 します。 3. 「Resolve」ボタンを押し ます。	「Report is resolved」という メッセージが表示 される。	VSR_1	Passe d	07/04/20 20

Table 238 <テストケース>スクラップレポートを解決する

5.2.2.12 スクラップの詳細を表示する

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
VSD_1	メインスクラップでスクラップの詳細を表示する。	-管理者としてログインする。 -管理者はすべてのスクラップを表示する。	1. 「View」 ボタンを押す。	スクラップ詳細画面が表示される。	N/A	Passed	07/04/20 20
VSD_2	レポートスクラップでスクラップの詳細を表示する	-管理者としてログインする。 -管理者はすべてのスクラップレポートを表示する。	1. 「View」 ボタンを押す。	スクラップ詳細画面が表示される。	N/A	Passed	07/04/20 20

Table 238 <テストケース>スクラップの詳細を表示する

5.1.2.13 スクラップを無効にする

ID	テストケースの説明	前提条件	テストケース手順	期待される出力	内部テストケース依存	結果	テスト日
DeS_1	スクラップを無効にする	-管理者としてログインする。 -管理者はすべてのスクラップを表示する。	1. 「View」 ボタンを押す。 スクラップ詳細画面に切り替えます。 2. 「Deactive」 ボタンを押す。 3. 「OK」 ボタンを押す。	スクラップが無効化されました。	VSD_1, VSD_2	Passed	07/04/20 20

Table 239 <テストケース>スクラップを無効にする

F. Software User's Manual

1. Installation Guide

1.1 Hardware requirements

Server	Minimum Requirements	Recommended
Internet Connection	Cable, Wi-Fi (8 Mbps)	Cable, Wi-Fi (50 Mbps or more)
Operating System	XP, Vista, 7, 10, Window Server 2008	10, Window Server 2008
Computer Processor	Intel® Xeon ® 1.4GHz	Intel® Xeon ® Quad Core (12M Cache, 2.50 GHz)
Computer Memory	4GB RAM	32GB or more
Storage space	1GB	5GB or more

Table 239 - Hardware requirement for server

1.2 Software requirements

1.2.1 Software requirements for Website

Software	Application name / version
Operating system	Window 10 Pro-64bit
Development Environment	Visual Studio Code
DBMS	PostgreSQL 11
Source control	Gitlab
Web browser	Chrome 70 or above

Table 240 - Software Requirements for Website

1.2.2 Software requirements for Mobile

Software	Application name / version
Operating system	Android 6.0 or above
Development Environment	Visual Studio Code
DBMS	PostgreSQL 11
Source control	GitLab
Software	Scrap Collector.apk file

Table 241 - Software Requirements for Mobile

1.3 Deployment at server side

1.3.1 Web Admin Deployment

We use Firebase Hosting service to deploy Web Admin Application. The Web Admin is deployed automatically by Gitlab CI/CD pipeline. If you want to deploy the Web manually, you can follow those steps:

Step 1: Go to the folder of Scrap Collector Web Application

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.17134.1365]
(c) 2018 Microsoft Corporation. All rights reserved.

D:\ScrapCollectorAdminWeb>
```

Step 2: Build Scrap Collector Web Application for production

```
D:\ScrapCollectorAdminWeb>npm run build --prod
> scrap-web@0.0.0 build D:\ScrapCollectorAdminWeb
> ng build

Generating ES5 bundles for differential loading...
ES5 bundle generation complete.

chunk {polyfills-es5} polyfills-es5.js, polyfills-es5.js.map (polyfills-es5) 683 kB [initial] [rendered]
chunk {polyfills} polyfills-es2015.js, polyfills-es2015.js.map (polyfills) 264 kB [initial] [rendered]
chunk {runtime} runtime-es2015.js, runtime-es2015.js.map (runtime) 9.04 kB [entry] [rendered]
chunk {runtime} runtime-es5.js, runtime-es5.js.map (runtime) 9.03 kB [entry] [rendered]
chunk {modules-admin-admin-module} modules-admin-admin-module-es2015.js, modules-admin-admin-module-es2015.js.map (modules-admin-admin-module) 4.12 MB [rendered]
chunk {modules-admin-admin-module} modules-admin-admin-module-es5.js, modules-admin-admin-module-es5.js.map (modules-admin-admin-module) 4.73 MB [rendered]
chunk {main} main-es2015.js, main-es2015.js.map (main) 56.5 kB [initial] [rendered]
chunk {main} main-es5.js, main-es5.js.map (main) 66.4 kB [initial] [rendered]
chunk {styles} styles-es2015.js, styles-es2015.js.map (styles) 2.01 MB [initial] [rendered]
chunk {styles} styles-es5.js, styles-es5.js.map (styles) 2.01 MB [initial] [rendered]
chunk {vendor} vendor-es2015.js, vendor-es2015.js.map (vendor) 4.57 MB [initial] [rendered]
chunk {vendor} vendor-es5.js, vendor-es5.js.map (vendor) 5.52 MB [initial] [rendered]
Date: 2020-04-11T12:13:14.911Z - Hash: 4d164a747de2714abbf1 - Time: 25006ms
```

Step 3: Install the Firebase command line tools

```
D:\ScrapCollectorAdminWeb>npm install -g firebase-tools
npm [WARN] deprecated request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
C:\Users\Nguyen Duy Dat\AppData\Roaming\npm\firebase -> C:\Users\Nguyen Duy Dat\AppData\Roaming\npm\node_modules\firebase-tools\lib\bin\firebase.js

> protobufjs@6.8.9 postinstall C:\Users\Nguyen Duy Dat\AppData\Roaming\npm\node_modules\firebase-tools\node_modules\protobufjs
> node scripts/postinstall

npm [WARN] optional SKIPPING OPTIONAL DEPENDENCY: fsevents@~2.1.2 (node_modules\firebase-tools\node_modules\chokidar\node_modules\fsevents):
npm [WARN] notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.1.2: wanted {"os":"darwin","arch":"any"} (current: {"os":"win32","arch":"x64"})
+ firebase-tools@8.0.2
added 530 packages from 354 contributors in 56.857s
```

Step 4: Login using the Firebase CLI & initialize in Scrap Collector Web Admin

```
D:\ScrapCollectorAdminWeb>firebase login
i Firebase optionally collects CLI usage and error reporting information to help improve our products. Data is collected in accordance
with Google's privacy policy (https://policies.google.com/privacy) and is not used to identify you.

? Allow Firebase to collect CLI usage and error reporting information? Yes
i To change your data collection preference at any time, run `firebase logout` and log in again.

Visit this URL on this device to log in:
https://accounts.google.com/o/oauth2/auth?client\_id=563584335869-fgrhgmd47bqnekij5i8b5pr03ho849e6.apps.googleusercontent.com&scope=email%20openid%20https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcloudplatformprojects.readonly%20https%3A%2F%2Fwww.googleapis.com%2Fauth%2Ffirebase%20https%3A%2F%2Fwww.googleapis.com%2Fcloud-platform&response\_type=code&state=413470388&redirect\_uri=http%3A%2F%2Flocalhost%3A9005

Waiting for authentication...
+ Success! Logged in as datndse63093@fpt.edu.vn
```

```
D:\ScrapCollectorAdminWeb>firebase init
#####
# #   # #   # #   # #   # #   # #   # #
##### # #   ##### # #   ##### # #   #####
# #   # #   # #   # #   # #   # #   # #
# #   ##### # #   ##### # #   ##### # #
#####
You're about to initialize a Firebase project in this directory:

D:\ScrapCollectorAdminWeb

? Are you ready to proceed? Yes
? Which Firebase CLI features do you want to set up for this folder? Press Space to select features, then Enter to confirm your choices.
  Hosting: Configure and deploy Firebase Hosting sites

== Project Setup

First, let's associate this project directory with a Firebase project.
You can create multiple project aliases by running firebase use --add,
but for now we'll just set up a default project.

? Please select an option: Create a new project
i If you want to create a project in a Google Cloud organization or folder, please use "firebase projects:create" instead, and return to this command when you've created the project.
? Please specify a unique project id (warning: cannot be modified afterward) [6-30 characters]: scrap-web-collector
? What would you like to call your project? (defaults to your project ID)
✓ Creating Google Cloud Platform project
✓ Adding Firebase resources to Google Cloud Platform project
```

Step 5: Deploy to Firebase Hosting

```
D:\ScrapCollectorAdminWeb>firebase deploy
== Deploying to 'scrap-collector-web'...

i  deploying hosting
i  hosting[scrap-collector-web]: beginning deploy...
i  hosting[scrap-collector-web]: found 31 files in dist/ScrapWeb
+  hosting[scrap-collector-web]: file upload complete
i  hosting[scrap-collector-web]: finalizing version...
+  hosting[scrap-collector-web]: version finalized
i  hosting[scrap-collector-web]: releasing new version...
+  hosting[scrap-collector-web]: release complete

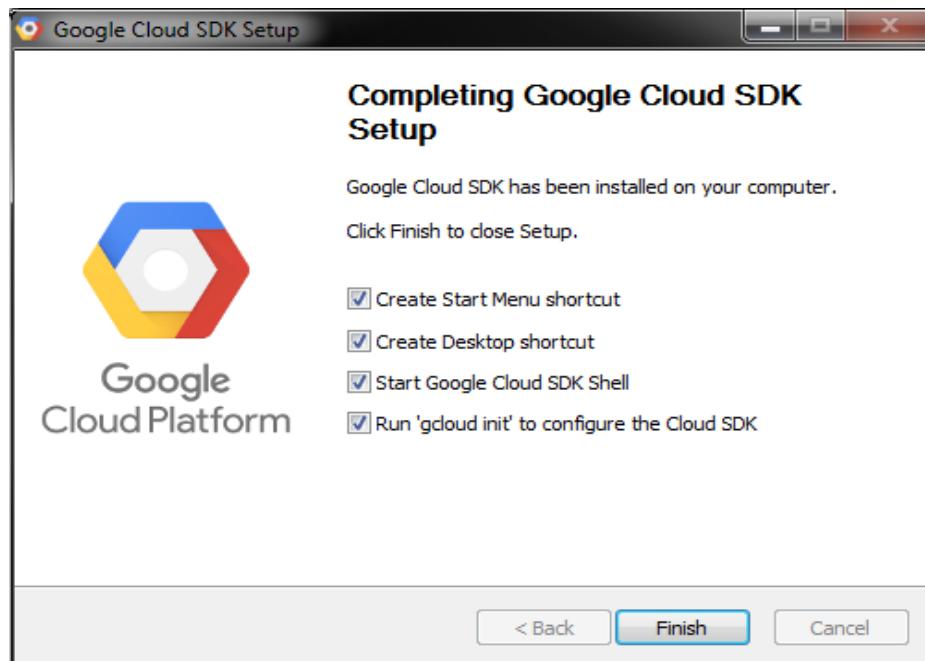
+ Deploy complete!

Project Console: https://console.firebaseio.google.com/project/scrap-collector-web/overview
Hosting URL: https://scrap-collector-web.web.app
```

Step 6: Check your Web Application on Firebase Hosting

1.3.2 API Deployment

Step 1: Download and install the Google Cloud SDK



Step 2: Create file app.yaml

```
! app.yaml
1   runtime: nodejs10
2
3   env_variables:
4     PORT: 8080
5     SECRET: 'SECRET'
6
7   manual_scaling:
8     instances: 1
9
10  resources:
11    cpu: 1
12    memory_gb: 0.5
13    disk_size_gb: 10
14
```

Step 3: Initialize SDK

```
D:\ScrapCollectorAPI>gcloud init
```

Step 4: Deploy Scrap Collector API

```
D:\ScrapCollectorAPI>gcloud app deploy
```

1.4 Setting up environment at client side

1. Copy the installation .apk file to android device

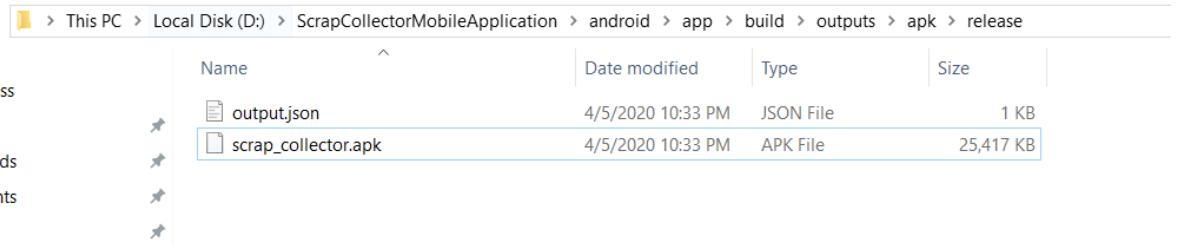


Figure 149- Setting up environment at client side – Copy installation .apk file

2. Open installation .apk file on android device
3. Install application

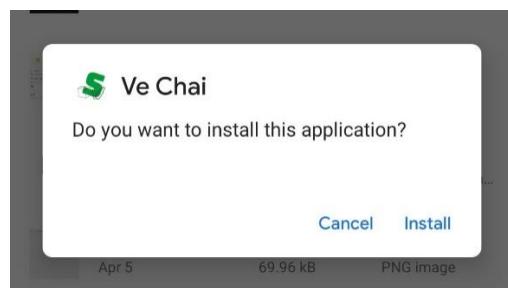


Figure 150- Setting up environment at client side – Install application

4. Open the application named “Ve chai”



Figure 151- Setting up environment at client side – Open application

2. User Guide

2.1 Mobile Application for all Roles

2.1.1 Login

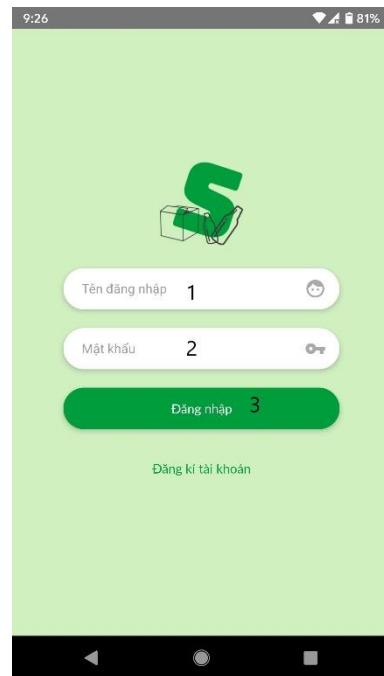


Figure 152 User guide: Login

Step	Description
1	Input Username
2	Input Password
3	Click “Đăng Nhập”

Table 242 User guide: Login

2.1.2 Register

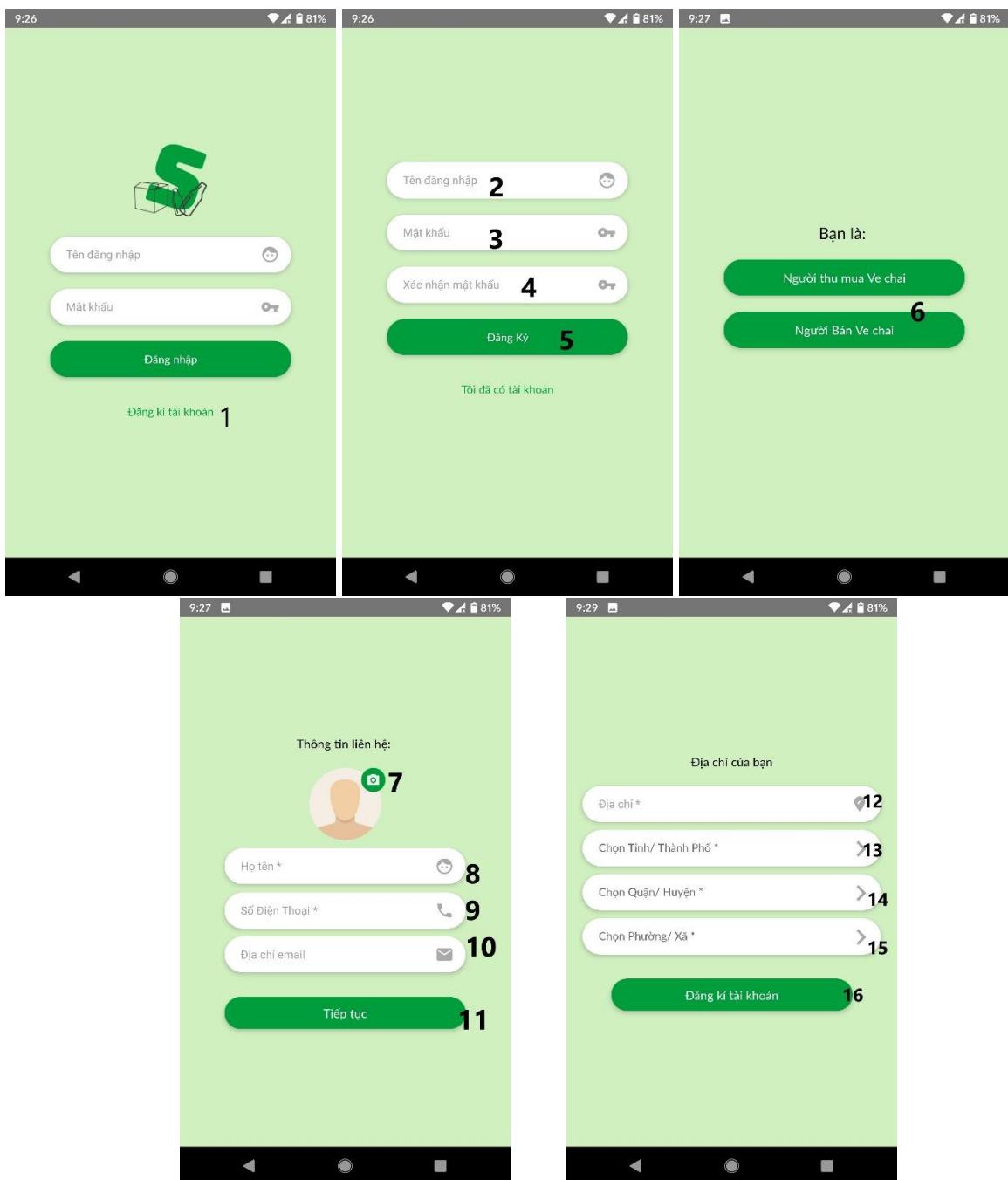


Figure 153 User guide: Register

Step	Description
1	Press “Đăng kí tài khoản” button
2	Input Username
3	Input Password

4	Input Confirm password
5	Press “Đăng kí” button
6	Press “Người thu mua Ve chai” or “Người bán Ve chai” button
7	Choose avatar
8	Input Full name
9	Input phone number
10	Input Email Address
11	Press on “Tiếp tục” button
12	Input Detail address: home number, street name, building name
13	Choose Province/ City
14	Choose District
15	Choose Ward
16	Press on “Đăng kí tài khoản” button

Table 243 User guide: Register

2.1.3 View profile

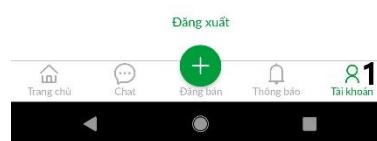
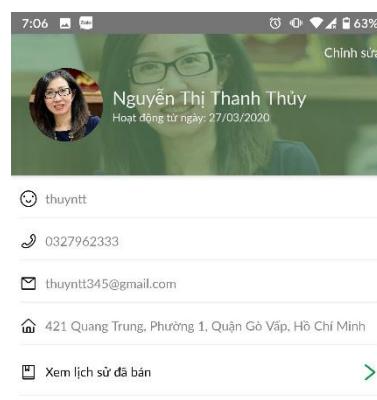


Figure 154 User guide: View profile

Step	Description
1	Press “Tài khoản” button in bottom tab bar

Table 244 User guide: View profile

2.1.4 Update profile

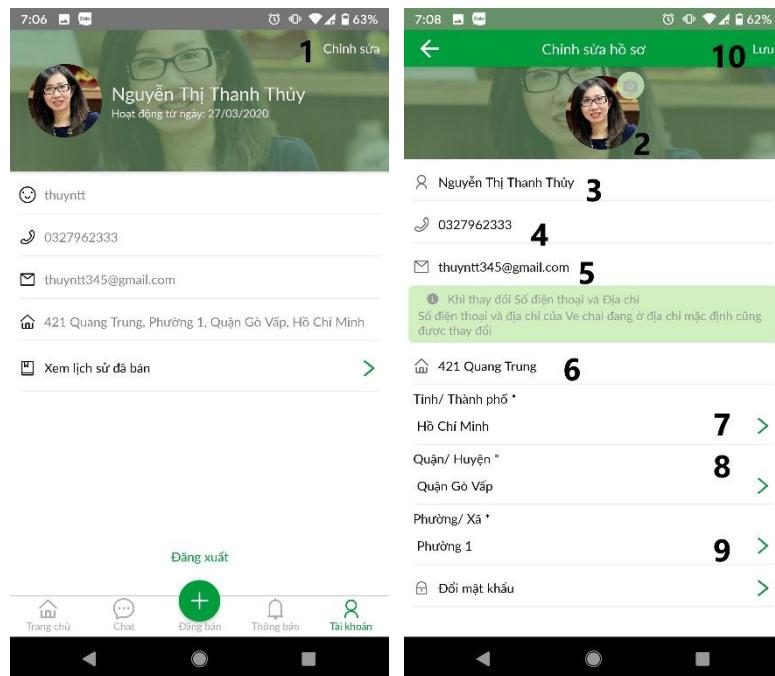


Figure 155 User guide: Update profile

Step	Description
1	Press “Chỉnh sửa” button in Profile screen
2	Choose avatar
3	Input Full name
4	Input Phone number
5	Input Email Address
6	Input Detail address: home number, street name, building name
7	Choose Province/ City
8	Choose District
9	Choose Ward
10	Press on “Lưu” button

Table 245 User guide: Update profile

2.1.5 Change password

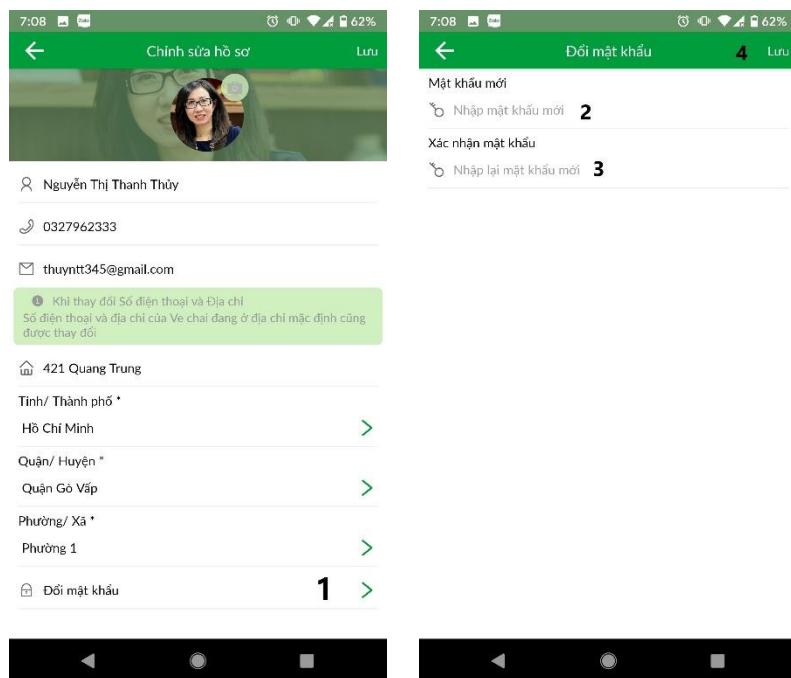


Figure 156 User guide: Change password

Step	Description
1	Press “Đổi mật khẩu” button in Update Profile screen
2	Input Password
3	Input Confirm password
5	Press “Lưu” button

Table 246 User guide: Change password

2.1.6 Logout



Figure 157 User guide: Logout

Step	Description
1	Press “Đăng xuất” button

Table 247 User guide: Logout

2.1.7 View all chat rooms



Figure 158 User guide: View all chat rooms

Step	Description
1	Press “Chat” button on the bottom tab bar

Table 248 User guide: View all chat rooms

2.1.8 Chat

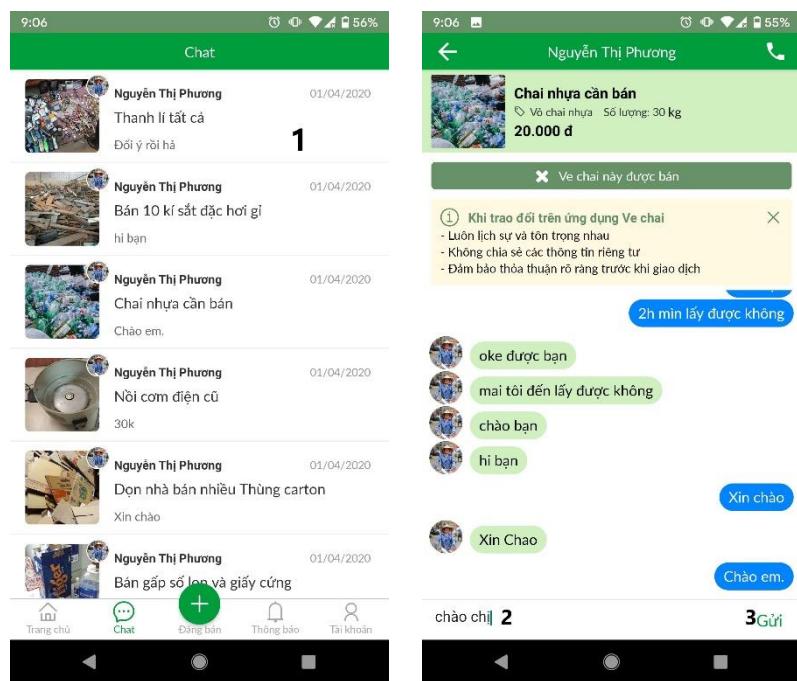


Figure 159 User guide: Chat

Step	Description
1	Press on chat room
2	Input chat content
3	Press “Gửi” button

Table 249 User guide: Chat

2.1.9 View all notifications

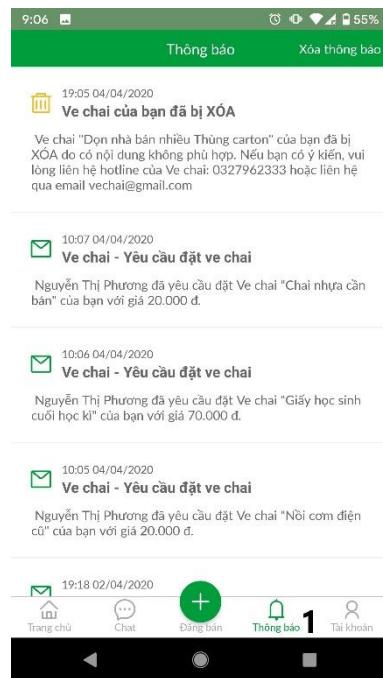


Figure 160 User guide: View all notifications

Step	Description
1	Press “Thông báo” button on the top tab bar

Table 250 User guide: View all notifications

2.2 Mobile Application for Homeowner

2.2.1 Post scrap

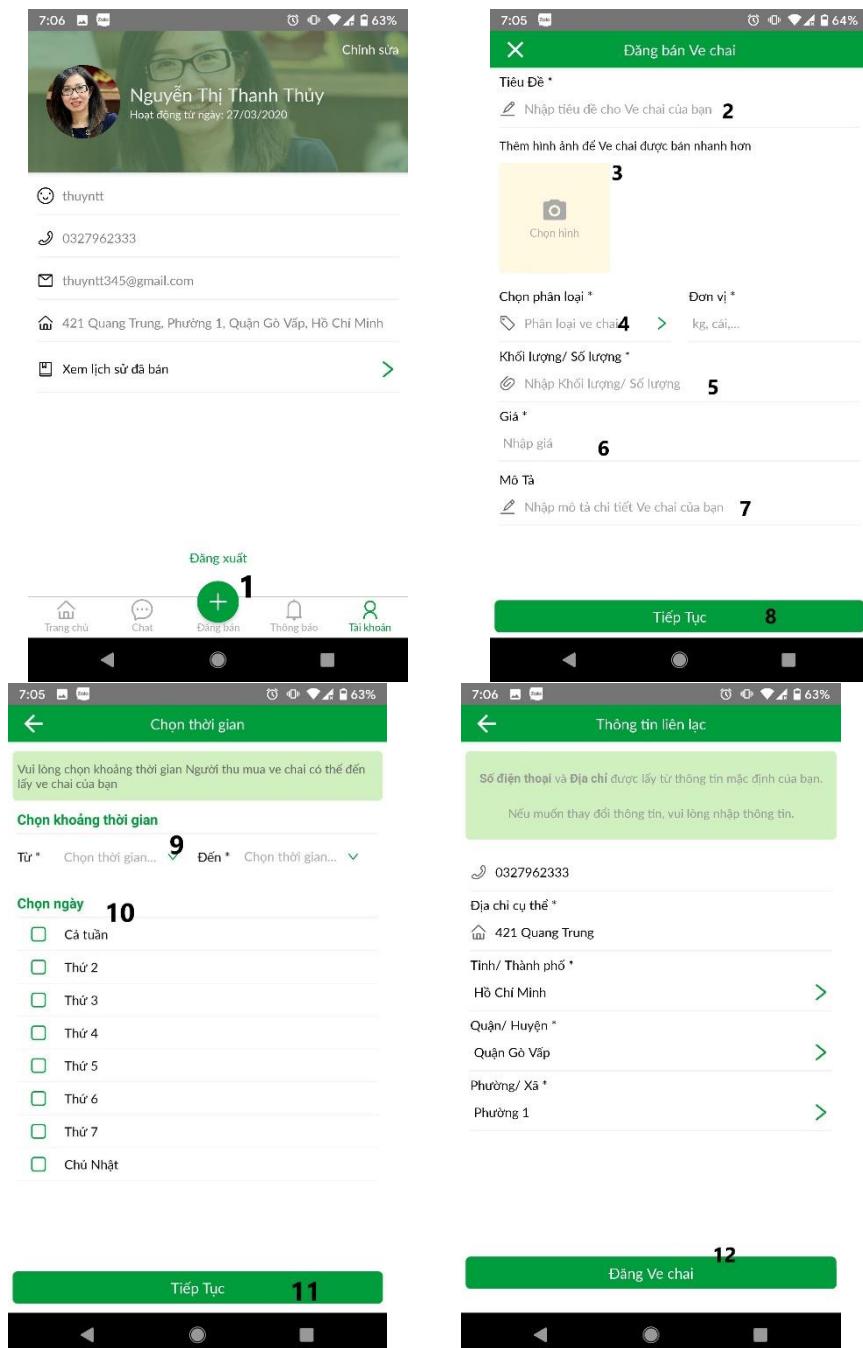


Figure 161 User guide: Post scrap

Step	Description
1	Press the “+” button on the bottom tab bar
2	Input Scrap title

3	Choose images of scrap
4	Choose category of scrap
5	Input quantity or mass of scrap
6	Input scrap price
7	Input description of scrap
8	Press on “Tiếp tục” button
9	Choose available time
10	Select available day in week
11	Press on “Tiếp tục” button
12	Press on “Đăng Ve chai” button

Table 251 User guide: Post scrap

2.2.2 View all booking requests

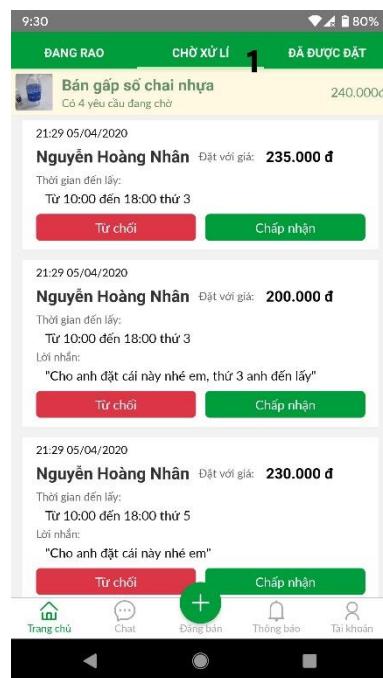


Figure 162 User guide: View all booking requests

Step	Description
1	Press “Chờ xử lý” button on the top tab bar

Table 252 User guide: View all booking requests

2.2.3 Accept booking request

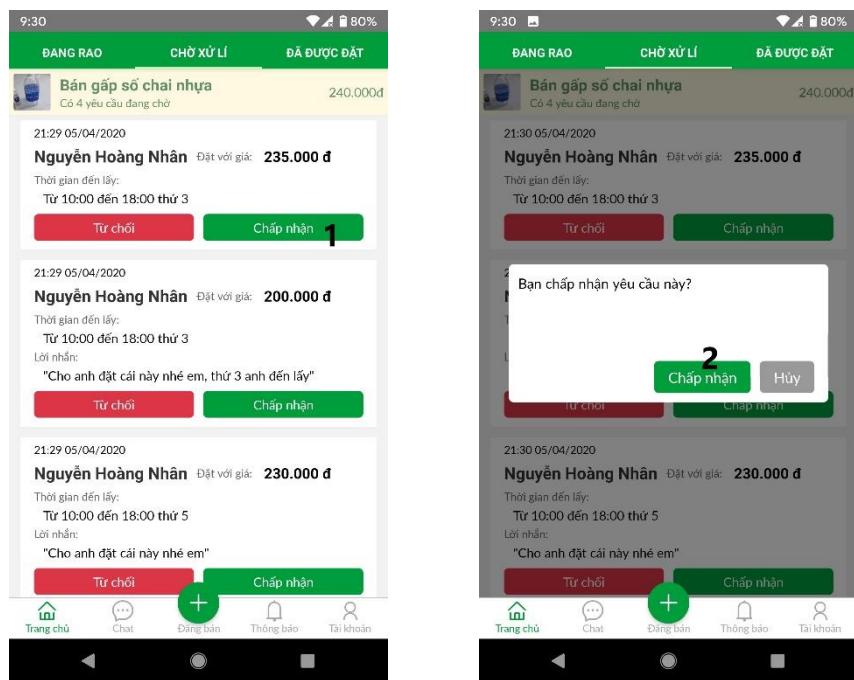


Figure 163 User guide: Accept booking request

Step	Description
1	Press “Chấp nhận” button
2	Press “Chấp nhận” button on confirm dialog

Table 253 User guide: Accept booking request

2.2.4 Reject booking request

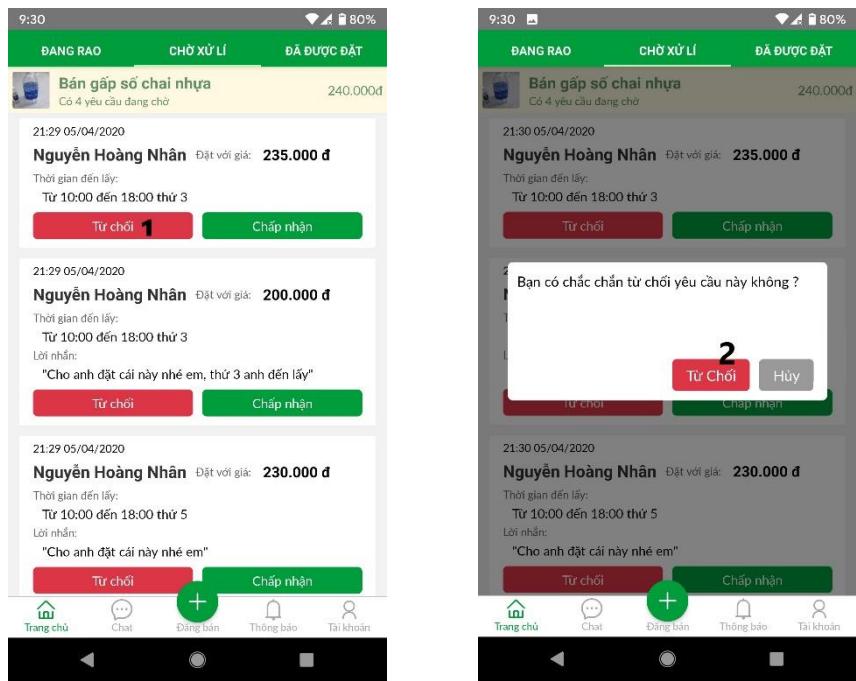


Figure 164 User guide: Reject booking request

Step	Description
1	Press “Từ chối” button
2	Press “Từ chối” button on confirm dialog

Table 254 User guide: Reject booking request

2.2.5 View all booked scraps

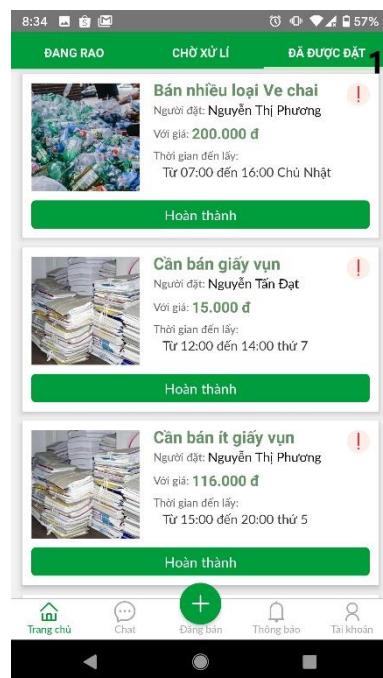


Figure 165 User guide: View all booked scraps

Step	Description
1	Press “Đã được đặt” button on the top tab bar

Table 255 User guide: View all booked scraps

2.2.6 Accomplish scrap

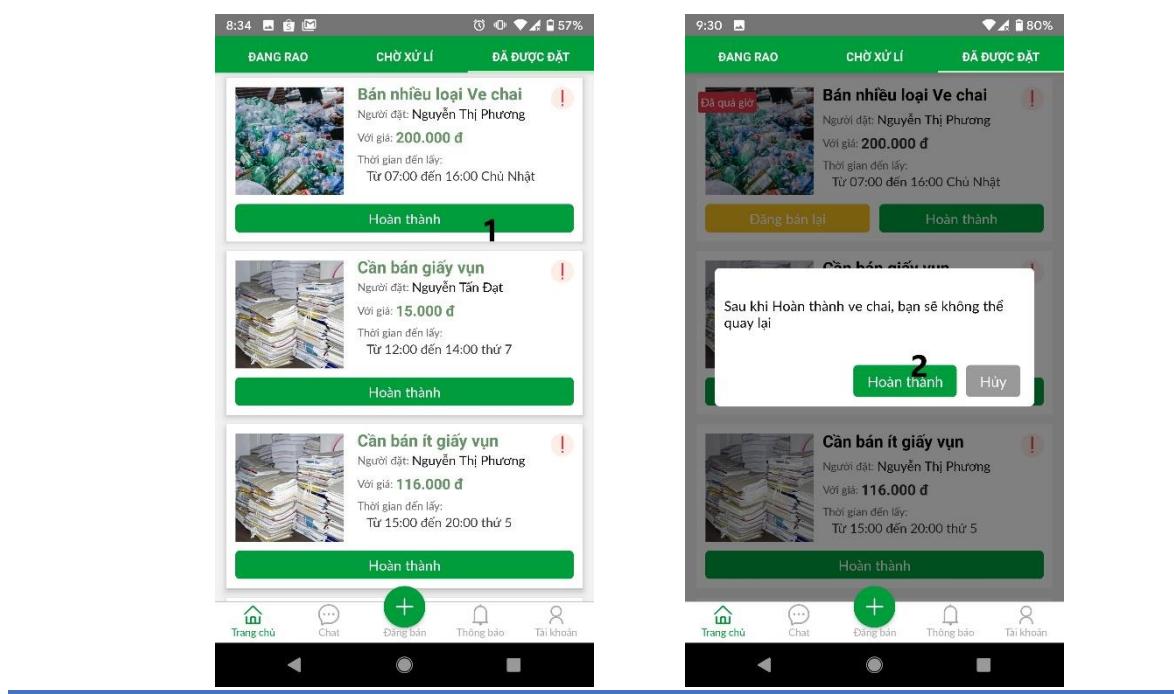


Figure 166 User guide: Accomplish scrap

Step	Description
1	Press “Hoàn thành” button
2	Press “Hoàn thành” button on confirm dialog

Table 256 User guide: Accomplish scrap

2.2.7 Review Collector

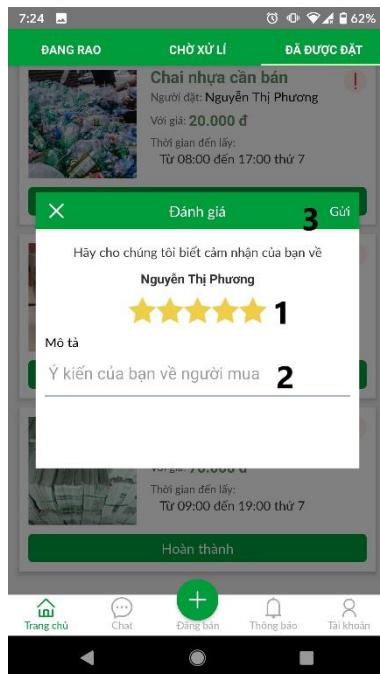


Figure 167 User guide: Review Collector

Step	Description
1	Select number of review star
2	Input review description
3	Press “Gửi” button

Table 257 User guide: Review Collector

2.2.8 View history scrap

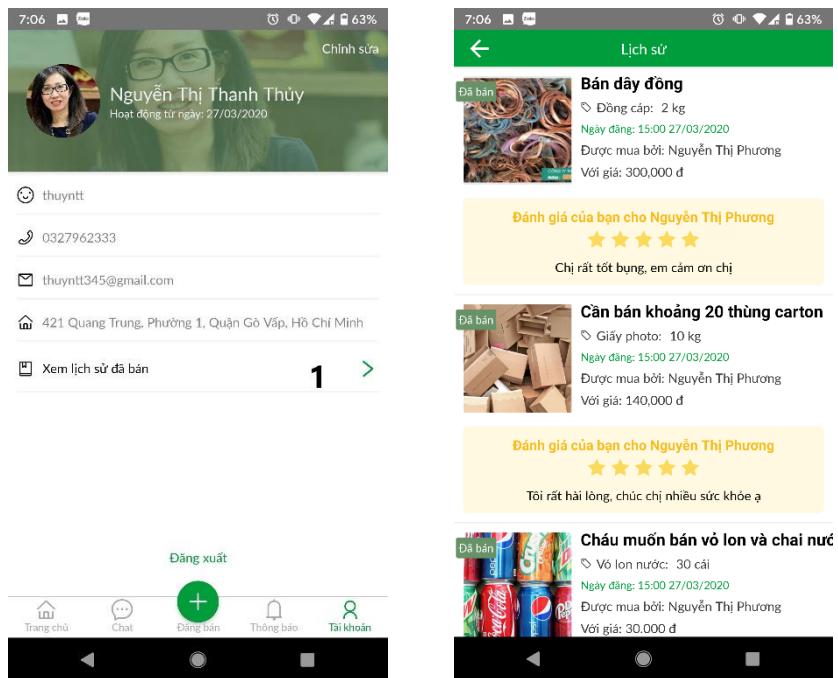


Figure 168 User guide: View history scrap

Step	Description
1	Press “Xem lịch sử đã bán” button

Table 258 User guide: View history scrap

2.2.9 View selling scraps



Figure 169 User guide: View selling scraps

Step	Description
1	Press “Đang rao” button on the top tab bar

Table 259 User guide: View selling scraps

2.2.10 Delete scrap

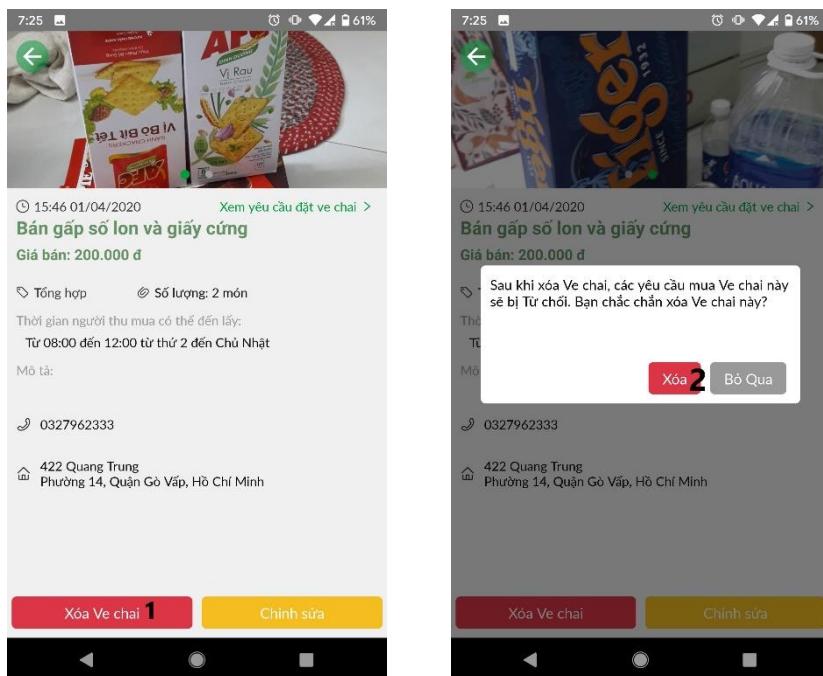


Figure 170 User guide: Delete scrap

Step	Description
1	Press “Xóa Ve chai” button
2	Press “Xóa” button on confirm dialog

Table 260 User guide: Delete scrap

2.2.11 Update scrap information

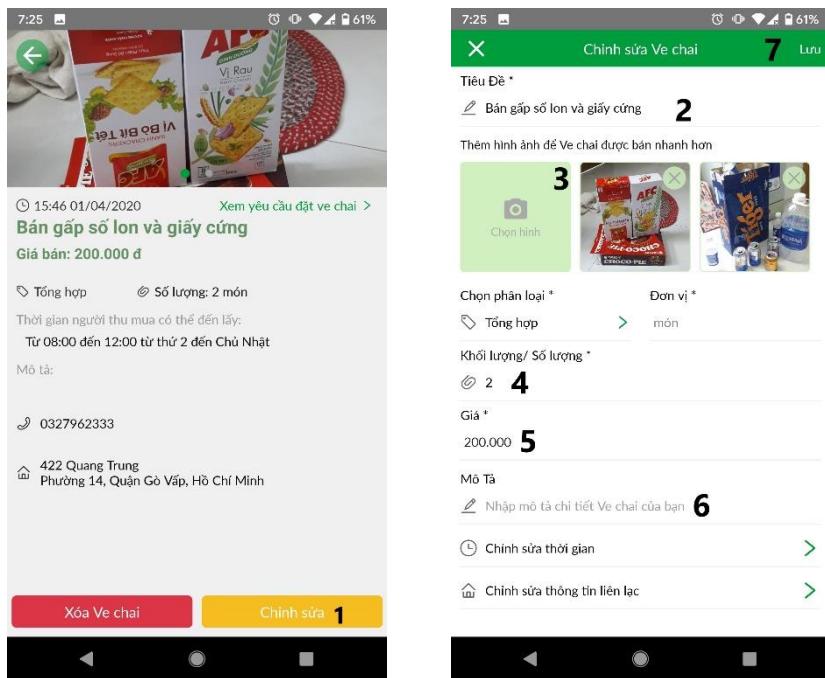


Figure 171 User guide: Update scrap information

Step	Description
1	Press “Chỉnh sửa” button
2	Input Scrap title
3	Choose images of scrap
4	Input quantity or mass of scrap
5	Input scrap price
6	Input description of scrap
7	Press on “Lưu” button

Table 261 User guide: Update scrap information

2.3 Mobile Application for Collector

2.3.1 Search scrap



Figure 172 User guide: Search scrap

Step	Description
1	Press the “Trang chủ” button on the bottom tab bar

Table 262 User guide: Search scrap

2.3.2 Search scrap by category

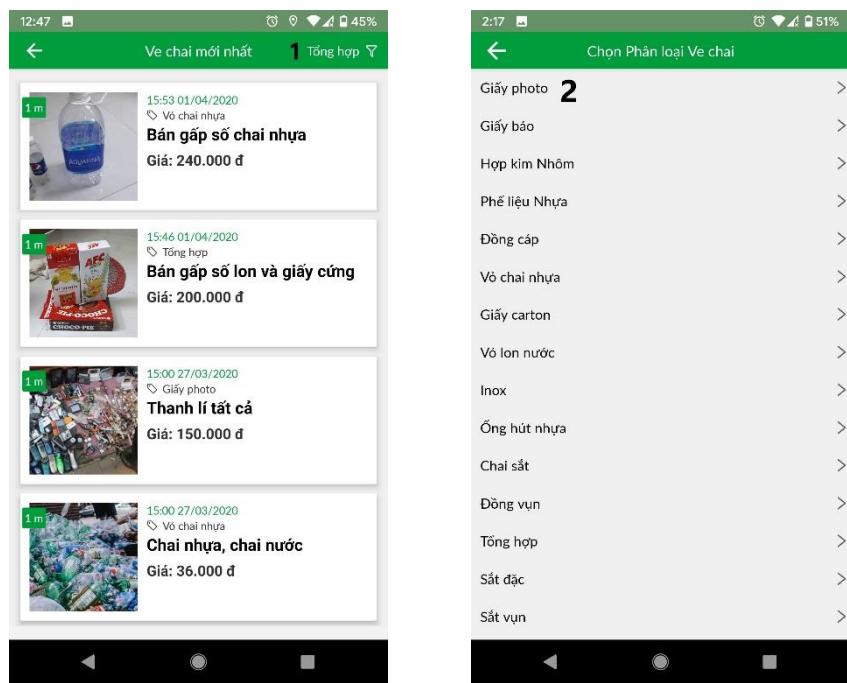


Figure 173 User guide: Search scrap by category

Step	Description
1	Press the “Filter” button
2	Choose category

Table 263 User guide: Search scrap by category

2.3.3 View scrap detail

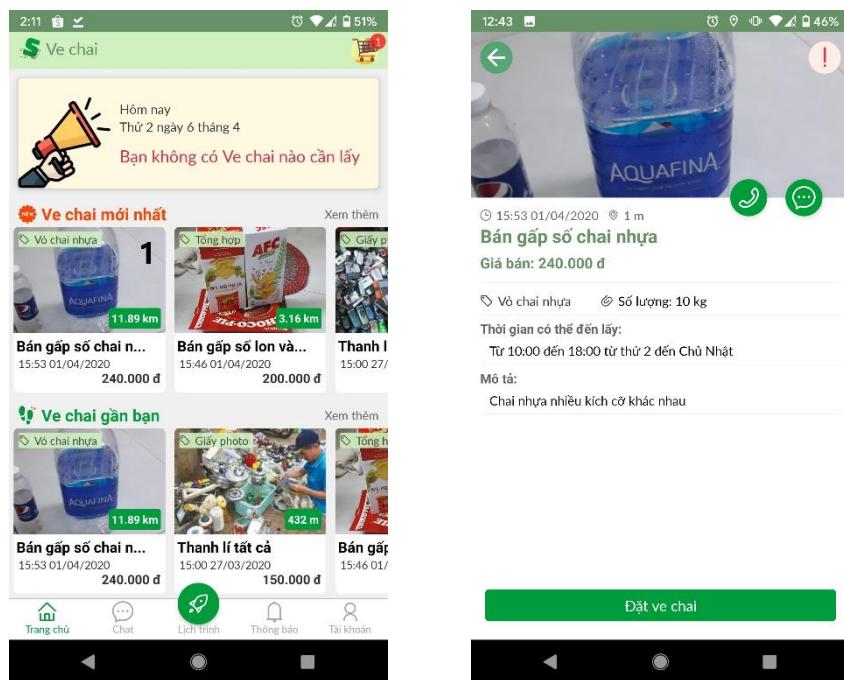


Figure 174 User guide: View scrap detail

Step	Description
1	Press on the scrap item

Table 264 User guide: View scrap detail

2.3.4 Book scrap

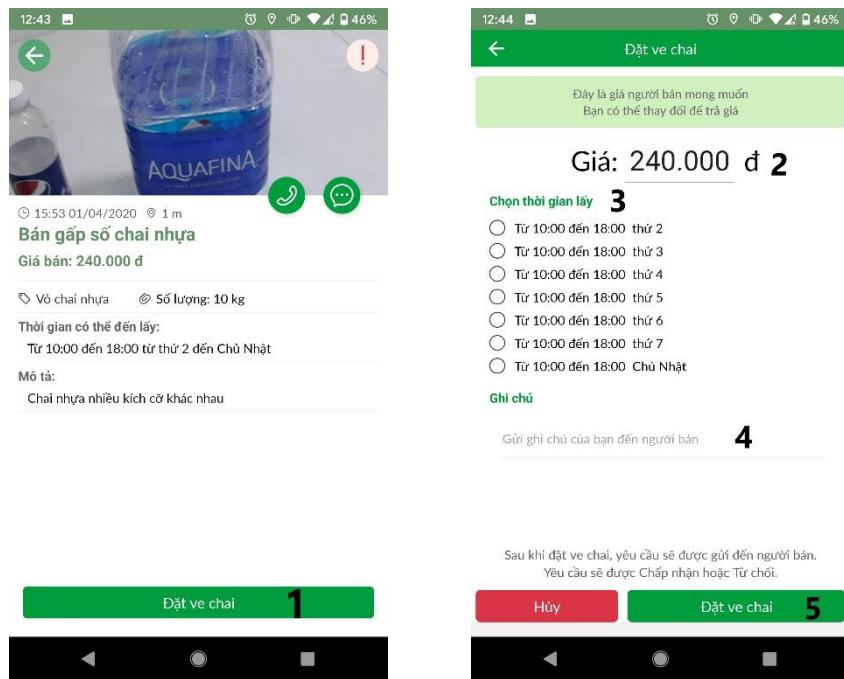


Figure 175 User guide: Book scrap

Step	Description
1	Press the “Đặt Ve chai” button
2	Input Price
3	Choose time to pick up scrap
4	Input note of booking
5	Press the “Đặt Ve chai” button

Table 265 User guide: Book scrap

2.3.5 Call Homeowner



Figure 176 User guide: Call Homeowner

Step	Description
1	Press the “Call” button

Table 266 User guide: Call Homeowner

2.3.6 Chat to Homeowner

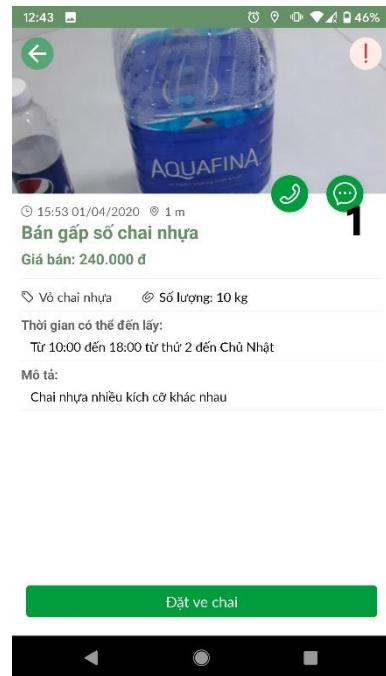


Figure 177 User guide: Chat to Homeowner

Step	Description
1	Press the “Chat” button

Table 267 User guide: Chat to Homeowner

2.3.7 View all waiting bookings

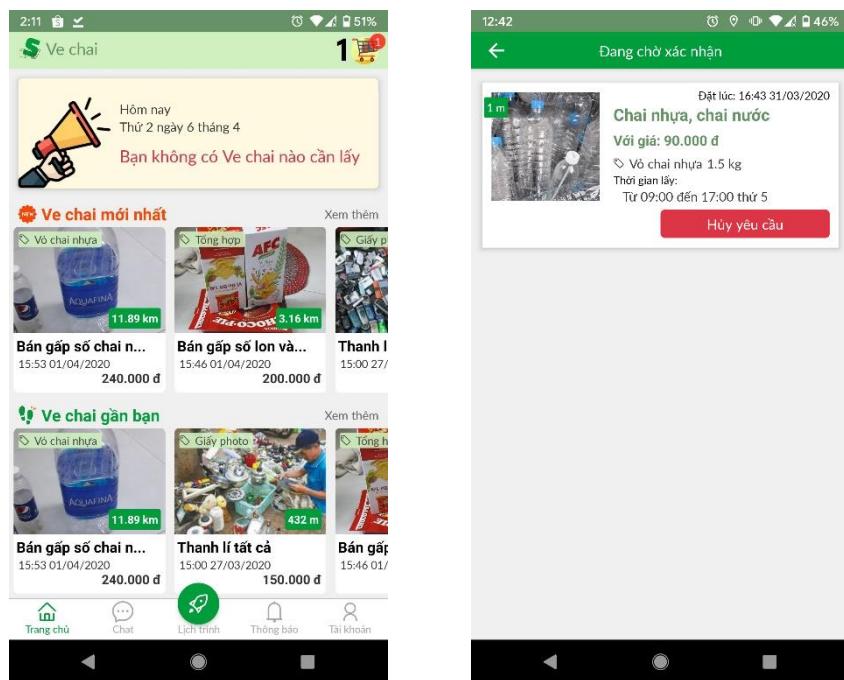


Figure 178 User guide: View all waiting bookings

Step	Description
1	Press the “Cart” button on the Home screen

Table 268 User guide: View all waiting bookings

2.3.8 Cancel booking request

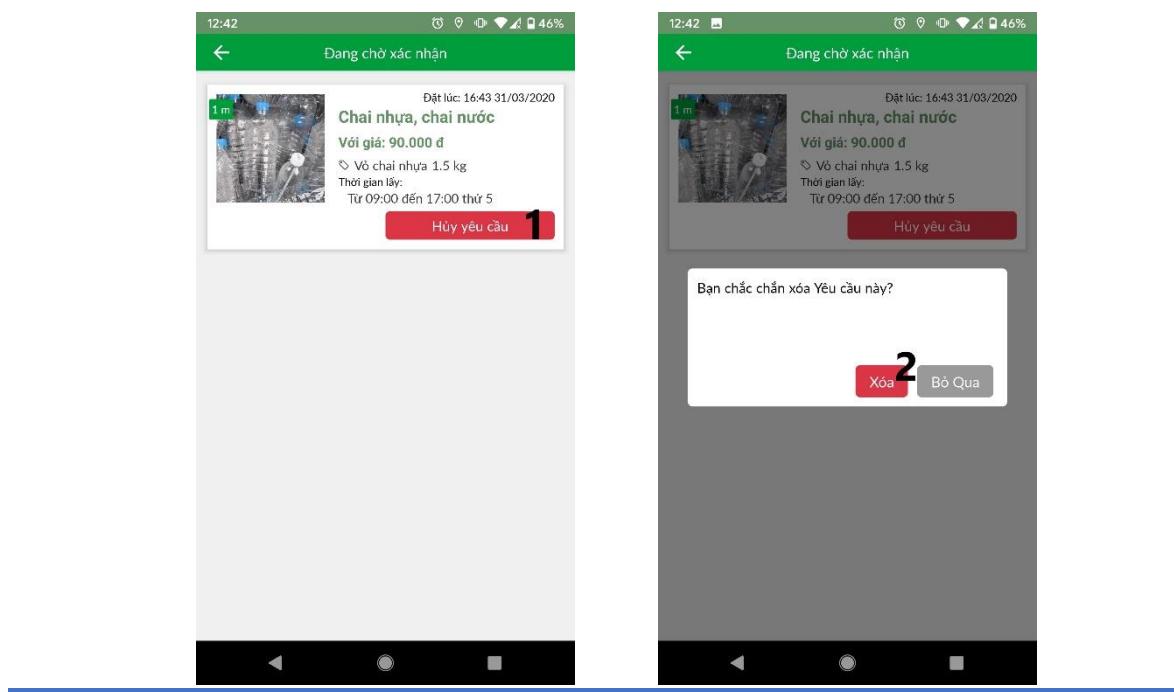


Figure 179 User guide: Cancel booking

Step	Description
1	Press the “Hủy yêu cầu” button
2	Press the “Xóa” button on confirm dialog

Table 269 User guide: Cancel booking

2.3.9 Update booking request

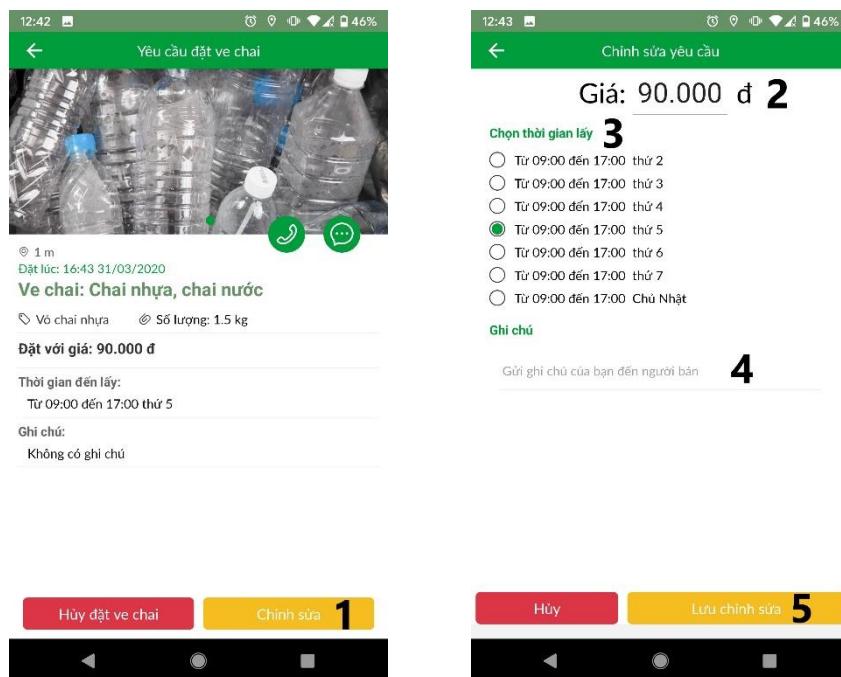


Figure 180 User guide: Update booking request

Step	Description
1	Press the “Chỉnh sửa” button
2	Input Price of booking
3	Choose time to pick up scrap
4	Input note of booking
5	Press the “Lưu chỉnh sửa” button

Table 270 User guide: Update booking request

2.3.10 View schedule

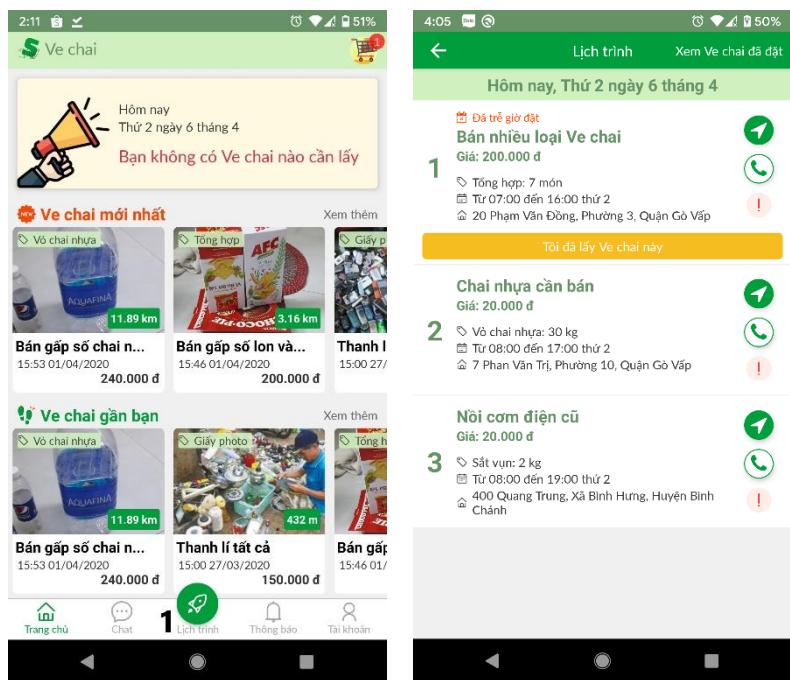


Figure 181 User guide: View schedule

Step	Description
1	Press the “+” button on the bottom tab bar

Table 271 User guide: View schedule

2.3.11 View direction to pick up scrap

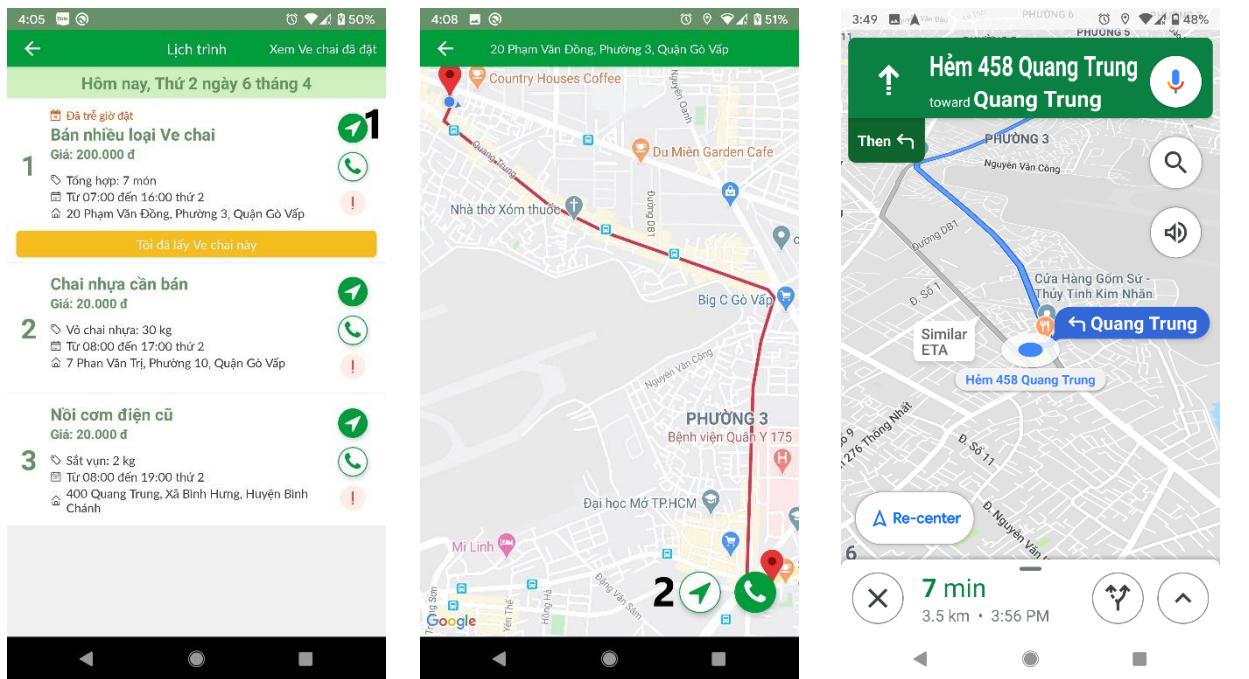


Figure 182 User guide: View direction to pick up scrap

Step	Description
1	Press the “View direction” button on each schedule item
2	Press the “View direction” for more detail direction

Table 272 User guide: View direction to pick up scrap

2.3.12 View all accepted bookings

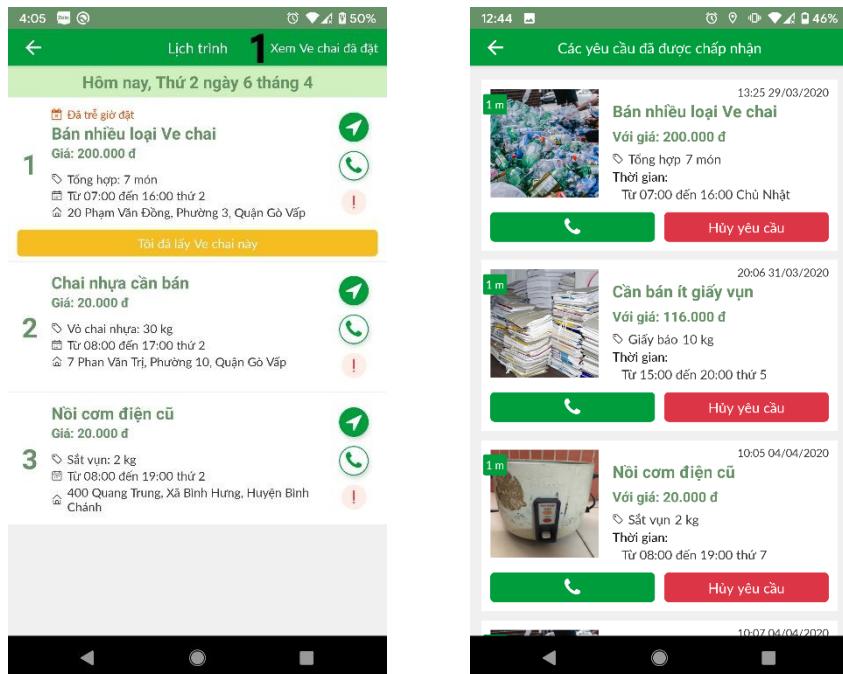


Figure 183 User guide: View all accepted bookings

Step	Description
1	Press the “Xem ve chai đã đặt” button

Table 273 User guide: View all accepted bookings

2.3.13 View average review star

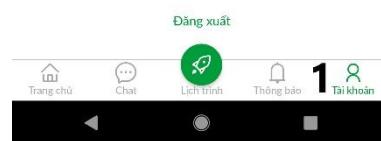


Figure 184 User guide: View average review star

Step	Description
1	Press the “Tài khoản” button on the bottom tab bar
2	View review star

Table 274 User guide: View average review star

2.3.14 View history bookings

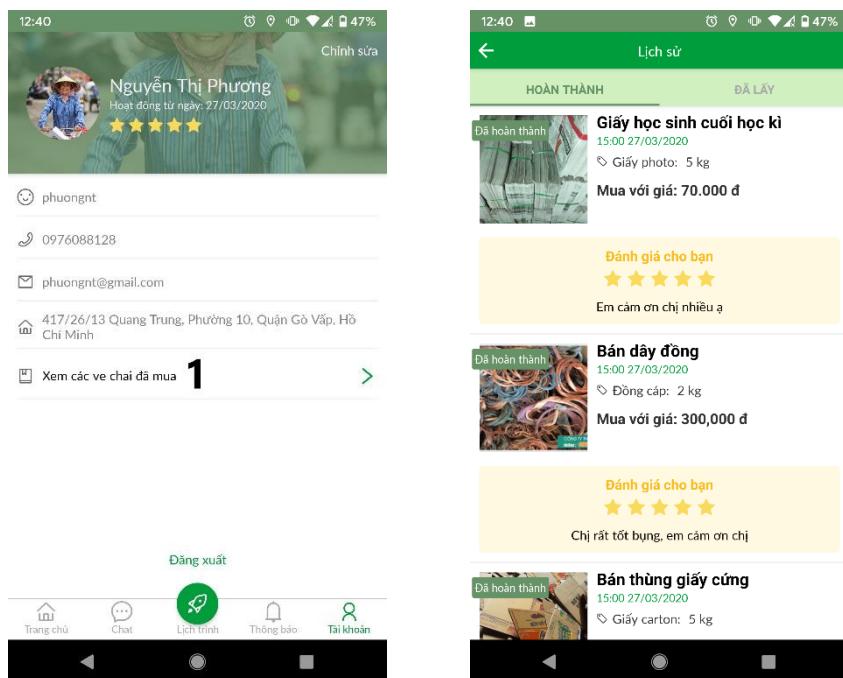


Figure 185 User guide: View history bookings

Step	Description
1	Press the “Xem các ve chai đã mua” button on the bottom tab bar

Table 275 User guide: View history bookings

2.4 Website for Admin

2.4.1 Login

Figure 186 User guide: Login

Step	Description
1	Input Username

2	Input Password
3	Click "Login"

Table 276 User guide: Login

2.4.2 Logout

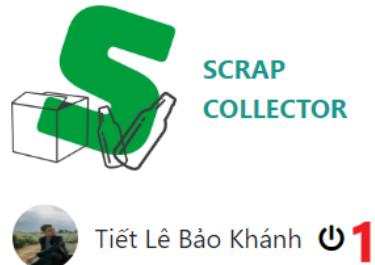


Figure 187 User guide: Logout

Step	Description
1	Click "Logout"

Table 277 User guide: Logout

2.4.3 View all categories in the System

Name	Unit	Status	Actions
Giấy photo	kg	Active	
Giấy báo	kg	Active	
Hợp kim Nhôm	kg	Active	
Phế liệu Nhựa	kg	Active	
Vỏ chai nhựa	kg	Active	
Giấy carton	kg	Active	
Vỏ lon nước	cái	Active	
Tổng hợp	món	Active	

Figure 188 User guide: View all categories in the System

Step	Description
1	Click "Category" tab in side menu

Table 278 User guide: View all categories in the System

2.4.4 View category detail

Categories				New Category
Name	Unit	Status	Actions	
Giấy photo	kg	Active		
Giấy báo	kg	Active		
Hợp kim Nhôm	kg	Active		
Phế liệu Nhựa	kg	Active		
Vỏ chai nhựa	kg	Active		
Giấy carton	kg	Active		
Vỏ lon nước	cái	Active		
Tổng hợp	món	Active		

Previous 1 2 Next

Figure 189 User guide: View category detail

Step	Description
1	Click on button with “View” icon

Table 279 User guide: View category detail

2.4.5 Add new category

1

Categories				New Category
Name	Unit	Status	Actions	
Giấy photo	kg	Active	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Giấy báo	kg	Active	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Hợp kim Nhôm	kg	Active	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Phế liệu Nhựa	kg	Active	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Vỏ chai nhựa	kg	Active	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Giấy carton	kg	Active	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Vỏ lon nước	cái	Active	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
Tổng hợp	món	Active	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>

Previous **1** 2 Next

2

3

4

Figure 190 User guide: Add new category

Step	Description
1	Click “New Category” button
2	Input Category name
3	Input Category unit
4	Click “Add” button

Table 280 User guide: Add new category

2.4.6 Update category

The screenshot shows two interface components related to managing categories.

Categories Table:

Name	Unit	Status	Actions
Giấy photo	kg	Active	(Edit icon) 1
Giấy báo	kg	Active	(Edit icon) 1
Hộp kim Nhôm	kg	Active	(Edit icon) 1
Phế liệu Nhựa	kg	Active	(Edit icon) 1
Vỏ chai nhựa	kg	Active	(Edit icon) 1
Giấy carton	kg	Active	(Edit icon) 1
Vỏ lon nước	cái	Active	(Edit icon) 1
Tổng hợp	món	Active	(Edit icon) 1

Update Category Dialog:

This dialog allows editing a specific category. It has three fields: Name, Unit, and Status. The status dropdown is currently set to "ACTIVE".

- 2. Name: Giấy photo
- 3. Unit: kg
- 4. Status: ACTIVE
- 5. Update button

Figure 191 User guide: Update category

Step	Description
1	Click button with “Edit” icon
2	If you want to change category name, edit Category name
3	If you want to change category unit, edit Category unit
4	If you want to deactivate this category, select “IN-ACTIVE” status. Or if you want to activate this category, select “ACTIVE” status
5	Click “Update” button

Table 281 User guide: Update category

2.4.7 View all accounts in the System

Name	Username	Phone	Role	Actions
Nguyễn Duy Đạt	DatAdmin	0327962333	ADMIN	
Nguyễn Hoàng Nhàn	nhanCollector5	0345510437	COLLECTOR	
Nguyễn Hoàng Mi	homeo123	0906666666666666	HOMEOWNER	
Nguyen Minh Hieu	hieu	0976088128	COLLECTOR	
Trung Nguyen	TrungNHA_Admin_1	0973722454	ADMIN	
Trung Nguyen	TrungNHA_Admin	0973722454	ADMIN	
Nhân	nhanAdmin	090222222	ADMIN	
Nguyễn Hoàng Nhàn	nhanCollector4	0345510437	COLLECTOR	

Previous 1 2 3 Next

Figure 192 User guide: View all accounts in the System

Step	Description
1	Click “Account” button on side bar menu

Table 282 User guide: View all accounts in the System

2.4.8 Add new Admin

The screenshot shows a web-based form titled "Add New Admin". The form contains six input fields: "User Name", "Password", "Confirm Password", "Full Name", "Email", and "Phone". To the right of each input field is a red number from 2 to 7, corresponding to the steps in the user guide. Above the "User Name" field is a file upload button labeled "Choose File" with the text "No file chosen". Below the "Phone" field is a green "Add" button with the number 9 next to it.

Figure 193 User guide: Add new Admin

Step	Description
1	Click “Add new Admin” button
2	Input Admin username
3	Input Admin password
4	Input Admin confirm password
5	Input Admin full name
6	Input Admin email
7	Input Admin phone
8	Choose avatar
9	Click “Add” button

Table 283 User guide: Add new Admin

2.4.9 View all scraps in the System

Figure 194 User guide: View all scraps in the System

Step	Description
1	Click “Scrap” button on side bar menu

Table 284 User guide: View all scraps in the System

2.4.10 View all scrap reports in the System

Figure 195 User guide: View all scrap reports in the System

Step	Description
1	Click “Scrap Reports” button on side bar menu

Table 285 User guide: View all scrap reports in the System

2.4.11 View scrap report detail

Scrap Reports

Scrap Title	Report Details	Announcer	Created Time	Status	Actions
Dọn nhà bán nhiều Thùng carton	Tôi không thể gọi được cho người bán	Nguyễn Thị Phương	4/4/20, 7:04 PM	WAITING	
Bán gấp số chai nhựa	Hình ảnh không hợp lệ	Nguyễn Thị Phương	4/2/20, 8:53 PM	WAITING	

Previous **1** Next

Options
Status Filter: WAITING
Sort By: LATEST REPORTS
Date: From Date, To Date
Apply

Figure 196 User guide: View scrap report detail

Step	Description
1	Click button with “View” icon on report item

Table 286 User guide: View scrap report detail

2.4.12 Resolve scrap report

Scrap Reports

Scrap Title	Report Details	Announcer	Created Time	Status	Actions
Dọn nhà bán nhiều Thùng carton	Tôi không thể gọi được cho người bán	Nguyễn Thị Phương	4/4/20, 7:04 PM	WAITING	
Bán gấp số chai nhựa	Hình ảnh không hợp lệ	Nguyễn Thị Phương	4/2/20, 8:53 PM	WAITING	

Previous **1** Next

Options
Status Filter: WAITING
Sort By: LATEST REPORTS
Date: From Date, To Date
Apply

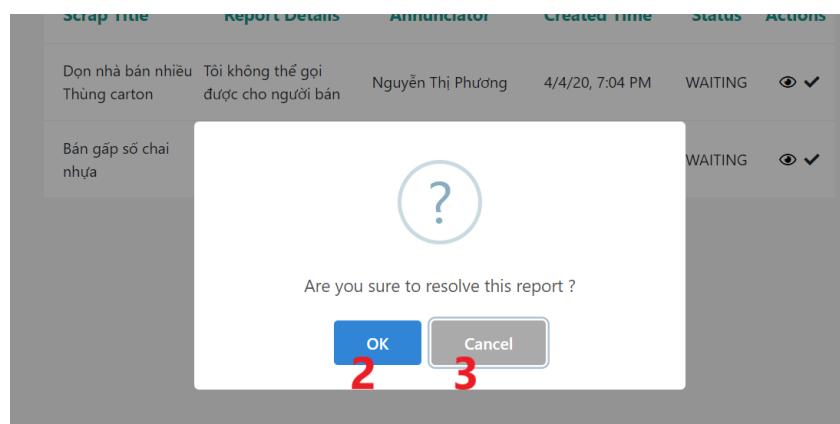


Figure 197 User guide: Resolve scrap report

Step	Description
1	Click button with “Resolve” icon on report item
2	If you are sure to resolve this report, click “OK” button
3	If you are not sure to resolve this report, click “Cancel” button

Table 287 User guide: Resolve scrap report

2.4.13 View account report detail

The screenshot shows the 'Account Reports' section of the application. On the left, there is a sidebar with navigation links for 'Main' (Scrap, Account, Category, Dashboard, Recommend Price) and 'Reports' (Scrap Reports, Account Reports). The main area displays a table of account reports. The columns include 'Reported Account', 'Report Details', 'Announcer', 'Created Time', 'Status', and 'Actions'. There are two rows of data:

- Row 1: Reported Account - Tiet Le Bao Khanh, Report Details - Người mua không đến lấy Ve chai, Announcer - Nguyễn Thị Thanh Thúy, Created Time - 4/11/20, 1:58 PM, Status - WAITING, Actions - eye icon, trash icon, checkmark icon, number 1.
- Row 2: Reported Account - Nguyễn Thị Phương, Report Details - Người mua có hành vi không chuẩn mực, Announcer - Nguyễn Thị Thanh Thúy, Created Time - 4/2/20, 8:46 PM, Status - WAITING, Actions - eye icon, trash icon, checkmark icon.

On the right side, there are filter options for 'Status Filter' (set to 'WAITING'), 'Sort By' (set to 'LATEST REPORTS'), and date range filters ('From Date' and 'To Date') with an 'Apply' button.

Figure 191 User guide: View account report detail

Step	Description
1	Click button with “View” icon on report item

Table 287 User guide: View account report detail

2.4.14 Send warning account report

The screenshot shows the SCRAP COLLECTOR application interface. On the left is a sidebar with navigation links: Main (Scrap, Account, Category, Dashboard, Recommend Price), Reports (Scrap Reports, Account Reports), and a user profile (Tiết Lê Bảo Khanh). The main content area is titled "Account Reports" and lists two reports:

Reported Account	Report Details	Announcer	Created Time	Status	Actions
Tiet Le Bao Khanh	Người mua không đến lấy Ve chai	Nguyễn Thị Thanh Thúy	4/11/20, 1:58 PM	WAITING	1
Nguyễn Thị Phương	Người mua có hành vi không chuẩn mực	Nguyễn Thị Thanh Thúy	4/2/20, 8:46 PM	WAITING	1

On the right, there are "Options" settings for Status Filter (WAITING), Sort By (LATEST REPORTS), and Date (From Date, To Date) with an "Apply" button. Below the table are "Previous" and "Next" buttons.

Figure 192 User guide: Send warning account report

Step	Description
1	Click button with “Warning” icon on report item

Table 288 User guide: Send warning account report

2.4.15 Resolve account report

The screenshot shows the SCRAP COLLECTOR application interface, similar to Figure 192. The sidebar and main report list are identical. A modal window is centered over the page, containing a large question mark icon and the text "Are you sure to resolve this report ?". At the bottom of the modal are two buttons: "OK" (blue) and "Cancel" (gray).

Figure 193 User guide: Resolve account report

Step	Description
1	Click button with “Resolve” icon on report item
2	If you are sure to resolve this report, click “OK” button
3	If you are not sure to resolve this report, click “Cancel” button

Table 289 User guide: Resolve account report

F1. ソフトウェアユーザーマニュアル

1. インストールガイド

1.1 ハードウェア要件

ハードウェア	説明
インターネット	8 Mbps 以上
プロセッサー	インテル®オーバーi3-4330 4 メガバイトスマートキャッシュ、3.50 GHz の
RAM	4GB 以上
ハードディスクドライバー	5GB 以上

Table 288 - ハードウェア要件

1.2 ソフトウェア要件

1.2.1 以下のためのウェブサイト

ソフトウェア	アプリケーション名/バージョン
オペレーティング・システム	Window 10 Pro-64 ビット
開発環境	Visual Studio Code
データベース管理システム (DBMS)	PostgreSQL 11
ソース管理	Gitlab
ウェブブラウザ	Chrome 70 以降

Table 289 - ウェブサイトのソフトウェア要件

1.2.2 アンドロイド用

ソフトウェア	アプリケーション名/バージョン
SCRAP COLLECTOR	458

オペレーティング・システム	Android 6.0 以降
開発環境	Visual Studio Code
データベース管理システム (DBMS)	PostgreSQL 11
ソース管理	Gitlab
ソフトウェア	Scrap Collector.apk ファイル

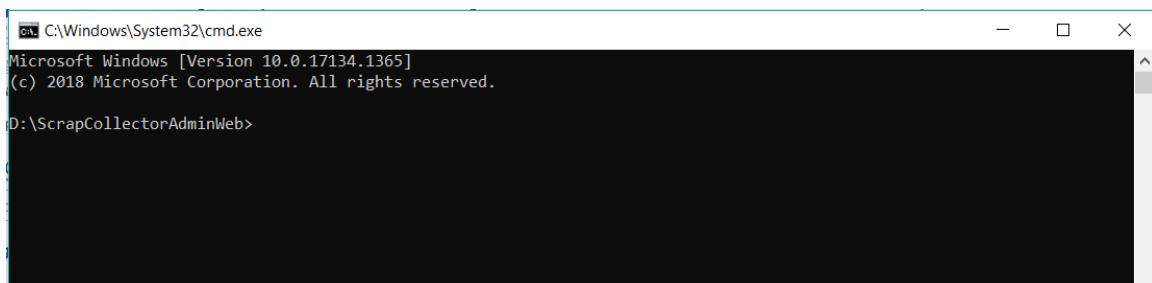
Table 290 - モバイルのソフトウェア要件

1.3 サーバー側での展開

1.3.1 管理者のウェブサイト配備

Firebase Hosting サービスを使用して、ウェブ管理者アプリケーションをデプロイします。ウェブ管理者は、Gitlab CI / CD パイプラインによって自動的にデプロイされます。ウェブを手動で展開する場合は、次の手順に従ってください：

ステップ 1: スクラップコレクターウェブアプリケーションのフォルダーに行く。



ステップ2：本番用のスクラップコレクターウェブアプリケーションを構築する。

```
D:\ScrapCollector\AdminWeb>npm run build --prod
> scrap-web@0.0.0 build D:\ScrapCollector\AdminWeb
> ng build

Generating ES5 bundles for differential loading...
ES5 bundle generation complete.

chunk {polyfills-es5} polyfills-es5.js, polyfills-es5.js.map (polyfills-es5) 683 kB [initial] [rendered]
chunk {polyfills} polyfills-es2015.js, polyfills-es2015.js.map (polyfills) 264 kB [initial] [rendered]
chunk {runtime} runtime-es2015.js, runtime-es2015.js.map (runtime) 9.04 kB [entry] [rendered]
chunk {runtime} runtime-es5.js, runtime-es5.js.map (runtime) 9.03 kB [entry] [rendered]
chunk {modules-admin-admin-module} modules-admin-admin-module-es2015.js, modules-admin-admin-module-es2015.js.map (modules-admin-admin-module) 4.12 MB [rendered]
chunk {modules-admin-admin-module} modules-admin-admin-module-es5.js, modules-admin-admin-module-es5.js.map (modules-admin-admin-module) 4.73 kB [rendered]
chunk {main} main-es2015.js, main-es2015.js.map (main) 56.5 kB [initial] [rendered]
chunk {main} main-es5.js, main-es5.js.map (main) 66.4 kB [initial] [rendered]
chunk {styles} styles-es2015.js, styles-es2015.js.map (styles) 2.01 MB [initial] [rendered]
chunk {styles} styles-es5.js, styles-es5.js.map (styles) 2.01 MB [initial] [rendered]
chunk {vendor} vendor-es2015.js, vendor-es2015.js.map (vendor) 4.57 MB [initial] [rendered]
chunk {vendor} vendor-es5.js, vendor-es5.js.map (vendor) 5.52 kB [initial] [rendered]
Date: 2020-04-11T12:13:14.911Z - Hash: 4d164a747de2714abfb1 - Time: 25006ms
```

ステップ3：Firebase コマンドラインツールをインストールする

```
D:\ScrapCollector\AdminWeb>npm install -g firebase-tools
npm [WARN] deprecated request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
C:\Users\Nguyen Duy Dat\AppData\Roaming\npm\firebase -> C:\Users\Nguyen Duy Dat\AppData\Roaming\npm\node_modules\firebase-tools\lib\bin\firebase.js

> protobufjs@6.8.9 postinstall C:\Users\Nguyen Duy Dat\AppData\Roaming\npm\node_modules\firebase-tools\node_modules\protobufjs
> node scripts/postinstall

npm [WARN] optional SKIPPING OPTIONAL DEPENDENCY: fsevents@-2.1.2 (node_modules\firebase-tools\node_modules\chokidar\node_modules\fsevents):
npm [WARN] notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.1.2: wanted {"os":"darwin","arch":"any"} (current: {"os":"win32","arch":"x64"})
+ firebase-tools@8.0.2
added 530 packages from 354 contributors in 56.857s
```

ステップ4：Firebase CLI を使用してログインし、スクラップコレクターウェブ管理で初期化する

```
D:\ScrapCollector\AdminWeb>firebase login
i  Firebase optionally collects CLI usage and error reporting information to help improve our products. Data is collected in accordance with Google's privacy policy (https://policies.google.com/privacy) and is not used to identify you.

? Allow Firebase to collect CLI usage and error reporting information? Yes
i  To change your data collection preference at any time, run `firebase logout` and log in again.

visit this URL on this device to log in:
https://accounts.google.com/o/oauth2/auth?client\_id=563584335869-fgrhgm47bqnekij5i8b5pr03ho849e6.apps.googleusercontent.com&scope=email%20openid%20https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcloudplatformprojects.readonly%20https%3A%2F%2Fwww.googleapis.com%2Fauth%2Ffirebases%20https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcloud-platform&response\_type=code&state=413470388&redirect\_uri=http%3A%2F%2Flocalhost%3A9005

Waiting for authentication...
+ Success! Logged in as datndse63093@fpt.edu.vn
```

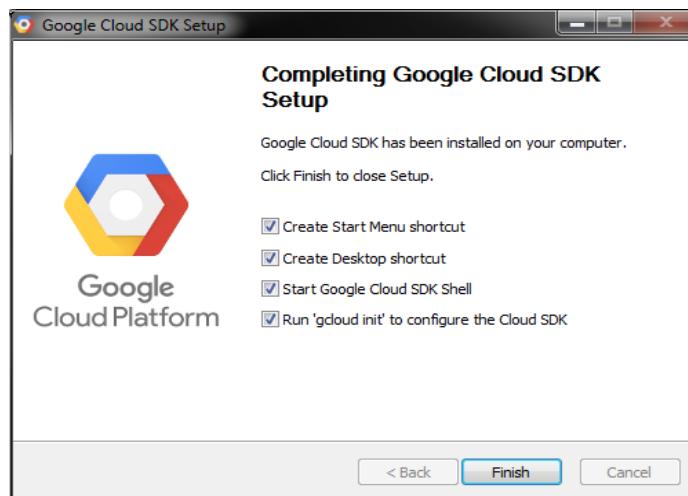
ステップ 5：Firebase Hosting にデプロイする

```
D:\ScrapCollectorAdminWeb>firebase deploy  
=== Deploying to 'scrap-collector-web'...  
  
i  deploying hosting  
i  hosting[scrap-collector-web]: beginning deploy...  
i  hosting[scrap-collector-web]: found 31 files in dist/ScrapWeb  
+  hosting[scrap-collector-web]: file upload complete  
i  hosting[scrap-collector-web]: finalizing version...  
+  hosting[scrap-collector-web]: version finalized  
i  hosting[scrap-collector-web]: releasing new version...  
+  hosting[scrap-collector-web]: release complete  
  
+ Deploy complete!  
  
Project Console: https://console.firebaseio.google.com/project/scrap-collector-web/overview  
Hosting URL: https://scrap-collector-web.web.app
```

ステップ6：Firebase Hostingでウェブアプリケーションを確認する

1.3.2 API 配備

ステップ1: Google Cloud SDK をダウンロードしてインストールする



ステップ 2 : app.yaml ファイルを作成する

```
! app.yaml
1   runtime: nodejs10
2
3   env_variables:
4     PORT: 8080
5     SECRET: 'SECRET'
6
7   manual_scaling:
8     instances: 1
9
10  resources:
11    cpu: 1
12    memory_gb: 0.5
13    disk_size_gb: 10
14
```

ステップ 3 : SDK を初期化する

```
D:\ScrapCollectorAPI>gcloud init
```

ステップ 4 : Scrap Collector API をデプロイする

```
D:\ScrapCollectorAPI>gcloud app deploy
```

1.4 クライアント側の環境のセットアップ

1. インストール .apk ファイルを Android デバイスにコピーします

This PC > Local Disk (D:) > ScrapCollectorMobileApplication > android > app > build > outputs > apk > release				
	Name	Date modified	Type	Size
ss	output.json	4/5/2020 10:33 PM	JSON File	1 KB
ds	scrap_collector.apk	4/5/2020 10:33 PM	APK File	25,417 KB
nts				

Figure 198 クライアント側の環境のセットアップ – インストール .apk ファイルをコピーします

2. アプリケーションをインストール

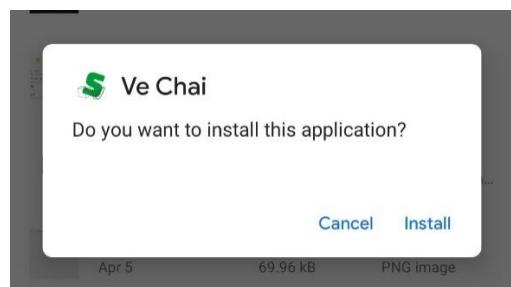


Figure 199 クライアント側の環境のセットアップ- インストー-アプリケーションをインストール

3. 「Ve chai」 という名前のアプリケーションを開きます



Figure 200 クライアント側の環境のセットアップ- インストー-アプリケーションを開く

2. ユーザーガイド

2.1 すべてのタイプのユーザーのモバイルアプリケーション

2.1.1 ログイン

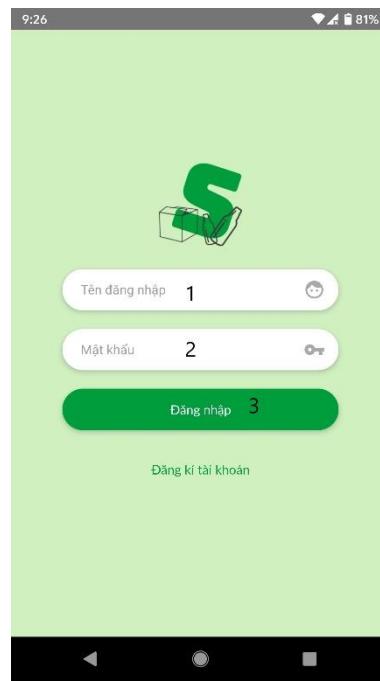


Figure 201 ユーザーガイド：ログイン

ステップ	説明
1	入力ユーザー名
2	入力パスワード
3	「Đăng Nhập」をクリックします

Table 291 ユーザーガイドの説明：ログイン

2.1.2 登録

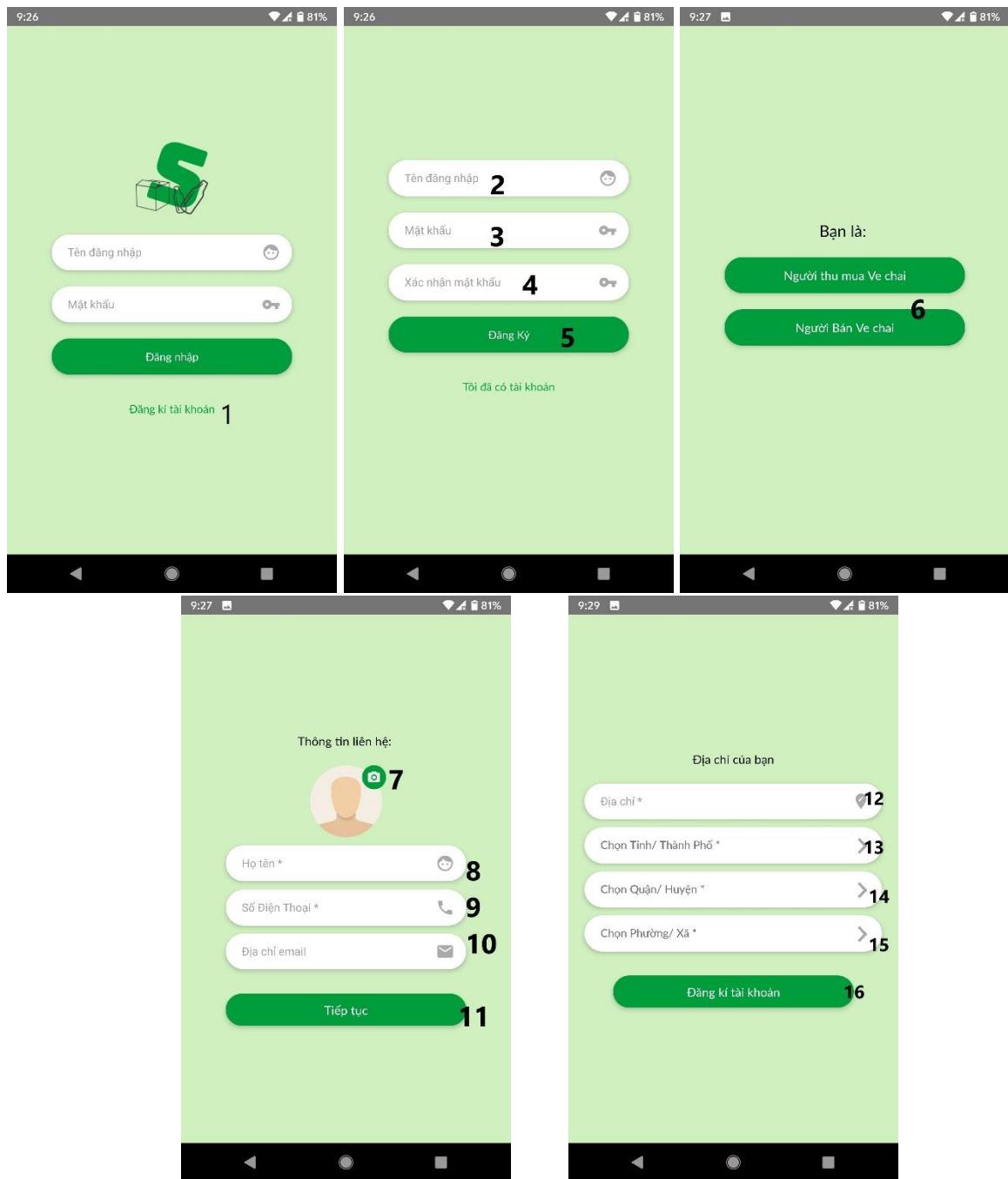


Figure 202 ユーザーガイド：登録

ステップ	説明
1	「Đăng kí tài khoản」をクリックします

2	入力ユーザー名
3	入力パスワード
4	入力確認パスワード
5	「Đăng ký」をクリックします
6	あなたは屑を集める人だった、「Người thu mua ve chai」をクリックします。あなたは家主だった、「Người bán ve chai」をクリックします。
7	アバターを選択します
8	入力フルネーム
9	入力電話番号
10	入力電子メールアドレス
11	「Tiếp tục」をクリックします
12	入力住所
13	州を選択します
14	地区を選択します
15	区を選択します
16	「Đăng ký tài khoản」をクリックします

Table 292 ユーザーガイド：登録

2.1.3 プロフィールを見る

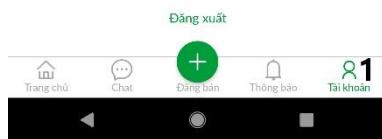


Figure 203 ユーザーガイド：プロフィールを見る

ステップ	説明
1	「Tài khoản」を押します

Table 293 ユーザーガイド：プロフィールを見る

2.1.4 プロフィールを更新

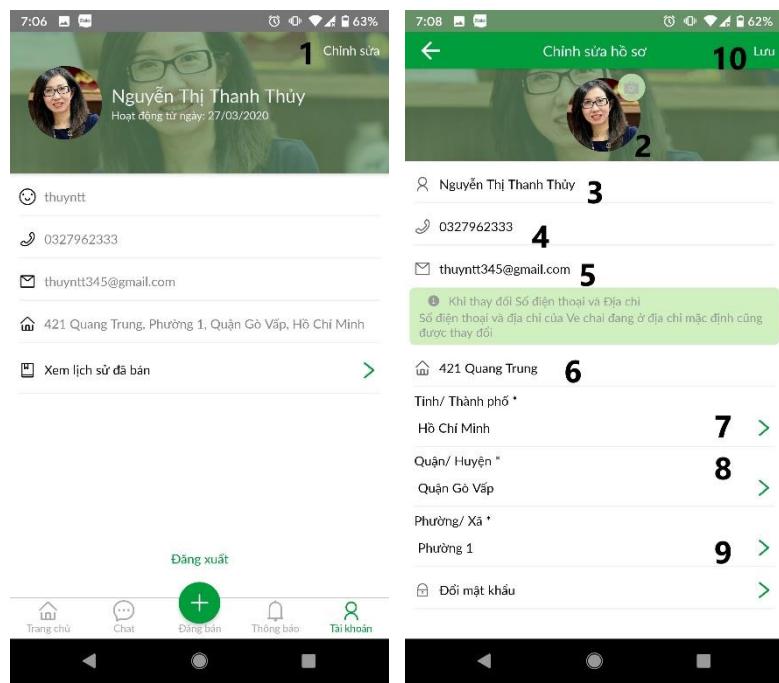


Figure 204 ユーザーガイド：プロフィールを更新

ステップ	説明
1	「Chỉnh sửa」を押します
2	アバターを選択します
3	入力フルネーム
4	入力電話番号
5	入力電子メールアドレス
6	入力住所
7	州を選択します
8	地区を選択します
9	区を選択します
10	「Lưu」を押します

Table 294 ユーザーガイド：プロフィールを更新

2.1.5 パスワードを変更する

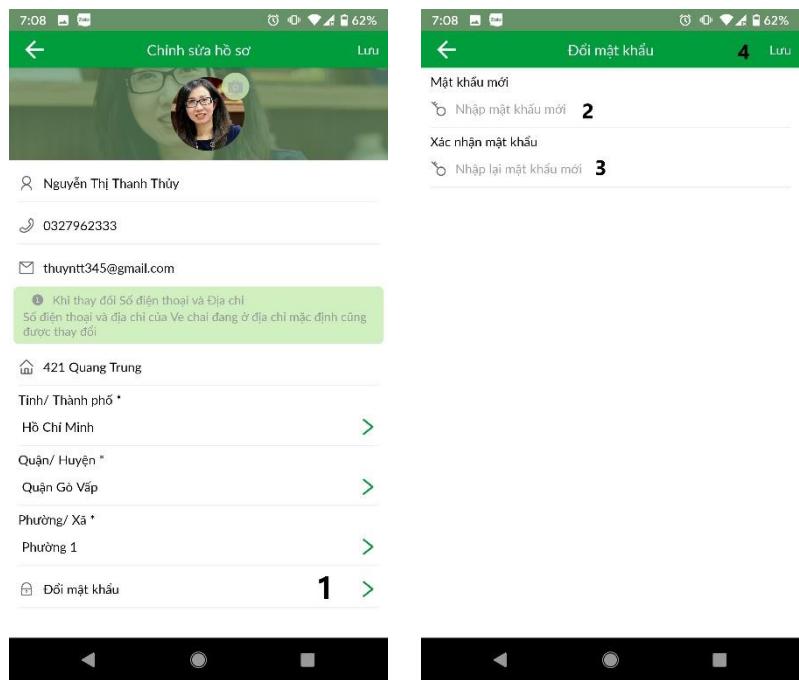


Figure 205 ユーザーガイド：パスワードを変更する

ステップ	説明
1	「Đổi mật khẩu」を押します
2	入力パスワード
3	入力確認パスワード
4	「Lưu」を押します

Table 295 ユーザーガイド：パスワードを変更する

2.1.6 ログアウト



Figure 206 ユーザーガイド：ログアウト

ステップ	説明
1	「Đăng xuất」を押します

Table 296 ユーザーガイド：ログアウト

2.1.7 すべてのチャットルームを見る



Figure 207 ユーザーガイド：すべてのチャットルームを見る

ステップ	説明
1	「Chat」を押します

Table 297 ユーザーガイド：すべてのチャットルームを見る

2.1.8 チャット

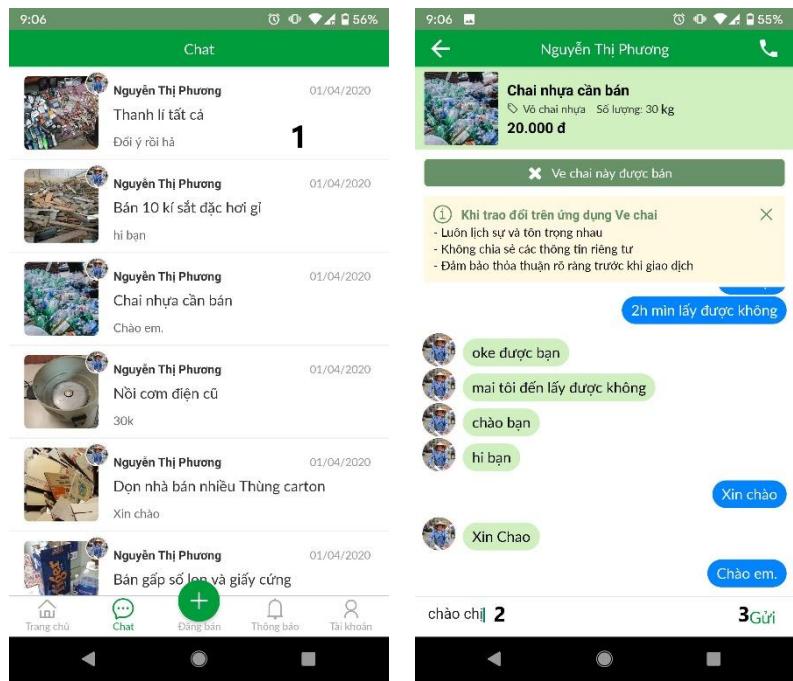


Figure 208 ユーザーガイド：チャット

ステップ	説明
1	チャットルームを押します
2	入力チャットコンテンツ
3	「Gửi」を押します

Table 298 ユーザーガイド：チャット

2.1.9 すべての通知を見る



Figure 209 ユーザーガイド：すべての通知を見る

ステップ	説明
1	「Thông báo」を押します

Table 299 ユーザーガイド：すべての通知を見る

2.2 家主のモバイルアプリケーション

2.2.1 スクラップを売る

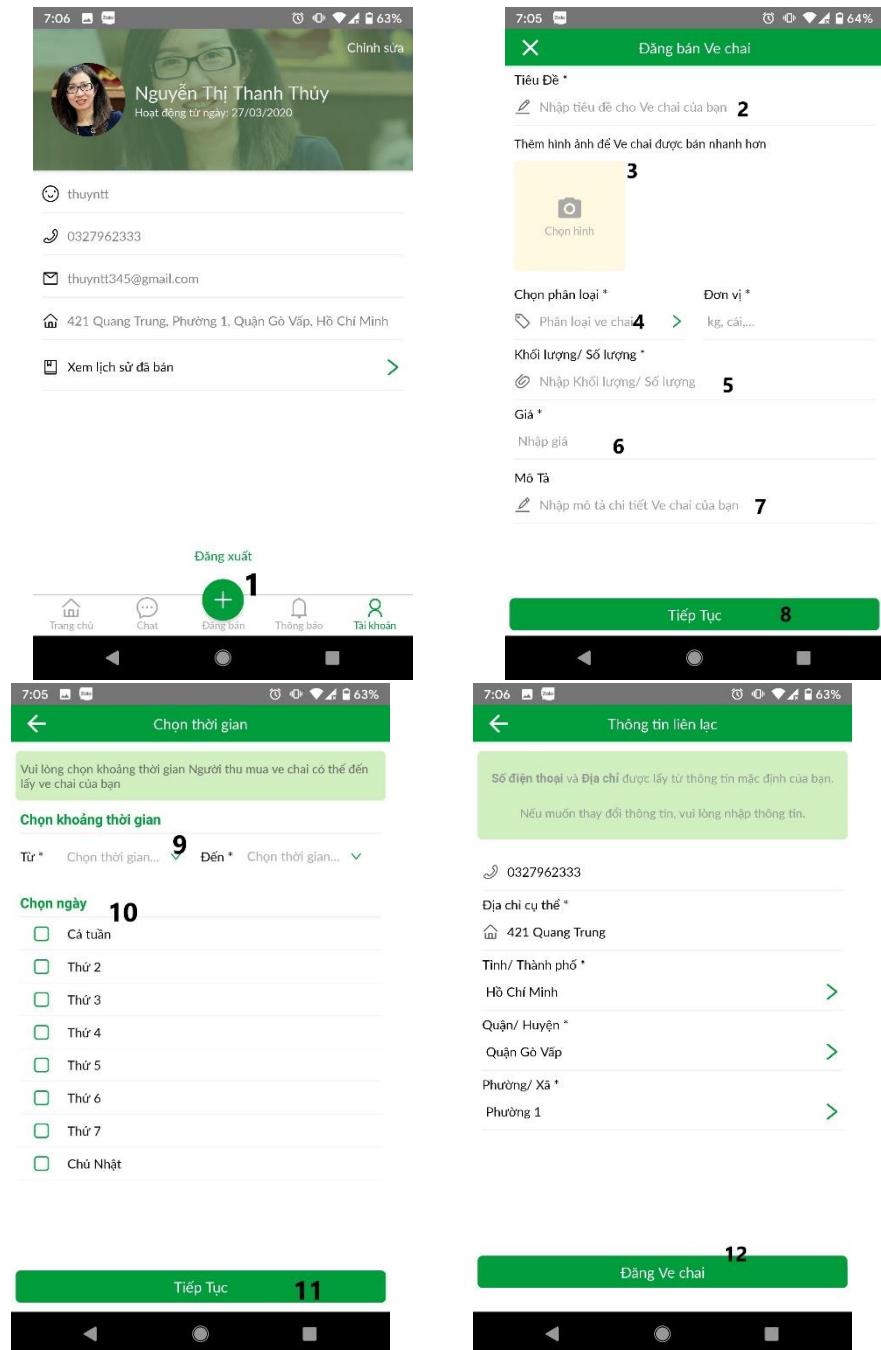


Figure 210 ユーザーガイド：スクラップを売る

ステップ	説明
------	----

1	「+」を押します
2	入力スクラップの題名
3	スクラップの画像を選択
4	スクラップのカテゴリーを選択
5	入力スクラップの質量
6	入力スクラップの価格
7	入力スクラップの解説
8	「Tiếp tục」を押します
9	利用可能な時間を選択します
10	利用可能な日を選択します
11	「Tiếp tục」を押します
12	「Đăng Ve chai」を押します

Table 300 ユーザーガイド：スクラップを売る

2.2.2 すべての予約リクエストを見る

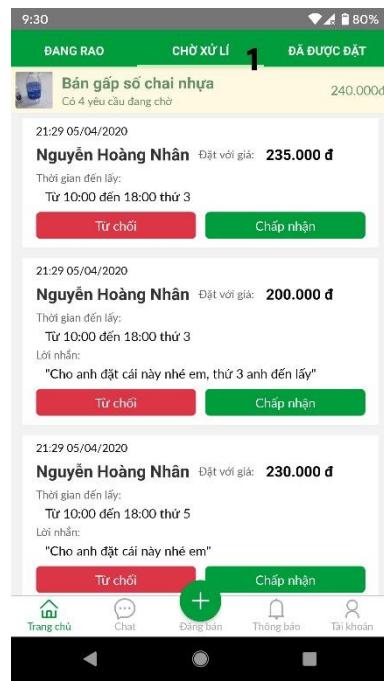


Figure 211 ユーザーガイド：すべての予約リクエストを見る

ステップ	説明
1	「Chờ xử lý」を押します

Table 301 ユーザーガイド：すべての予約リクエストを見る

2.2.3 予約リクエストを受け入れる

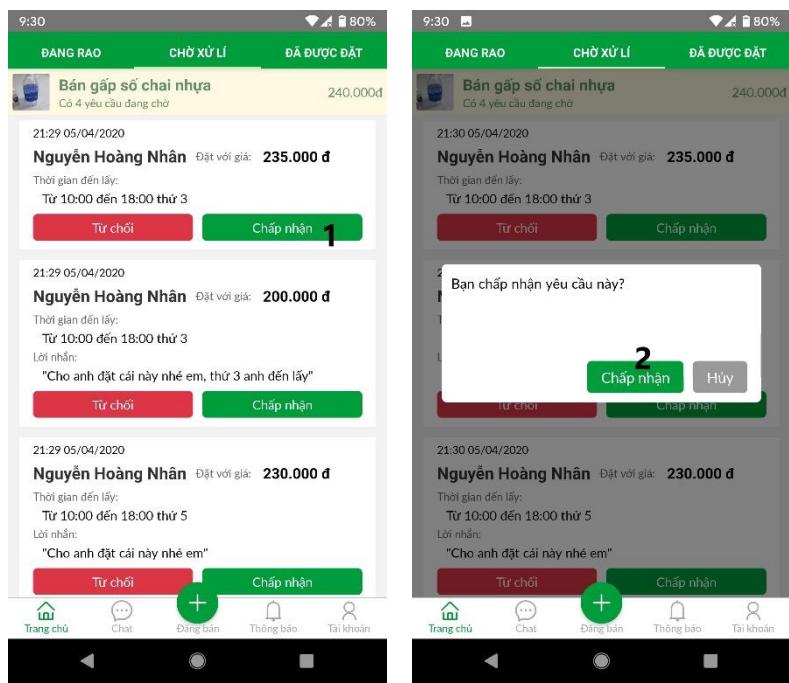


Figure 212 ユーザーガイド：予約リクエストを受け入れる

ステップ	説明
1	「Chấp nhận」を押します
2	確認ダイアログの「Chấp nhận」を押します

Table 302 ユーザーガイド：予約リクエストを受け入れる

2.2.4 予約リクエストを拒否する

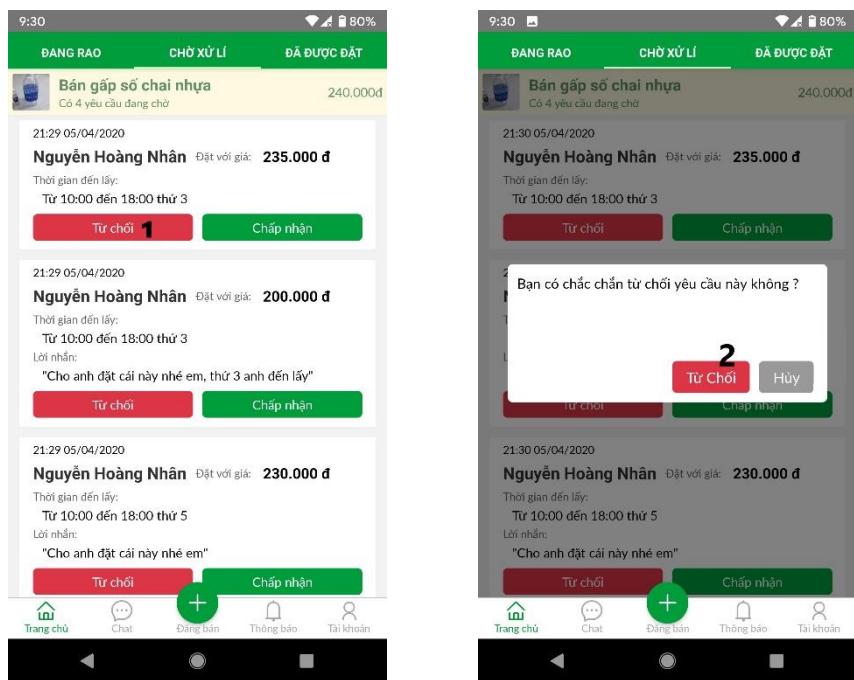


Figure 213 ユーザーガイド：予約リクエストを拒否

ステップ	説明
1	「Từ chối」を押します
2	確認ダイアログの「Từ chối」を押します

Table 303 ユーザーガイド：予約リクエストを拒否

2.2.5 すべての予約済みスクラップを見る



Figure 214 ユーザーガイド：すべての予約済みスクラップを見る

ステップ	説明
1	「Đã đưa ra cất đón」を押します

Table 304 ユーザーガイド：すべての予約済みスクラップを見る

2.2.6 スクラップを達成する

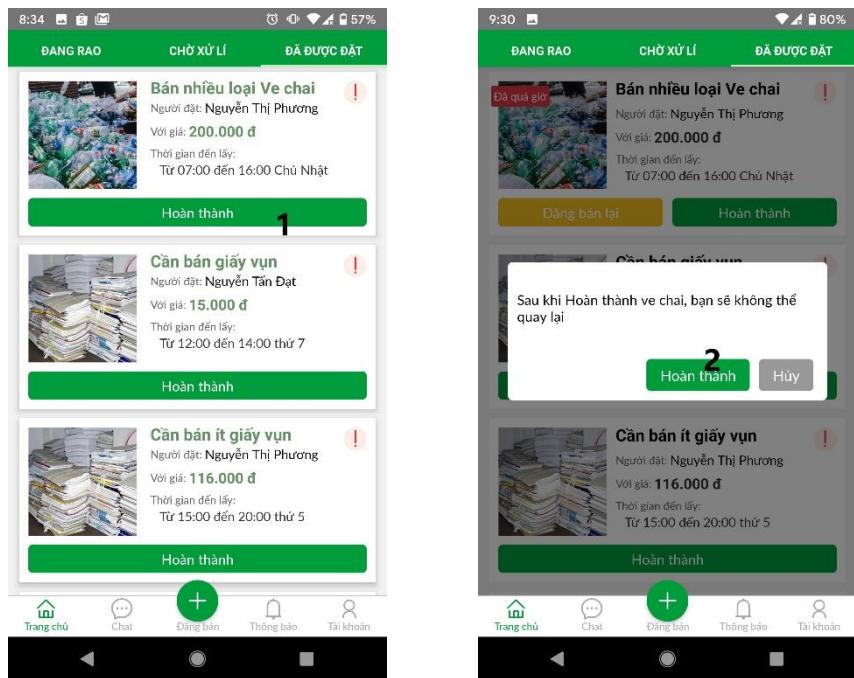


Figure 215 ユーザーガイド：スクラップを達成する

ステップ	説明
1	「Hoàn thành」を押します
2	確認ダイアログの「Hoàn thành」を押します

Table 305 ユーザーガイド：スクラップを達成する

2.2.7 脊を集める人をレビューする

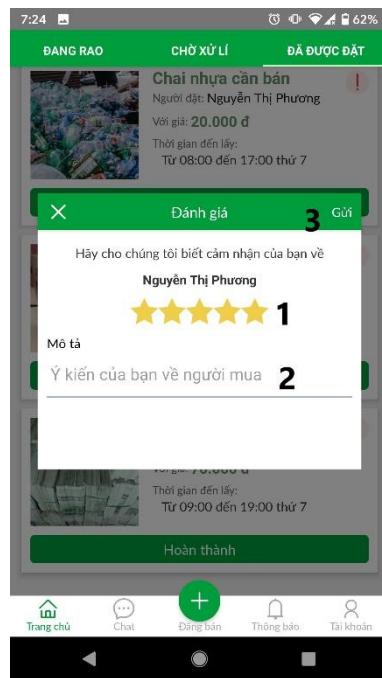


Figure 216 ユーザーガイド：屑を集める人をレビューする

ステップ	説明
1	レビュースターの数を選択する
2	入力レビューの説明
3	「Gửi」を押します

Table 306 ユーザーガイド：屑を集める人をレビューする

2.2.8 売ったスクラップを見る

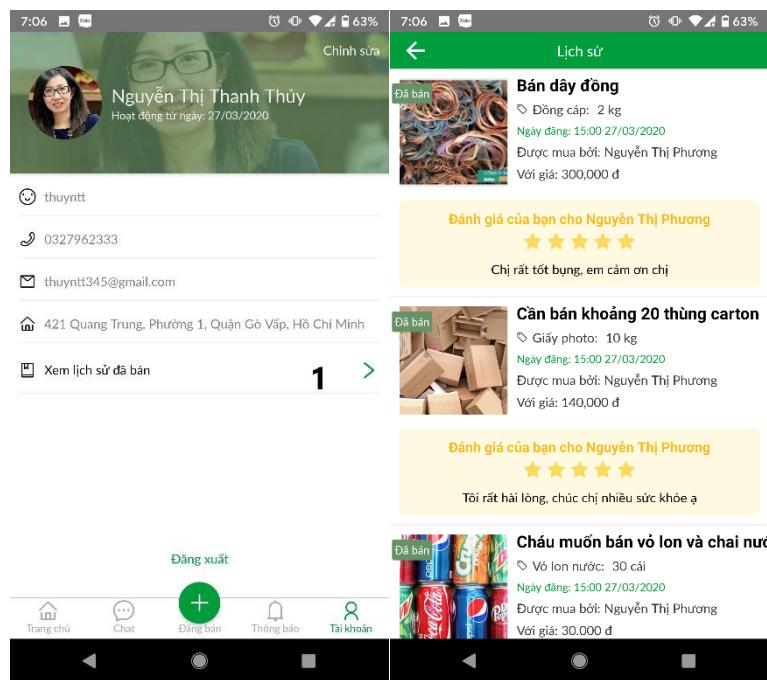


Figure 217 ユーザーガイド：売ったスクラップを見る

ステップ	説明
1	「Xem lịch sử đã bán」を押します

Table 307 ユーザーガイド：売ったスクラップを見る

2.2.9 販売中のスクラップを見る

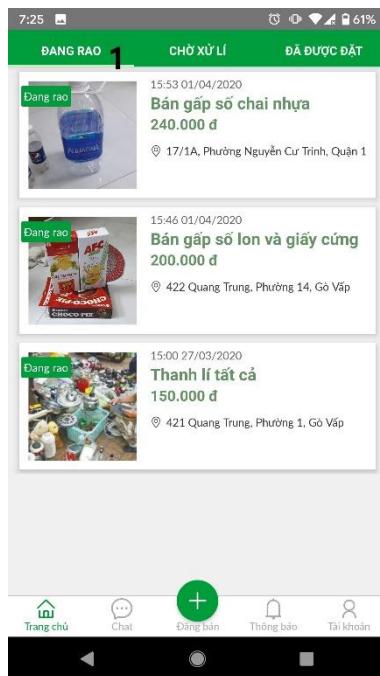


Figure 218 ユーザーガイド：販売中のスクラップを見る

ステップ	説明
1	「Đang rao」を押します

Table 308 ユーザーガイド：販売中のスクラップを見る

2.2.10 スクラップを削除する

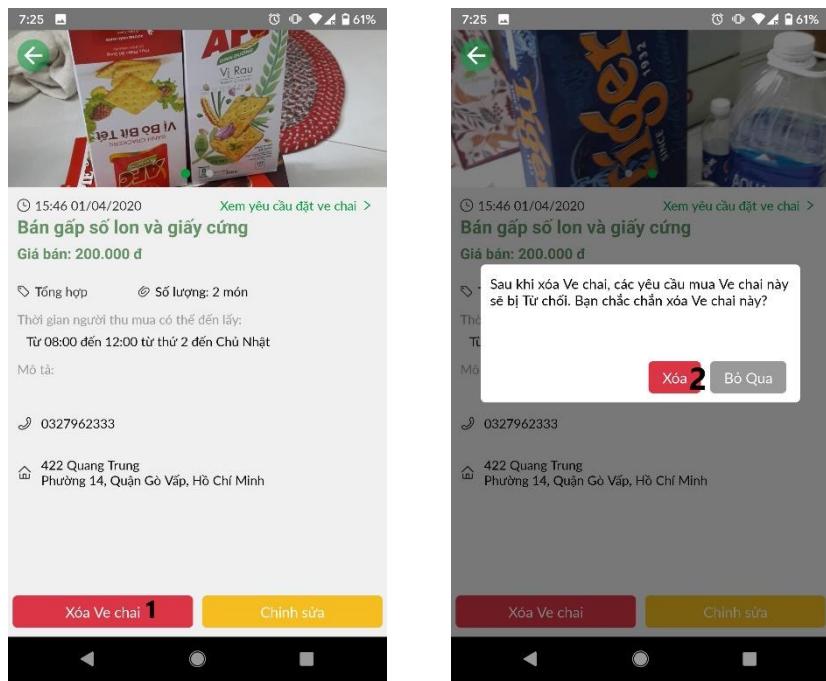


Figure 219 ユーザーガイド：スクラップを削除する

ステップ	説明
1	「Xóa Ve chai」を押します
2	確認ダイアログの「Xóa」を押します

Table 309 ユーザーガイド：スクラップを削除する

2.2.11 スクラップの情報を更新する

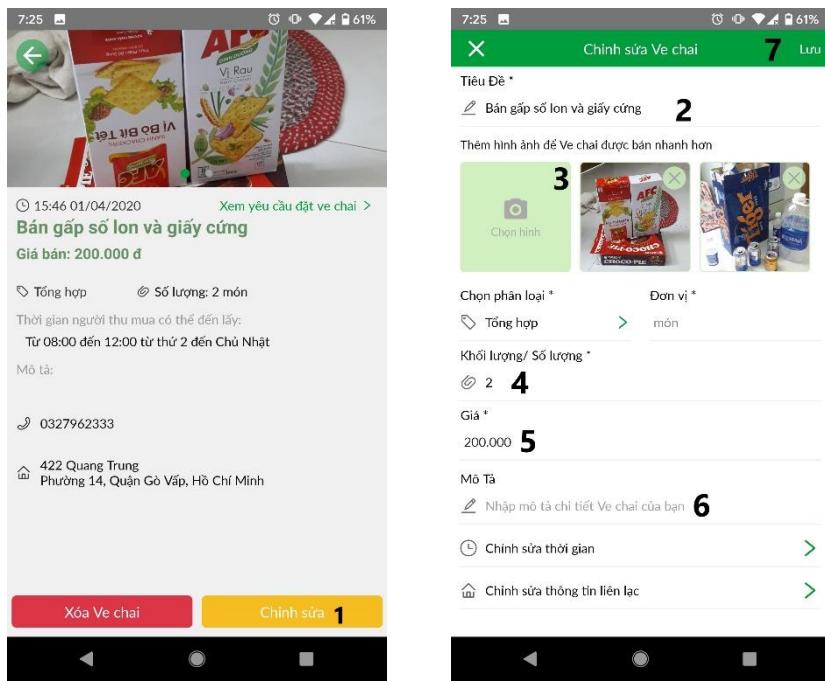


Figure 220 ユーザーガイド：スクラップの情報を更新する

ステップ	説明
1	「Chỉnh sửa」を押します
2	入力スクラップの題名
3	スクラップの画像を選択
4	入力スクラップの質量
5	入力スクラップの価格
6	入力スクラップの解説
7	「Lưu」を押します

Table 310 ユーザーガイド：スクラップの情報を更新する

2.3 脊を集める人のモバイルアプリケーション

2.3.1 スクラップを検索する



Figure 221 ユーザーガイド：スクラップを検索する

ステップ	説明
1	「Trang chủ」を押します

Table 311 ユーザーガイド：スクラップを検索する

2.3.2 カテゴリでスクラップを検索する

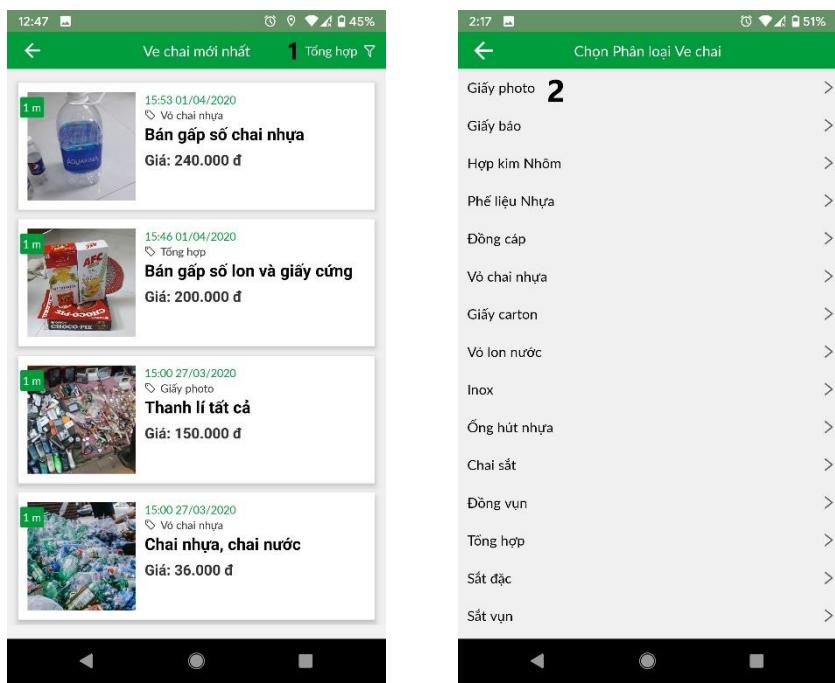


Figure 222 ユーザーガイド：カテゴリでスクラップを検索する

ステップ	説明
1	「Filter」を押します
2	カテゴリを選択する

Table 312 ユーザーガイド：カテゴリでスクラップを検索する

2.3.3 スクラップの詳細を見る

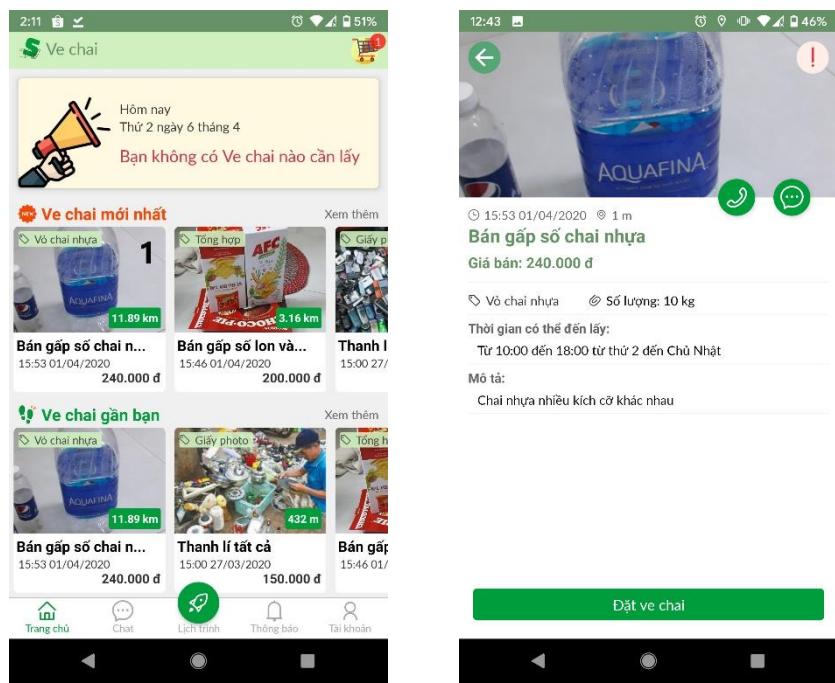


Figure 223 ユーザーガイド：スクラップの詳細を見る

ステップ	説明
1	スクラップのアイテムを押す

Table 313 ユーザーガイド：スクラップの詳細を見る

2.3.4 スクラップを注文する

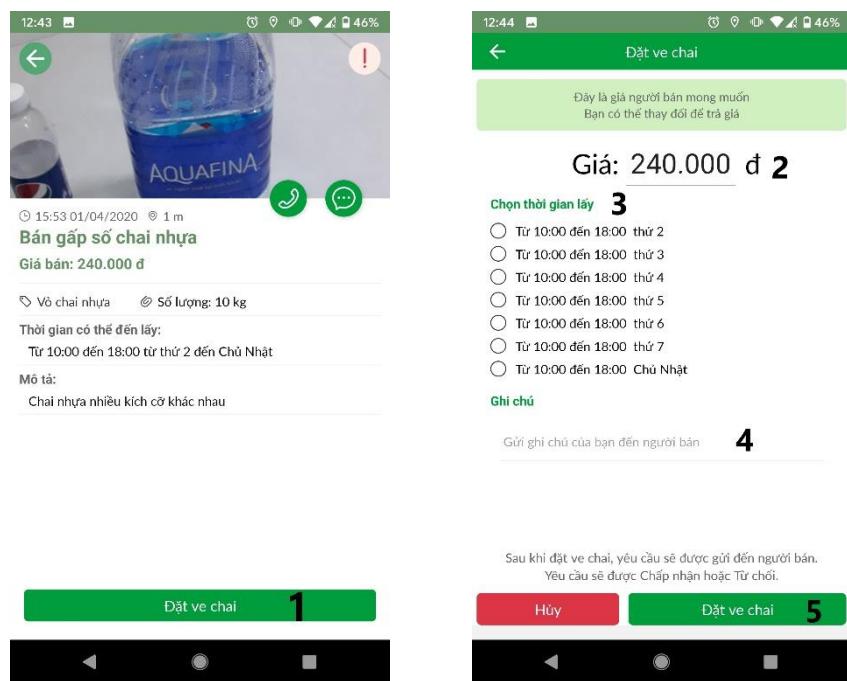


Figure 224 ユーザーガイド：スクラップを注文する

ステップ	説明
1	「Đặt Ve chai」を押します
2	入力価格
3	スクラップを受け取る時間を選択する
4	入力注意
5	「Đặt Ve chai」を押します

Table 314 ユーザーガイド：スクラップを注文する

2.3.5 家主を電話する



Figure 225 ユーザーガイド：家主を電話する

ステップ	説明
1	「Call」を押します

Table 315 ユーザーガイド：家主を電話する

2.3.6 家主にチャットする

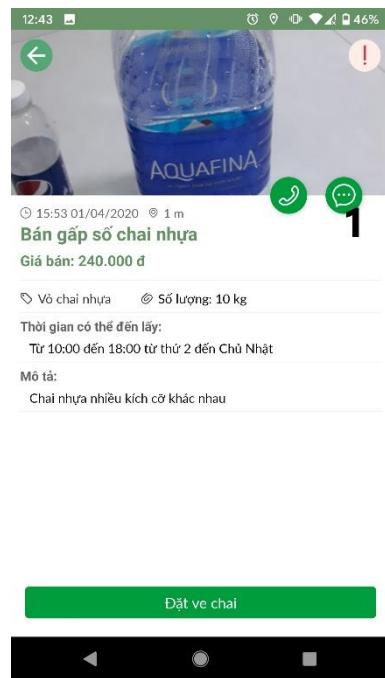


Figure 226 ユーザーガイド：家主にチャットする

ステップ	説明
1	「Chat」を押します

Table 316 ユーザーガイド：家主にチャットする

2.3.7 すべての待機中の予約を見る

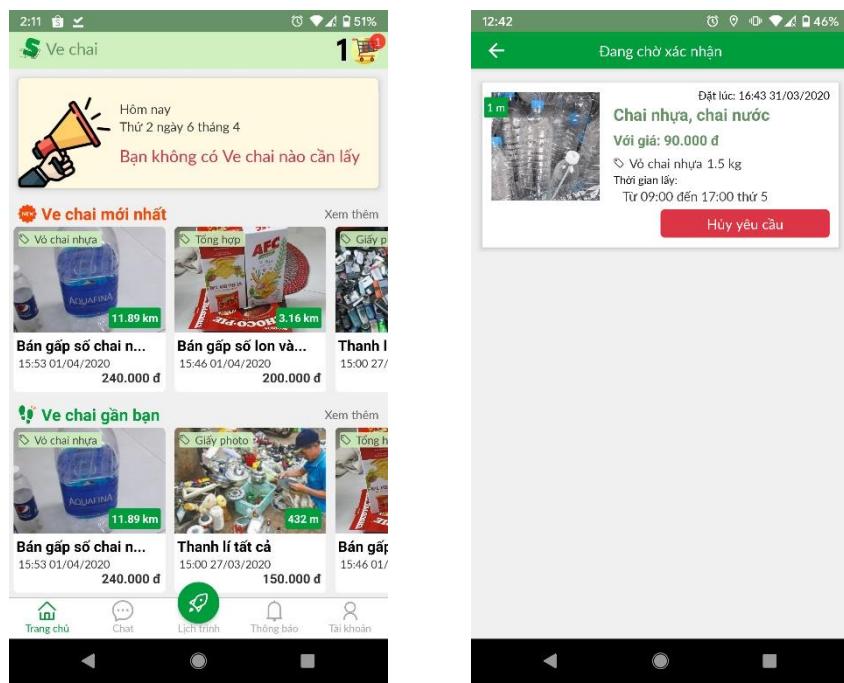


Figure 227 ユーザーガイド：すべての待機中の予約を見る

ステップ	説明
1	ホーム画面の「Cart」を押します

Table 317 ユーザーガイド：すべての待機中の予約を見る

2.3.8 待機中の予約をキャンセルする

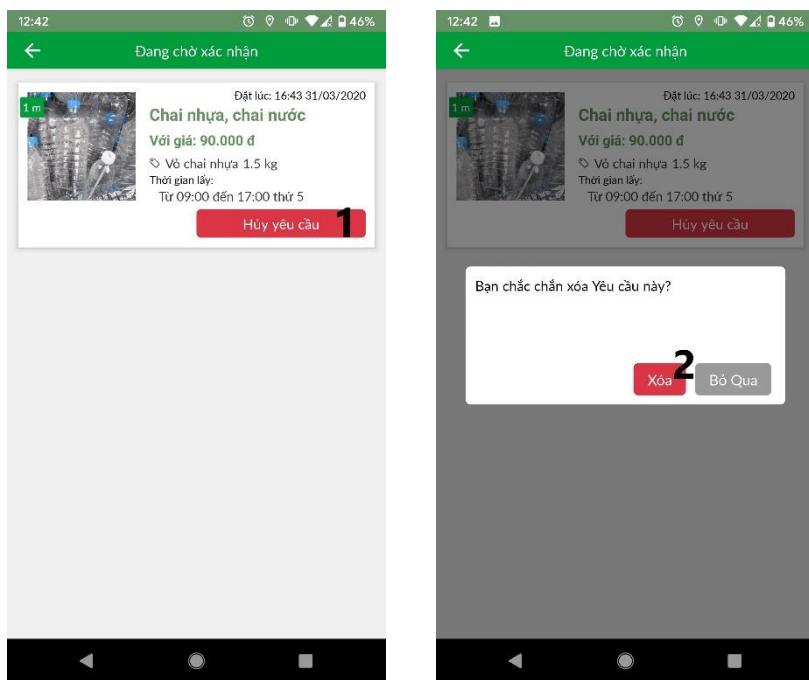


Figure 228 ユーザーガイド：待機中の予約をキャンセルする

ステップ	説明
1	「Hủy yêu cầu」を押します
2	確認ダイアログの「Xoá」を押します

Table 318 ユーザーガイド：待機中の予約をキャンセルする

2.3.9 待機中の予約を更新する

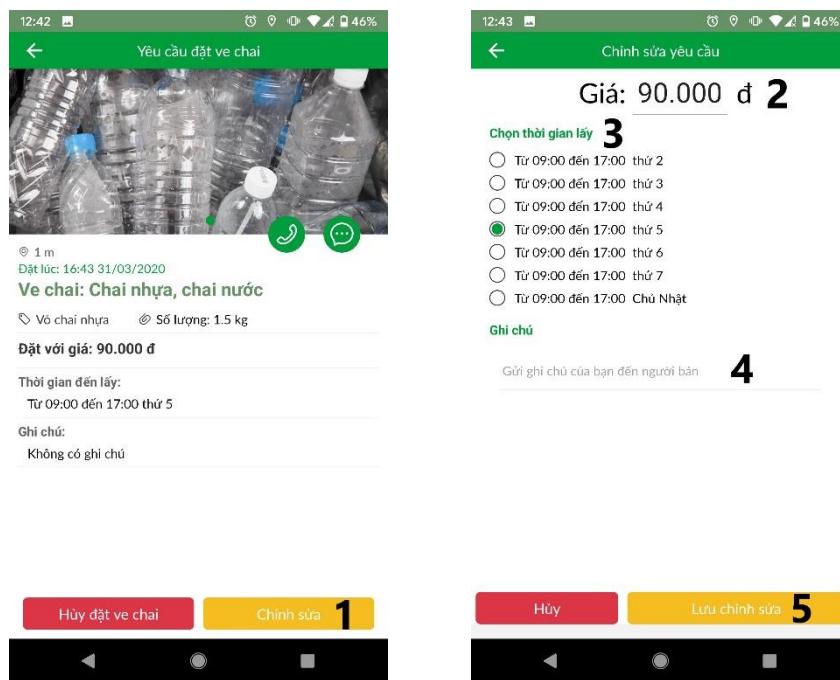


Figure 229 ユーザーガイド：待機中の予約を更新する

ステップ	説明
1	「Chỉnh sửa」を押します
2	入力価格
3	スクラブを受け取る時間を選択する
4	入力注意
5	「Lưu chỉnh sửa」を押します

Table 319 ユーザーガイド：待機中の予約を更新する

2.3.10 スケジュールを見る

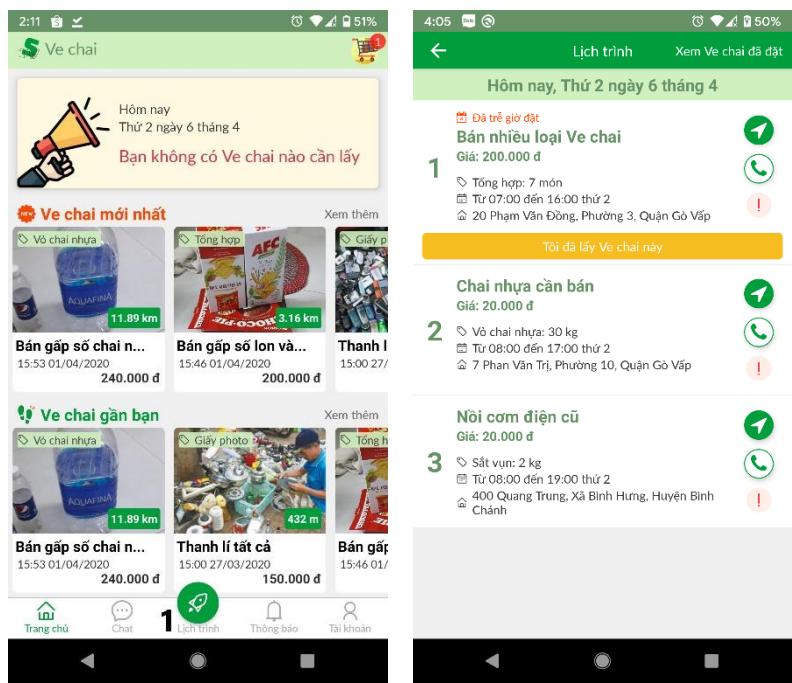


Figure 230 ユーザーガイド：スケジュールを見る

ステップ	説明
1	「Lịch trình」を押します

Table 320 ユーザーガイド：スケジュールを見る

2.3.11 スクラップを捨う方向を見る

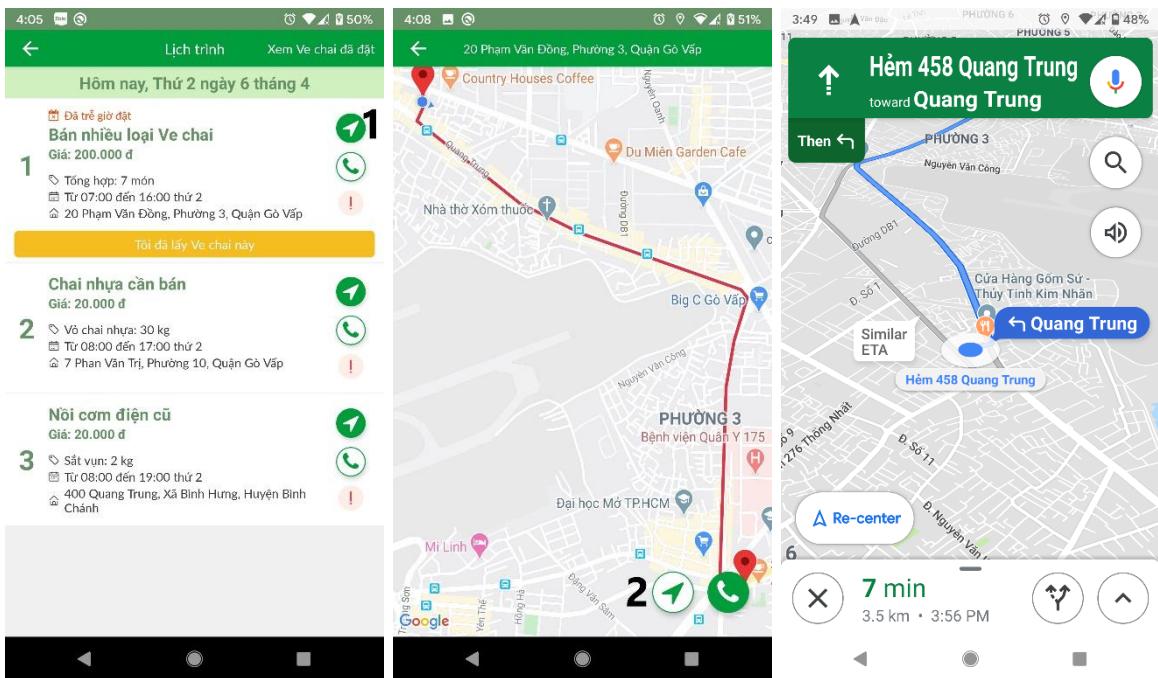


Figure 231 ユーザーガイド：スクラップを捨う方向を見る

ステップ	説明
1	「View direction」を押します
2	より詳細な指示について、「View direction」を押します

Table 321 ユーザーガイド：スクラップを捨う方向を見る

2.3.12 すべての受け入れた予約を見る

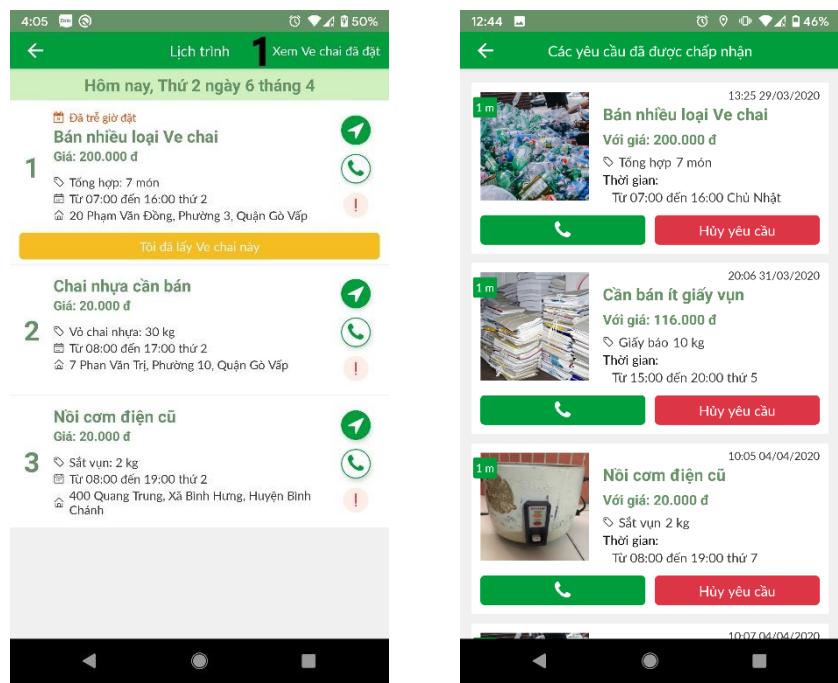


Figure 232 ユーザーガイド：すべての受け入れた予約を見る

ステップ	説明
1	「Xem ve chai đã đă t」を押します

Table 322 ユーザーガイド：すべての受け入れた予約を見る

2.3.13 平均レビュースターを見る

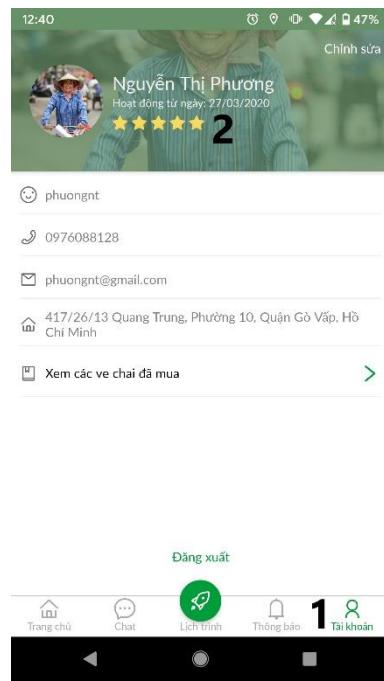


Figure 233 ユーザーガイド：平均レビュースターを見る

ステップ	説明
1	「Tài khoản」を押します
2	レビュースターを見る

Table 323 ユーザーガイド：平均レビュースターを見る

2.3.14 すべての買ったスクラップを見る

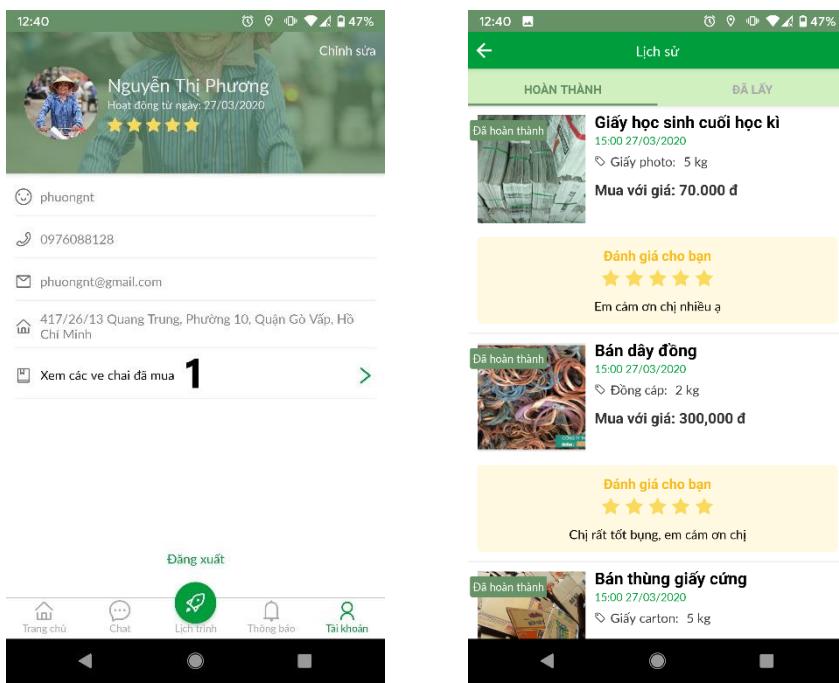


Figure 234 ユーザーガイド：すべての買ったスクラップを見る

ステップ	説明
1	「Xem các ve chai đã mua」を押します

Table 324 ユーザーガイド：すべての買ったスクラップを見る

2.4 管理者 のウェブサイト

2.4.1 ログイン

Figure 235 ユーザーガイド：ログイン

ステップ	説明
1	入力ユーザー名
2	入力パスワード
3	「Login」をクリックします

Table 325 ユーザーガイドの説明：ログイン

2.4.2 ログアウト

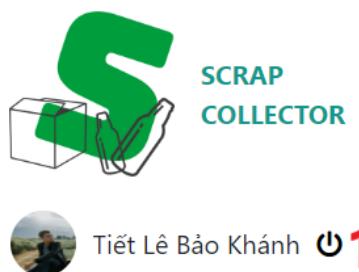


Figure 236 ユーザーガイド：ログアウト

ステップ	説明
1	「Logout」をクリックします

Table 326 ユーザーガイドの説明：ログアウト

2.4.3 システム内のすべてのカテゴリを表示する

Name	Unit	Status	Actions
Giấy photo	kg	Active	
Giấy báo	kg	Active	
Hợp kim Nhôm	kg	Active	
Phế liệu Nhựa	kg	Active	
Vỏ chai nhựa	kg	Active	
Giấy carton	kg	Active	
Vỏ lon nước	cái	Active	
Tổng hợp	món	Active	

Figure 237 ユーザーガイド：システム内のすべてのカテゴリを表示する

ステップ	説明
1	サイドメニューの「Category」タブをクリックします

Table 327 ユーザーガイドの説明：システム内のすべてのカテゴリを表示する

2.4.4 カテゴリの詳細を表示する

Categories				New Category
Name	Unit	Status	Actions	
Giấy photo	kg	Active		
Giấy báo	kg	Active		
Hợp kim Nhôm	kg	Active		
Phế liệu Nhựa	kg	Active		
Vỏ chai nhựa	kg	Active		
Giấy carton	kg	Active		
Vỏ lon nước	cái	Active		
Tổng hợp	món	Active		

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Figure 238 ユーザーガイド：カテゴリの詳細を表示する

ステップ	説明
1	「View」アイコンのボタンをクリックします

Table 328 ユーザーガイドの説明：カテゴリの詳細を表示する

2.4.5 新しいカテゴリを追加する

The screenshot shows a 'Categories' table and a 'Add New Category' dialog box.

Categories Table:

Name	Unit	Status	Actions
Giấy photo	kg	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Giấy báo	kg	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Hợp kim Nhôm	kg	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Phế liệu Nhựa	kg	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Vỏ chai nhựa	kg	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Giấy carton	kg	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Vỏ lon nước	cái	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Tổng hợp	món	Active	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Add New Category Dialog:

Fields: Name: (Step 2), Unit: (Step 3)

Buttons: Add (Step 4)

Figure 239 ユーザーガイド：新しいカテゴリを追加する

ステップ	説明
1	「New Category」をクリックします
2	カテゴリ名を入力します。
3	カテゴリ単位を入力します。
4	「Add」をクリックします

Table 329 ユーザーガイドの説明：新しいカテゴリを追加する

2.4.6 カテゴリを更新する

The figure consists of two screenshots of a web-based scrap collector application. The top screenshot shows a 'Categories' list with the following data:

Name	Unit	Status	Actions
Giấy photo	kg	Active	1
Giấy báo	kg	Active	
Hộp kim Nhôm	kg	Active	
Phế liệu Nhựa	kg	Active	
Vỏ chai nhựa	kg	Active	
Giấy carton	kg	Active	
Vỏ lon nước	cái	Active	
Tổng hợp	món	Active	

The bottom screenshot shows an 'Update Category' form with the following fields:

- Name: Giấy photo 2
- Unit: kg 3
- Status: ACTIVE 4
- Update button 5

Figure 240 ユーザーガイド：カテゴリを更新する

ステップ	説明
1	「Update」アイコンのボタンをクリックします
2	カテゴリ名を変更したい場合は、カテゴリ名を編集してください。
3	カテゴリ単位を変更する場合は、カテゴリ単位を編集します。
4	このカテゴリを非アクティブ化する場合は、「IN-ACTIVE」ステータスを選択します。または、このカテゴリをアクティブにする場合は、「ACTIVE」ステータスを選択します。
5	「Update」をクリックします

Table 330 ユーザーガイドの説明：カテゴリを更新する

2.4.7 システム内のすべてのアカウントを表示する

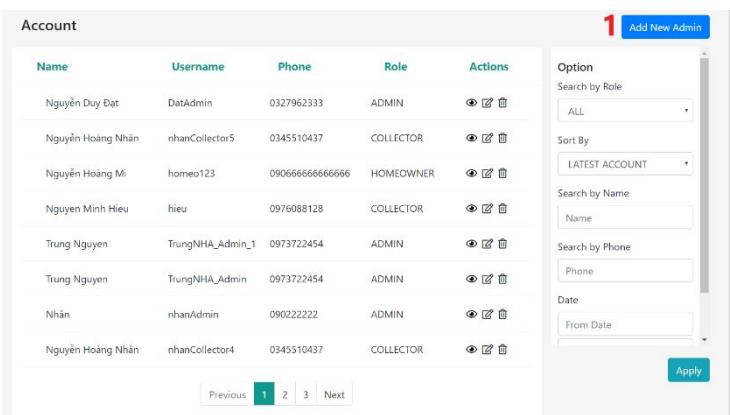
Name	Username	Phone	Role	Actions
Nguyễn Duy Đạt	DatAdmin	0327962333	ADMIN	
Nguyễn Hoàng Nhàn	nhanCollector5	0345510437	COLLECTOR	
Nguyễn Hoàng Mi	homeo123	0906666666666666	HOMEOWNER	
Nguyen Minh Hieu	hieu	0976088128	COLLECTOR	
Trung Nguyen	TrungNHA_Admin_1	0973722454	ADMIN	
Trung Nguyen	TrungNHA_Admin	0973722454	ADMIN	
Nhân	nhanAdmin	0902222222	ADMIN	
Nguyễn Hoàng Nhàn	nhanCollector4	0345510437	COLLECTOR	

Figure 241 ユーザーガイド：システム内のすべてのアカウントを表示する

ステップ	説明
1	サイドメニューの「Account」タブをクリックします

Table 331 ユーザーガイドの説明：システム内のすべてのアカウントを表示する

2.4.8 新しい管理者を追加する




The screenshot shows two pages of a web application. The top page is titled 'Account' and lists eight user entries with columns for Name, Username, Phone, Role, and Actions. The bottom page is titled 'Add New Admin' and contains fields for User Name, Password, Confirm Password, Full Name, Email, Phone, and a file upload field. Red numbers 1 through 9 are overlaid on the interface to indicate the sequence of steps.

Figure 242 ユーザーガイド：新しい管理者を追加する

ステップ	説明
1	「Add new Admin」をクリックします
2	管理者のユーザー名を入力する
3	管理者のパスワードを入力する
4	管理者の確認パスワードを入力する
5	管理者のフルネームを入力する
6	管理者の E メールを入力する
7	管理者の電話番号を入力する
8	アバターを選択する

9	「Add」をクリックします
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Table 332 ユーザーガイドの説明：新しい管理者を追加する

2.4.9 システム内のすべてのスクラップを表示する

Title	Price	Quantity	Category	Status	Created Time	Actions
Bán gấp số chai nhựa	240.000	10	Vỏ chai nhựa	SELLING	4/1/20, 3:53 PM	
Bán gấp số lon và giấy cứng	200.000	2	Tổng hợp	SELLING	4/1/20, 3:46 PM	
Nồi cơm điện cũ	20.000	2	Sắt vụn	BOOKED	4/1/20, 1:51 PM	
Cần bán ít giấy vụn	116.000	10	Giấy báo	BOOKED	3/31/20, 8:05 PM	
Giấy học sinh cuối học kì	72.000	5	Giấy photo	SOLD	3/27/20, 3:00 PM	
Chai nhựa cần bán	20.000	30	Vỏ chai nhựa	BOOKED	3/27/20, 3:00 PM	
Cháu muốn bán vỏ lon và chai nước ngọt	30.000	30	Vỏ lon nước	SOLD	3/27/20, 3:00 PM	
Cần bán giấy vụn	15.000	3	Giấy báo	BOOKED	3/27/20, 3:00 PM	

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Figure 243 ユーザーガイド：システム内のすべてのスクラップを表示する

ステップ	説明
1	サイドメニューの「Scrap」タブをクリックします

Table 333 ユーザーガイドの説明：システム内のすべてのスクラップを表示する

2.4.10 システム内のすべてのスクラップレポートを表示する

Scrap Title	Report Details	Announcer	Created Time	Status	Actions
Dọn nhà bán nhiều Thùng carton	Tôi không thể gọi được cho người bán	Nguyễn Thị Phương	4/4/20, 7:04 PM	WAITING	
Bán gấp số chai nhựa	Hình ảnh không hợp lệ	Nguyễn Thị Phương	4/2/20, 8:53 PM	WAITING	

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Options

Status Filter: WAITING

Sort By: LATEST REPORTS

Date: From Date, To Date

Apply

Figure 244 ユーザーガイド：システム内のすべてのスクラップレポートを表示する

ステップ	説明
1	サイドメニューの「Scrap Reports」タブをクリックします

Table 334 ユーザーガイドの説明：システム内のすべてのスクラップレポートを表示する

2.4.11 スクラップレポートの詳細を表示する

Scrap Title	Report Details	Announcer	Created Time	Status	Actions
Dọn nhà bán nhiều Thùng carton	Tôi không thể gọi được cho người bán	Nguyễn Thị Phương	4/4/20, 7:04 PM	WAITING	1
Bán gấp số chai nhựa	Hình ảnh không hợp lệ	Nguyễn Thị Phương	4/2/20, 8:53 PM	WAITING	

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Options

Status Filter: WAITING

Sort By: LATEST REPORTS

Date: From Date, To Date

Apply

Figure 245 ユーザーガイド：スクラップレポートの詳細を表示する

ステップ	説明
1	「View」アイコンのボタンをクリックします

Table 335 ユーザーガイドの説明：スクラップレポートの詳細を表示する

2.4.12 スクラップレポートを解決する

The screenshot shows the 'Scrap Reports' section of the application. On the left is a sidebar with navigation links for Main (Dashboard, Category, Scrap, Account, Categories Price), Statistics (Collector, Homeowner, Scrap), and Reports (Scrap Reports, Account Reports). The main area displays a table of reports with columns: Scrap Title, Report Details, Announcer, Created Time, Status, and Actions. Two reports are listed:

Scrap Title	Report Details	Announcer	Created Time	Status	Actions
Dọn nhà bán nhiều Thùng carton	Tôi không thể gọi được cho người bán	Nguyễn Thị Phương	4/4/20, 7:04 PM	WAITING	1
Bán gấp số chai nhựa	Hình ảnh không hợp lệ	Nguyễn Thị Phương	4/2/20, 8:53 PM	WAITING	

To the right of the table are filter options: Status Filter (WAITING), Sort By (LATEST REPORTS), Date (From Date, To Date), and an 'Apply' button.

A modal dialog box is overlaid on the second report, containing a question mark icon and the text "Are you sure to resolve this report?". It has two buttons: "OK" and "Cancel". The number "2" is overlaid on the "OK" button and the number "3" is overlaid on the "Cancel" button.

Figure 246 ユーザーガイド：スクラップレポートを解決する

ステップ	説明
1	「Resolve」アイコンのボタンをクリックします
2	このレポートを確実に解決する場合は、「OK」ボタンをクリックします

3	このレポートを確実に解決できない場合は、「Cancel」ボタンをクリックします
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Table 336 ユーザーガイドの説明：スクラップレポートを解決する

2.4.13 アカウントレポートの詳細を表示する

Account Reports					
Reported Account	Report Details	Announcer	Created Time	Status	Actions
Tiet Le Bao Khanh	Người mua không đến lấy ve chai	Nguyễn Thị Thanh Thúy	4/11/20, 1:58 PM	WAITING	
Nguyen Thi Phuong	Người mua có hành vi không chuẩn mực	Nguyễn Thị Thanh Thúy	4/2/20, 8:46 PM	WAITING	

Figure 240 ユーザーガイド：アカウントレポートの詳細を表示する

ステップ	説明
1	「View」アイコンのボタンをクリックします

Table 336 ユーザーガイドの説明：アカウントレポートの詳細を表示する

2.4.14 警告アカウントレポートを送信する

Account Reports					
Reported Account	Report Details	Announcer	Created Time	Status	Actions
Tiet Le Bao Khanh	Người mua không đến lấy ve chai	Nguyễn Thị Thanh Thúy	4/11/20, 1:58 PM	WAITING	
Nguyen Thi Phuong	Người mua có hành vi không chuẩn mực	Nguyễn Thị Thanh Thúy	4/2/20, 8:46 PM	WAITING	

Figure 241 ユーザーガイド：警告アカウントレポートを送信する

ステップ	説明
1	「Send」アイコンのボタンをクリックします

1	「Warning」アイコンのボタンをクリックします
---	---------------------------

Table 337 ユーザーガイドの説明：警告アカウントレポートを送信する

2.4.15 アカウントレポートを解決する

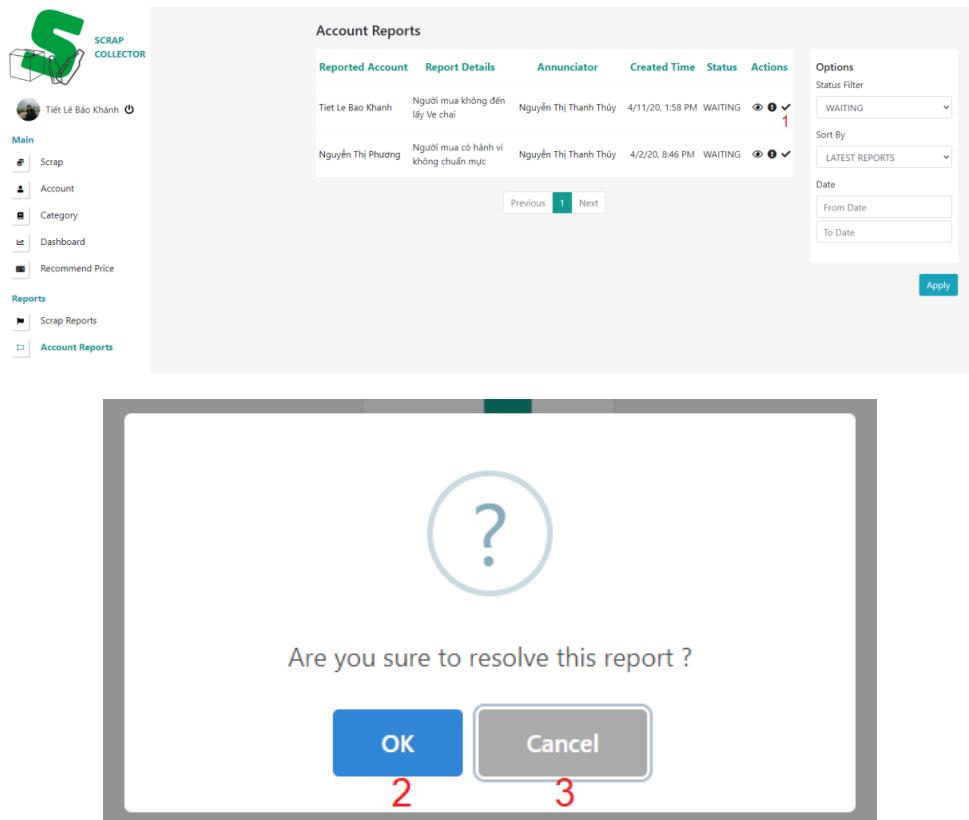


Figure 242 ユーザーガイド：アカウントレポートを解決する

ステップ	説明
1	「Resolve」アイコンのボタンをクリックします
2	このレポートを確実に解決する場合は、「OK」ボタンをクリックします
3	このレポートを確実に解決できない場合は、「Cancel」ボタンをクリックします

Table 338 ユーザーガイドの説明：アカウントレポートを解決する

Appendix

1. **UML For Drawing Diagram (2.0 Standard)** [Online] Available: <http://www.omg.org/spec/UML/2.0>
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