



FPT UNIVERSITY

Capstone Project Document

Freight Truck Services

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Definitions, Acronyms, and Abbreviations

No.	Abbreviation & Acronym	Definition
1	FTS	Freight Truck Services
2	App	Application
3	OS	Operating System
4	HTTP	Hyper Text Transfer Protocol
5	GPS	Global Positioning System
6	API	Application Program Interface

A. Introduction

1. Project Information

- Project name: Freight Truck Services
- Project Code: FTS
- Product Type: Website & Android Application
- Start Date: Jan 6th, 2015
- End Date: April 20th, 2015

2. Introduction

Truck drivers usually deliver goods in the country. However, after delivery, the trucks usually come back empty. On the other hand, goods owners sometimes have trouble getting reliable truck driver to deliver their goods. Our project looks to solve this problem by proposing a solution: when drivers come back after a delivery, they will also pick up and deliver additional goods from other owners on their way. We provide the mobile application for drivers to search for goods when they return, website and mobile application for good owner to send their request for delivery.

3. Current Situation

Truck driver only deliver goods for one owner at a time. Therefore, when they finish deliver goods to the owner, they usually return home without anything. Sometimes good owners and truck drivers make verbal agreement without delivery contract. Therefore, there is no guarantee that items will be delivered safely.

- **Backload4u.co.nz, Freightfinder.com:** based on this idea and work very well in New Zealand and U.S. However there are some limitations: not support mobile devices; information of truck drivers and owner operators are public on the website unregisteredusers, which does not warrant the deal between truck drivers and owner operators. These websites don't allow real-time dealing, too.

4. Problem Definition

- After truck drivers have delivered goods, the truck usually returns with empty container. Besides, it's hard for drivers to find suitable goods due to the lack of information
- Goods owner always want goods to be delivered with the cheapest price but best assurance.
- When owner and driver are making deal with each other, it usually takes a long time to meet expectations.

5. Proposed Solution

Our system supports two types: the mobile application for truck drivers and goods owners; the website application for admins, staff and goods owners. There are following functions in the system:

5.1 Feature functions

Admins can

- Manage accounts.
- Manage configuration.

Staff can

- Tracking orders and transactions.

System can

- Support the suggestion to driver in making decision choosing the goods owners and vice versa.
- Give notification to owners and drivers.

Truck drivers can

- Post their road, container size, contact info...
- Make deal with goods owners and delivery items on their way back.

Goods owners can

- Request for delivery and make a deal with truck drivers.
- Track their order's status.

5.2 Advantages and disadvantages

Advantages:

- Guarantee the goods are delivered with care.
- Increase income for truck drivers.
- Goods owners can find appropriate drivers quickly.

Disadvantages:

- Truck driver and goods owner must have smartphone with GPS to use mobile application.
- Internet must be available so users can utilize all features.

6. Functional Requirement

6.1 Account management

- Admins can manage users's account.
- Truck drivers and good owners can create and manage the properties of their account:
 - Truck drivers can input their phone number, container size, bank account, e-mail address.
 - Goods owners can phone number, address, bank account, e-mail address.

6.2 Suggestion

- System can support truck drivers in choosing the goods owners and suggest truck drivers for goods owners after they post their goods.
- System can suggest the optimal road for drivers.

6.3 Making deal

- System supports goods owner and truck drivers making deal with each other.
- Both roles can manage their deal: accept, decline, cancel.
- System will give notification to goods owner and truck driver about deal.

6.4 Mobile device

- Truck drivers can publish the destination with specified date, container size, contract information...
- Define the proposed road and/or adjust depending on the goods owners.
- Goods owners can make deal with truck drivers and make the order to deliver their goods.

7. Role and Responsibility

No	Full Name	Role	Position	Contact
1	Kiều Trọng Khánh	Project Manager	Instructor	KhanhKT@fpt.edu.vn
2	Bùi Đức Huy	Developer	Leader	HuyBDSE61006@fpt.edu.vn
3	Nguyễn Quang Thiện	Developer	Member	ThienNQSE61000@fpt.edu.vn
4	Đặng Phú Thịnh	Developer	Member	ThinhDPSE60879@fpt.edu.vn
5	Nguyễn Duy Khuong	Developer	Member	KhuongND60493@fpt.edu.vn

Table 1: Roles and Responsibility

B. Software Project Management Plan

1. Problem Definition

1.1 Name of this Capstone Project

Freight Truck Services

1.2 Problem Abstract

Transportation is one of the most important activity of human. It reflects the economic development of a country. Every year in Vietnam, there are thousands of trucks transferring goods around the country, but they often come back with empty containers. If we can optimize these empty containers, we can give truck drivers a chance to increase their income. For implementation, we propose an idea where we are the connector between truck drivers with empty containers and good owners. We offer them a platform where they can find a better price and benefits. We will develop a system suggesting goods for truck drivers, tracking goods for goods owners, helping truck drivers and goods owners make deals and contracts with the best price possible.

1.3 Project Overview

1.3.1 Current Situation

On the market right now already have some systems, which have been implemented this idea but there are some limitations such as no mobile app, intuitive interface, no proposal information functional, suggest router to the user... They also don't have suggestion system for user. Through the market research in Viet Nam, we did not found any similar system. Our solution will solve goods delivery problem of owner and increase the profit of truck driver. In additional, we also provide a service on mobile application for both goods owner and driver to receive the suggestion from system. After that, they can make a deal with each other, track order status and get notification from system.

1.3.2 The Proposed System

1.3.2.1 Website Application

1.3.2.1.1 Admin

- Admins can manage accounts in the system.
- Admins can configure some value of system and algorithms to apply default to all new users' accounts.

1.3.2.1.2 Staff

- Manage status of deal.
- Tracking and manage order information.
- Delivering payment to truck driver.

1.3.2.1.3 Goods owner

- Goods owner can manage goods and personal information.
- Make deal with truck driver after receiving route suggestion from system.
- Tracking order status.
- Making payment after receiving delivery.

1.3.2.1.4 System

- System can give suggestions about the route of the truck driver to goods owner, or goods of owner to truck driver to choose and make deal.
- System can optimize the route when driver registered their route.
- System gives notification to owner and driver about deal and order.

1.3.2.2 Mobile Application

1.3.2.2.1 Truck driver

- Truck driver can manage route and personal information.
- Make deal with goods owner after received goods suggestion from system.
- Receive payment from system.

1.3.2.2.2 Goods Owner

- Goods owner can manage goods and personal information.
- Make deal with truck driver after receiving route suggestion from system.
- Tracking order status.
- Making payment after receiving delivery.

1.3.2.2.3 System

- System can push notification from server to user when dealing and changing order process.

1.3.3 Boundaries of the System

- The system can be used by every people with a smart phone or a laptop/computer with Internet connection.
- The system is **not intended** for managing these aspects:
 - o Managing money account.
- The complete product includes:
 - o The website for administrator and goods owner.
 - o Mobile application for driver and goods owner.
 - o All the process document involved.
- The language of the system is Vietnamese.

1.3.4 Development Environment

1.3.4.1 Hardware requirements

For Server		
Windows	Minimum Requirements	Recommended
Internet Connection	Cable, Wifi (4 Mbps)	Cable, Wifi (8 Mbps)
Operating System	Windows 7 Server Datacenter	Windows 7 Server Datacenter
Computer Processor	Intel® Core 2 Duo	Intel® Core(TM) i5 CPU , M 460 @ 2.53GHz
Computer Memory	1.5 GB RAM	4GB or more

Table 2: Hardware Requirement for Server

1.3.4.2 Software requirements

- SQL Server 2008 R2 Express: create and manage the database for system.
- Eclipse Luna 4.4.1, JDK 7 update 51, Apache Tomcat 7; Android SDK 14, ADT 23.0.2: implement website, web services and mobile application.
- GitHub & TortoiseGit: used for source control.
- StarUML 2.0: used to create models and diagrams.
- FluidUI: create mock prototype for Android application.
- Draw.io: draw flow chart.
- Skype: used for communication and meeting.

2. Project organization

2.1 Software Process Model

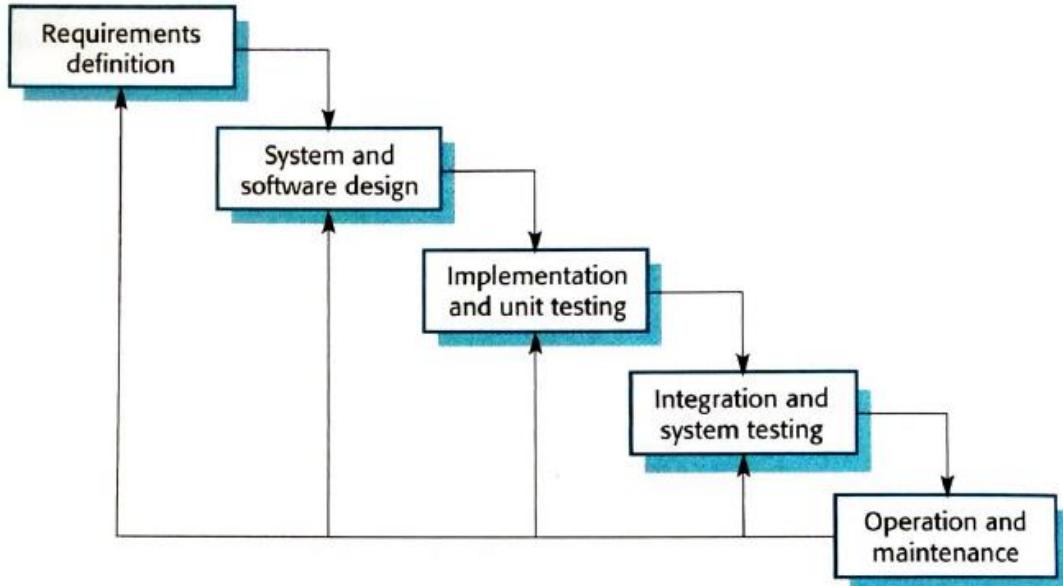


Figure 1: Waterfall process model

Reference: Software processes in book Software Engineering 8th – Ivan Sommerville.

Explanation: we choose Waterfall process model because of the following reason:

- After every phase, we get immediate result, therefore we can easily show our progress instructor.
- Waterfall model is easy to implement and required minimum resources.
- We can go back and make changes accordingly.

2.2 Roles and responsibilities

No	Full name	Role in group	Responsibilities
1	Kieu Trong Khanh	Project manager	<ul style="list-style-type: none"> • Specify user requirement • Control the development process • Give out technique and business analysis support
2	Bui Duc Huy	Team leader, BA, DEV, Tester	<ul style="list-style-type: none"> • Managing process • Support team members with technical problems. • Designing database • Clarifying requirements • Prepare documents • GUI design • Create test plan • Coding • Testing
3	Nguyen Quang Thien	Team member, BA, DEV, Tester	<ul style="list-style-type: none"> • Designing database • Clarifying requirements • Prepare documents • GUI design • Create test plan • Coding • Test
4	Dang Phu Thinh	Team member, BA, DEV, Tester	<ul style="list-style-type: none"> • Designing database • Clarifying requirements • Prepare documents • GUI design • Create test plan • Coding • Test

Table 3: Roles and Responsibility Details

2.3 Tools and Techniques

- Front – end: HTML5, Bootstrap, CSS3, JavaScript, jQuery, AJAX.
- Back – end:
 - o Website: J2EE MVC.
 - o Web Service: Jersey REST Service.
 - o Mobile App: Android – Java.
- Web Server: Apache Tomcat 7.0.
- Scheduler: Timer Task
- Payment: Paypal API
- Database Management System: MS SQL Server 2008 R2 Express.

3. Project Management Plan

3.1 Software Development Life Cycle

Phase	Description	Deliverables	Resource needed	Dependencies and Constrains	Risks
Requirements Definition	<ul style="list-style-type: none"> - Collect requirements from customer - Identify and clarify requirements for the system in general 	<ul style="list-style-type: none"> - Introduction of proposed system. - Main functions. 	20 man-days	N/A	Misunderstand and the requirements. Unclear scope of project
System and Software Design	<ul style="list-style-type: none"> - Choose the software development model - Research technology needed for project - Design main structure of system 	<ul style="list-style-type: none"> - Project management plan. - Demo technology - Use case - ERD - SRS 	20 man-days	Depend on "Requirements Definition"	Lack of experience. Technology is difficult to use Not cover all use case of project
Implementation and Unit Testing	<ul style="list-style-type: none"> - Coding core functions first - Coding other functions - Update user interface - Unit test 	<ul style="list-style-type: none"> - System design description - Main user's functions on web and mobile - Suggestion of system - Test case 	50 man-days	Depend on "System and Software Design"	Lack of experience. Not found suitable suggestion algorithm Web interface not friendly
Integration and System Testing	<ul style="list-style-type: none"> - Integration test - System test 	<ul style="list-style-type: none"> - Test case 	20 man-days	Depend on "Implementation and Unit Testing"	Lack of experience. Test cases not cover all situation.
Operation and Maintenance	<ul style="list-style-type: none"> - Deploy on server and mobile 	<ul style="list-style-type: none"> - Installation Guide - User's Guide 	10 man-day	Depend on all previous phase	Lack of experience.

Table 4: Software Development Life Cycle Detail

3.2 Phase Detail

3.2.1 Phase 1: Requirement definition

Task	Description	Author
1. Collect requirements	Find which systems currently provide similar service, their strengths and weakness.	HuyBD, ThienDQ, ThinhDP
2. Identify and clarify main functions.	Define which main functions system should provide.	HuyBD, ThienDQ, ThinhDP
3. Create System	Complete Introduction Report.	HuyBD
4. Software Project Management Plan.	Prepare Project Management Plan.	HuyBD
5. Website Prototype.	Build a prototype of proposed system	ThienDQ, ThinhDP
6. SRS	Create SRS document.	HuyBD, ThienDQ, ThinhDP

Table 5: Requirement Definition Phase

3.2.2 Phase 2: System and software design

Task	Description	Author
1. Architecture Design	Implement function import and breakdown data from docx files.	HuyBD, ThienDQ, ThinhDP
2. Detailed Design	Compare new document with existed documents	HuyBD, ThienDQ, ThinhDP
3. Database Design	Get jobs from other server to recommendation.	HuyBD, ThienDQ, ThinhDP
4. Technology research	Create matching algorithm	HuyBD, ThienDQ, ThinhDP
5. Design Document	Create software design document	HuyBD, ThinhDP

Table 6: System and Software Design

3.2.3 Phase 3: Implementation and unit testing

Task	Description	Author
1. Website functions	Implement front-end functions on web	HuyBD
2. Web services, business	Design web services, core flow, and business rule.	HuyBD
3. Mobile functions	Implement mobile application	ThienDQ, ThinhDP
4. Suggestion algorithms	Research and implement suggestion algorithms	HuyBD
5. Unit testing	Write test case and testing for web functions	HuyBD, ThinhDP

Write test case and testing for mobile functions	ThienDQ, ThinhDP
--	------------------

Table 7: Implementation and Unit testing**3.2.4 Phase 4: Integration and system testing**

Task	Description	Author
1.Integration testing	Write test case and testing system	HuyBD, ThienDQ, ThinhDP
2.Alpha testing	Do alpha test with customer	HuyBD, ThienDQ, ThinhDP

Table 8: Integration and system testing**3.2.5 Phase 5: Operation and maintenance**

Task	Description	Author
1.Installation guide	Write installation guide	ThinhDP
2.User Manual	Write user manual	HuyBD, ThienDQ, ThinhDP

Table 9: Operation and maintenance**3.3 All Meeting Minutes**

Refer to folder name “Meeting Minutes” in CD.

4. Coding Convention

- Naming Convention.
 - + Use camel case for both variable and function name.
 - + Use Pascal case for class name.
- Indentation.
 - + Four spaces should be used as the unit of indentation. The exact construction of the indentation (spaces vs. tabs) is unspecified. Tabs must be set exactly every 8 spaces (not 4).
 - + Avoid lines longer than 80 characters.
- Declaration.
 - + One declaration per line is recommended since it encourages commenting.
 - + In absolutely no case should variables and functions be declared on the same line.
- Code Examples

Follow “Code Conventions for the Java TM Programming Language, by Sun Microsystems, rev April 20, 1999”.

<http://www.oracle.com/technetwork/java/codeconventions-150003.pdf>

C. Software Requirement Specification**1. User Requirement Specification****1.1 Guest Requirement**

Guest is a person who doesn't login to the system. Guest can use some functions in the system. These are some functions guest can use:

- Register as owner.
- Register as driver.
- Login.

1.2 Member Requirement

Member is guest who uses his account to login to the system. Member can use additional functions, such as:

- Update profile.
- Logout.

1.3 Driver Requirement

- Manage route information.
- Get suggestion goods.
- Make deal with owner.
- Manage deal.

1.4 Owner Requirement

- Manage goods information.
- Get suggestion route.
- Make deal with driver.
- Manage deal.
- Make payment.

1.5 Staff Requirement

Staff is manager of the system. Staff can use these functions:

- Confirm delivery status.
- Create new member account.
- Manage member account.
- Verify order status.

1.6 Admin Requirement

Admin is the person who manages the system. Admin is super user which can use the following functions:

- Manage staff account.
- Configure the parameters of system.

1.7 System Constraints:

- After register, user will be verified by staff before starting to use the system.
- Goods owner and truck driver will only receive route and truck information through system matching.
- If goods pickup date and route ending date are later than current date, system will deactivate it.
- When making deal, system will check deadline time. If current date has past deadline time, deal will be cancelled.
- Deadline is calculated: Distance of goods / average velocity + 1 day.

- Goods can only be delivered on 1 route at once. Therefore, system will cancel other deal related to that goods.
- Deal status and order status when changed by system always notifies user.
- All success order will be charged to support system.

2. System Requirement Specification

2.1 External Interface Requirement

2.1.1 User Interface

- The user interface uses language Vietnamese

2.1.2 Hardware Interface

- N/A

2.1.3 Software Interface

- Firefox (v30 or above), Chromes (v14 or above) browser, enable JavaScript.
- Smartphone with Android 4.0 or above.

2.1.4 Communication Protocol

- Website using HTTP protocol for communication between the web browser and the web server.
- Mobile app using HTTP protocol for communication between app and web service.

2.2 System Overview Use Case

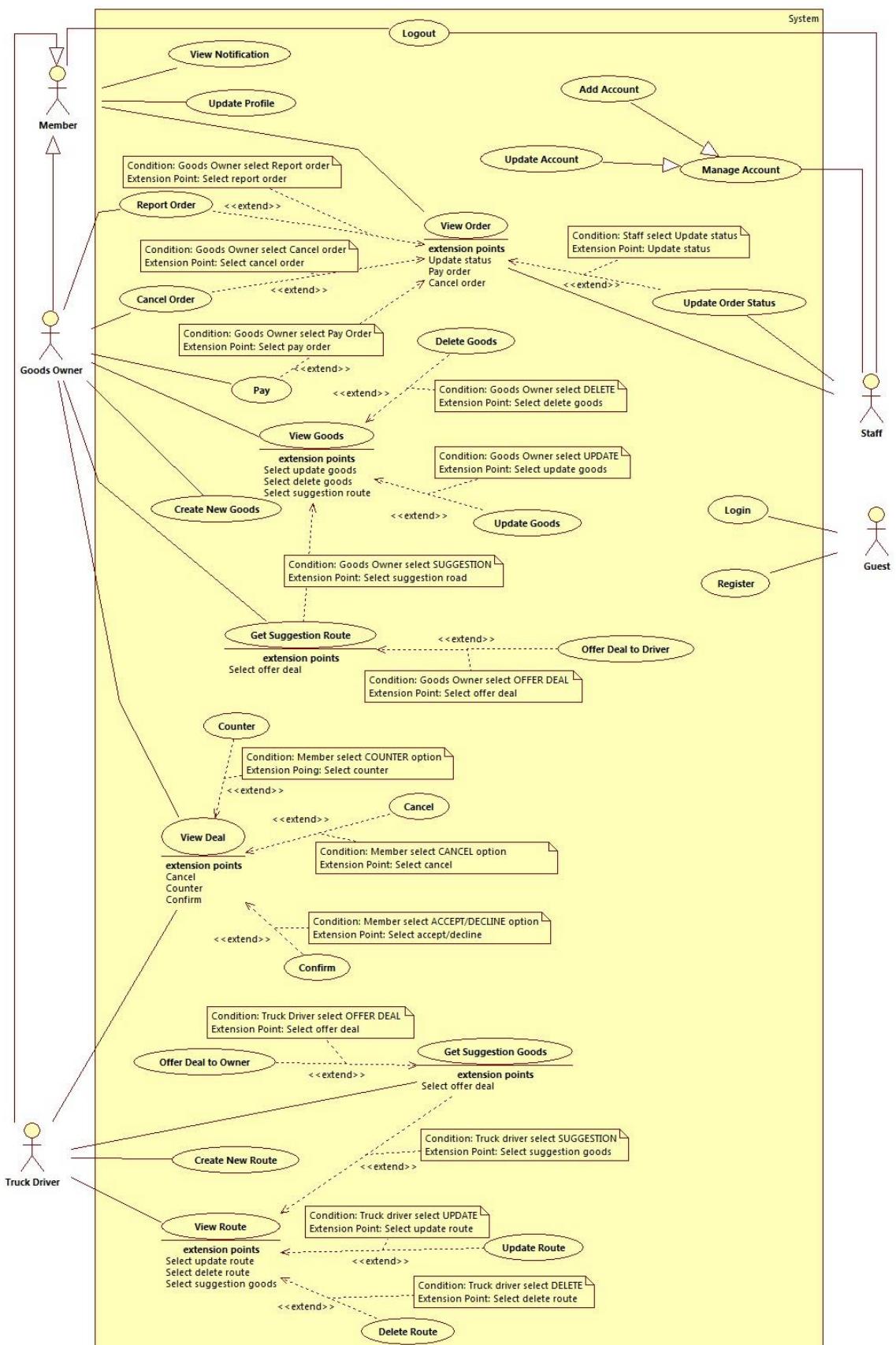


Figure 2: System Overview Use Case

2.3 List of Use Case

2.3.1 <Guest> Overview Use Case

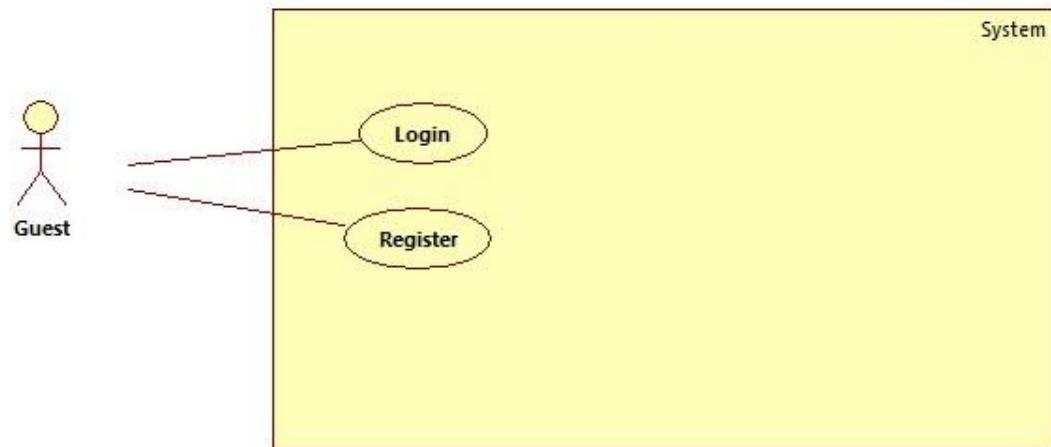


Figure 3: <Guest> Overview Use Case

2.3.1.1 <Guest> Login Use Case Diagram

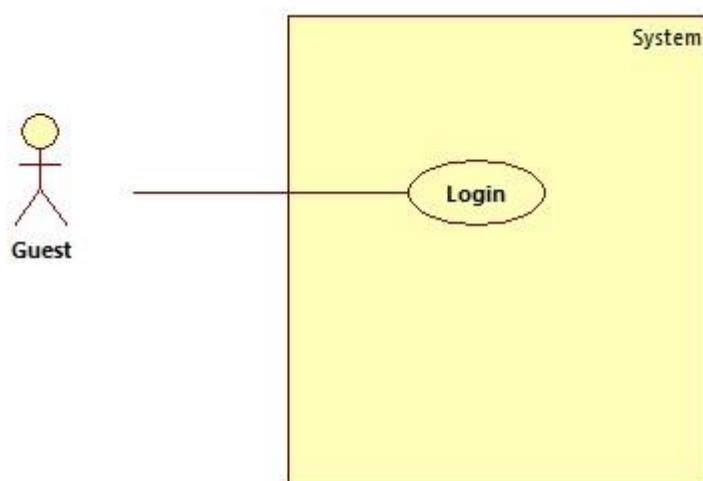


Figure 4: <Guest> Login

Use Case Specification

USE CASE - FTS001			
Use Case No.	FTS001	Use Case Version	2.0
Use Case Name	Login		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	Normal
Actor:	Guest		

Summary: This use case allows guest to login.

Goal: Authentication and authorization

Triggers: Goods owner click on “Đăng nhập” button

Preconditions:

- N/A

Post Conditions:

- **Success:** Guest will be logged in system with their roles.
- **Fail:** Error message will be shown.

Main Success Scenario:

Step	Actor Action	System Response
1	Goods owner clicks “Đăng nhập” button.	System navigates to “Đăng nhập” page. - Email: textbox, required. - Mật khẩu: textbox, required. - Đăng nhập: button
2	Input field.	
3	Click on “Đăng nhập” button.	Guest will login system with their specific roles. [Exception 1]

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	Click on “Đăng nhập” button.	Wrong email or password. Show error message: “Sai email hoặc password”.

Relationships: N/A

Business Rules:

- After login successfully, guest will login with their specific role: goods owner, truck driver or staff.
- On website, truck driver cannot login. If guest is goods owner, he will be redirected to homepage, if guest is staff, he will be directed to admin page.
- On mobile application, goods owner can only login FTS Owner app, truck driver can only login FTS Driver app.

2.3.1.2 <Guest> Register Use Case Diagram

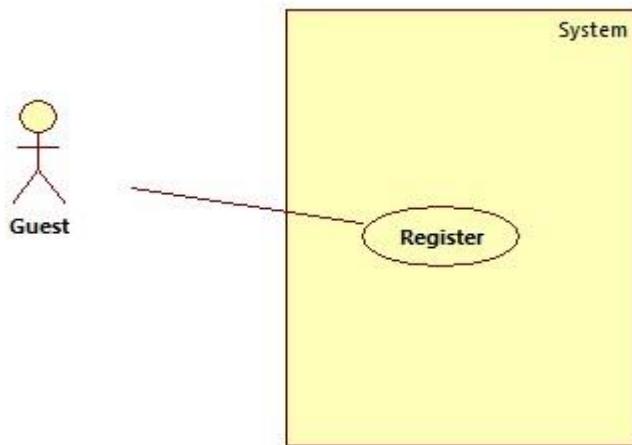


Figure 5: <Guest> Register

Use Case Specification

USE CASE – FTS002			
Use Case No.	FTS002	Use Case Version	2.0
Use Case Name	Register		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	Normal
Actor: Guest			
Summary:	This use case allows guest register an account.		
Goal:	Create new account in database		
Triggers:	Goods owner click on “Đăng ký” button		
Preconditions:	<ul style="list-style-type: none"> - N/A 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Guest will be logged in system with their roles. - Fail: Error message will be shown. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Goods owner clicks “Đăng ký” button.	System navigates to “Đăng ký” page. <ul style="list-style-type: none"> - Email: textbox, length: 1 - 50 character, required. - Mật khẩu: textbox, length: 1 - 10 character, required. - Xác nhận mật khẩu: textbox, length: 1 - 10 character, required. - Họ: textbox, length: 1 - 50 character, required. - Tên: textbox, length: 1 - 50 	

		<p>character, required.</p> <ul style="list-style-type: none"> - Số điện thoại: textbox, length: 1 – 50 character, required. - Địa chỉ: textbox, length: 1 – 50 character, required. - Giới tính: dropdownlist (nam, nữ), required. - Ngày sinh: datepicker, required - Tài khoản paypal: textbox, length: 1 – 100 character, required. - Đăng ký: button.
2	Input field.	
3	Click on “Đăng ký” button.	New account will be added to database. [Exception 1,2,3,4,5,6,7,8]

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	Click on “Đăng ký” button.	Password and confirm password don't match. Show error message: “Xác nhận mật khẩu phải trùng với mật khẩu”.
2	Click on “Đăng ký” button.	Email is blank or wrong format. Show error message: “Xin vui lòng nhập email”.
3	Click on “Đăng ký” button.	Password is blank. Show error message: “Xin vui lòng nhập mật khẩu”.
4	Click on “Đăng ký” button.	First name is blank. Show error message: “Xin vui lòng nhập tên”.
5	Click on “Đăng ký” button.	Last name is blank. Show error message: “Xin vui lòng nhập họ”.
6	Click on “Đăng ký” button.	Phone number is blank. Show error message: “Xin vui lòng nhập số điện thoại”.
7	Click on “Đăng ký” button.	Address is blank. Show error message: “Xin vui lòng địa chỉ”.
8	Click on “Đăng ký” button.	Paypal account is blank. Show error message: “Xin vui lòng nhập tài khoản paypal”.

Relationships: N/A

Business Rules:

- After register, account will be created with inactive status. After verification, staff will activate account.

2.3.2 <Goods Owner> Overview Use Case

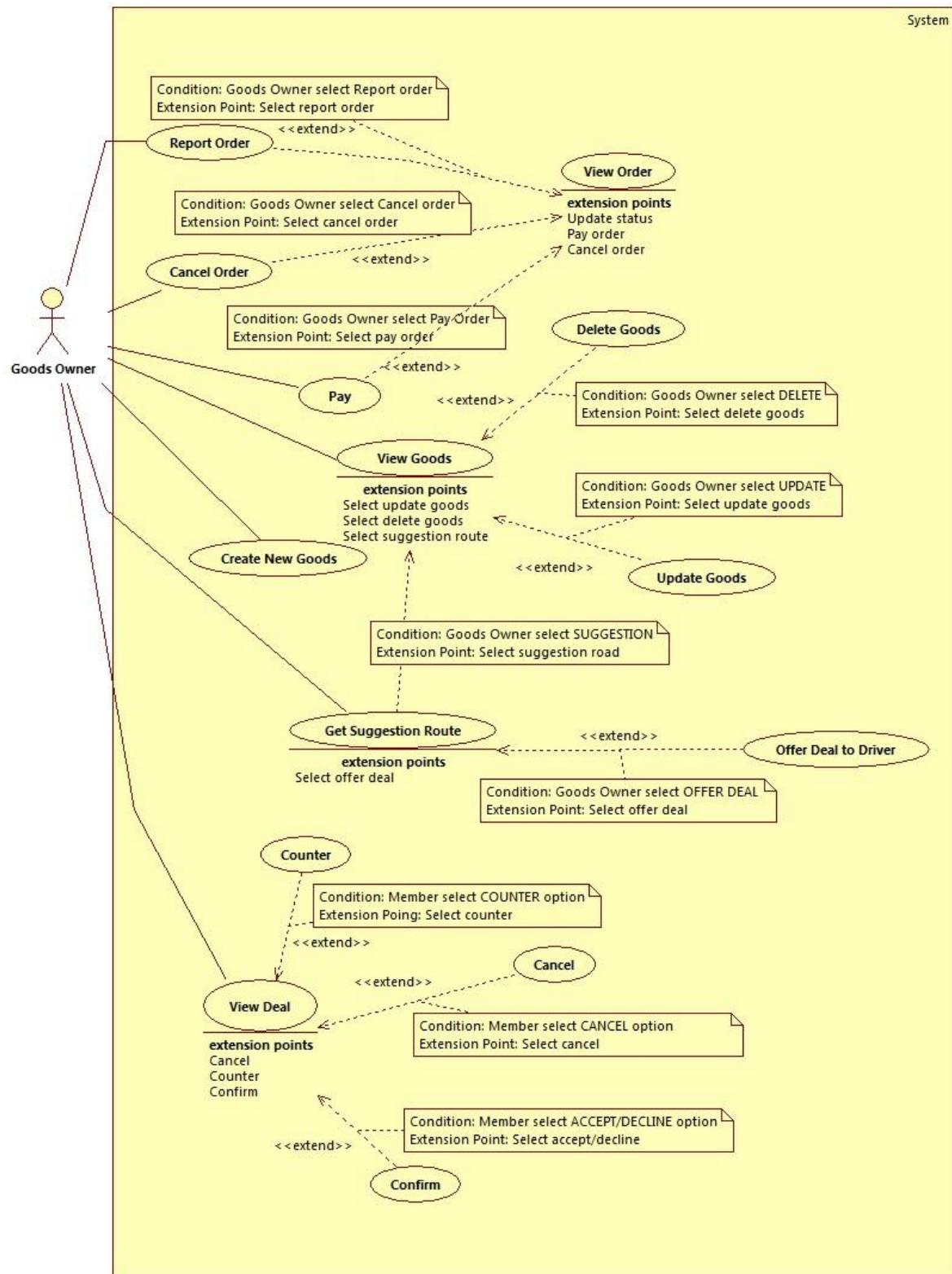


Figure 6: <Goods Owner> Overview Use Case

2.3.2.1 <Goods Owner> Create New Goods Use Case Diagram

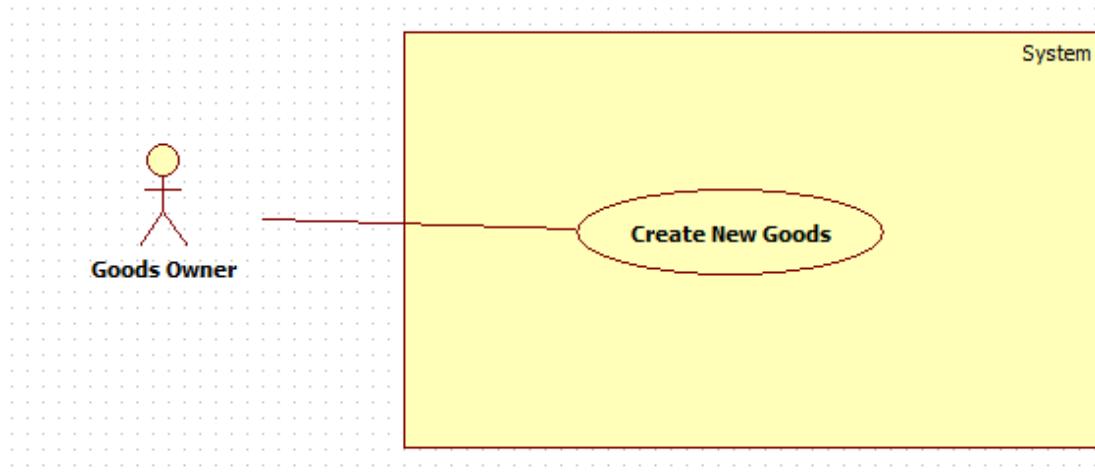


Figure 7: <Goods Owner> Create New Goods

Use Case Specification

USE CASE - FTS003			
Use Case No.	FTS003	Use Case Version	2.0
Use Case Name	Create New Goods (Android)		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High
Actor: Goods owner			
Summary: This use case allows goods owner to create new goods.			
Goal: Add new goods to database			
Triggers: Goods owner click on “Đăng hàng” button in action bar.			
Preconditions:			
- User must log in to the system with role goods owners.			
Post Conditions:			
- Success: New goods will be added to database. Success message will be shown.			
- Fail: Error message will be shown.			
Main Success Scenario:			
Step	Actor Action	System Response	
1	Goods owner clicks “Đăng hàng” button.	System navigates to “Tạo hàng” page. - Loại hàng: drop down list, required, (Hàng thực phẩm, Hàng đông lạnh, Hàng dễ vỡ, Hàng dễ cháy nổ). - Khối lượng (kg): textbox, min	

		<ul style="list-style-type: none"> length: 1, max length: 5, min value: 500, max value: 45000, required. - Ngày có thể nhận hàng: datepicker, date range: current date to current date + 1 month, required. - Ngày có thể giao hàng: datepicker, date range: pickup date to current date + 1 month, required - Địa điểm nhận hàng: textbox, min length: 1, max length: 100, required. - Địa điểm giao hàng: textbox, min length: 1, max length: 100, required. - Ghi chú: textbox, min length: 1, max length: 250, not required - Giá tiền (nghìn đồng): textbox, min length: 1, max length: 10, required - Tạo hàng: button
2	Input field. [Alternative 1,2]	
3	Click on “Tạo hàng” button	Confirmation dialog will be shown [Exception 1,2,3,4,5,6,7,8,9, 10] [Alternative 3,4]

Alternative Scenario:

No	Actor Action	System Response
1.1	Goods owner clicks on Map button next to “Địa điểm nhận hàng”	<p>System navigates to “Chi tiết bản đồ” page:</p> <ul style="list-style-type: none"> - Google map - Đồng ý: button
1.2	Owner chooses appropriate position	System will update new location
1.3	Click on “Đồng ý”	Correct location will be updated for pickup address.
2.1	Goods owner clicks on Map button next to “Địa điểm giao hàng”	<p>System navigates to “Chi tiết bản đồ” page:</p> <ul style="list-style-type: none"> - Google map - Đồng ý: button
2.2	Owner chooses appropriate position	System will update new location.
2.3	Click on “Đồng ý” button	Correct location will be updated for delivery address.
3	Click on “Tạo” button	New goods will be added to database and show “Hàng tạo thành công”.
4	Click on “Hủy” button	Confirm dialog will be canceled. A new goods isn't created.

Exceptions:

No	Actor Action	System Response
1	Click on “Tạo hàng” button	“Khối lượng” is empty or longer than 5 words. Show error message: “Khối lượng giới hạn từ 1 đến 5 ký tự”.
2	Click on “Tạo hàng” button	“Ngày có thể nhận hàng” is empty. Show error message: “Vui lòng chọn ngày gửi hàng”.
3	Click on “Tạo hàng” button	“Ngày có thể giao hàng” is empty. Show error message: “Vui lòng chọn ngày giao hàng”.
4	Click on “Tạo hàng” button	“Địa điểm nhận hàng” is empty or longer than 100 words. Show error message: “Địa điểm nhận hàng giới hạn từ 1 đến 100 ký tự”.
5	Click on “Tạo hàng” button	“Địa điểm giao hàng” is empty or longer than 100 words. Show error message: “Địa điểm giao hàng giới hạn từ 1 đến 100 ký tự”.
6	Click on “Tạo hàng” button	“Giá tiền” is empty or longer than 10 words. Show error message: “Giá tiền giới hạn từ 1 đến 10 ký tự”.
7	Click on “Tạo hàng” button	“Khối lượng” value is smaller than 1 and bigger than 45000. Show error message: “Khối lượng giới hạn từ 1 đến 45000 kg”.
8	Click on “Tạo hàng” button	“Ngày có thể giao hàng” is earlier than “Ngày có thể nhận hàng”. Show error message: “Ngày có thể nhận hàng phải sớm hơn ngày có thể giao hàng”.
9	Click on “Tạo hàng” button	“Ghi chú” is empty or longer than 250 words. Show error message: “Ghi chú chỉ có giới hạn từ 1 đến 250 ký tự”.
10	Click on “Tạo hàng” button	Time between possible pickup date and possible delivery date is not suitable for the distance between two addresses. Show error message: “Thời gian không phù hợp để di chuyển”.

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

- Goods are added to database with active status.
- System will notifies owner if the goods is added successfully or not.
- Possible delivery date must be later than possible pickup date. When user chooses possible pickup date, possible delivery date range will be limited from possible pickup date to one month later.
- Goods is available before possible delivery date ends. After that, goods will be inactive.
- Distance between pickup address and delivery address must be more than 10km, time between possible pickup date and possible delivery date must be

- suitable for driver to travel that distance.
- “Khối lượng” is weighted by kg and limited from 500 to 45000.
 - “Giá tiền” is calculated by thousand. When weight, pickup address and delivery address is entered, system will suggest price to owner.
 - Goods owner can edit marker if marker is not correct.
 - System will suggest address to owner for faster input.

No.	Weight	Distance <= 300km	Distance > 300km
1	Each kg from 1 to 500kg	3500	4200
2	Each kg from 500kg to 1000kg	3300	3800
3	Each kg from 1000kg	3	3500

Unit: VND

USE CASE – FTS004

Use Case No.	FTS004	Use Case Version	2.0
Use Case Name	Create New Goods (Website)		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High

Actor: Goods owner

Summary: This use case allows goods owner to create new goods.

Goal: Add new goods to database

Triggers: Goods owner click on “Tạo hàng” button in homepage.

Preconditions:

- User must log in to the system with role goods owners.

Post Conditions:

- **Success:** New goods will be added to database. Success message will be shown.
- **Fail:** Error message will be shown.

Main Success Scenario:

Step	Actor Action	System Response
1	Goods owner clicks “Tạo hàng” button in homepage.	<p>System navigates to “Tạo hàng” page contains 4 form:</p> <p>Form “Địa chỉ giao nhận hàng”:</p> <ul style="list-style-type: none"> - Địa chỉ giao hàng: textbox, min length: 1, max length: 100, required. - Ngày giao hàng: datepicker, format: “dd-MM-yyyy”, min date: current date, required. - Địa chỉ nhận hàng: textbox, min length: 1, max length: 100, required. - Ngày nhận hàng: date picker, format: “dd-mm-yyyy”, min date: pickup date, required.

		- Tiếp theo: button. [Exception 1,2,3]
2	Input field	
3	Click “Tiếp theo” button	<p>Navigates to form “Thông tin hàng hóa”:</p> <ul style="list-style-type: none"> - Loại hàng: drop down list, required, (Hàng thực phẩm, Hàng đông lạnh, Hàng dễ vỡ, Hàng dễ cháy nổ). - Khối lượng: textbox, min length: 1, max length: 5, min value: 500, max value: 45000, required. - Ghi chú: textbox, max length: 250, not required. - Tiếp theo: button <p>[Exception 4,5]</p>
4	Input field	
5	Clicks “Tiếp theo” button	<p>Navigates to form “Chi phí”:</p> <ul style="list-style-type: none"> - Chi phí hệ thống đề nghị: not editable textbox. - Chi phí người dùng đưa ra: textbox, min length: 1, max length: 10, required. - Tiếp theo: button
6	Input field.	
7	Click “Tiếp theo” button	<p>Navigates to form “Xác nhận”:</p> <ul style="list-style-type: none"> - Tạo hàng: button - Vị trí: button - Vị trí: button
8	Click on “Tạo hàng” button [Alternative 1,2]	<p>Confirmation dialog will be shown</p> <p>[Exception 1,2,3,4,5,6,7,8,9]</p> <p>[Alternative 3,4]</p>

Alternative Scenario:

No	Actor Action	System Response
1	Goods owner clicks on “Vị trí” button next to “Địa chỉ giao hàng” textbox	<p>System navigates to “Địa chỉ giao hàng” page:</p> <ul style="list-style-type: none"> - Google map - Hoàn tất: button
2	Goods owner clicks on “Vị trí” button next to “Địa chỉ nhận hàng” button	<p>System navigates to “Địa chỉ nhận hàng” page:</p> <ul style="list-style-type: none"> - Google map - Hoàn tất: button
3	Click on “OK” button	New goods will be added to database and suggestion route will be showed.
4	Click on “Cancel” button	Confirm dialog will be canceled. A new goods isn't created.

Exceptions:

No	Actor Action	System Response
1	Click on “Tiếp theo” button	“Địa điểm nhận hàng” is empty. Show error message: “Vui lòng chọn địa điểm nhận hàng”.
2	Click on “Tiếp theo” button	“Địa điểm giao hàng” is empty. Show error message: “Vui lòng chọn địa điểm giao hàng”.
3	Click on “Tiếp theo” button	Distance between “Địa chỉ giao hàng” and “Địa chỉ nhận hàng” is less than 10 km. Show error message: “Không thể tạo hàng với khoảng cách dưới 10km”.
4	Click on “Tiếp theo” button	“Khối lượng” is empty. Show error message: “Vui lòng nhập khối lượng của hàng”.
5	Click on “Tiếp theo” button	“Khối lượng” is less than 500 or more than 45000. Show error message: “Không thể tạo hàng với trọng lượng dưới 500kg hoặc trên 45000kg”.

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

- Goods are added to database with active status.
- Possible delivery date must be later than possible pickup date. When user chooses possible pickup date, possible delivery date range will be limited from possible pickup date.
- Goods is available before possible delivery date ends. After that, goods will be inactive.
- “Khối lượng” is weighted by kg and limited from 500 to 45000.
- “Giá tiền” is calculated by thousand. System will suggest price to owner, if he doesn't want to, he can choose another price.
- Owner can edit marker if marker is not correct.
- System will suggest address to owner for faster input.
- Distance between pickup address and delivery address must be more than 10km, range between possible pickup date and possible delivery date must be suitable for driver to travel that distance.

No.	Weight	Distance <= 300km	Distance > 300km
1	Each kg from 1 to 500kg	3500	4200
2	Each kg from 500kg to 1000kg	3300	3800
3	Each kg from 1000kg	3	3500

Unit: VND

2.3.2.2 <Goods Owner> Update Goods Use Case Diagram

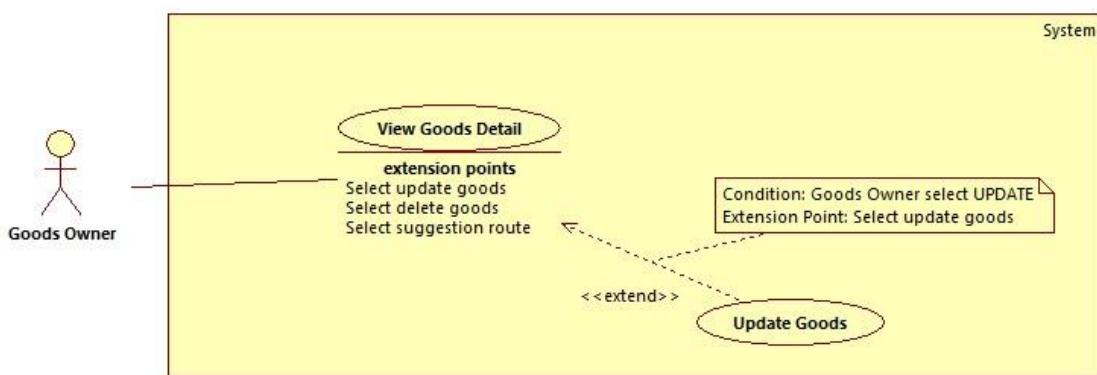


Figure 8: <Goods Owner> Update Goods

Use Case Specification

USE CASE - FTS005									
Use Case No.	FTS005	Use Case Version	2.0						
Use Case Name	Update Goods								
Author	Dang Phu Thinh								
Date	17/04/2015	Priority	High						
Actor: Goods owner Summary: This use case allows goods owner to update existed goods (applied for website an mobile application) Goal: Update existed goods Triggers: Goods owner click on a goods in “Hàng hóa” tab Preconditions: <ul style="list-style-type: none"> - A goods exists in database. - User must log in to the system with role goods owners. - A goods has not made deal yet. Post Conditions: <ul style="list-style-type: none"> - Success: Goods will be updated with new information - Fail: Goods will not be updated. Error message will be shown. 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>Goods owner click on a goods in “Hàng hóa” tab, then swipe to “Thông tin” tab.</td><td> System navigates to goods detail tab. - Loại hàng: drop down list, required, (Hàng thực phẩm, Hàng đông lạnh, Hàng dễ vỡ, Hàng dễ cháy nổ). </td></tr> </tbody> </table>				Step	Actor Action	System Response	1	Goods owner click on a goods in “Hàng hóa” tab, then swipe to “Thông tin” tab.	System navigates to goods detail tab. - Loại hàng: drop down list, required, (Hàng thực phẩm, Hàng đông lạnh, Hàng dễ vỡ, Hàng dễ cháy nổ).
Step	Actor Action	System Response							
1	Goods owner click on a goods in “Hàng hóa” tab, then swipe to “Thông tin” tab.	System navigates to goods detail tab. - Loại hàng: drop down list, required, (Hàng thực phẩm, Hàng đông lạnh, Hàng dễ vỡ, Hàng dễ cháy nổ).							

		<ul style="list-style-type: none"> - Khối lượng (kg): textbox, min length: 1, max length: 5, min value: 500, max value: 45000, required. - Ngày có thể nhận hàng: datepicker, date range: current date to current date + 1 month, required. - Ngày có thể giao hàng: datepicker, date range: pickup date to current date + 1 month, required - Địa điểm nhận hàng: textbox, min length: 1, max length: 100, required. - Địa điểm giao hàng: textbox, min length: 1, max length: 100, required. - Ghi chú: textbox, min length: 1, max length: 250, not required - Giá tiền (nghìn đồng): textbox, min length: 1, max length: 10, required - Cập nhật: button - Xóa: button
2	Modify field. [Alternative 1,2]	
3	Click on “Cập nhật” button	Confirmation dialog will be shown [Exception 1,2,3,4,5,6,7,8,9] [Alternative 3,4]

Alternative Scenario:

Step	Actor Action	System Response
1.1	Goods owner clicks on Map button next to “Địa điểm nhận hàng”	System navigates to “Địa điểm” page: <ul style="list-style-type: none"> - Google map - Đồng ý: button
1.2	Owner drags marker to appropriate position	System will update new marker's latitude and longitude
1.3	Click on “Đồng ý”	Marker position will be saved to database.
2.1	Goods owner clicks on Map button next to “Địa điểm giao hàng”	System navigates to “Địa điểm” page: <ul style="list-style-type: none"> - Google map - Đồng ý: button
2.2	Owner drags marker to appropriate position	System will update new marker's latitude and longitude
2.3	Click on “Đồng ý” button	Marker position will be saved to database.
3	Click on “Cập nhật” button	Goods will be updated and show “Hàng cập nhật thành công”.
4	Click on “Hủy” button	Confirmation dialog will be canceled and no change is made.

Exceptions:

No	Actor Action	System Response
1	Click on “Cập nhật” button	“Khối lượng” is empty or longer than 5

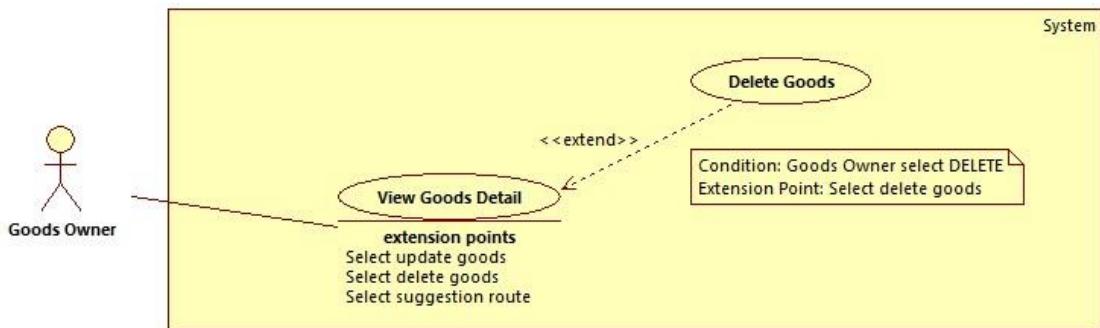
		words. Show error message: "Khối lượng giới hạn từ 1 đến 5 ký tự".
2	Click on “Cập nhật” button	“Ngày có thể nhận hàng” is empty. Show error message: “Vui lòng chọn ngày gửi hàng”.
3	Click on “Cập nhật” button	“Ngày có thể giao hàng” is empty. Show error message: “Vui lòng chọn ngày giao hàng”.
4	Click on “Cập nhật” button	“Địa điểm nhận hàng” is empty or longer than 100 words. Show error message: “Địa điểm nhận hàng giới hạn từ 1 đến 100 ký tự”.
5	Click on “Cập nhật” button	“Địa điểm giao hàng” is empty or longer than 100 words. Show error message: “Địa điểm giao hàng giới hạn từ 1 đến 100 ký tự”.
6	Click on “Cập nhật” button	“Giá tiền” is empty or longer than 10 words. Show error message: “Giá tiền giới hạn từ 1 đến 10 ký tự”.
7	Click on “Cập nhật” button	“Khối lượng” value is smaller than 1 and bigger than 45000. Show error message: “Khối lượng giới hạn từ 1 đến 45000 kg”.
8	Click on “Cập nhật” button	“Ngày có thể giao hàng” is earlier than “Ngày có thể nhận hàng”. Show error message: “Ngày có thể nhận hàng phải sớm hơn ngày có thể giao hàng”.
9	Click on “Cập nhật” button	“Ghi chú” is empty or longer than 250 words. Show error message: “Ghi chú chỉ có giới hạn từ 1 đến 250 ký tự”.

Relationships: extended by View Goods Detail**Business Rules:**

- Goods owner can update category, weight, possible pickup date, possible delivery date, pickup address, delivery address, price, notes.
- When a goods is dealing with other routes, error message will be shown: “Hàng hiện không thể cập nhật”.
- System will notifies owner if the goods is updated successfully or not.
- Possible delivery date must be later than possible pickup date. When user chooses possible pickup date, possible delivery date range will be limited from possible pickup date to one month later.
- “Khối lượng” is weighted by kg and limited from 500 to 45000.
- “Giá tiền” is calculated by thousand. When weight, pickup address and delivery address is entered, system will suggest price to owner.
- Owner can edit marker if marker is not correct. If owner does not edit marker, the address that owner input will be used as marker.
- When owner enters address, system will suggest address to owner for quicker input.
- Distance between pickup address and delivery address must be more than

10km, range between possible pickup date and possible delivery date must be suitable for driver to travel that distance.

2.3.2.3 <Goods Owner> Delete Goods Use Case Diagram



**Figure 9: <Goods Owner> Delete Goods
Use Case Specification**

USE CASE - FTS006

Use Case No.	FTS006	Use Case Version	2.0
Use Case Name	Delete Goods		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High

Actor: Goods owner

Summary: This use case allows goods owner to delete goods (applied for website and mobile application).

Goal: Goods will be removed from the system.

Triggers: Goods owner click “Xóa hàng” button in goods information page

Preconditions:

- User must log in to the system with role goods owners.
- A goods exists in the system.
- A goods has not made deal yet.

Post Conditions:

- **Success:** Goods will be deleted from database
- **Fail:** Goods is not deleted. Error message will be shown

Main Success Scenario:

Step	Actor Action	System Response
1	Goods owner click on a goods in “Hàng hóa” tab, then swipe to “Thông tin” tab. Goods owner clicks “Xóa” button.	- Confirmation dialog will be shown

Alternative Scenario:

No	Actor Action	System Response

1	Click on “Hủy” button	Pop-up is turn-off. Goods is not deleted
Exceptions:		
No	Actor Action	System Response
1	Click on “Đồng ý” button	Goods is not deleted. Show error message: “Xóa hàng thất bại. Xin thử lại sau”
Relationships: extended by View Goods Detail.		
Business Rules:		
<ul style="list-style-type: none"> - A goods is still active. - When a goods is deleted, its status will be changed to inactive. - When a goods is dealing with other routes, it cannot be deleted. When owner try to delete, it will show error message. - System will automatically delete goods when goods delivery date is past current date. 		

2.3.2.4 <Goods Owner> Offer Deal To Driver Use Case Diagram

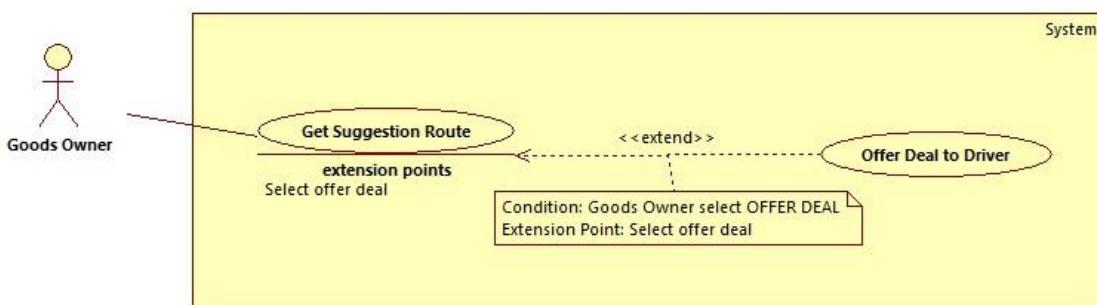


Figure 10: <Goods Owner> Offer Deal to Driver
Use Case Specification

USE CASE - FTS007			
Use Case No.	FTS007	Use Case Version	2.0
Use Case Name	Offer Deal To Driver		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High
Actor: Goods owner			
Summary: This use case allows goods owner to send new deal to truck driver.			
Goal: To start a new deal with truck driver (applied for website and mobile application).			
Triggers: Goods owner clicks “Đề nghị” button in truck driver route’s information page.			
Preconditions:			
<ul style="list-style-type: none"> - User must log in to the system with role goods owners. - Your goods and driver's route is active. 			

- There is no deal between goods and route.

Post Conditions:

- **Success:** New deal is sent to truck driver. Success message is shown
- **Fail:** Error message is shown

Main Success Scenario:

Step	Actor Action	System Response
1	In route suggestion page, owner will choose a route he wants to deal.	System navigates to truck driver route's information page.
2	Owner clicks on "Gửi đề nghị" button	Confirmation dialog is shown. [Alternative 1,2]

Alternative Scenario:

No	Actor Action	System Response
1	Goods owner clicks "Đồng ý" button	A new deal is sent to truck driver. Success message is shown: "Đề nghị đã được gửi" [Exception 1]
2	Goods owner clicks "Hủy" button	Confirmation dialog is canceled. No deal is sent.

Exceptions:

No	Actor Action	System Response
1	Owner clicks on "Đồng ý" button	New deal is not sent. Show error message: "Đề nghị đã không được gửi. Xin thử lại sau"

Relationships: extended by Get Suggestion Route.

Business Rules:

- Goods owner can send deal to as many drivers as he wants.
- System will notify driver after owner offers deal to driver.
- System must make sure both goods and route are available before offer is sent. If route is not available, system will notify owner.
- When route's weight limit is up and goods owner sends new deal offer, error message will be shown.
- New offer is saved to database with pending state. If offer is sent, system will notify driver about new deal.
- After owner sends offer to truck driver route, the route will be removed from suggestion list.
- When goods owner sends offer to driver, system will check if current date is past goods' deadline. If true, deal will be offered to driver. If false, deal won't be sent and error message will be shown. A goods' deadline is calculated: Goods delivery date - (Distance between goods pickup address and delivery address / average velocity / 24 hour) - 1 day.

2.3.2.5 <Goods Owner> Confirm Use Case Diagram

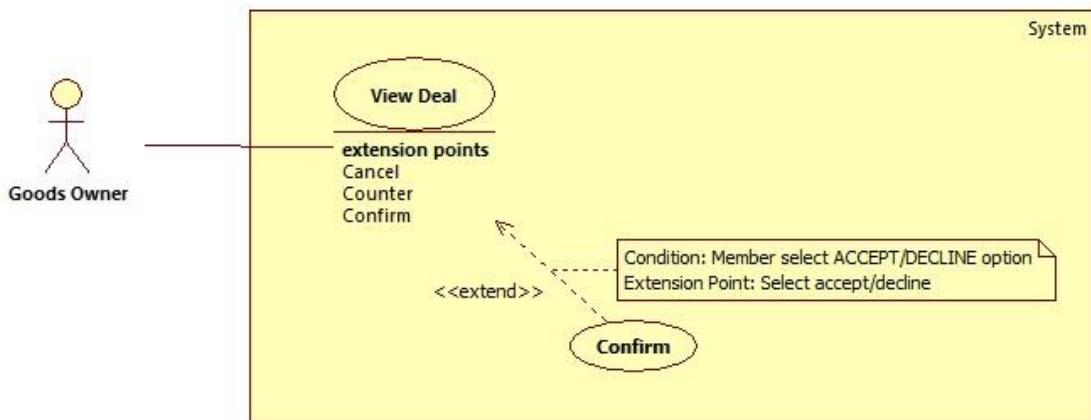


Figure 11: <Goods Owner> Confirm

Use Case Specification

USE CASE – FTS008			
Use Case No.	FTS008	Use Case Version	2.0
Use Case Name	Confirm		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High
Actor: Goods owner			
Summary: This use case allows goods owner to accept or decline a deal sent from truck driver (applied for website and mobile application).			
Goal: The deal will be accepted or declined by owner.			
Triggers: Goods owner click “Chấp nhận” or “Từ chối” button.			
Preconditions:			
<ul style="list-style-type: none"> - Goods owner must log in to the system with role goods owners. - The deal is sent from owner and has pending status. 			
Post Conditions:			
<ul style="list-style-type: none"> - Success: The deal sent from truck driver is accepted or declined. Success message will be shown. - Fail: Error message is shown 			
Main Success Scenario:			
Step	Actor Action	System Response	
1	Goods owner clicks “Chấp nhận” button. [Alternative 1]	Confirmation dialog is shown [Alternative 2,3]	
Alternative Scenario:			

No	Actor Action	System Response
1	Goods owner clicks “Từ chối” button.	Confirmation dialog is shown [Alternative 4,5]
2	Goods owner clicks “Đồng ý” button	Deal is accepted. Message is shown: “Đề nghị đã được chấp nhận”. [Exception 1]
3	Goods owner clicks “Hủy” button	Confirmation dialog is canceled. Deal is not accepted.
4	Goods owner clicks “Đồng ý” button	Deal is declined. Message is shown: “Đề nghị đã được từ chối”. [Exception 2]
5	Goods owner clicks “Hủy” button	Confirmation dialog is canceled. Deal is not declined.

Exceptions:

No	Actor Action	System Response
1	Goods owner clicks “Đồng ý” button.	Deal is still not accepted. Error message is shown: “Đề nghị vẫn chưa được chấp nhận. Xin thử lại sau”.
2	Goods owner clicks “Đồng ý” button.	Deal is still not declined. Error message is shown: “Đề nghị vẫn chưa được từ chối. Xin thử lại sau”

Relationships: extended by View Deal.**Business Rules:**

- When deal is accepted, system will change status to “accepted”, deal will be added to Order table. Goods will be removed from “Hàng hóa” tab and will be found as order in “Đơn hàng” tab.
- When deal is declined, system will change status to “declined” and deal will be removed from “Giao dịch” tab.
- When deal is accepted or declined, success message will be shown. When error happens, error message will be shown.
- When owner accepts deal, system will check if deal is cancelled by driver or not. If yes, error message will be shown to owner.
- If driver's weight limit is up and owner accepts deal, error message will be shown to owner.
- When owner accepts deal, deals between owner and other drivers will either be declined or canceled.
- System will notify driver when deal is accepted or declined.
- When owner accepts a deal, system:
- When goods owner accepts deal from driver, system will check if current date is past goods' deadline. If true, deal will be offered to driver. If false, deal won't be sent and error message will be shown. A goods' deadline is calculated: Goods delivery date – (Distance between goods pickup address and delivery address / average velocity / 24 hour) – 1 day.

2.3.2.6 <Goods Owner> Cancel Use Case Diagram

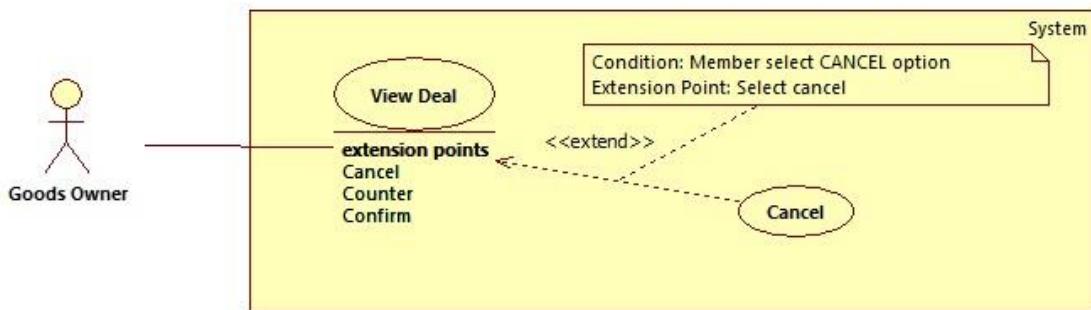


Figure 12: <Goods Owner> Cancel

USE CASE – FTS009

Use Case No.	FTS009	Use Case Version	2.0
Use Case Name	Cancel		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High

Actor: Goods owner

Summary: This use case allows goods owner to cancel the deal he sent to driver (applied for website and mobile application).

Goal: The deal will be cancel.

Triggers: Goods owner click “Hủy đề nghị” in deal information page.

Preconditions:

- Goods owner must log in to the system with role goods owners.
- Deal is sent from driver and has pending status.

Post Conditions:

- **Success:** A deal sent by owner will be cancel. Success message will be shown.
- **Fail:** Error message is shown

Main Success Scenario:

Step	Actor Action	System Response
1	Goods owner clicks “Hủy đề nghị” button.	Confirmation dialog is shown. [Alternative 1,2]

Alternative Scenario:

No	Actor Action	System Response
1	Goods owner clicks “Đồng ý” button.	Offer is cancelled. Success message is shown: “Đề nghị đã được hủy.” [Exception 1]
2	Goods owner clicks “Hủy” button.	Confirmation dialog is canceled. Deal is not canceled.

Exceptions:

No	Actor Action	System Response

1	Goods owner click “Đồng ý” button	Deal is not canceled. Error message is shown: “Đề nghị vẫn chưa được hủy. Xin thử lại sau”
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Relationships: extended by View Deal.

Business Rules:

- Owner can only cancels deal when it's not accepted by driver yet. If deal is already accepted, error message will be shown to owner.
- System will notify driver when owner cancels a deal.
- When deal is cancel, it will be removed from “Giao dịch” tab
- When deal is cancel, driver will be notified about it and success message will be shown to owner. Otherwise, error message will be shown to owner.
- When deal is canceled, system will change deal status to “canceled”.
- System will automatically cancel deal when current date has pass goods deadline. A goods' deadline is calculated: Goods delivery date – (Distance between goods pickup address and delivery address / average velocity / 24 hour) – 1 day.

2.3.2.7 <Goods Owner> Pay Use Case Diagram

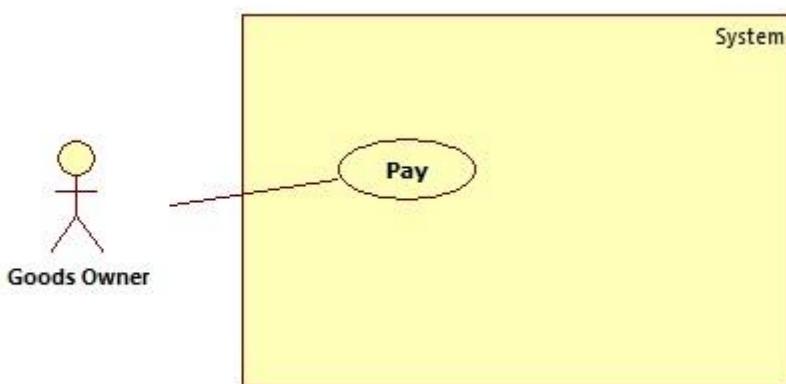


Figure 13: <Goods Owner> Pay

Use Case Specification

USE CASE - FTS010			
Use Case No.	FTS010	Use Case Version	2.0
Use Case Name	Pay		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High

Actor: Goods owner

Summary: This use case allows goods owner to pay for delivery (applied for website and mobile application).

Goal: Owner sends payment of delivery to website.

Triggers: Goods owner click “Trả tiền” in order detail page.

Preconditions:

- Goods owner must log in to the system with role goods owners.
- Order has status “unconfirmed”.

Post Conditions:

- **Success:** Order payment will be sent to system's paypal account. Success message will be shown.
- **Fail:** Error message is shown.

Main Success Scenario:

Step	Actor Action	System Response
1	From order detail page, goods owner clicks “Trả tiền” button.	Confirmation dialog is shown. [Alternative 1]
2	Goods owner click “Paypal” button.	System navigates to Paypal login screen: <ul style="list-style-type: none"> - Email: textbox, required. - Password: textbox, required. - Login: button.
3	Input information.	
4	Clicks “Login” button.	System navigates to Confirm screen: <ul style="list-style-type: none"> - Pay: button. [Exception 1]
5	Click “Pay” button.	Payment is made. Show success message. [Exception 2]

Alternative Scenario:

No	Actor Action	System Response
1	Goods owner clicks “Hủy” button.	Confirmation dialog is canceled.

Exceptions:

No	Actor Action	System Response
1	Clicks “Login” button.	Wrong email or password. Show error message: “Incorrect username/password. Please try again.”
2	Click “Pay” button.	No payment is made. Show error message: “Trả tiền không thành công. Xin thử lại.”

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

- Owner can make payment when order status is unconfirmed.
- Owner needs to pay for delivery in advance in order for driver to deliver the goods.
- If owner's paypal account is out of money, error message will be shown.
- When owner makes payment successfully, system will notify driver about it.
- System will remind owner to make payment before order gets canceled.

2.3.2.8 <Goods Owner> View Goods Detail Use Case Diagram

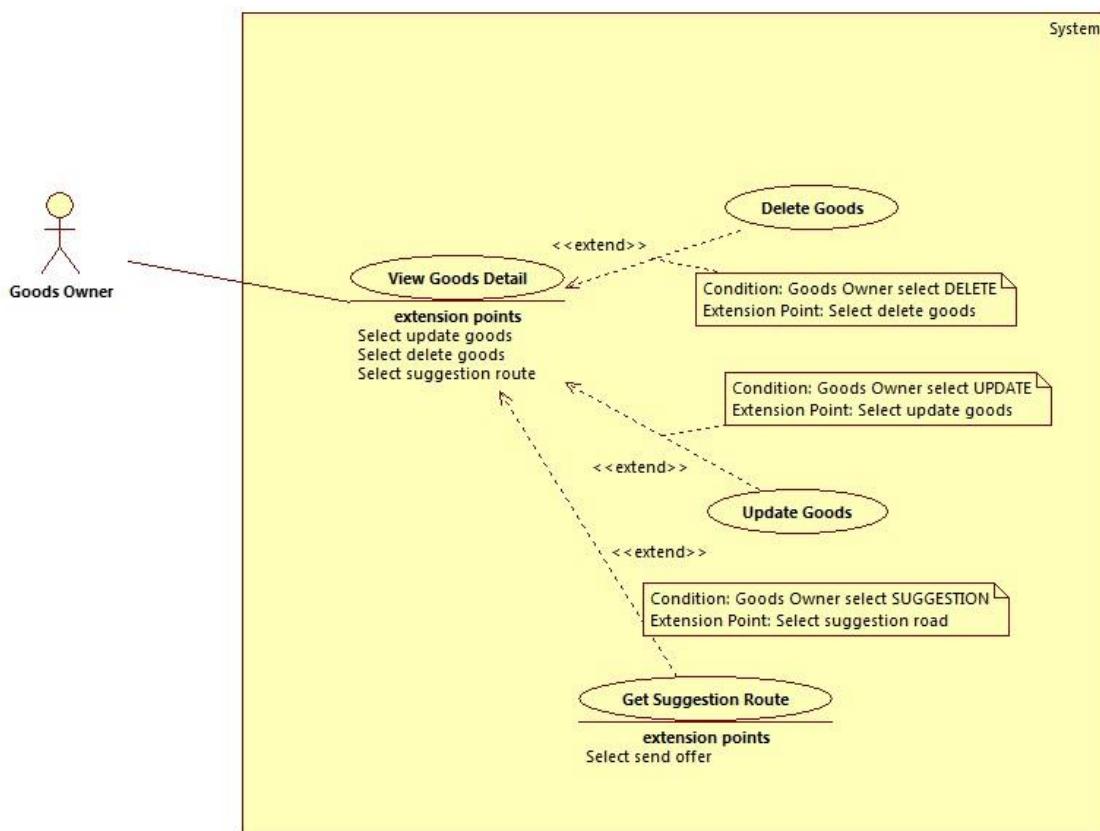


Figure 14: <Goods Owner> View Goods Detail

Use Case Specification

USE CASE - FTS011			
Use Case No.	FTS011	Use Case Version	2.0
Use Case Name	View Goods Detail		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High
Actor: Goods owner			
Summary: This use case allows goods owner to view goods detail (applied for website and mobile application).			
Goal: Order view detail of active goods.			
Triggers: Goods owner click on a goods in manage goods page.			
Preconditions:			
<ul style="list-style-type: none"> - Goods owner must log in to the system with role goods owners. - A goods has active status. 			
Post Conditions:			

- **Success:** Owner can view goods detail. Success message will be shown.
- **Fail:** Error message is shown.

Main Success Scenario:

Step	Actor Action	System Response
1	From manage goods page, goods owner clicks on a goods he wants to view.	<p>System navigates to goods detail page with following information:</p> <ul style="list-style-type: none"> - Loại hàng: textbox. - Khối lượng: textbox. - Ngày có thể giao hàng: textbox. - Ngày có thể nhận hàng: textbox. - Địa điểm giao hàng: textbox. - Địa điểm nhận hàng: textbox. - Giá tiền: textbox. - Ghi chú: textbox. - Cập nhật: button. - Xóa: button. - Gọi ý lô trình: button <p>[Exception 1]</p>

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

No	Actor Action	System Response
1	Connection error.	Show error message: "Lỗi kết nối. Xin tải lại."
2	Goods status changed to inactive	Show error message: "Hàng không còn tồn tại nữa".

Relationships: extends Delete Goods, Update goods, Get Suggestion Route.

Business Rules:

- Goods status needs to be active.
- When loading goods information, if a goods is deactivated by system or driver accepts goods, error message will be shown.
- From goods detail page, owner can update, delete goods, or get route suggestion.
- Owner can edit textbox and clicks "Cập nhật" to update goods.

2.3.2.9 <Goods Owner> Get Suggestion Route Use Case Diagram

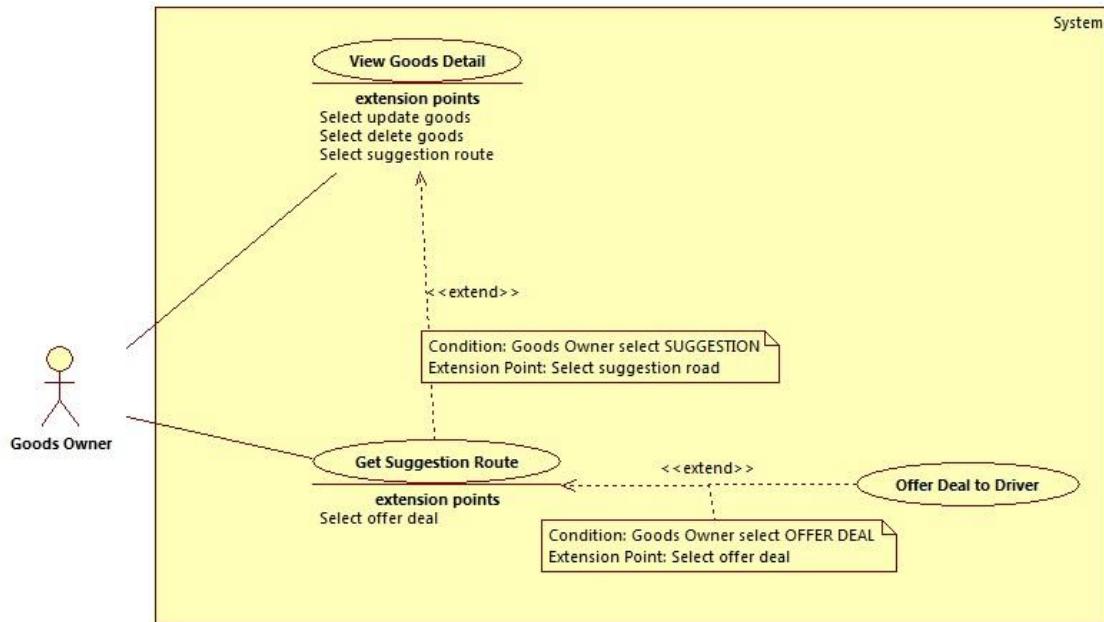


Figure 15: <Goods Owner> Get Suggestion Route

Use Case Specification

USE CASE – FTS012

Use Case No.	FTS012	Use Case Version	2.0
Use Case Name	Get Suggestion Route		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High

Actor: Goods owner

Summary: This use case allows goods owner to get route suggestion for goods.

Goal: Order view detail of active goods (applied for website and mobile application).

Triggers:

- Goods owner click “Gợi ý lộ trình” in goods detail page.
- After successfully creating goods.

Preconditions:

- Goods owner must log in to the system with role goods owners.
- A goods has active status.

Post Conditions:

- **Success:** Owner gets route suggestion. Success message will be shown.
- **Fail:** Error message is shown.

Main Success Scenario:

Step	Actor Action	System Response
1	From goods detail page, owner clicks on “Gợi ý lộ	System navigate to “Gợi ý lộ trình” page: - Thông tin hàng: label.

	trình” button.	- List of route. [Exception 1,2]
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Alternative Scenario: N/A

Exceptions:

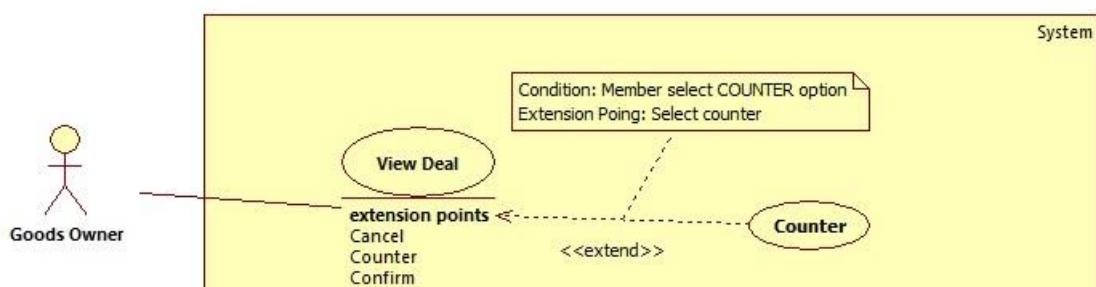
No	Actor Action	System Response
1	Connection error.	Show error message: “Lỗi kết nối. Xin tải lại.”
2	Cannot find suitable route for owner	Show error message: “Hàng không còn tồn tại nữa”.

Relationships: extends Offer Deal To Driver, extended by View Goods Detail.

Business Rules:

- Goods status needs to be active.
- System will run matching algorithm on server and return result to mobile application to display.
- System matching based on goods category, possible pickup and delivery date, pickup and delivery address and weight.

2.3.2.10 <Goods Owner> Counter Use Case Diagram



**Figure 16: <Goods Owner> Counter
Use Case Specification**

USE CASE - FTS013			
Use Case No.	FTS013	Use Case Version	2.0
Use Case Name	Counter		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High
Actor:	Goods owner		
Summary:	This use case allows goods owner to counter deal sent from truck driver.		
Goal:	Let goods owner counter a deal with new price to truck driver (applied for website and mobile application).		
Triggers:	<ul style="list-style-type: none"> - Goods owner click “Trả giá” in deal detail page. 		
Preconditions:			

- Goods owner must log in to the system with role goods owners.
- Deal has pending status.
- Goods and route are still active.

Post Conditions:

- **Success:** Deal is countered by owner. Success message will be shown.
- **Fail:** Error message is shown.

Main Success Scenario:

Step	Actor Action	System Response
1	Goods owner clicks on a deal sent from driver.	System navigates to deal detail page: <ul style="list-style-type: none"> - Giá tiền: textbox, length: 1 – 10, required. - Ghi chú: textbox, length: 1 – 250, not required. - Chấp nhận: button. - Từ chối: button. - Trả giá: button.
2	Input information.	
3	Goods owner clicks “Trả giá” button.	Confirmation dialog is shown. [Exception 1]
4	Goods owner clicks “Đồng ý” button. [Alternative 1]	Deal is countered successfully. Success message is shown. [Exception 2]

Alternative Scenario:

No	Actor Action	System Response
1	Goods owner clicks “Hủy” button.	Confirmation dialog is closed.

Exceptions:

No	Actor Action	System Response
1	Goods owner clicks “Trả giá” button.	Price is blank. Show error message: “Vui lòng nhập giá tiền”.
2	Goods owner clicks “Đồng ý” button.	Deal is canceled by driver. Show error message: “Đề nghị không còn tồn tại.”

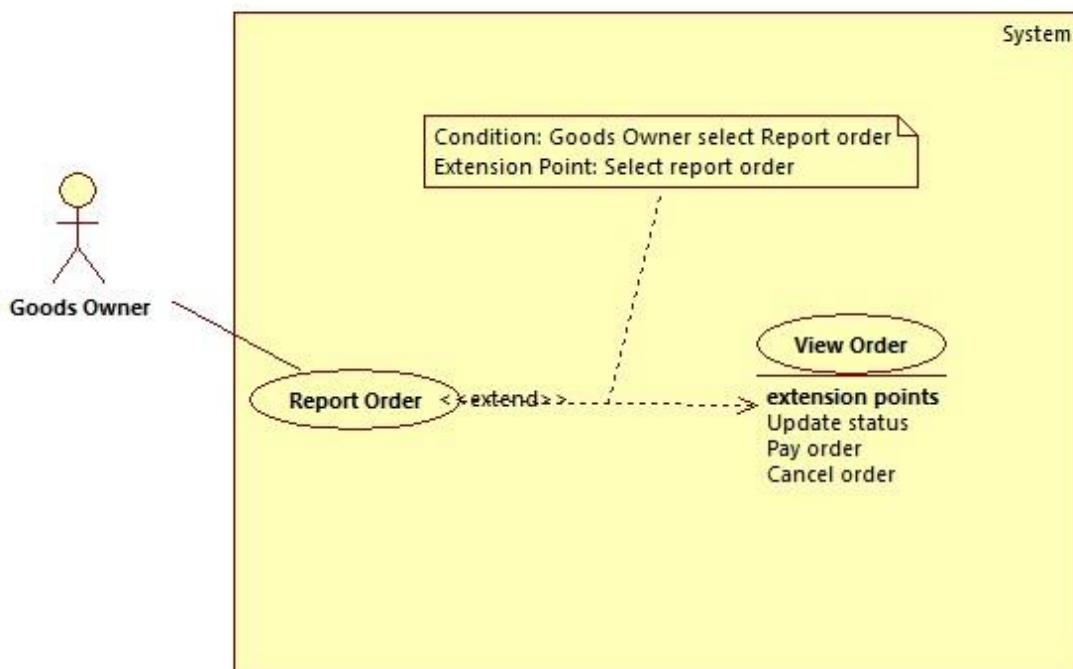
Relationships: extended by View Detail.

Business Rules:

- Goods and route needs to be active.
- System will notify driver when owner counters a deal.
- Deal still has pending status. If deal is canceled by driver, error message will be shown to owner.
- When goods owner counters a deal from driver, system will check if current date is past goods' deadline. If true, deal will be offered to driver. If false, deal won't be sent and error message will be shown. A goods' deadline is calculated: Goods delivery date - (Distance between goods pickup address and delivery address / average velocity / 24 hour) - 1 day.
- If route's weight limit is up, error message will be shown to owner.

- When owner counters a deal, it means owner decline previous deal then offer new deal to driver.

2.3.2.11 <Goods Owner> Report Order Use Case Diagram



**Figure 17: <Goods Owner> Report Order
Use Case Specification**

USE CASE – FTS021			
Use Case No.	FTS021	Use Case Version	2.0
Use Case Name	Report Order		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High
Actor: Goods owner			
Summary: This use case allows goods owner to report missing goods or damaged goods.			
Goal: Staff will be notified about the report.			
Triggers: Goods owner click “Phản hồi đơn hàng” in order information page.			
Preconditions:			
<ul style="list-style-type: none"> - Goods owner must log in to the system with role goods owners. - Order's status is “delivered” and current time is in 3 days range starting from goods' possible delivery date. 			
Post Conditions:			
<ul style="list-style-type: none"> - Success: Order's status will be changed to “reported”. Success message will be shown. - Fail: Error message is shown 			

Main Success Scenario:

Step	Actor Action	System Response
1	Goods owner clicks “Phản hồi đơn hàng” button.	Confirmation dialog is shown. [Alternative 1,2]

Alternative Scenario:

No	Actor Action	System Response
1	Goods owner clicks “Đồng ý” button.	Order will be reported. Success message is shown: “Đơn hàng đã được phản hồi thành công”. [Exception 1]
2	Goods owner clicks “Hủy” button.	Confirmation dialog is canceled. Order is not reported.

Exceptions:

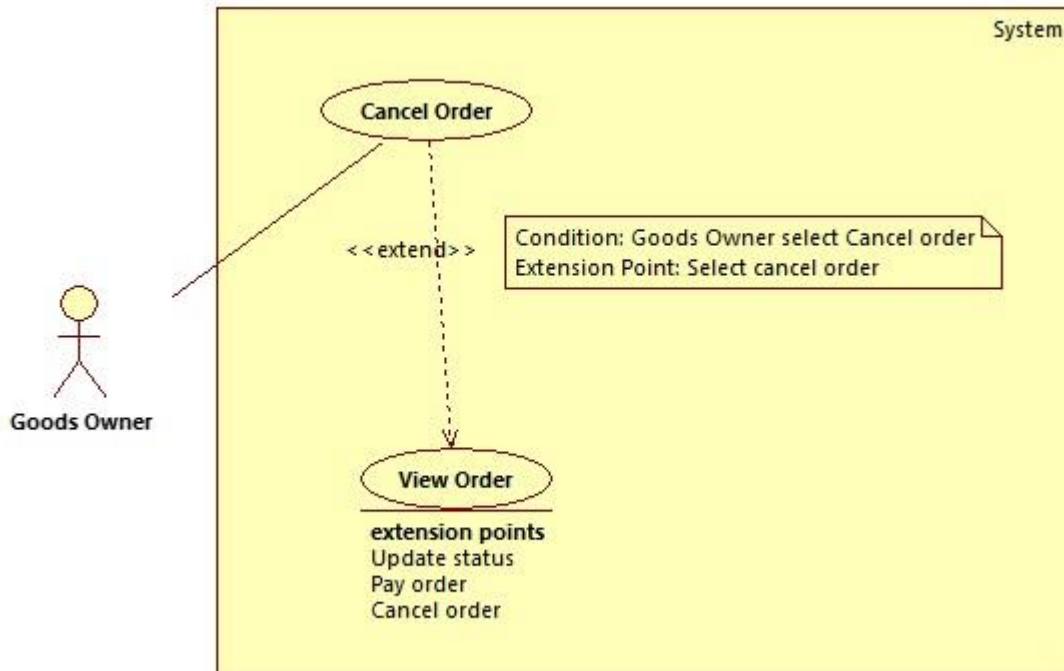
No	Actor Action	System Response
1	Goods owner click “Đồng ý” button	Order is not reported. Error message is shown: “Đề nghị vẫn chưa được hủy. Xin thử lại sau”

Relationships: extended by View Order

Business Rules:

- When owner reports order successfully, system will notifies staff.
- Owner can only report an order when order's status is “deliverd” and current time is in 3 days range starting from possible delivery date.
- When staff confirms report is correct, owner will get refund money.
- System will notifies owner to report order when it's appropriate time.

2.3.2.12 <Goods Owner> Cancel Order Use Case Diagram



**Figure 18: <Goods Owner> Cancel Order
Use Case Specification**

USE CASE – FTS022			
Use Case No.	FTS022	Use Case Version	2.0
Use Case Name	Cancel Order		
Author	Dang Phu Thinh		
Date	17/04/2015	Priority	High
Actor: Goods owner			
Summary: This use case allows goods owner to cancel an order (applied to website and mobile application).			
Goal: Order status is changed to “cancelled”.			
Triggers: Goods owner click “Hủy đơn hàng” in order information page.			
Preconditions:			
<ul style="list-style-type: none"> - Goods owner must log in to the system with role goods owners. - Driver hasn't started to deliver goods yet. 			
Post Conditions:			
<ul style="list-style-type: none"> - Success: Order will be cancelled. Success message will be shown. - Fail: Error message is shown 			
Main Success Scenario:			
Step	Actor Action	System Response	
1	Goods owner clicks “Hủy đơn”	Confirmation dialog is shown.	

	hàng” button in order detail page.	[Alternative 1,2]
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Alternative Scenario:

No	Actor Action	System Response
1	Goods owner clicks “Đồng ý” button.	Order will be cancelled. Success message is shown: “Đơn hàng đã được phản hồi thành công”. [Exception 1]
2	Goods owner clicks “Hủy” button.	Confirmation dialog is canceled. Order is not reported.

Exceptions:

No	Actor Action	System Response
1	Goods owner click “Đồng ý” button	Order is not cancelled. Error message is shown: “Đề nghị vẫn chưa được hủy. Xin thử lại sau”

Relationships: extended by View Order

Business Rules:

- Goods owner can only cancel when order's status is unpaid or paid.
- When order is cancelled, order status will be changed to “cancelled”
- When goods owner cancels order, system will notify driver.
- When owner has paid for order already, he will be refunded 90% of his original payment.

2.3.3 <Truck Driver> Overview Use Case

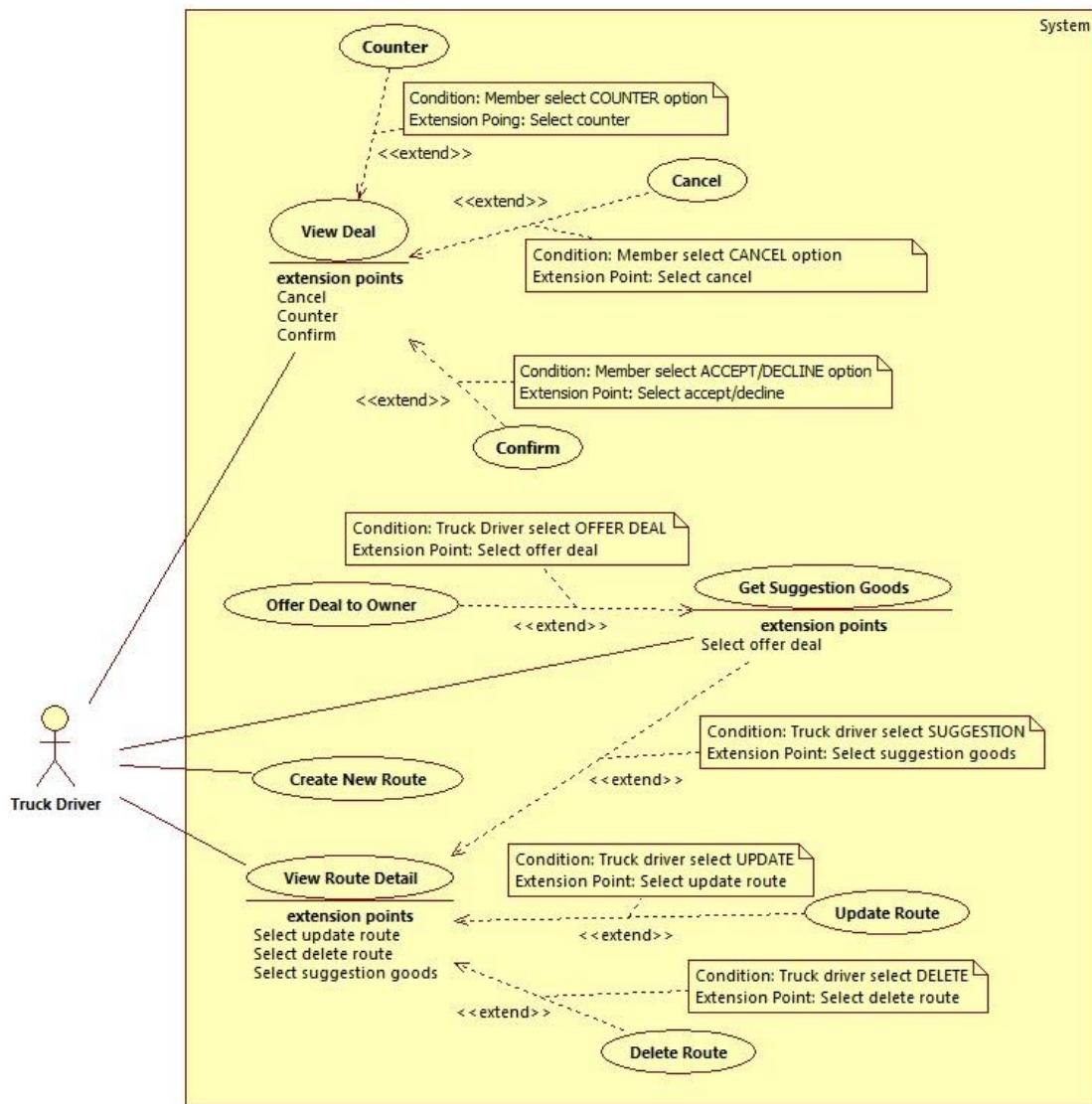


Figure 19: <Truck Driver> Overview Use Case

2.3.3.1 <Truck Driver> Create New Route Use Case Diagram

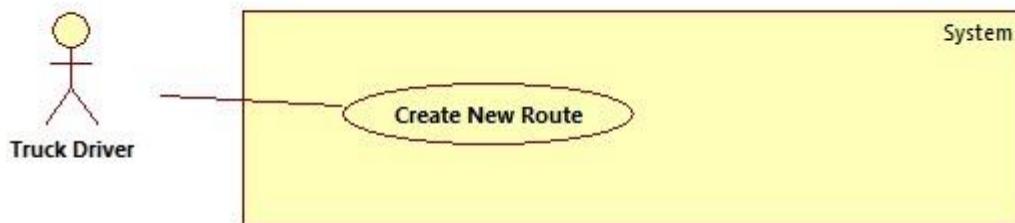


Figure 20: <Truck Driver> Create New Route

Use Case Specification

USE CASE - FTS014									
Use Case No.	FTS014	Use Case Version	2.0						
Use Case Name	Create new route								
Author	Nguyen Quang Thien								
Date	14/01/2015	Priority	High						
Actor:	<ul style="list-style-type: none"> - Truck Driver 								
Summary:	<ul style="list-style-type: none"> - Truck drivers post information about their route to the system. 								
Goal:	<ul style="list-style-type: none"> - Route information is added to the system. 								
Triggers:	<ul style="list-style-type: none"> - Truck driver clicks “Tạo mới” button on action bar 								
Preconditions:	<ul style="list-style-type: none"> - User logs in as truck driver. 								
Post Conditions:	<ul style="list-style-type: none"> - Success: Information is added to the system. - Fail: No information is added. Error message is shown. 								
Main Success Scenario:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Step</th> <th style="text-align: left; padding: 5px;">Actor Action</th> <th style="text-align: left; padding: 5px;">System Response</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">Truck driver clicks “Tạo mới” button on action bar.</td> <td style="padding: 5px;"> Navigate to “Lộ trình mới” page which contains: <ul style="list-style-type: none"> - Địa điểm bắt đầu: textbox, min length: 1, max length: 100, required - Địa điểm đi qua 1: textbox, min length: 1, max length: 100, not required - Địa điểm đi qua 2: textbox, min length: 1, max length: 100, not required - Địa điểm kết thúc: textbox, min length: 1, max length: 100, required - Ngày bắt đầu: day picker, date range: current date – one month later, required - Giờ bắt đầu: time picker, time range: 6 hours from current time – 12 pm, required - Ngày kết thúc: day picker, date range: current date – one month later, required - Khối lượng có thể chở: textbox, </td> </tr> </tbody> </table>			Step	Actor Action	System Response	1	Truck driver clicks “Tạo mới” button on action bar.	Navigate to “Lộ trình mới” page which contains: <ul style="list-style-type: none"> - Địa điểm bắt đầu: textbox, min length: 1, max length: 100, required - Địa điểm đi qua 1: textbox, min length: 1, max length: 100, not required - Địa điểm đi qua 2: textbox, min length: 1, max length: 100, not required - Địa điểm kết thúc: textbox, min length: 1, max length: 100, required - Ngày bắt đầu: day picker, date range: current date – one month later, required - Giờ bắt đầu: time picker, time range: 6 hours from current time – 12 pm, required - Ngày kết thúc: day picker, date range: current date – one month later, required - Khối lượng có thể chở: textbox,
Step	Actor Action	System Response							
1	Truck driver clicks “Tạo mới” button on action bar.	Navigate to “Lộ trình mới” page which contains: <ul style="list-style-type: none"> - Địa điểm bắt đầu: textbox, min length: 1, max length: 100, required - Địa điểm đi qua 1: textbox, min length: 1, max length: 100, not required - Địa điểm đi qua 2: textbox, min length: 1, max length: 100, not required - Địa điểm kết thúc: textbox, min length: 1, max length: 100, required - Ngày bắt đầu: day picker, date range: current date – one month later, required - Giờ bắt đầu: time picker, time range: 6 hours from current time – 12 pm, required - Ngày kết thúc: day picker, date range: current date – one month later, required - Khối lượng có thể chở: textbox, 							

		<p>min length: 1, max length: 5, min value: 1, max value: 20000, required</p> <ul style="list-style-type: none"> - Hàng dễ vỡ: checkbox, not required - Hàng dễ cháy nổ: checkbox, not required - Hàng đông lạnh: checkbox, not required - Hàng thực phẩm: checkbox, not required - Tùy chỉnh lộ trình: link - Tạo: button
2	Truck driver fills necessary information into the form. [Alternative 1]	
3	Truck driver clicks “Tạo” button	Route's information is added to database, success message “Tạo mới thành công” is shown. System navigates driver to goods suggestion page. [Exception 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]

Alternative Scenario:

Step	Actor Action	System Response
1	Truck driver clicks “Tùy chỉnh lộ trình” link.	Navigate to “Tùy chỉnh lộ trình” page which contains a Google map displays current route and 1 button: Cập nhật: Button
2	Truck driver modifies markers on the map.	Markers are modified and displayed. Route is redrawn on the map
3	Truck driver clicks “Cập nhật” button	New route with markers is saved, “Lộ trình mới” page is shown again. New route information is displayed on the textboxes.
4	Truck driver fills necessary information into the form.	
5	Truck driver clicks “Tạo mới” button	Route's information is added to database, success message “Tạo mới thành công” is shown. [Exception 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]

Exceptions:

No	Actor Action	System Response
1	“Địa điểm bắt đầu” field is empty.	Error message “Điểm bắt đầu không được để trống.” is shown.
2	“Địa điểm bắt đầu” field data length is longer than 100 characters.	Error message “Điểm bắt đầu chỉ dài tối đa 100 ký tự. Vui lòng nhập lại.” is shown.
3	“Địa điểm đi qua 1” field data length is longer than 100	Error message “Điểm đi qua 1 chỉ dài tối đa 100 ký tự. Vui lòng nhập lại.” is shown.

	characters.	
4	"Địa điểm đi qua 2" field data length is longer than 100 characters.	Error message "Điểm đi qua 2 chỉ dài tối đa 100 ký tự. Vui lòng nhập lại." is shown.
5	"Địa điểm kết thúc" field is empty.	Error message "Điểm kết thúc không được để trống." is shown.
6	"Địa điểm kết thúc" field data length is longer than 50 characters.	Error message "Điểm kết thúc chỉ dài tối đa 50 ký tự. Vui lòng nhập lại." is shown.
7	"Ngày kết thúc" field is empty.	Error message "Ngày kết thúc không được để trống." is shown
8	"Ngày kết thúc" field data is out of range.	Error message "Ngày kết thúc không phù hợp, vui lòng nhập lại." is shown
9	"Ngày kết thúc" field data is earlier than "Ngày bắt đầu" field data.	Error message "Ngày kết thúc không được sớm hơn ngày bắt đầu." is shown
10	"Khối lượng có thể chờ" field is empty.	Error message "Khối lượng có thể chờ không được để trống." is shown.
11	"Khối lượng có thể chờ" field data is higher than 20000.	Error message "Khối lượng chờ không vượt quá 20 tấn." is shown.

Relationships: N/A

Business Rules:

- New route information is added to database with an active state.
- Truck driver route can be modified by adding 2 more markers at most between starting and ending point of the map.
- If data is added successfully, system must notifies truck driver that new information is added. If data is failed to be added, system must also notifies truck driver about the error.

2.3.3.2 <Truck Driver> Update Route Use Case Diagram

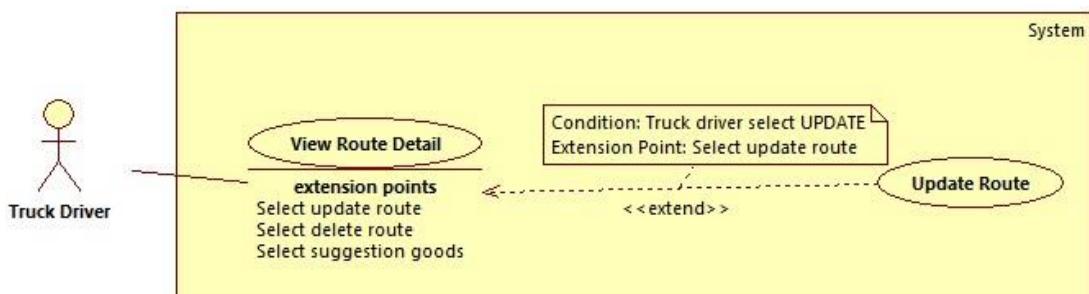


Figure 21: <Truck Driver> Update Route

Use Case Specification

USE CASE – FTS015									
Use Case No.	FTS015	Use Case Version	2.0						
Use Case Name	Update route								
Author	Nguyen Quang Thien								
Date	14/01/2015	Priority	High						
Actor:	<ul style="list-style-type: none"> - Truck Driver 								
Summary:	<ul style="list-style-type: none"> - Truck drivers can update posted information about their route to the system. 								
Goal:	<ul style="list-style-type: none"> - Route information is updated to the system. 								
Triggers:	<ul style="list-style-type: none"> - Truck driver clicks “Cập nhật” button in a route detail page. 								
Preconditions:	<ul style="list-style-type: none"> - User logs in as truck driver. 								
Post Conditions:	<ul style="list-style-type: none"> - Success: New information is updated to the system. - Fail: No information is updated. Error message is shown. 								
Main Success Scenario:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #cccccc;">Step</th><th style="background-color: #cccccc;">Actor Action</th><th style="background-color: #cccccc;">System Response</th></tr> </thead> <tbody> <tr> <td style="vertical-align: top;">1</td><td> <ul style="list-style-type: none"> - Truck driver clicks “Cập nhật” button in a route detail page. </td><td> <p>Navigate to “Cập nhật đường đi” page which contains:</p> <ul style="list-style-type: none"> - Địa điểm bắt đầu: textbox, min length: 1, max length: 100, required - Địa điểm đi qua 1: textbox, min length: 1, max length: 100, not required - Địa điểm đi qua 2: textbox, min length: 1, max length: 100, not required - Địa điểm kết thúc: textbox, min length: 1, max length: 100, required - Ngày bắt đầu: day picker, date range: current date – one month later, required - Giờ bắt đầu: time picker, time range: 6 hours from current time – 12 pm, required - Ngày kết thúc: day picker, date range: current date – one month later, required - Khối lượng có thể chở: textbox, </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	<ul style="list-style-type: none"> - Truck driver clicks “Cập nhật” button in a route detail page. 	<p>Navigate to “Cập nhật đường đi” page which contains:</p> <ul style="list-style-type: none"> - Địa điểm bắt đầu: textbox, min length: 1, max length: 100, required - Địa điểm đi qua 1: textbox, min length: 1, max length: 100, not required - Địa điểm đi qua 2: textbox, min length: 1, max length: 100, not required - Địa điểm kết thúc: textbox, min length: 1, max length: 100, required - Ngày bắt đầu: day picker, date range: current date – one month later, required - Giờ bắt đầu: time picker, time range: 6 hours from current time – 12 pm, required - Ngày kết thúc: day picker, date range: current date – one month later, required - Khối lượng có thể chở: textbox,
Step	Actor Action	System Response							
1	<ul style="list-style-type: none"> - Truck driver clicks “Cập nhật” button in a route detail page. 	<p>Navigate to “Cập nhật đường đi” page which contains:</p> <ul style="list-style-type: none"> - Địa điểm bắt đầu: textbox, min length: 1, max length: 100, required - Địa điểm đi qua 1: textbox, min length: 1, max length: 100, not required - Địa điểm đi qua 2: textbox, min length: 1, max length: 100, not required - Địa điểm kết thúc: textbox, min length: 1, max length: 100, required - Ngày bắt đầu: day picker, date range: current date – one month later, required - Giờ bắt đầu: time picker, time range: 6 hours from current time – 12 pm, required - Ngày kết thúc: day picker, date range: current date – one month later, required - Khối lượng có thể chở: textbox, 							

		<p>min length: 1, max length: 5, min value: 1, max value: 20000, required</p> <ul style="list-style-type: none"> - Hàng dễ vỡ: checkbox, not required - Hàng dễ cháy nổ: checkbox, not required - Hàng đông lạnh: checkbox, not required - Hàng thực phẩm: checkbox, not required - Tùy chỉnh lộ trình: link - Lưu: button - Available data are loaded to the fields
2	Truck driver updates necessary information into the form. [Alternative 1]	
3	Truck driver clicks “Lưu” button	Route's information is updated to database, success message “Cập nhật thành công” is shown. System navigates driver to good suggestion page. [Exception 1, 2, 3 ,4,5 ,6 ,7 ,8 ,9, 10, 11, 12, 13]

Alternative Scenario:

Step	Actor Action	System Response
1	Truck driver clicks “Tùy chỉnh lộ trình” link.	Navigate to “Tùy chỉnh lộ trình” page which contains a Google map displays current route and 1 button: Cập nhật: Button
2	Truck driver modifies markers on the map.	Markers are modified and displayed. Route is redrawn on the map
3	Truck driver clicks “Cập nhật” button	New route with markers is saved, “Cập nhật lộ trình” page is shown again. New route information is displayed on the textboxes.
4	Truck driver fills necessary information into the form.	
5	Truck driver clicks “Tạo mới” button	Route's information is updated to database, success message “Cập nhật thành công” is shown. [Exception 1, 2, 3 ,4,5 ,6 ,7 ,8 ,9, 10, 11]

Exceptions:

No	Actor Action	System Response
1	“Địa điểm bắt đầu” field is empty.	Error message “Điểm bắt đầu không được để trống.” is shown.
2	“Địa điểm bắt đầu” field data	Error message “Điểm bắt đầu chỉ dài tối

	length is longer than 100 characters.	đa 100 ký tự. Vui lòng nhập lại." is shown.
3	"Địa điểm đi qua 1" field data length is longer than 100 characters.	Error message "Địa điểm đi qua 1 chỉ dài tối đa 100 ký tự. Vui lòng nhập lại." is shown.
4	"Địa điểm đi qua 2" field data length is longer than 100 characters.	Error message "Địa điểm đi qua 2 chỉ dài tối đa 100 ký tự. Vui lòng nhập lại." is shown.
5	"Địa điểm kết thúc" field is empty.	Error message "Địa điểm kết thúc không được để trống." is shown.
6	"Địa điểm kết thúc" field data length is longer than 50 characters.	Error message "Địa điểm kết thúc chỉ dài tối đa 50 ký tự. Vui lòng nhập lại." is shown.
7	"Ngày kết thúc" field is empty.	Error message "Ngày kết thúc không được để trống." is shown
8	"Ngày kết thúc" field data is out of range.	Error message "Ngày kết thúc không phù hợp, vui lòng nhập lại." is shown
9	"Ngày kết thúc" field data is earlier than "Ngày bắt đầu" field data.	Error message "Ngày kết thúc không được sớm hơn ngày bắt đầu." is shown
10	"Khối lượng có thể chở" field is empty.	Error message "Khối lượng có thể chở không được để trống." is shown.
11	"Khối lượng có thể chở" field data is higher than 20000.	Error message "Khối lượng chở không vượt quá 20 tấn." is shown.

Relationships: extended by "View route detail"

Business Rules:

- Route information is updated to database with an active state.
- Truck driver route can be modified by adding 2 more markers at max between starting and ending point of the map.
- If there are available offers, truck driver cannot update the route information. To update route information, truck driver has to cancel and decline all the remaining offers. If there are available orders for the route, the route cannot be updated.
- If data is updated successfully, system must notifies truck driver that new information is updated. If data is failed to be updated, system must also notifies truck driver about the error.

2.3.3.3 <Truck Driver> Delete Route Use Case Diagram

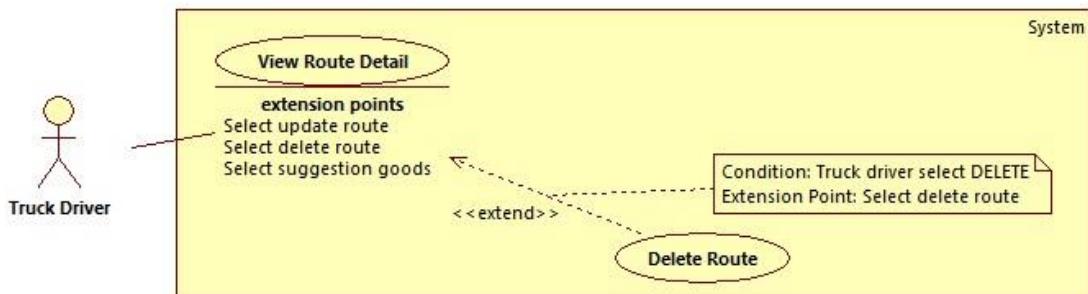


Figure 22: <Truck Driver> Delete Route

Use Case Specification

USE CASE - FTS016												
Use Case No.	FTS016	Use Case Version	2.0									
Use Case Name	Delete Route											
Author	Nguyen Quang Thien											
Date	14/01/2015	Priority	High									
Actor:	<ul style="list-style-type: none"> - Truck Driver 											
Summary:	<ul style="list-style-type: none"> - Truck drivers can delete posted information about their route to the system. 											
Goal:	<ul style="list-style-type: none"> - Route information is removed to the system. 											
Triggers:	<ul style="list-style-type: none"> - Truck driver clicks “Hủy” button on a Route Detail page. 											
Preconditions:	<ul style="list-style-type: none"> - User logs in as truck driver. 											
Post Conditions:	<ul style="list-style-type: none"> - Success: Current information is removed from the system. - Fail: No information is removed. Error message is shown. 											
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>Truck driver clicks “Hủy” button on a Route Detail page.</td><td>Confirmation message “Bạn có muốn hủy lộ trình này không?”</td></tr> <tr> <td>2</td><td>Truck driver clicks “Có” button [Alternative 1]</td><td>Route's information is removed from database, success message “Đã hủy lộ trình thành công” is shown. [Exception 1]</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Truck driver clicks “Hủy” button on a Route Detail page.	Confirmation message “Bạn có muốn hủy lộ trình này không?”	2	Truck driver clicks “Có” button [Alternative 1]	Route's information is removed from database, success message “Đã hủy lộ trình thành công” is shown. [Exception 1]
Step	Actor Action	System Response										
1	Truck driver clicks “Hủy” button on a Route Detail page.	Confirmation message “Bạn có muốn hủy lộ trình này không?”										
2	Truck driver clicks “Có” button [Alternative 1]	Route's information is removed from database, success message “Đã hủy lộ trình thành công” is shown. [Exception 1]										

Alternative Scenario:

No	Actor Action	System Response
1	Truck driver clicks “Không” button	No information is removed from the system, confirmation message is closed.

Exceptions:

No	Actor Action	System Response
1	Truck driver clicks “Có” button.	No information is removed from database. Error message “Đang có đề nghị hiện hành hoặc hóa đơn liên quan. Không thể xóa lô trình.” is shown.

Relationships: extended by “View Route List”, extended by “View Route Detail”

Business Rules:

- Route information record remains in database but with an inactive state.
- If there are available offers, truck driver cannot delete the route information. To delete route information, truck driver has to cancel and decline all the remaining offers. If there are available orders, the route cannot be deleted.
- If data is deleted successfully, system must notifies truck driver that new information is deleted. If data is failed to be deleted, system must also notifies truck driver about the error.
- System will automatically delete route when current date has past route's end date.

2.3.3.4 <Truck Driver> Offer Deal To Owner

Use Case Diagram

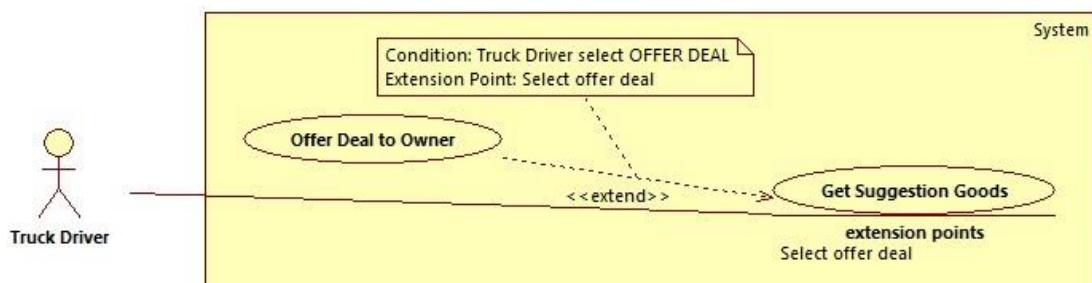


Figure 23: <Truck Driver> Offer Deal To Owner

Use Case Specification

USE CASE - FTS017			
Use Case No.	FTS017	Use Case Version	2.0
Use Case Name	Offer Deal To Owner		
Author	Nguyen Quang Thien		
Date	14/01/2015	Priority	High
Actor:			

- Truck Driver

Summary:

- Truck driver sends new deal to goods owner

Goal:

- Deal is sent to goods owner, system notifies owner about the incoming deal

Triggers:

- Truck driver clicks on a suggestion in suggestion list for a route.

Preconditions:

- User logs in as truck driver.
- Truck driver must have at least 1 route information available
- Goods must be available in database

Post Conditions:

- **Success:** Deal is sent to goods owner. Success message is shown.
- **Fail:** Deal is not sent to goods owner. Error message is shown

Main Success Scenario:

Step	Actor Action	System Response
1	Truck driver clicks on a suggestion in suggestion list for a route.	<p>Redirect to “Gửi đề nghị” page with owner's listed items and 2 textboxes:</p> <ul style="list-style-type: none"> - Giá đề nghị (nghìn đồng): textbox, min length = 0, max length = 5, min value: 1, max value: 99.999, required - Ghi chú: textbox, min length = 0, max length = 50, not required - Gửi: button - Chấp nhận: button
2	Truck driver fills in necessary information to the form.	
3	Truck driver clicks “Gửi” button.	<p>Offer is sent to the goods owner that truck driver wants to make a deal with. Success message “Gửi đề nghị thành công” is shown. System navigates driver to “Đề nghị gửi” page [Exception 1, 2]</p>

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	If there is an available offer between current good and route	Offer is not sent. Error message “Đang có một đề nghị hiện hành với cùng lô trình và hàng hóa. Gửi đề nghị thất bại.” is shown.
2	“Phí chuyên chở” field is empty	Error message “Giá đề nghị không được để trống.” is shown.

Relationships: included in “Make Deal”

Business Rules:

- System must check there is an available offer between current route and good. If there is, system will notifies user that the offer cannot be sent.
- New offer is saved to database with pending state
- If offer is sent successfully, system must notifies truck driver with success message and notifies goods owner that there's a new offer. If offer is failed to be sent, system must also notifies truck driver about the error.

2.3.3.5 <Truck Driver> Cancel Use Case Diagram

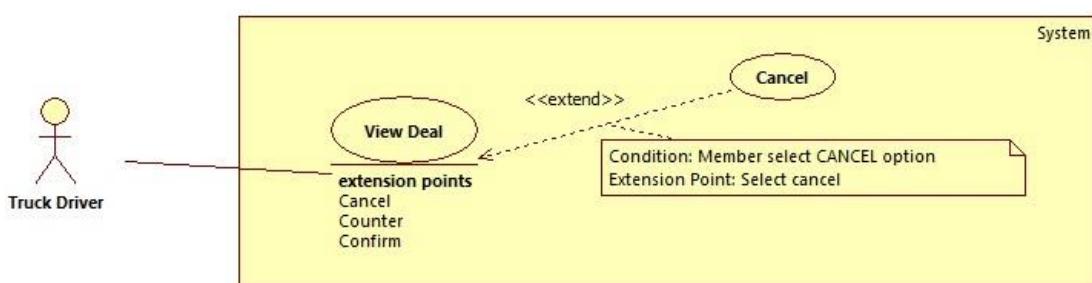


Figure 24: <Truck Driver> Cancel

Use Case Specification

USE CASE - FTS018

Use Case No.	FTS018	Use Case Version	2.0
Use Case Name	Cancel		
Author	Nguyen Quang Thien		
Date	14/01/2015	Priority	High

Actor:

- Truck Driver

Summary:

- Truck driver cancel a sent offer to goods owner

Goal:

- Offer is cancelled. Success message is shown.

Triggers:

- Truck driver clicks “Hủy” button in a sent offer detail page.
- Truck driver choose “Hủy” option on a context menu for an offer on “Đề nghị nhận” page.

Preconditions:

- User logs in as truck driver.
- Offer is created successfully

Post Conditions:

- **Success:** Offer is cancelled. Success message is shown.
- **Fail:** Offer is not cancelled. Error message is shown.

Main Success Scenario:

Step	Actor Action	System Response
1	Truck driver clicks “Hủy” button in a sent offer detail page. [Alternative 1]	Confirmation message “Bạn có muốn hủy đề nghị này không?” is shown.
2	Truck driver clicks “Có” button. [Alternative 2]	Offer is cancelled. Success message “Hủy đề nghị thành công.” is shown. [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1	Truck driver choose “Hủy” option on a context menu for an offer on “Đề nghị nhận” page.	No offer is cancelled. “Đề nghị” page is shown.

Exceptions:

No	Actor Action	System Response
1	Driver app cannot connect to server.	Offer is not cancelled. Error message “Có lỗi xảy ra. Vui lòng thử lại sau” is shown.

Relationships: Extended by “Send Offer to Owner”

Business Rules:

- Offer is marked with cancelled state in database.
- System must notifies truck drivers whether the offer is cancelled or not.
- System must notifies good owner that the offer has been cancelled.
- System will automatically cancel dean when current date has past goods deadline day. A goods' deadline is calculated: Goods delivery date – (Distance between goods pickup address and delivery address / average velocity / 24 hour) – 1 day.

2.3.3.6 <Truck Driver> Confirm Use Case Diagram

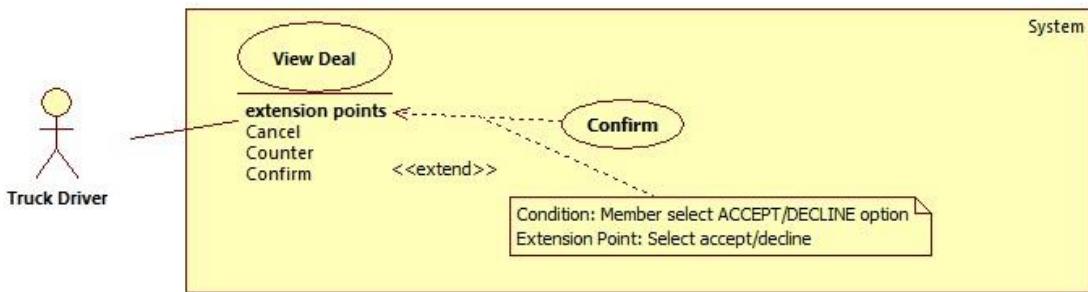


Figure 25: <Truck Driver> Confirm

Use Case Specification

USE CASE - FTS019									
Use Case No.	FTS019	Use Case Version	2.0						
Use Case Name	Confirm								
Author	Nguyen Quang Thien								
Date	14/01/2015	Priority	High						
Actor:	<ul style="list-style-type: none"> - Truck Driver 								
Summary:	<ul style="list-style-type: none"> - Truck driver accepts an offer from goods owner 								
Goal:	<ul style="list-style-type: none"> - Deal is accepted, goods owner's information is shown 								
Triggers:	<ul style="list-style-type: none"> - Truck driver clicks “Chấp nhận” button on “Trả lời đề nghị” page - Truck driver chooses “Chấp nhận” option on context menu of an offer on “Đề nghị nhận” page 								
Preconditions:	<ul style="list-style-type: none"> - User logs in as truck driver. 								
Post Conditions:	<ul style="list-style-type: none"> - Success: Offer is accepted, success message and goods owner information are shown - Fail: Offer is not accepted. Error message is shown 								
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>Truck driver clicks “Chấp nhận” button on “Trả lời đề nghị” page [Alternative 1, 3, 4]</td><td>Offer is accepted. Success message “Đề nghị đã được chấp nhận.” is shown. Displays goods owner contact information.</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Truck driver clicks “Chấp nhận” button on “Trả lời đề nghị” page [Alternative 1, 3, 4]	Offer is accepted. Success message “Đề nghị đã được chấp nhận.” is shown. Displays goods owner contact information.
Step	Actor Action	System Response							
1	Truck driver clicks “Chấp nhận” button on “Trả lời đề nghị” page [Alternative 1, 3, 4]	Offer is accepted. Success message “Đề nghị đã được chấp nhận.” is shown. Displays goods owner contact information.							
Alternative Scenario:									
Alternative 1									

Step	Actor Action	System Response
1	Truck driver clicks “Từ chối” button on “Trả lời đề nghị” page	Confirmation message “Bạn có chắc chắn không?” is shown.
2	Truck driver clicks “Có” button [Alternative 2]	Offer is declined. Success message “Đề nghị đã được từ chối.” is shown.

Alternative 2

No	Actor Action	System Response
1	Truck driver clicks “Không” button	Show “Trả lời đề nghị” page

Alternative 3

No	Actor Action	System Response
1	Truck driver clicks “Chấp nhận” button on “Gửi đề nghị” page.	Current offer's price and good is accepted. Success message “Hàng hóa đã được chấp nhận” is shown. New deal and order is created. System navigates driver to the order's detail of the accepted good.

Alternative 4

Step	Actor Action	System Response
1	Truck driver chooses “Chấp nhận” option on context menu of an offer on “Đề nghị nhận” page	Offer is accepted. Success message “Đề nghị đã được chấp nhận.” is shown. Displays goods owner contact information.

Exceptions:

No	Actor Action	System Response
1	Driver app cannot connect to server.	Error message “Có lỗi xảy ra. Vui lòng thử lại sau” is shown.

Relationships: extended by “Make Deal”

Business Rules:

- Offer is marked with accepted state in database
- System must notifies truck drivers whether the offer is accepted or not.
- System must notifies good owner that the offer has been accepted.
- After the offer is accepted, the good associated with the deal is marked with disabled state. Other offers with good's weight heavier than the remaining weight that the truck can load are declined.

2.3.4 <Member> Overview Use Case

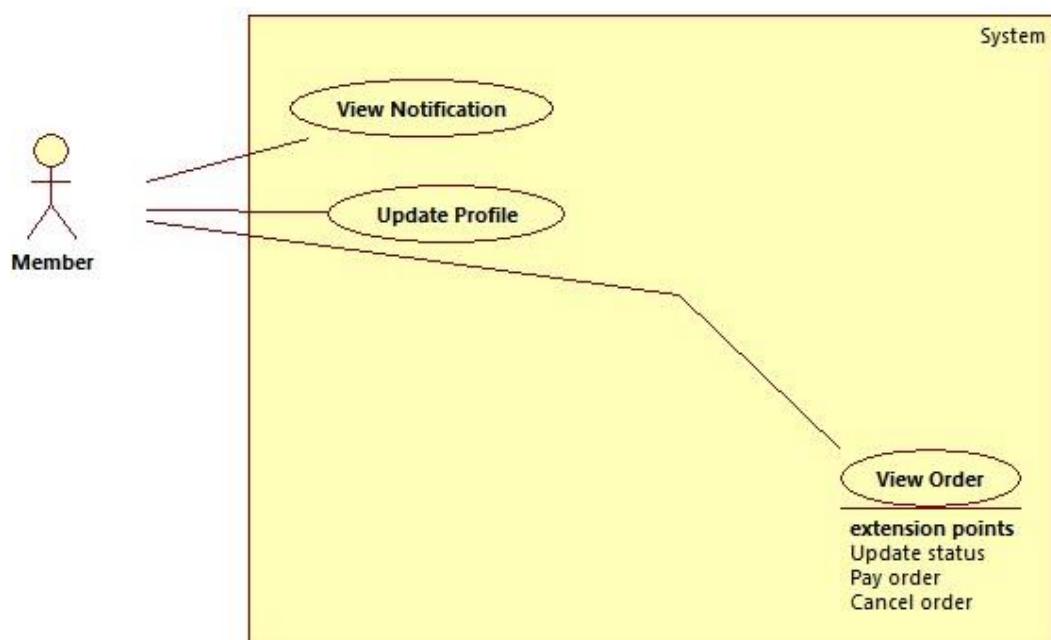


Figure 26: <Member> Overview Use Case

2.3.4.1 <Member> View Order Use Case Diagram

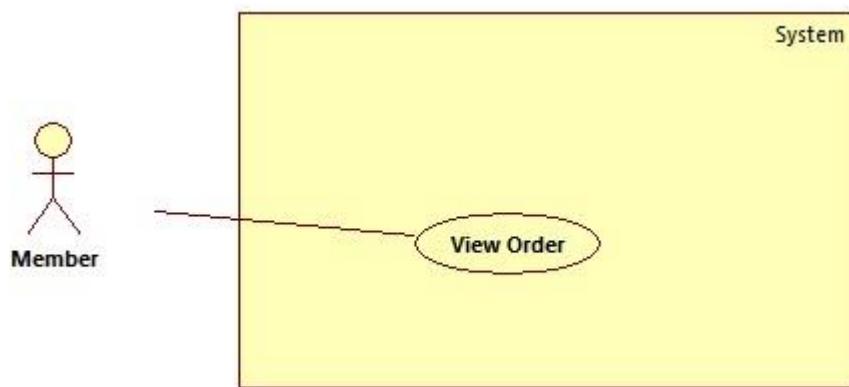


Figure 27: <Member> View Order

Use Case Specification

USE CASE – FTS020									
Use Case No.	FTS020	Use Case Version	2.0						
Use Case Name	View Order								
Author	Bui Duc Huy								
Date	14/01/2015	Priority	High						
Actor:	<ul style="list-style-type: none"> - Member 								
Summary:	<ul style="list-style-type: none"> - Member can view order detail. 								
Goal:	<ul style="list-style-type: none"> - To display order information and status. 								
Triggers:	<ul style="list-style-type: none"> - Member clicks on an order in manage order page. 								
Preconditions:	<ul style="list-style-type: none"> - User logs in as truck driver or goods owner. 								
Post Conditions:	<ul style="list-style-type: none"> - Success: Order detail is shown. - Fail: Error message is shown. 								
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>Member clicks on an order in manage order page.</td><td> System navigates to order detail page: <ul style="list-style-type: none"> - Trạng thái: Chưa trả tiền, Đã trả tiền, Đang giao hàng, Xác nhận, Hủy, Hoàn tất. - Gọi điện thoại: button. - Trả tiền: button. </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Member clicks on an order in manage order page.	System navigates to order detail page: <ul style="list-style-type: none"> - Trạng thái: Chưa trả tiền, Đã trả tiền, Đang giao hàng, Xác nhận, Hủy, Hoàn tất. - Gọi điện thoại: button. - Trả tiền: button.
Step	Actor Action	System Response							
1	Member clicks on an order in manage order page.	System navigates to order detail page: <ul style="list-style-type: none"> - Trạng thái: Chưa trả tiền, Đã trả tiền, Đang giao hàng, Xác nhận, Hủy, Hoàn tất. - Gọi điện thoại: button. - Trả tiền: button. 							

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

No	Actor Action	System Response
1	Connection error.	Show error message: "Lỗi kết nối. Xin vui lòng thử lại."

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

- Order has 6 statuses: unpaid, paid, delivering, delivered, refund, finish, cancelled.
- From order detail page, goods owner can call truck driver and feedback if he wants to.
- From order detail page, goods owner can make payment for delivery.

3. Software System Attribute

3.1 Usability

3.1.1 Graphic User Interface

- All the texts, labels and should be written in Vietnamese.

3.1.2 Usability

- Staff should need less than 3 days of training to be productive with the system.
- Truck driver should need 2 hours of training to use the mobile app.
- Goods owner should need 2 hours of training to use web application or mobile application.
- User Manual should be clear, easy to understand and increase experience for user.

3.1.3 Installation

- User can follow installation and manual guide for installation. If there are any problems, he can contact developer for help.

3.2 Reliability

- Drivers should be verified when they join the system.
- System will suggest most suitable result to user.
- System will notify user about deal and order.

3.3 Availability

- The System should be online 24/7.

3.4 Security

- Privacy: Each role of user has a specific permission to interact with system.

- System always checks authorization and authentication before doing anything.

3.5 Maintainability

- The system is divided into separated modules
- The code is easy to maintain and upgrade

3.6 Portability

- Admin, staff and goods owner can use application on every OS supported web browser.
- Goods owner and truck driver can use mobile application on every Android smartphones that have version greater than 4.0.

3.7 Performance

- The speed of suggestion should be less than 5 seconds

4. Conceptual Diagram

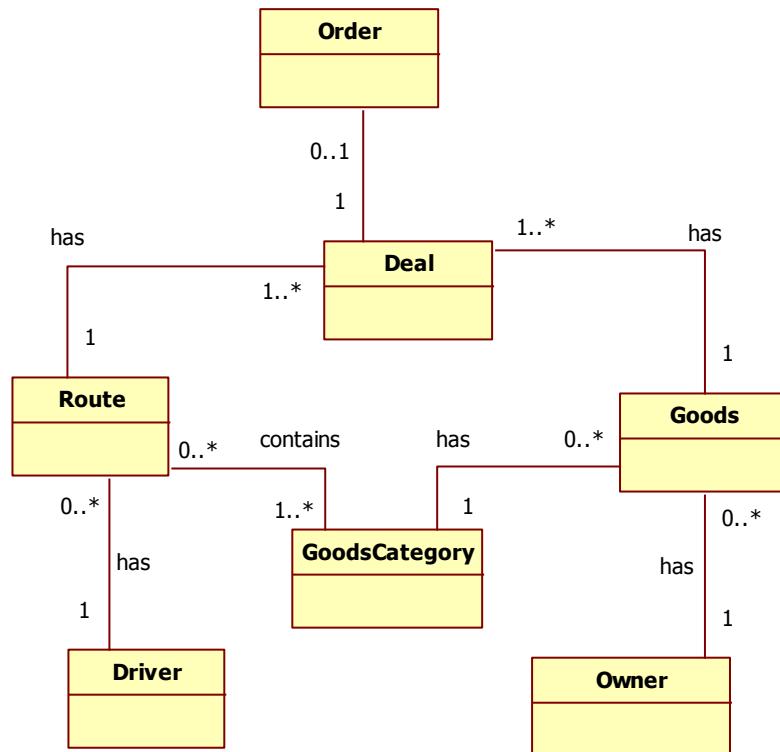


Figure 28: Conceptual Diagram

D. Software Design Description

1. Design Overview

This document describes the technical and user interface design of Freight Truck Service 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: gives the user interface design for web, android applications.
- Section 6: describe an ERD with logical diagram.

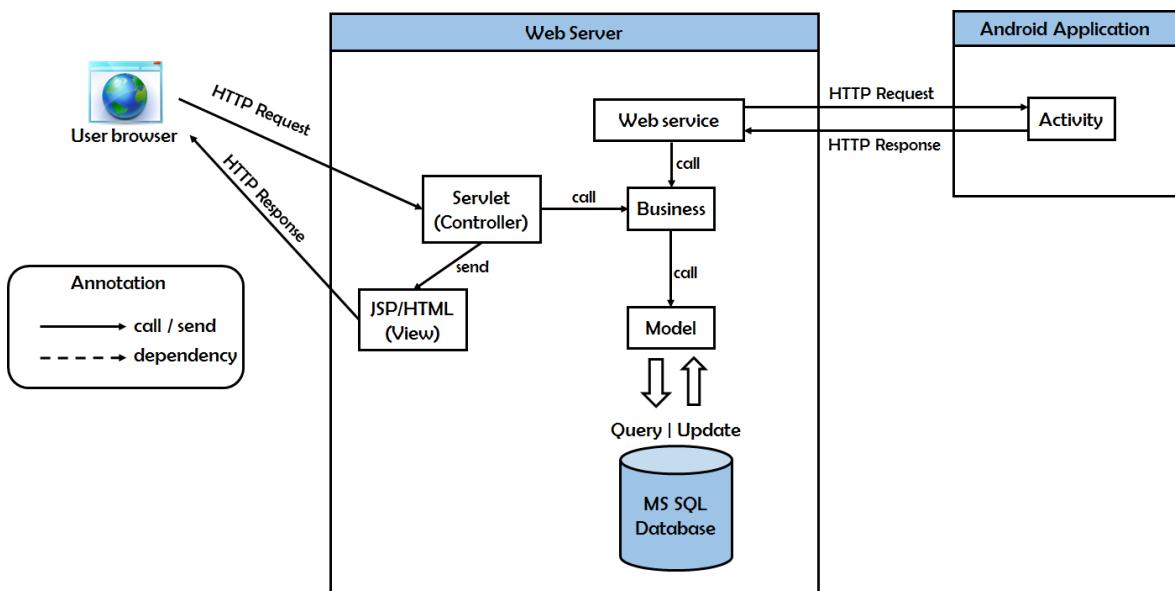


Figure 29: System Architecture

1.1 Web Application architecture description

The system is developed from J2EE MVC architecture style.

- **Model** is the parts of the application that acts like a data transfer object between the system and database.
- **JSP/HTML (View)** is the parts of the application that handles the display of the data. The selection of View is under control of Controller

- **Servlet (Controller)** is the parts of the application that acts like event handler to handles user interaction. Typically controller read data from a request and calls appropriate Business's method then selects view to return to user.
- **Bussiness** is the parts of the application that do business processing to solve domain problems.
- **Web Service** is the parts of the application that acts like event handler for web and mobile communication via REST method.

1.2 Mobile Application architecture description

The application is developed as an Android native application. In general, the application architecture conforms to Android architecture.

- **Activity** is the basic core of an android application that handles user input, create thread to run AsyncTask, send request and receive data from server via web sevices ...

2. Component Diagram

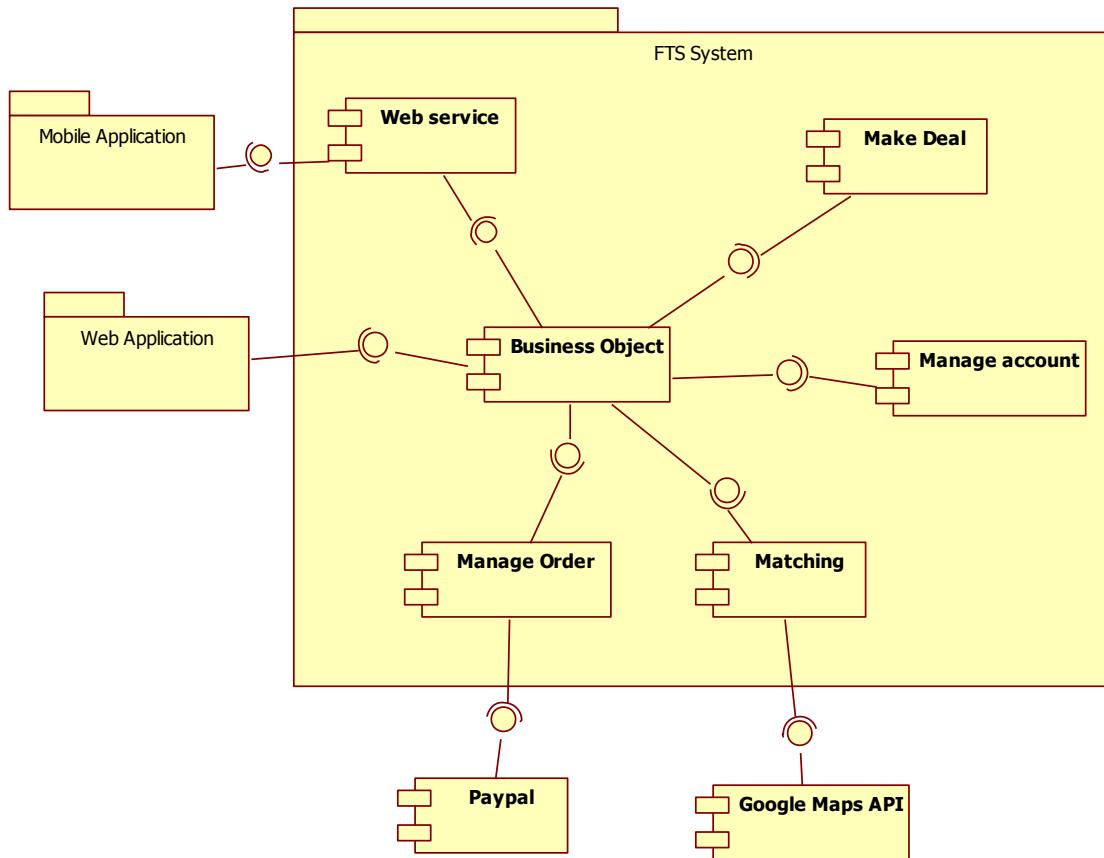


Figure 30: Component Diagram

Component Dictionary: Describe component	
Component Name	Explanation
Web Application	Web application package: View, Controller
Mobile Application	Mobile application package
Web Service	Include all web API controllers of the system
Make Deal	Business logic for make deal processing.
Manage Account	Business logic for manage account processing.
Matching	Business logic for matching processing.
Manage Order	Business logic for manage order and payment processing.
PayPal	Handle for working with PayPal API
Google Maps API	Handle for working with Google Maps API

Table 10: Component Dictionary

3. Detailed Description

3.1 Class Diagram

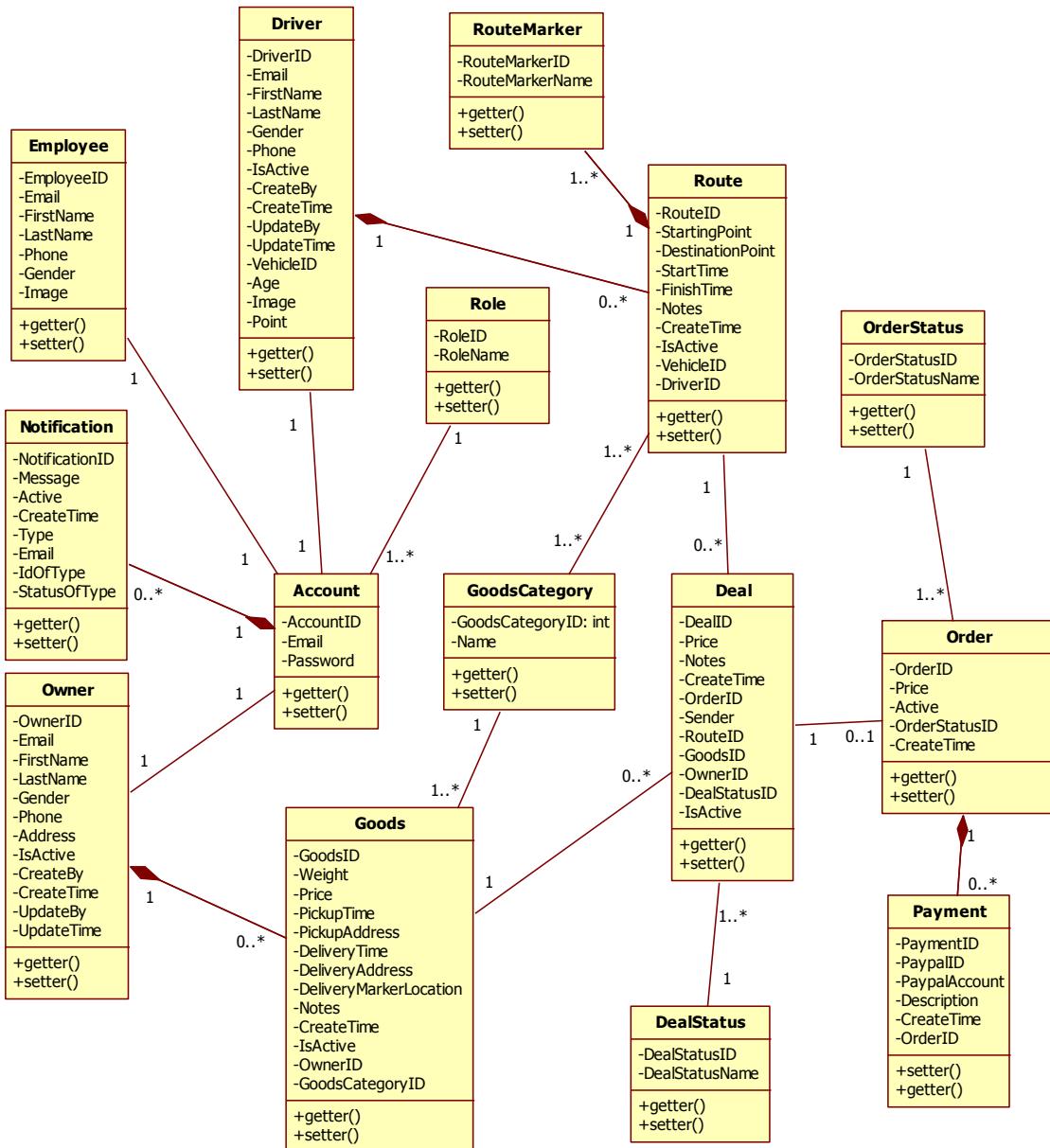


Figure 31: Class Diagram

3.2 Class Diagram Explanation

3.2.1 Account

Attribute

Attribute	Type	Visibility	Description
AccountID	Int	Private	Unique identifier of an account
Email	String	Private	Email of an account
Password	String	Private	Password of an

			account
--	--	--	---------

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.2 Driver

Attribute

Attribute	Type	Visibility	Description
DriverID	int	Private	Unique identifier of a driver
Email	string	Private	Email of a driver
FirstName	string	Private	First name of driver
LastName	string	Private	Last name of driver
Sex	int	Private	Sex of driver
Phone	string	Private	Phone number of driver
IsActive	int	Private	State of a driver account
CreateBy	string	Private	The person who creates a driver account
CreateTime	Datetime	Private	The time driver account is created
UpdateBy	String	Private	The person who updates a driver account
UpdateTime	Datetime	Private	The time driver account is updated
VehicleID	int	Private	Unique identifier of a vehicle
Age	int	Private	Age of a driver
Image	string	Private	Image of a driver account
Point	int	Private	Point of a driver account

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.3 Employee

Attribute

Attribute	Type	Visibility	Description
EmployeeID	int	Private	Unique identifier of a employee
Email	string	Private	Email of a employee
FirstName	string	Private	First name of employee
LastName	string	Private	Last name of employee
Sex	int	Private	Sex of employee
Phone	string	Private	Phone number of employee
Image	string	Private	Image of a employee account

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.4 Owner

Attribute

Attribute	Type	Visibility	Description
OwnerID	int	Private	Unique identifier of a owner
Email	string	Private	Email of a owner
FirstName	string	Private	First name of owner
LastName	string	Private	Last name of owner
Sex	int	Private	Sex of owner
Phone	string	Private	Phone number of owner
Address	string	Private	Address of owner
IsActive	int	Private	State of a owner account
CreateBy	string	Private	The person who creates an owner account
CreateTime	Datetime	Private	The time owner account is created
UpdateBy	String	Private	The person who

			updates an owner account
UpdateTime	Datetime	Private	The time owner account is updated

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.5 Role

Attribute

Attribute	Type	Visibility	Description
RoleID	int	Private	Unique identifier of a role
RoleName	string	Private	Role name

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.6 Route

Attribute

Attribute	Type	Visibility	Description
RouteID	int	Private	Unique identifier of a route
StartingPoint	string	Private	Starting point of a route
DestinationPoint	string	Private	Destination point of a route
StartTime	string	Private	Start time of a route
FinishTime	Datetime	Private	Finish time of a route
Notes	string	Private	Note for route
CreateTime	Datetime	Private	The time the route is created
IsActive	int	Private	State of a route
VehicleID	int	Private	Unique identifier of a vehicle
DriverID	int	Private	Unique identifier of a driver

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.7 RouteMarker

Attribute

Attribute	Type	Visibility	Description
RouteMarkerID	int	Private	Unique identifier of a role marker
RouteMarkerName	string	Private	Route marker address

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.8 Goods

Attribute

Attribute	Type	Visibility	Description
GoodsID	int	Private	Unique identifier of goods
Weight	int	Private	Goods' weight
Price	float	Private	Goods' price
PickupTime	Datetime	Private	Time to pick up goods
PickupAddress	string	Private	Address to pick up goods
DeliveryTime	Datetime	Private	Time to deliver goods
DeliveryAddress	string	Private	Address to deliver goods
DeliveryMarkerLocation	string	Private	Marker location
Notes	string	Private	Note for goods
CreateTime	Datetime	Private	Good's create time
IsActive	int	Private	State of the goods
OwnerID	int	Private	Unique identifier of owner
GoodsCategoryID	int	Private	Unique identifier of goods' category

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.9 GoodCategory

Attribute

Attribute	Type	Visibility	Description
GoodsCategoryID	int	Private	Unique identifier of a goods' category
Name	string	Private	Category name

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.10 Deal

Attribute

Attribute	Type	Visibility	Description
DealID	int	Private	Unique identifier of a deal
Price	string	Private	Deal's price
Notes	string	Private	Deal's note
CreateTime	Datetime	Private	Deal's create time
OrderID	int	Private	Unique identifier of an order
Sender	string	Private	Sender of a deal
RouteID	int	Private	Unique identifier of a route
GoodsID	int	Private	Unique identifier of the goods
OwnerID	int	Private	Unique identifier of an owner
DealStatusID	int	Private	Unique identifier of a deal status
IsActive	int	Private	State of a deal

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.11 DealStatus

Attribute

Attribute	Type	Visibility	Description
DealStatusID	int	Private	Unique identifier of a deal status
DealStatusName	string	Private	Deal status name

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.12 Order

Attribute

Attribute	Type	Visibility	Description
OrderID	int	Private	Unique identifier of an order
Price	float	Private	Order's price
Active	int	Private	State of an order
OrderStatusID	int	Private	Unique identifier of an order status
CreateTime	Datetime	Private	Order's createtime

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.13 OrderStatus

Attribute

Attribute	Type	Visibility	Description
OrderStatusID	int	Private	Unique identifier of an order status
OrderStatusName	string	Private	Order status name

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.14 Notification

Attribute

Attribute	Type	Visibility	Description
NotificationID	int	Private	Unique identifier of an order status
Message	string	Private	Order status name
Active	int	Private	State of notification
CreateTime	Datetime	Private	Notification's create time
Type	string	Private	Notification's type
Email	string	Private	Email of the user notification is made for
IdOfType	int	Private	Unique identifier of a notification's type
StatusOfType	int	Private	Notification's type status

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.2.15 Payment

Attribute

Attribute	Type	Visibility	Description
PaymentID	int	Private	Unique identifier of a payment
PaypalID	string	Private	Paypal key
PaypalAccount	string	Private	Paypal account
Description	string	Private	Description of payment
CreateTime	Datetime	Private	Payment's create time
OrderID	int	Private	Unique identifier of an order

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value for attribute

3.3 Interaction Diagram

3.3.1 Web Application

3.3.1.1 <Goods Owner> Create goods

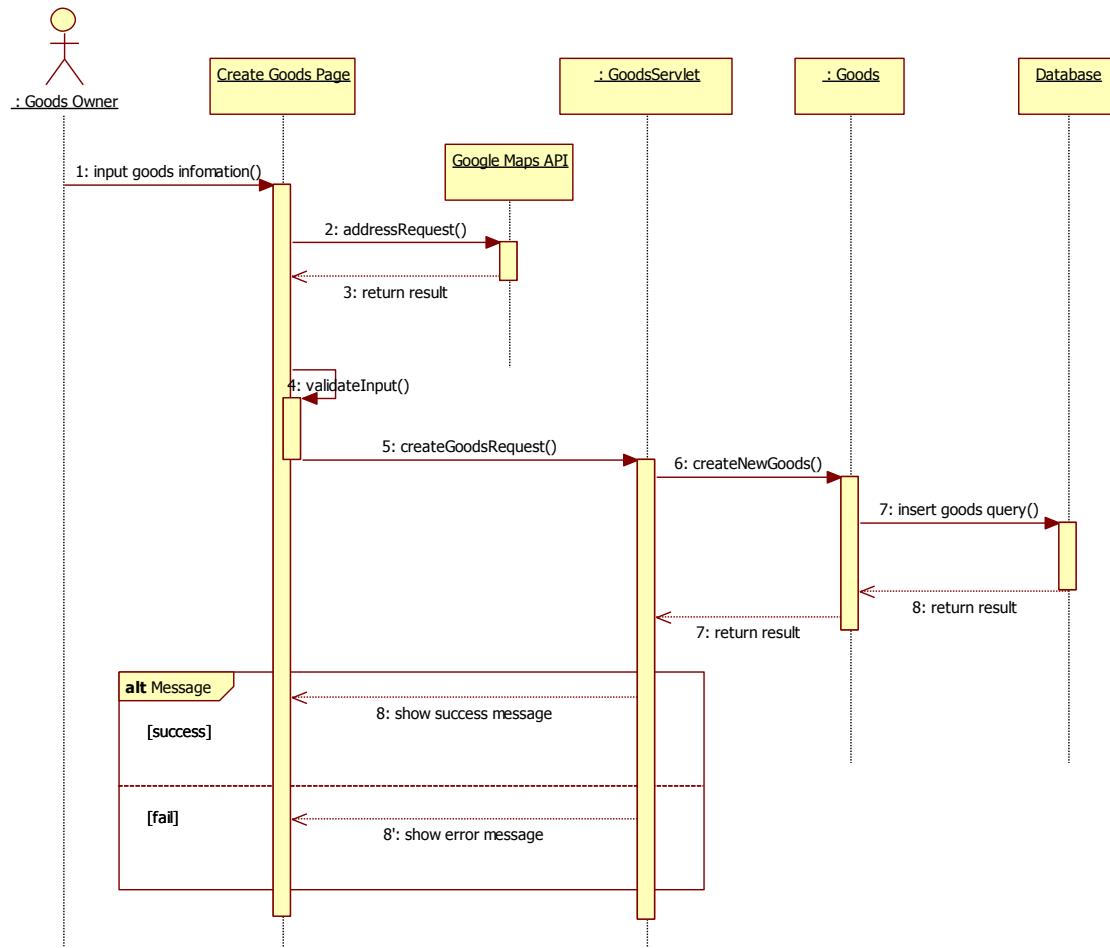


Figure 32: <Goods Owner> Create goods

3.3.1.2 <Goods Owner> Update goods

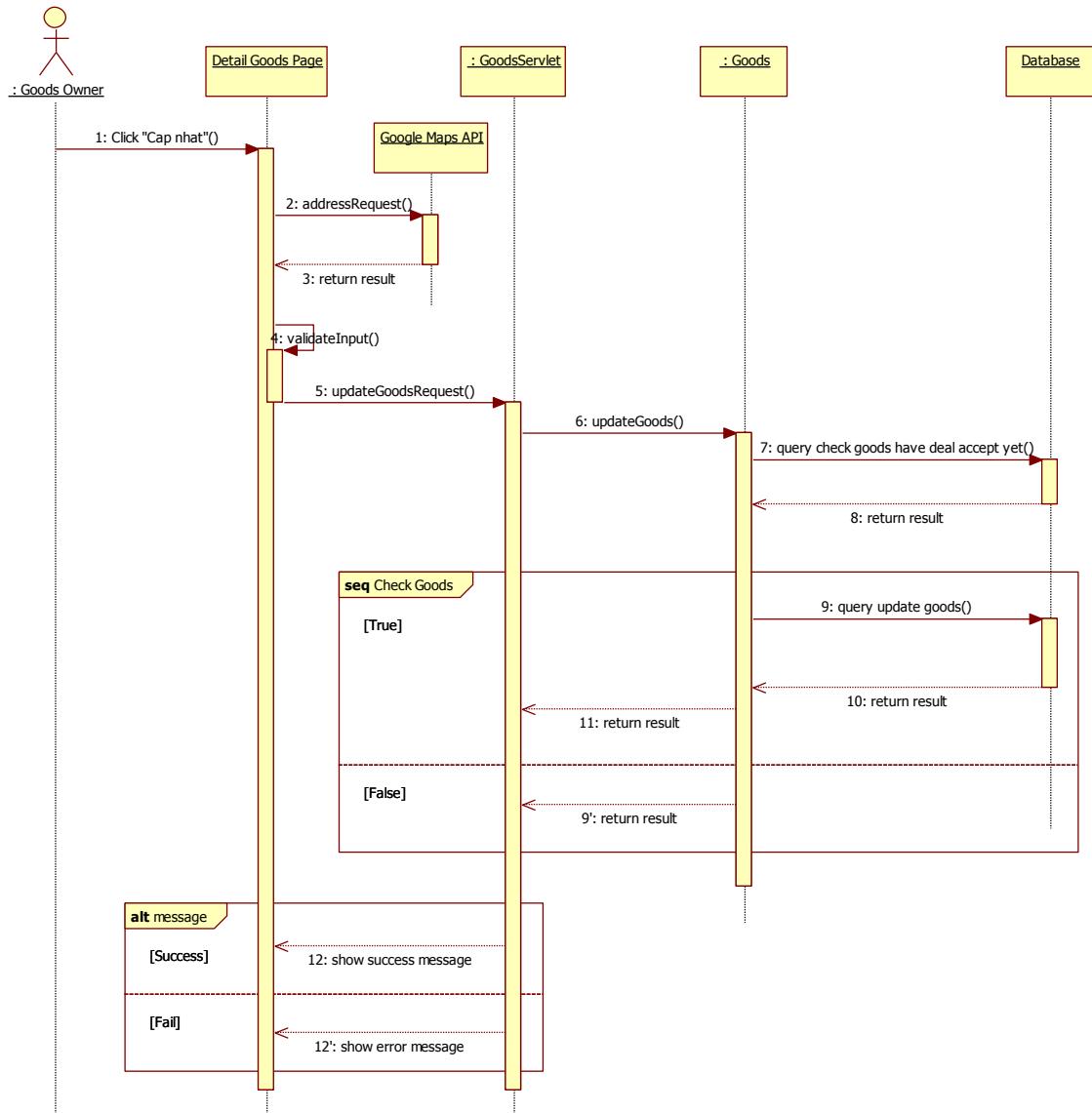


Figure 33: <Goods Owner> Update goods

3.3.1.3 <Goods Owner> Get suggestion route

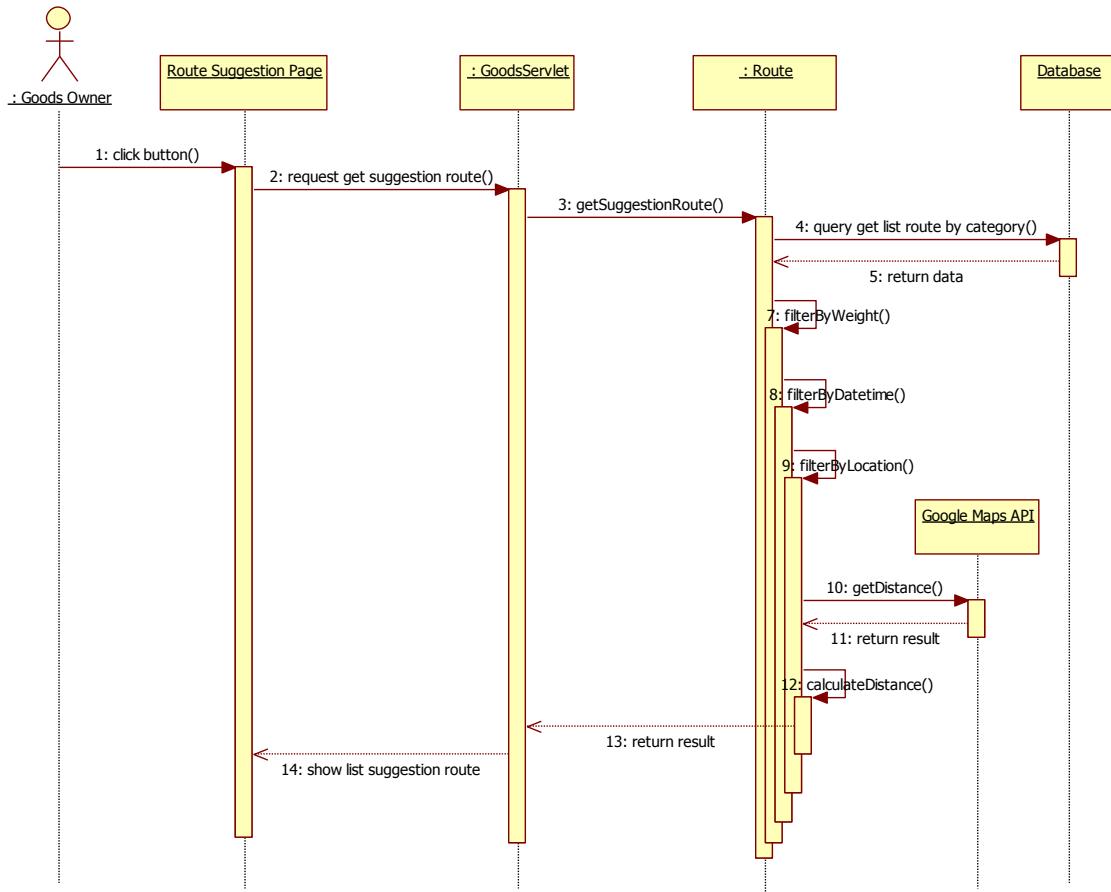


Figure 34: <Goods Owner> Get suggestion route

3.3.1.4 <Goods Owner> Send offer to Truck Driver

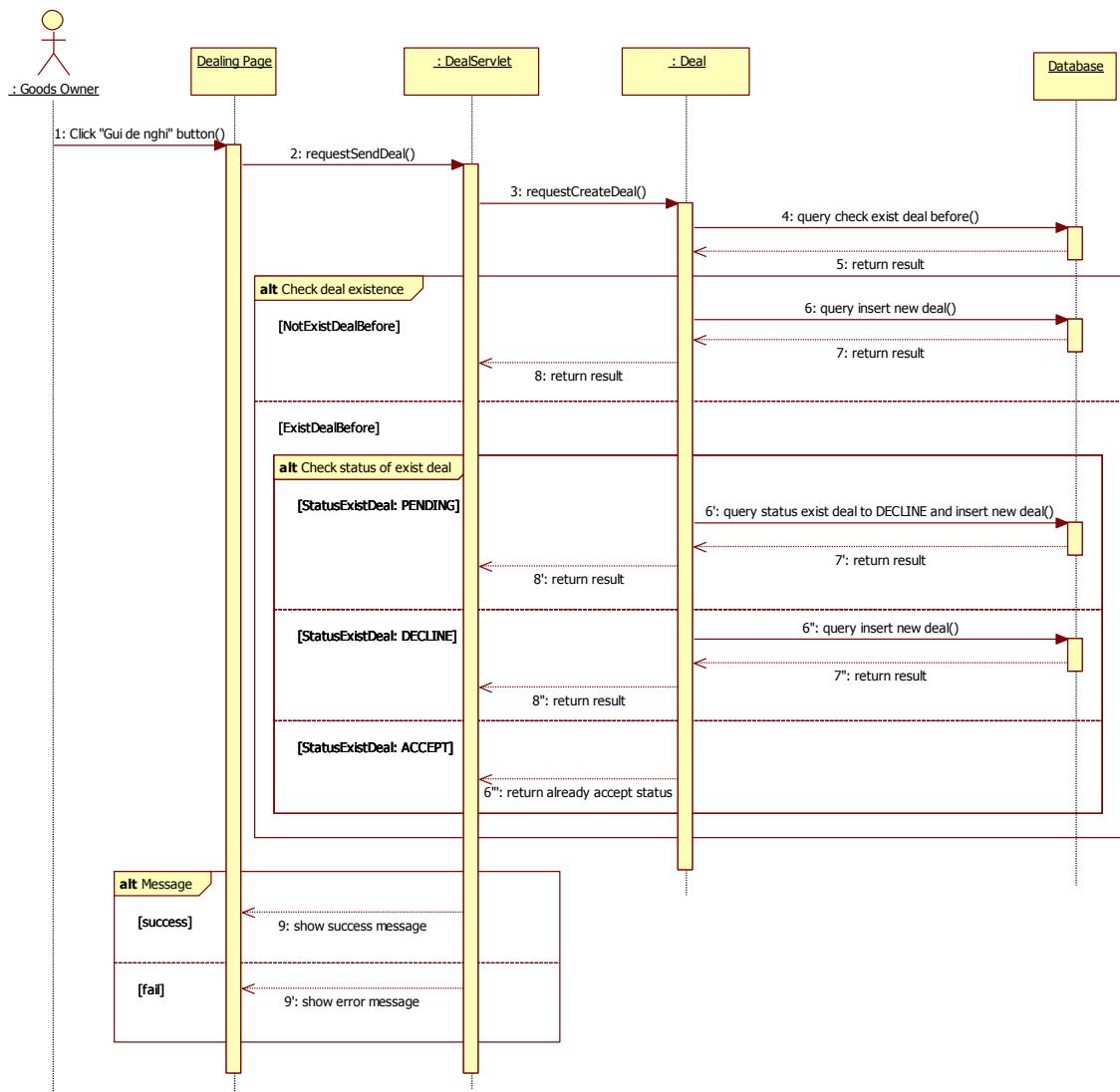


Figure 35: <Goods Owner> Send offer to Truck Driver

3.3.1.5 <Goods Owner> Accept deal

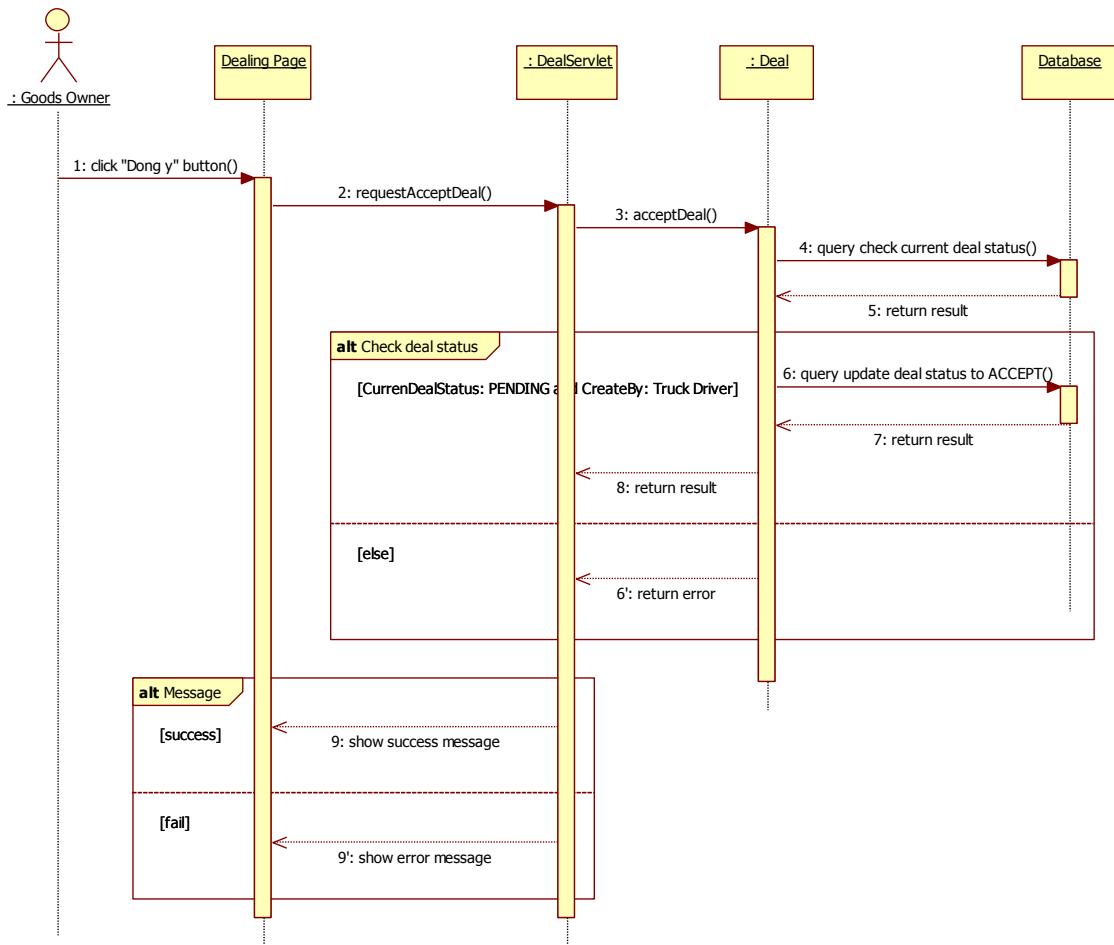


Figure 36: <Goods Owner> Accept deal

3.3.1.6 <Goods Owner> Decline deal

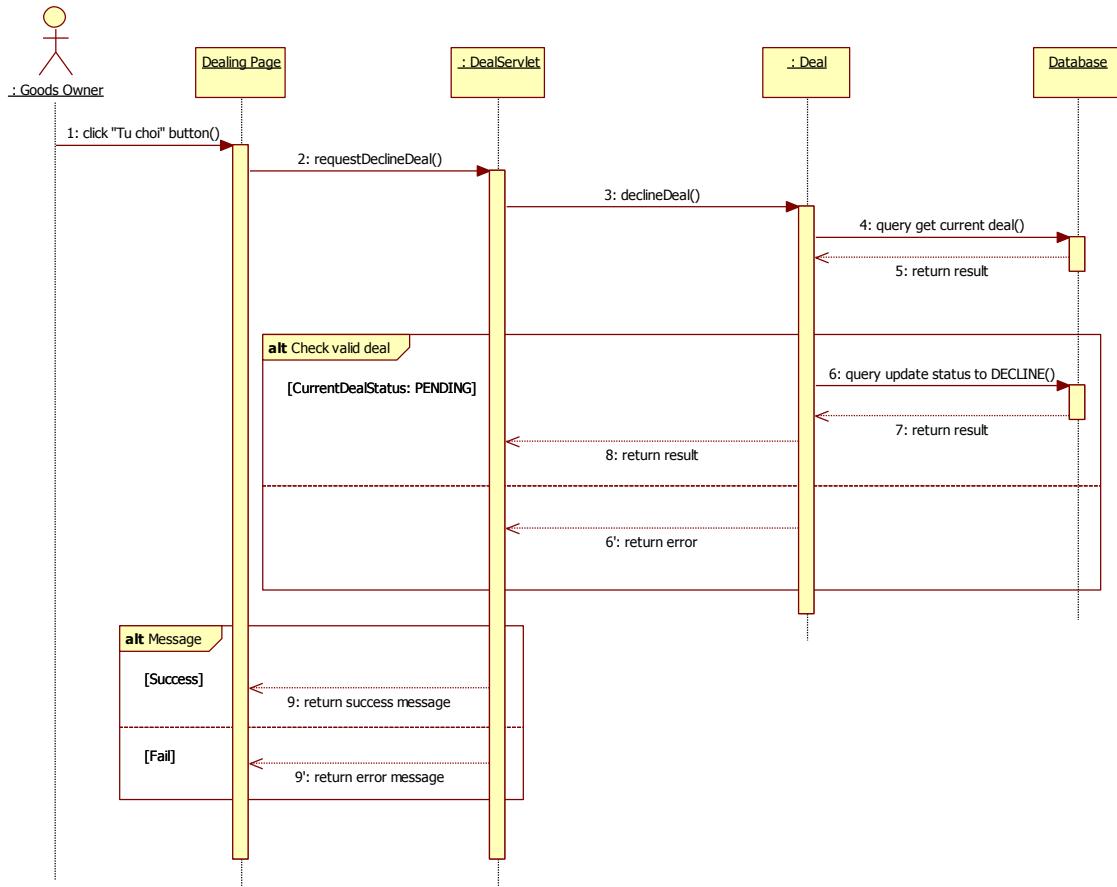


Figure 37: <Goods Owner> Decline deal

3.3.1.7 <Goods Owner> Cancel deal

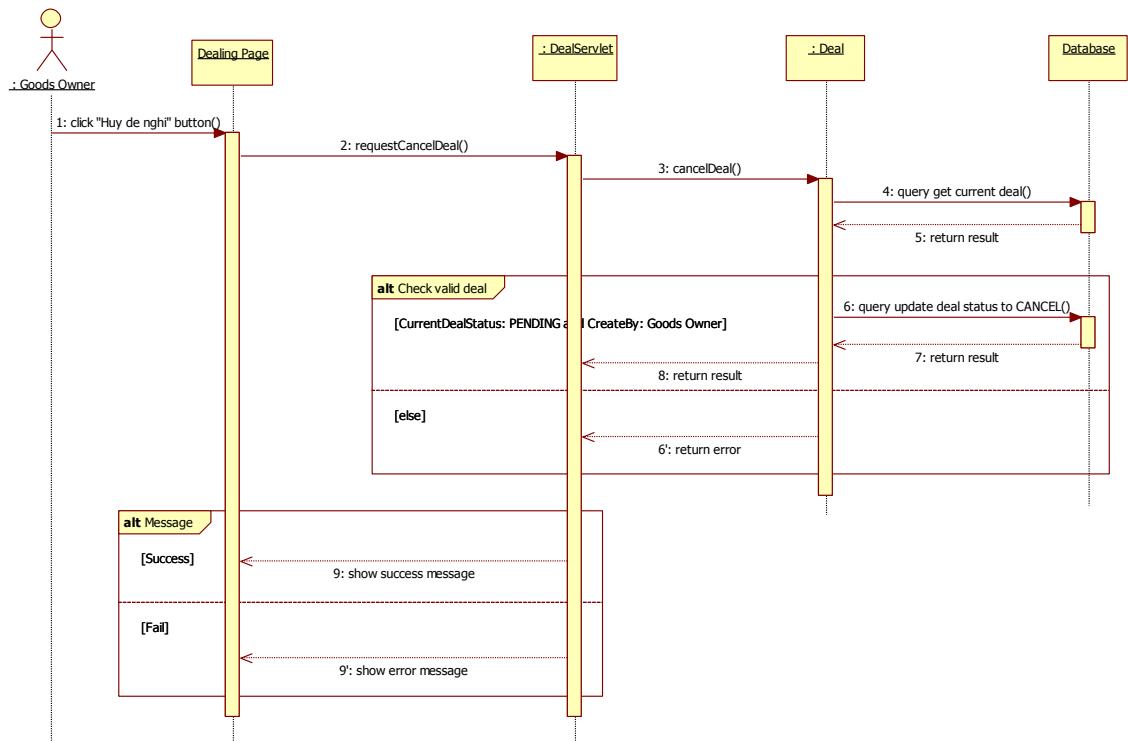


Figure 38: <Goods Owner> Cancel deal

3.3.1.8 <Goods Owner> Pay

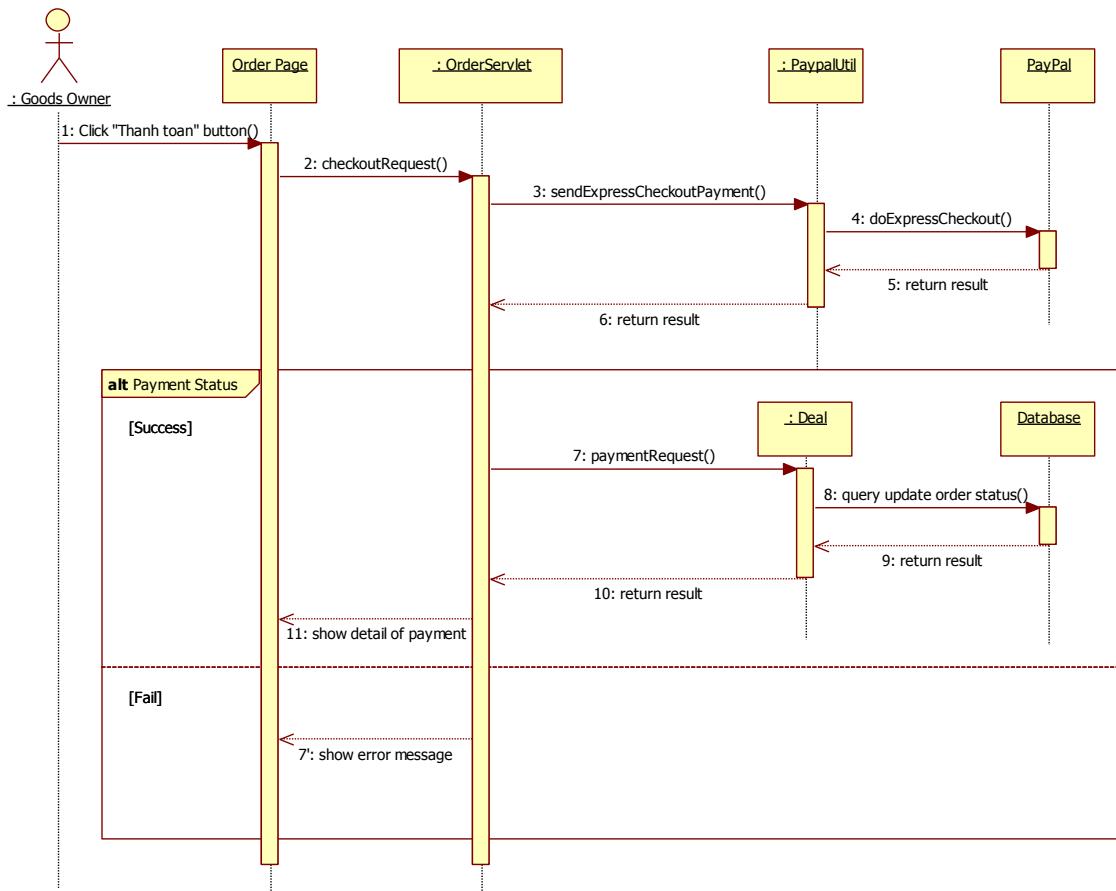


Figure 39: <Goods Owner> Pay

3.3.2 Mobile Application

3.3.2.1 <Goods Owner> Create goods

Summary: This diagram shows how goods owner create new goods.

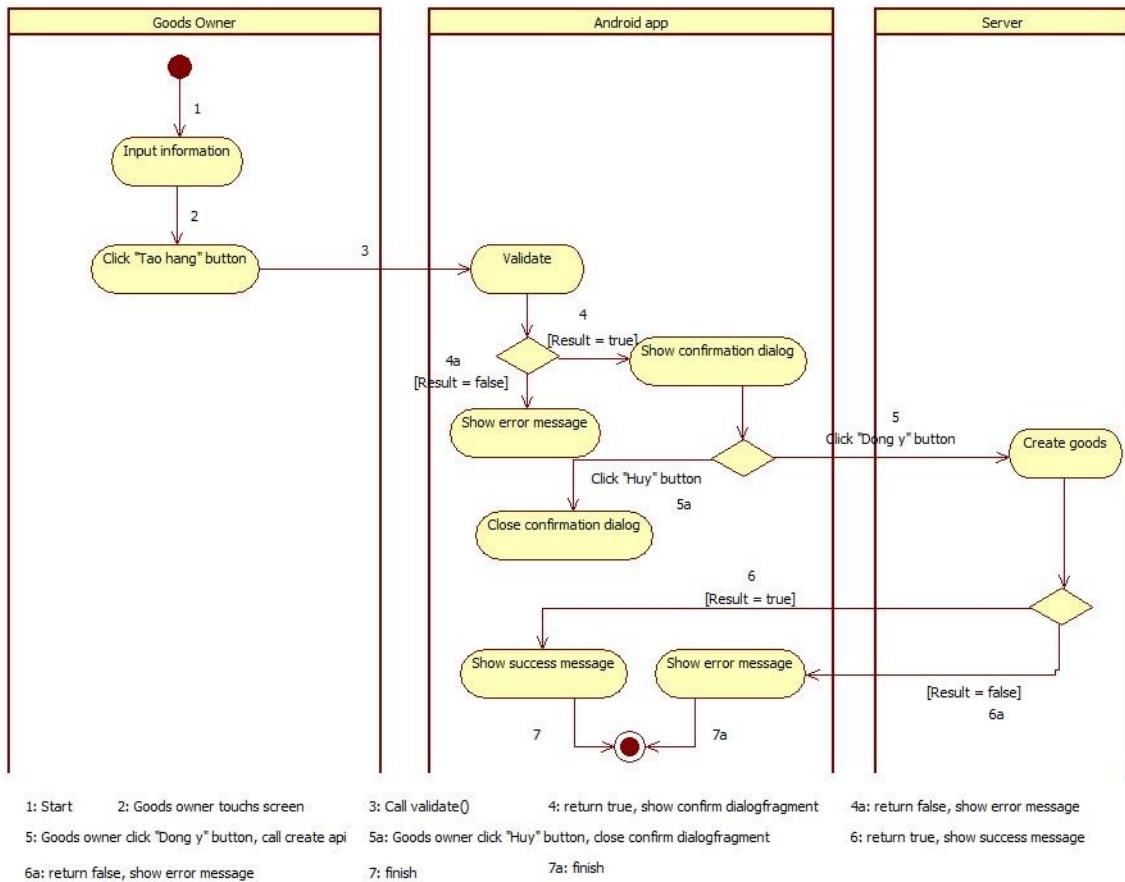


Figure 40: <Goods Owner> Create goods

3.3.2.2 <Goods Owner> Get suggestion route

Summary: This diagram shows how goods owner get suggestion route from system.

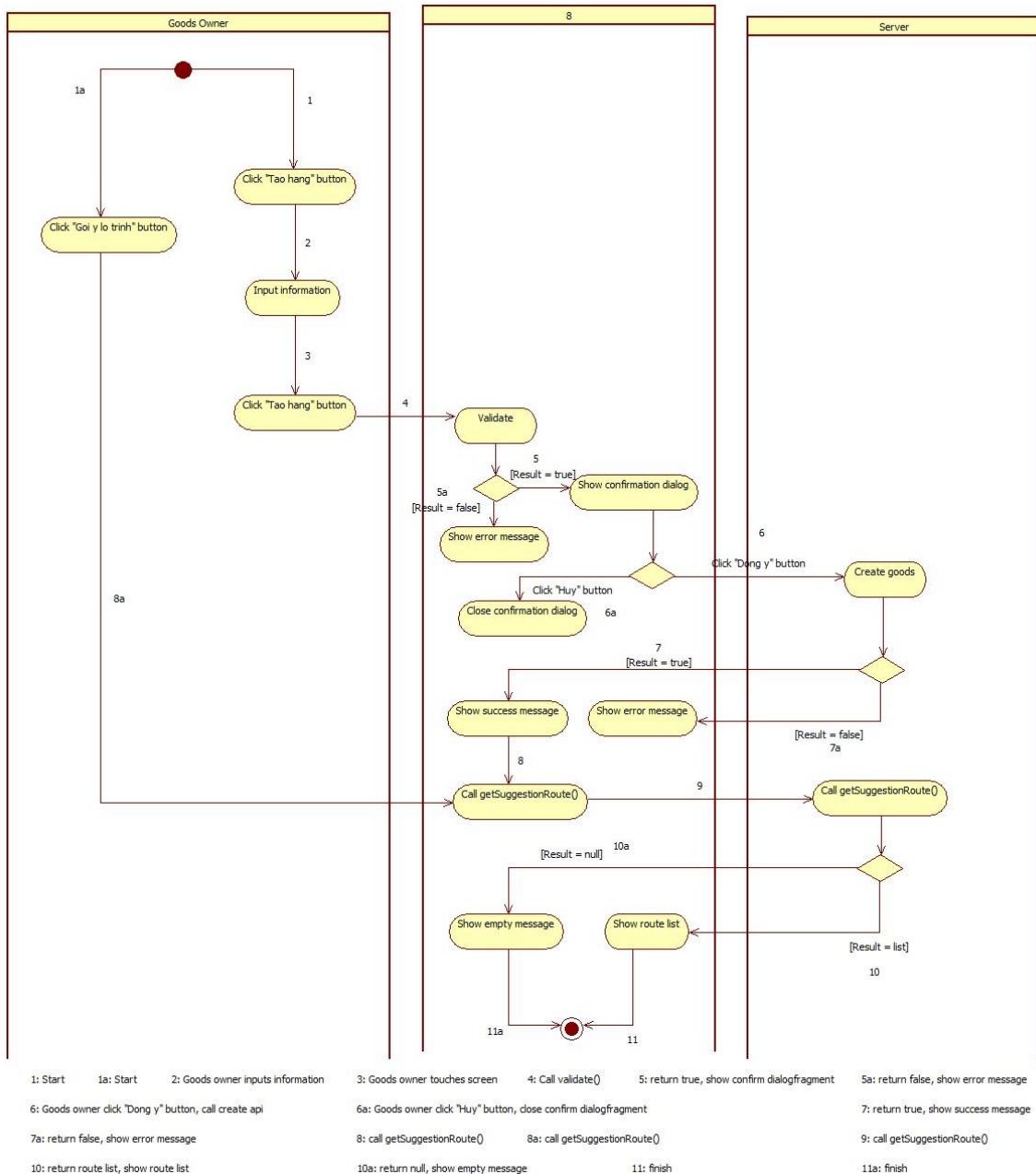


Figure 41: <Goods Owner> Get suggestion route

3.3.2.3 <Goods Owner> Offer Deal to Truck Driver

Summary: This diagram shows how goods owner send deal to truck driver.

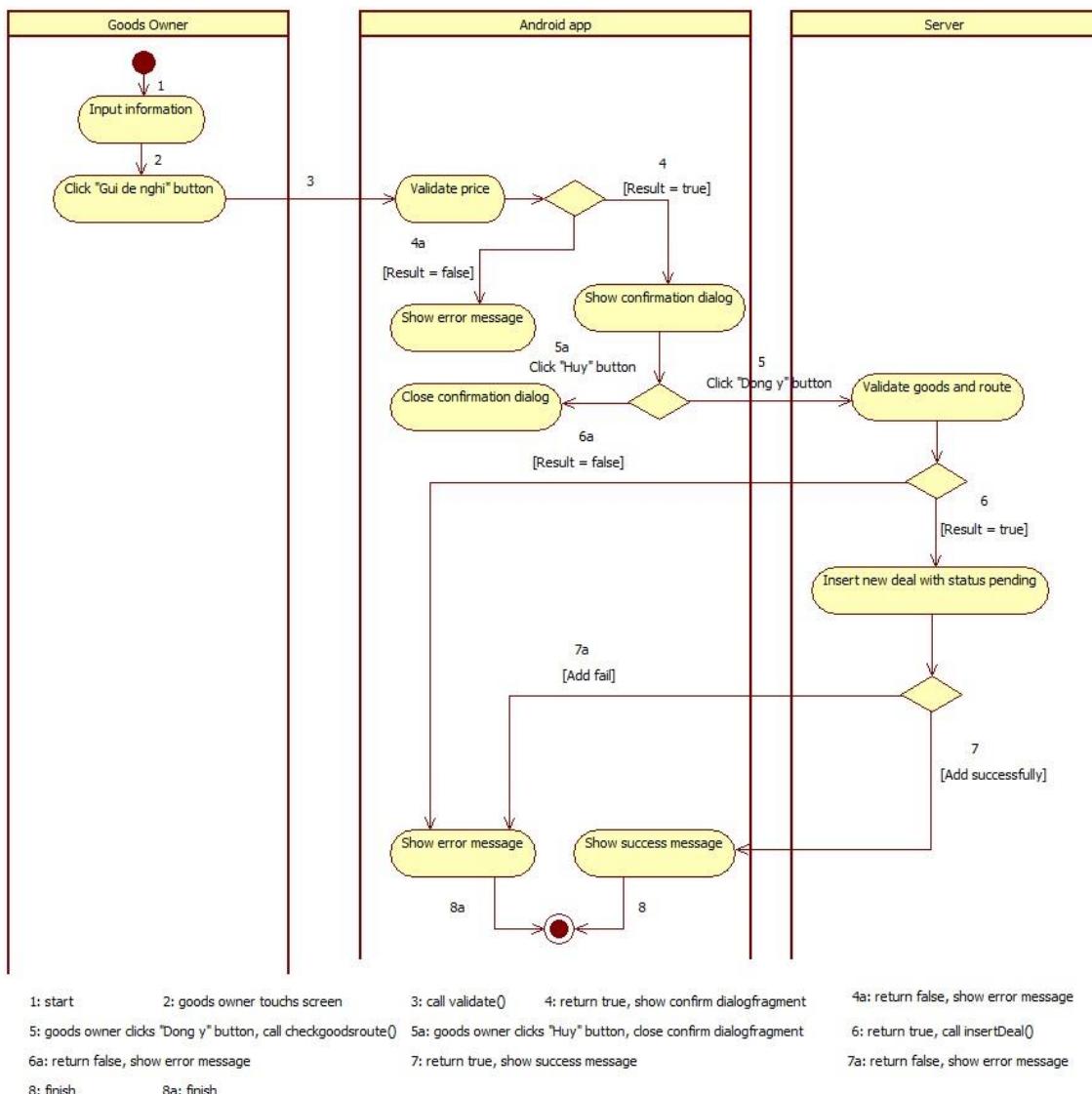


Figure 42: <Goods Owner> Send offer to Truck Driver

3.3.2.4 <Goods Owner> Accept deal

Summary: This diagram shows how goods owner accept deal.

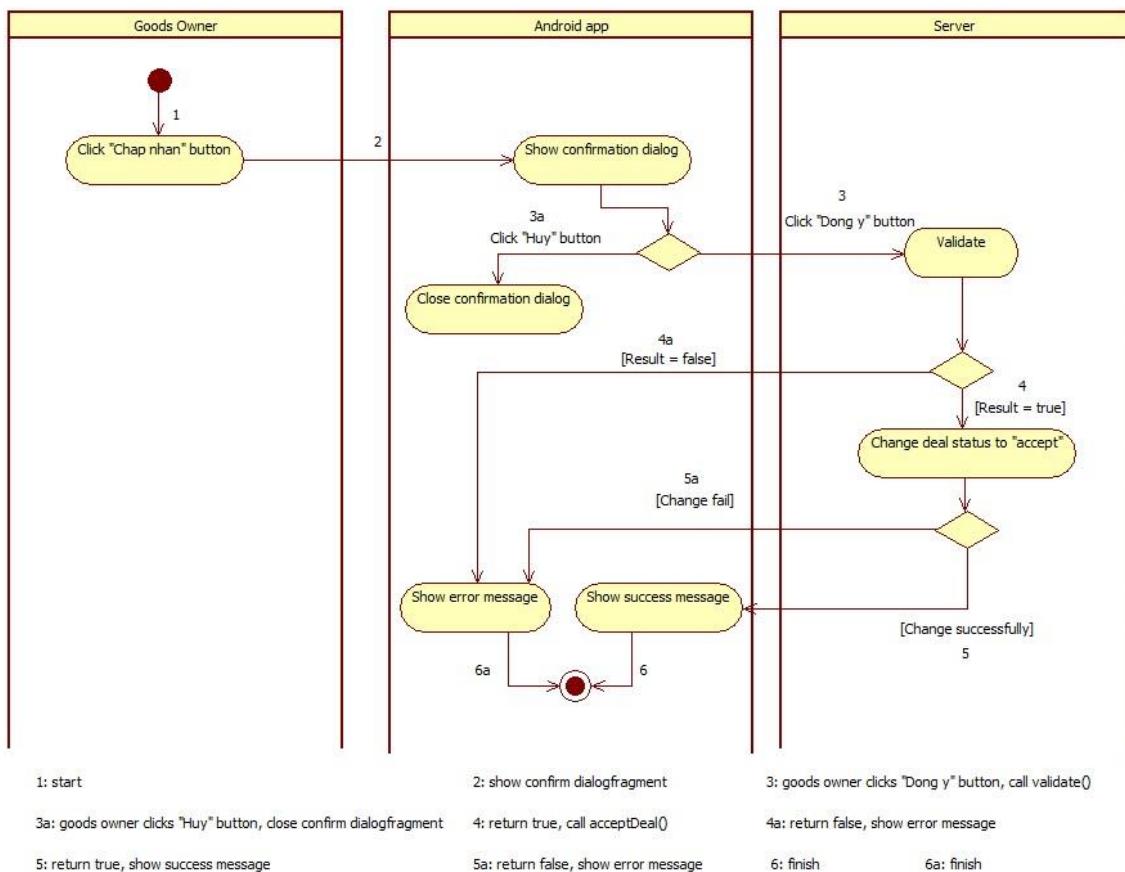


Figure 43: <Goods Owner> Accept deal

3.3.2.5 <Goods Owner> Decline deal

Summary: This diagram shows how goods owner decline deal.

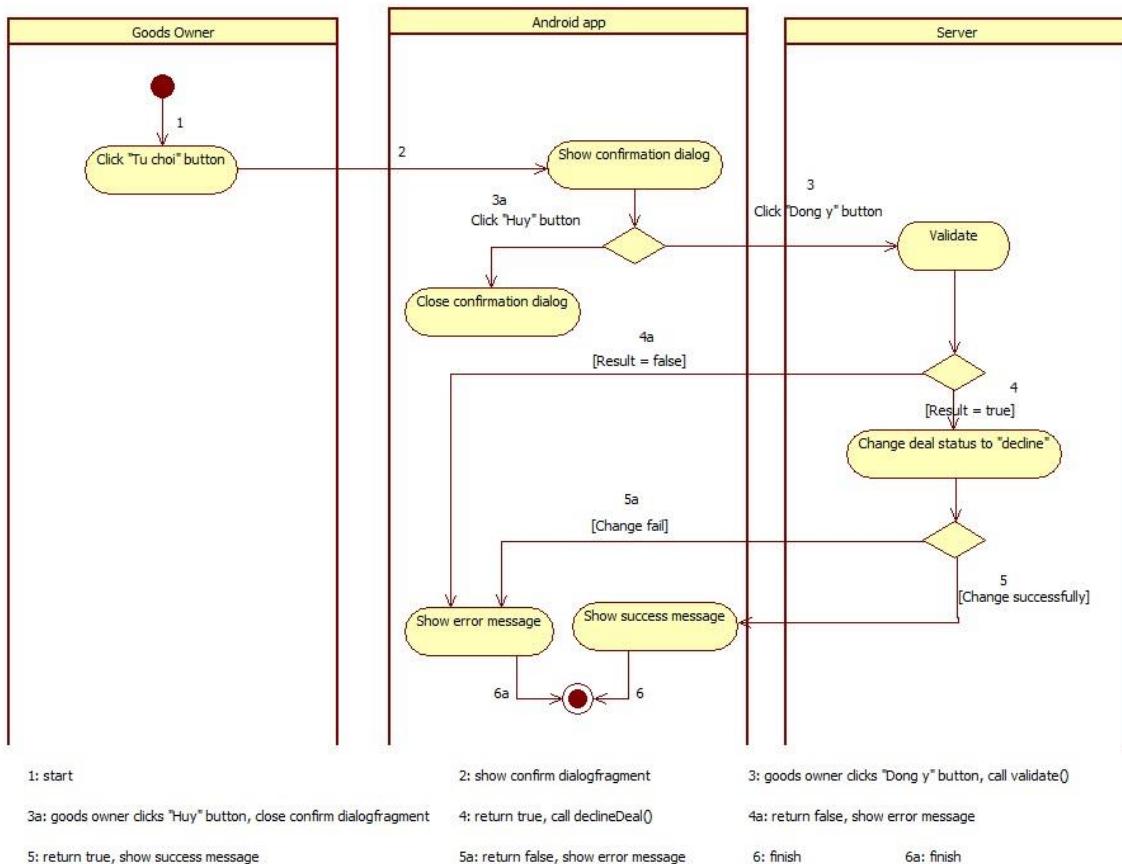


Figure 44: <Goods Owner> Decline deal

3.3.2.6 <Goods Owner> Cancel deal

Summary: This diagram shows how goods owner cancel deal.

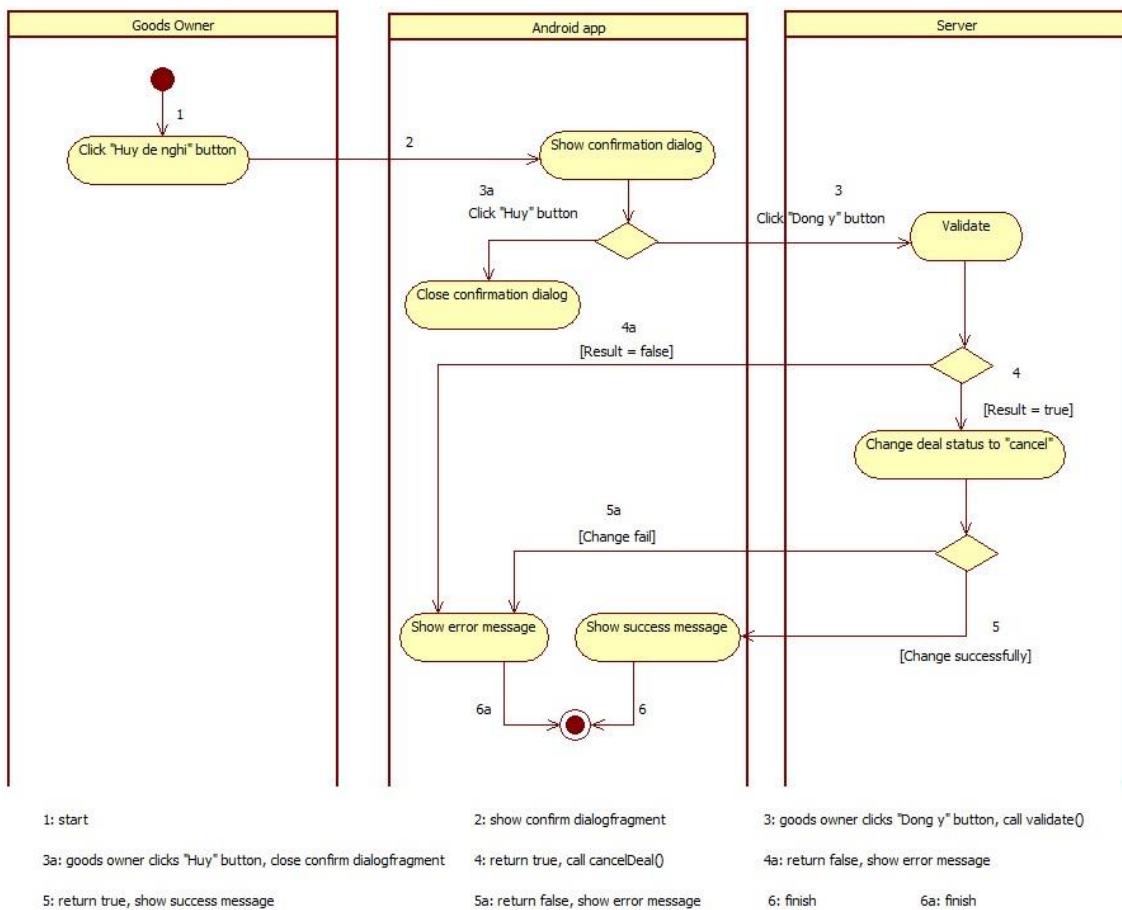


Figure 45: <Goods Owner> Cancel deal

3.3.2.7 <Goods Owner> Pay

Summary: This diagram shows how goods owner make payment.

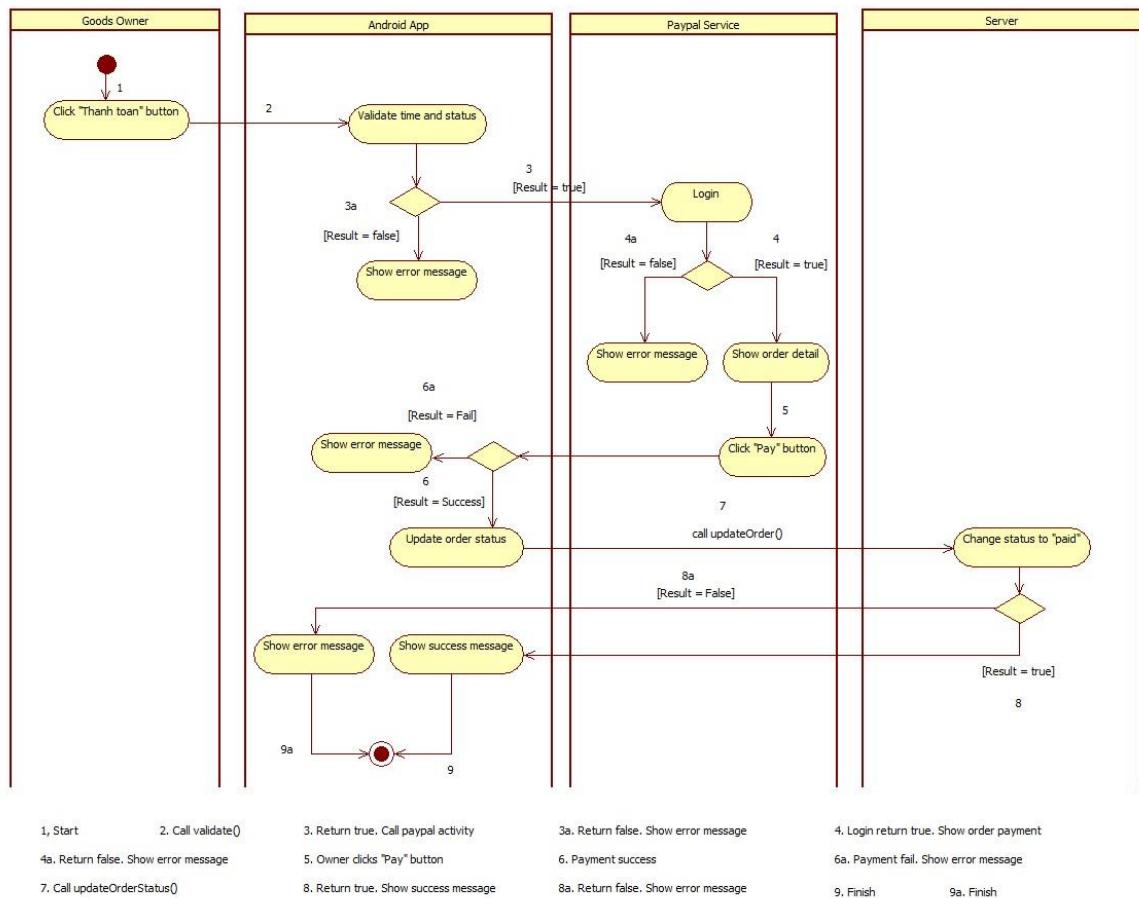
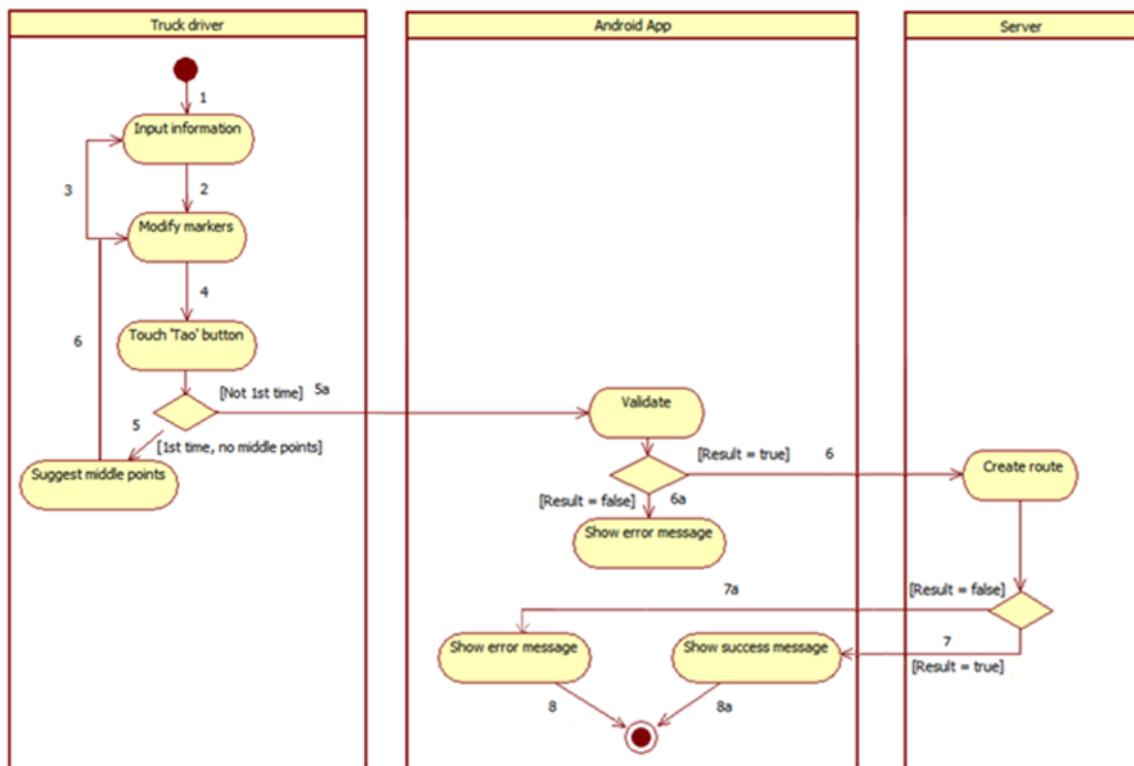


Figure 46: <Goods Owner> Pay

3.3.2.8 <Truck Driver> Create route

Summary: This diagram shows how truck driver create new route.



1: Start 2: Truck driver touches screen
5: First time, suggest middle points
6a: Return false, show error message
8: Finish 8a: Finish

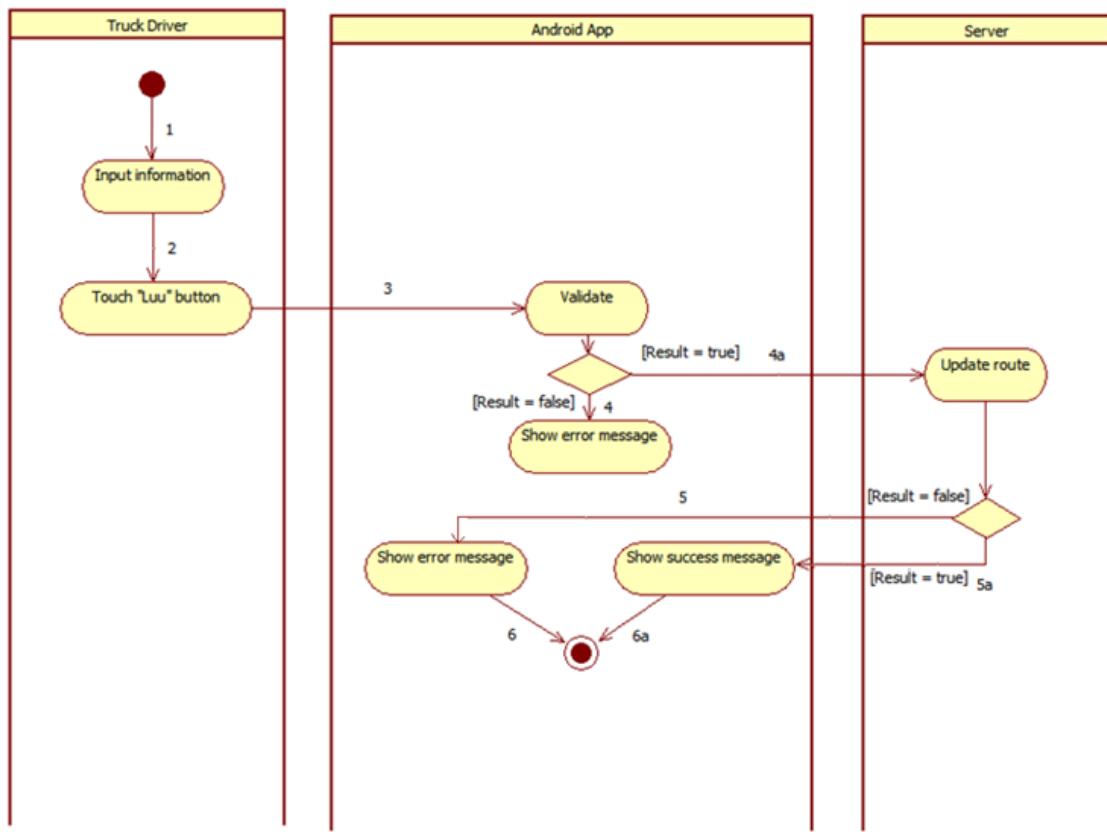
3: Truck driver touches screen
5a: Not first time, call validate()
7: Return true, show success message

4: Truck driver touches screen
6: Return true, call createRoute()
7a: Return false, show error message

Figure 47: <Truck Driver> Create new route

3.3.2.9 <Truck Driver> Update route

Summary: This diagram shows how truck update route.



1: Start 2: Truck driver touches screen
2: Input information 3: Touch "Luu" button
4: Call validate()
5: Return false, show error message
6: Finish 6a: Fiish

3: Call validate()
4: Return true, call updateRoute()

4a: Return true, call updateRoute()
5: Return false, show error message
5a: Return true, show success message

Figure 48: <Truck Driver> Update route

3.3.2.10 <Truck Driver> Delete route

Summary: This diagram shows how truck driver delete route.

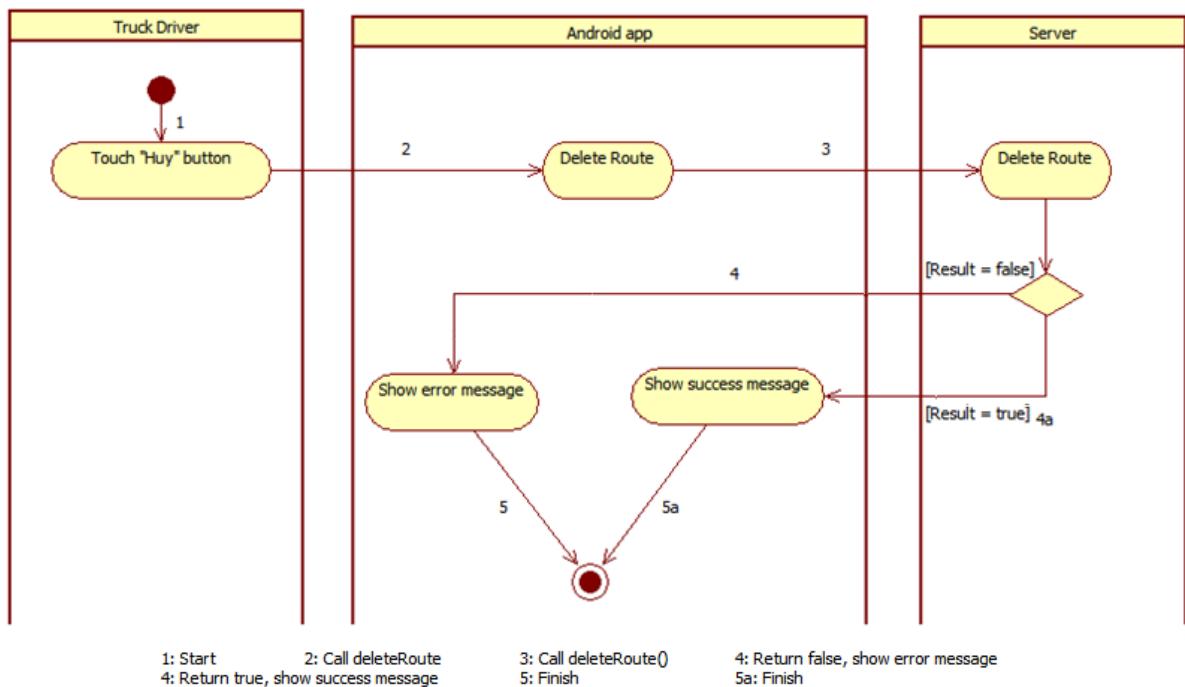


Figure 49: <Truck Driver> Delete route

3.3.2.11 <Truck Driver> Get suggestion goods

Summary: This diagram shows how truck driver get suggestion goods from system.

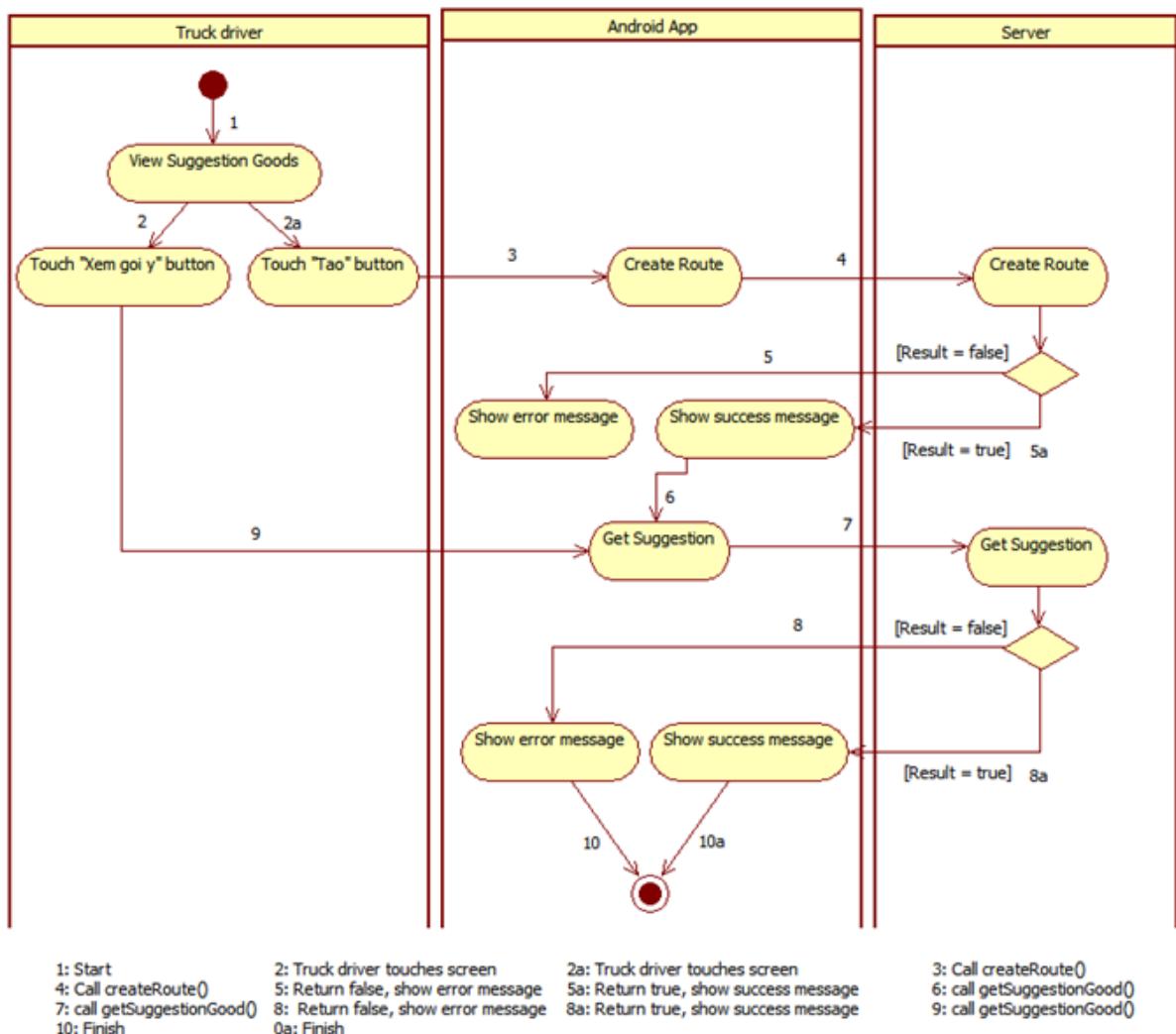


Figure 50: <Truck Driver> Get suggestion goods

3.3.2.12 <Truck Driver> Offer Deal to Goods Owner

Summary: This diagram shows how truck driver sends a deal to good owner

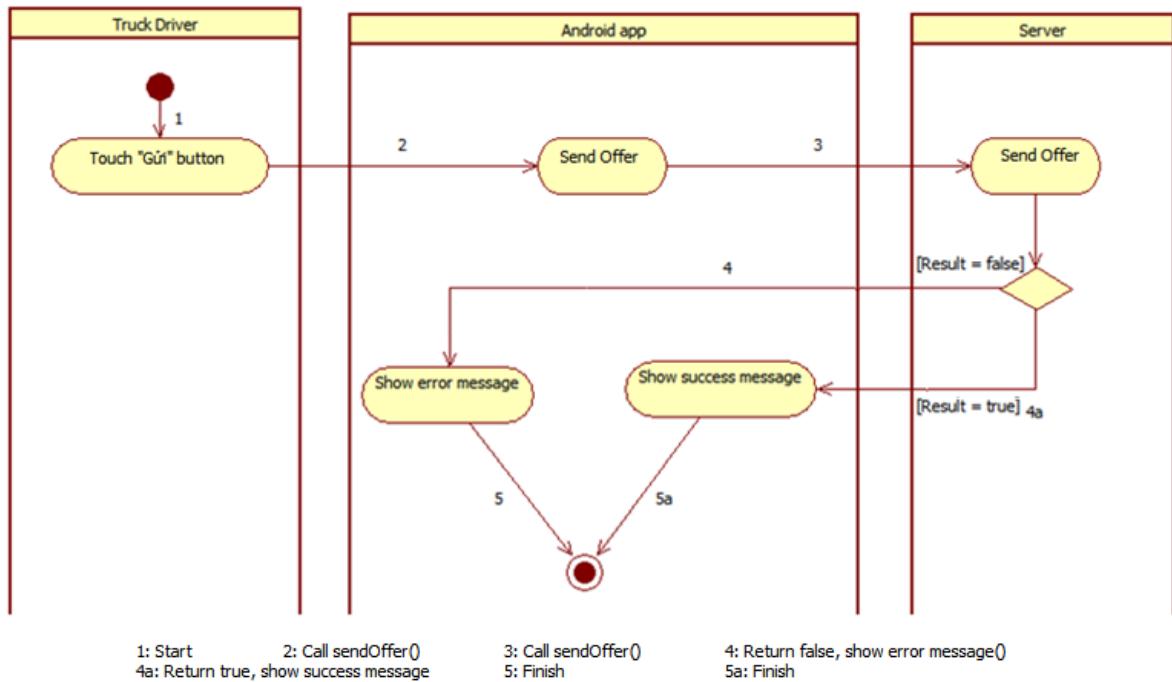


Figure 51: <Truck Driver> Send offer to Goods Owner

3.3.2.13 <Truck Driver> Confirm deal

Summary: This diagram shows how truck driver accepts/ declines a deal from goods' owner

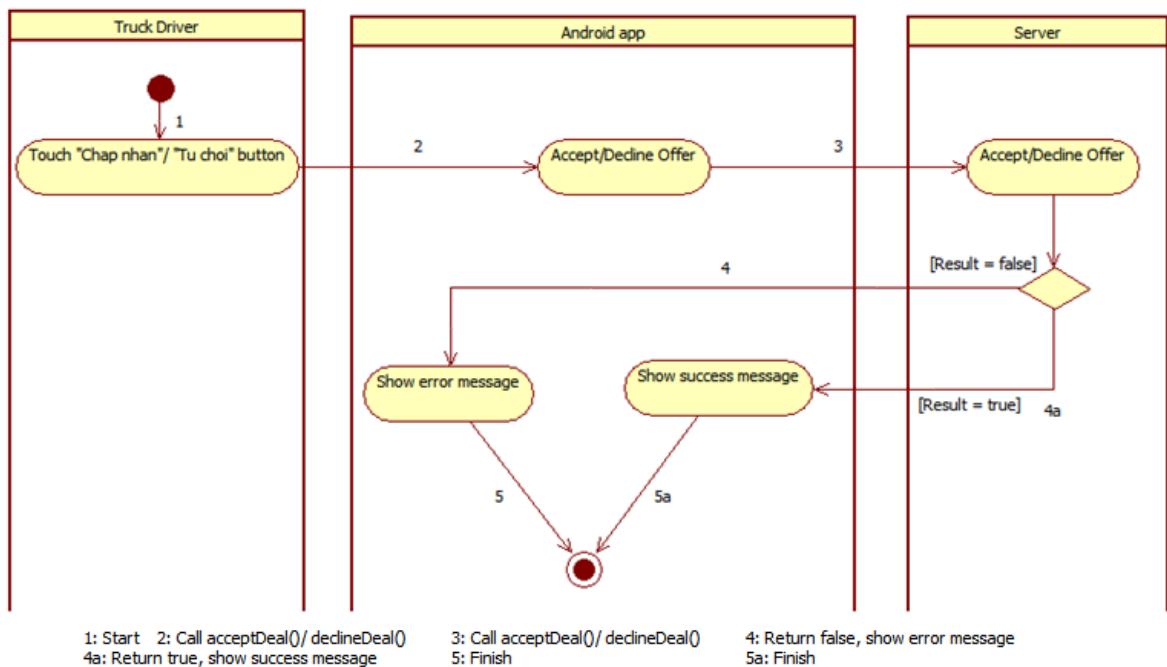
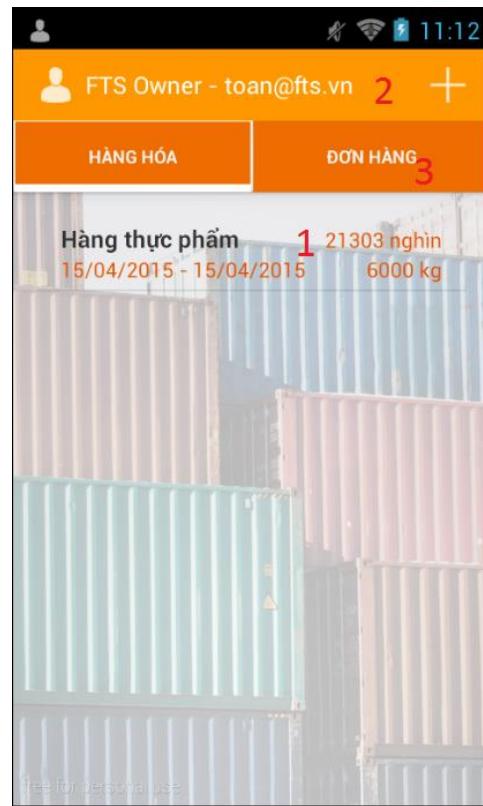


Figure 52: <Truck Driver> Confirm deal

4. User Interface Design

4.1 Goods Owner Android App Design

4.1.1 View Goods List



Button

No	Function	Description	Validation	Outcome
1	View goods detail	View deal and information of goods	No	Navigates to "Hàng thực phẩm" screen
2	Create goods	Add new goods information	No	Navigates to "Tạo hàng" screen
3	View order list	View owner's order list	No	Navigates to "Đơn hàng" tab

4.1.2 Create Goods



Field

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Category	Pick category	No	Yes	Dropdownlist	String	100
2	Weight	Fill weight	No	Yes	Textbox	String	5
3	Pickup date	Pick pickup date	No	Yes	Datepicker	String	10
4	Delivery date	Pick delivery date	No	Yes	Datepicker	String	10
5	Pickup address	Fill pickup address	No	Yes	Textbox	String	100
6	Delivery address	Fill delivery address	No	Yes	Textbox	String	100
7	Price	Fill price	No	Yes	Textbox	String	10
8	Note	Fill note	No	Yes	Textbox	String	250

Button

No	Function	Description	Validation	Outcome
9	Create	Create new goods	No	Goods is created. Navigates to “Gợi ý lộ trình” screen
10	View map	View coordinate of pickup address on map	No	Navigates to “Chi tiết bản đồ” screen
11	View map	View coordinate of delivery address on map	No	Navigates to “Chi tiết bản đồ” screen

4.1.3 View Suggestion List



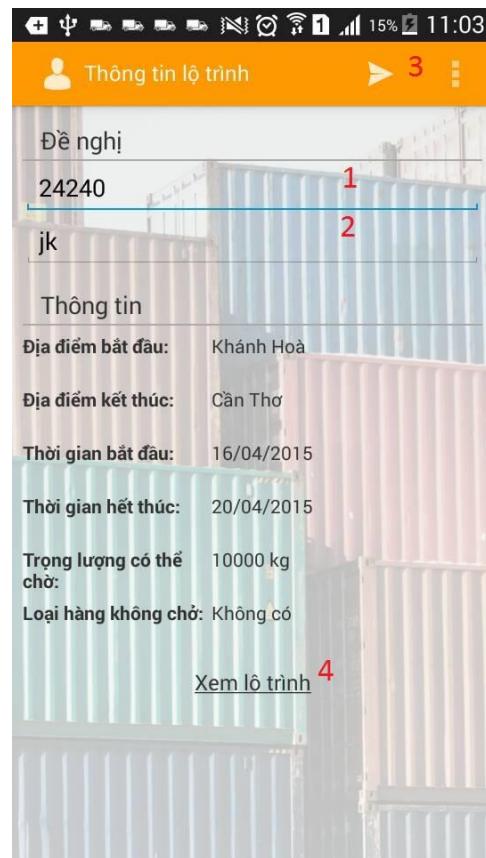
Button/Hyperlink

No	Function	Description	Validation	Outcome
1	View suggestion detail	View route detail	No	Navigates to "Thông tin lộ trình" screen

Field

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Information	Goods information	Yes	Yes	Label	String	250

4.1.4 View Suggestion Detail



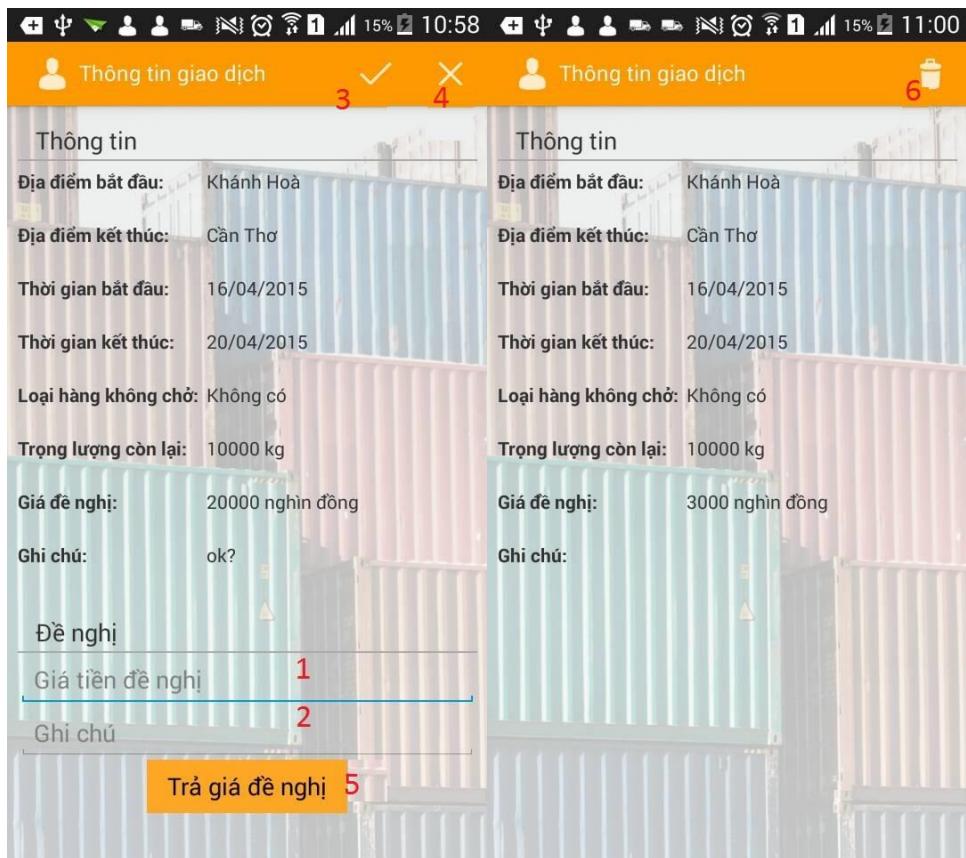
Field

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Price	Fill price	No	Yes	Textbox	String	10
2	Note	Fill note	No	Yes	Textbox	String	250

Button/Hyperlink

No	Function	Description	Validation	Outcome
3	Offer deal	Offer deal to driver	No	Offer deal to driver. Navigates to "Hàng hóa" screen
4	View matching map	View route and goods on map	No	Navigates to "Lộ trình" screen

4.1.5 View Deal Detail



Field

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Price	Fill price	No	Yes	Textbox	String	10
2	Note	Fill note	No	Yes	Textbox	String	250

Button/Hyperlink

No	Function	Description	Validation	Outcome
3	Accept	Accept deal sent from driver	No	Accept deal. Navigates to "Hàng hóa" screen
4	Decline	Decline deal sent from driver	No	Decline deal. Navigates to "Lộ trình" screen
5	Counter	Counter deal sent from driver	No	Counter deal. Navigates to "Lộ trình" screen
6	Cancel	Cancel deal sent by owner	No	Cancel deal. Navigates to "Lộ trình" screen

4.1.6 View Goods Detail



Field

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Category	Pick category	No	Yes	Dropdownlist	String	100
2	Weight	Fill weight	No	Yes	Textbox	String	5
3	Pickup date	Pick pickup date	No	Yes	Datepicker	String	10
4	Delivery date	Pick delivery date	No	Yes	Datepicker	String	10
5	Pickup address	Fill pickup address	No	Yes	Textbox	String	100
6	Delivery address	Fill delivery address	No	Yes	Textbox	String	100
7	Price	Fill price	No	Yes	Textbox	String	10
8	Note	Fill note	No	Yes	Textbox	String	250

Button

No	Function	Description	Validation	Outcome
9	Update	Update existing goods	No	Goods is updated. Navigates to “Gợi ý lộ trình” screen
10	Delete	Delete existing goods	No	Goods is deleted. Navigates to “Hàng hóa” screen
11	View map	View coordinate of pickup	No	Navigates to “Chi tiết” screen

		address on map		bản đồ" screen
12	View map	View coordinate of delivery address on map	No	Navigates to "Chi tiết bản đồ" screen
13	Get suggestion	Get route suggestion for goods	No	Navigate to "Gợi ý lộ trình" screen
14	View deal list	View deal list of goods	No	Navigates to "Đề nghị" tab

4.1.7 View Deal List



Button/ Hyperlinks

No	Function	Description	Validation	Outcome
1	View deal detail	View deal detail	No	Navigates to "Thông tin đề nghị" screen
2	Get suggestion	Get route suggestion of goods	No	Navigates to "Gợi ý lộ trình" screen
3	View goods information	View goods information	No	Navigates to "Thông tin" tab

4.1.8 View Order List



Button/ Hyperlinks

No	Function	Description	Validation	Outcome
1	View order detail	View order detail	No	Navigates to "Thông tin đơn hàng" screen
2	Create goods	Create new goods	No	Navigates to "Tạo hàng" screen
3	View deal list	View goods list of owner	No	Navigates to "Hàng hóa" tab

4.1.9 View Order Detail



Button/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Call	Call driver	No	Navigates to call screen
2	Pay	Pay money to driver	No	Navigates to Paypal transaction screen
3	Report	Report missing or damaged goods	No	Report order. Refresh screen

4.2 Truck Driver Android App Design

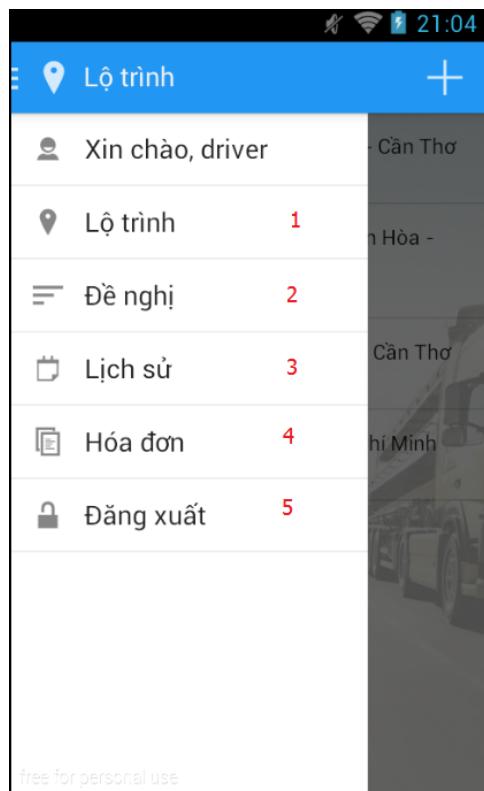
4.2.1 View Route List



Buttons/ Action Bar

No	Function	Description	Validation	Outcome
1	Add new route	Add new route information	No	Navigate to “Lộ trình mới” screen.
2	View route detail	View detail of a route in list	No	Navigate to “Thông tin lộ trình” screen.

4.2.2 Navigation Menu



Buttons/ Action Bar

No	Function	Description	Validation	Outcome
1	View route list	View list of route	No	Navigate to "Lộ trình" screen.
2	View pending deals	View list of pending deals	No	Navigate to "Đề nghị" screen.
3	View deal history	View list of deals in the past	No	Navigate to "Lịch sử" screen
4	View orders	View list of orders	No	Navigate to "Hóa đơn" screen
5	Logout	Logout of the system	No	Navigate to "Đăng nhập" screen

4.2.3 Create Route

The screenshots illustrate the process of creating a route. The first screen shows the initial form with fields for 'Địa điểm bắt đầu' (1) and 'Địa điểm kết thúc' (2). A button labeled 'Tùy chỉnh lô trình' (13) is highlighted. The second screen shows the addition of an intermediate point 'Địa điểm đi qua 2' (15). The third screen shows the final route setup with all points added.

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Start location	Fill start location	No	Yes	Textbox	String	100
2	End location	Fill end location	No	Yes	Textbox	String	100
3	Start date	Fill start date	No	Yes	Datetime picker	Datetime	N/A
4	Start hour	Fill start hour	No	Yes	Datetime picker	Datetime	N/A
5	Finish date	Fill finish date	No	Yes	Datetime picker	Datetime	N/A
6	Payload	Fill payload	No	Yes	Textbox	String	5
7	Frozen category	Add frozen to not-carrying category	No	Yes	Checkbox	Boolean	N/A
8	Fragile category	Add fragile to not-carrying category	No	Yes	Checkbox	Boolean	N/A
9	Flammable category	Add flammable to not-carrying category	No	Yes	Checkbox	Boolean	N/A
10	Food category	Add food to not-carrying category	No	Yes	Checkbox	Boolean	N/A

11	Passing location 1	Fill passing location 1	No	Yes	Textbox	String	100
12	Passing location 2	Fill passing location 2	No	Yes	Textbox	String	100

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
13	Customize route	Customize route using Google Map	No	Navigate to “Tùy chỉnh lộ trình” screen.
14	Add passing points	Add passing points to current route	No	Show “Passing location 1” and “Passing location 2” fields.
15	Create route	Create new route	No	Navigate to “Gợi ý” screen.

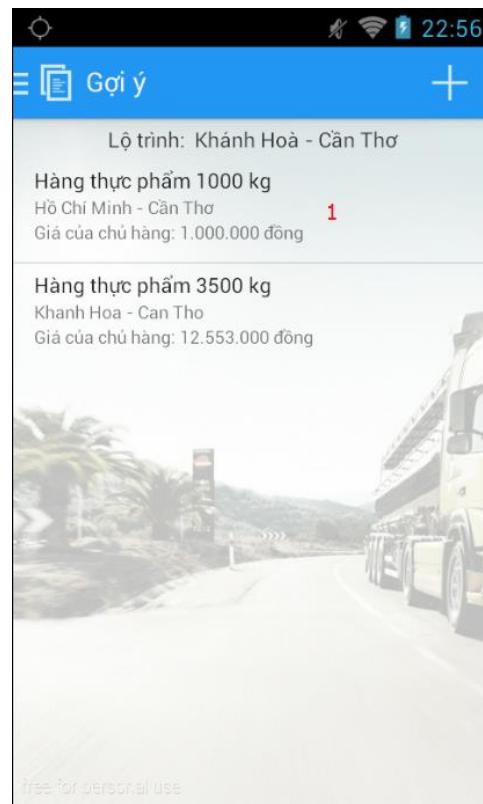
4.2.4 Customize Route



Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Update route	Update route locations based on Google Map	No	Navigate to “Lộ trình mới” screen.

4.2.5 View Suggestion List



Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	View good's information	View good's information from owner	No	Navigate to “Gửi đề nghị” screen

4.2.6 Update Route

The screenshots show a mobile application interface for route update. The top bar says "Cập nhật lộ trình" and has a "Lưu" button. The main screen has sections for "LỘ TRÌNH" (Route), "THỜI GIAN" (Time), and "HÀNG HÓA" (Cargo).

- LỘ TRÌNH:** Shows stops at "Hà Nội" (1) and "Hồ Chí Minh" (2). A red box highlights the "Tùy chỉnh lộ trình" (Edit route) button.
- THỜI GIAN:** Shows departure times: "14/04/2015 05:42" (3) and "14/05/2015 05:42" (4). A red box highlights the "Thêm điểm đi qua" (Add stop) button.
- HÀNG HÓA:** Shows payload "6000 kg" (6). Below it are checkboxes for cargo types: "Loại hàng không chở" (7) (checked for "Hàng đông lạnh"), "Hàng dễ vỡ" (8) (unchecked), "Hàng dễ cháy nổ" (9) (checked), and "Hàng thực phẩm" (10) (unchecked).

The second screenshot shows a new stop added: "Địa điểm đi qua 1" (11) at "14/05/2015 05:42" (12) in "Hồ Chí Minh".

The third screenshot shows the final state with both stops and the "Tùy chỉnh lộ trình" button highlighted.

Fields

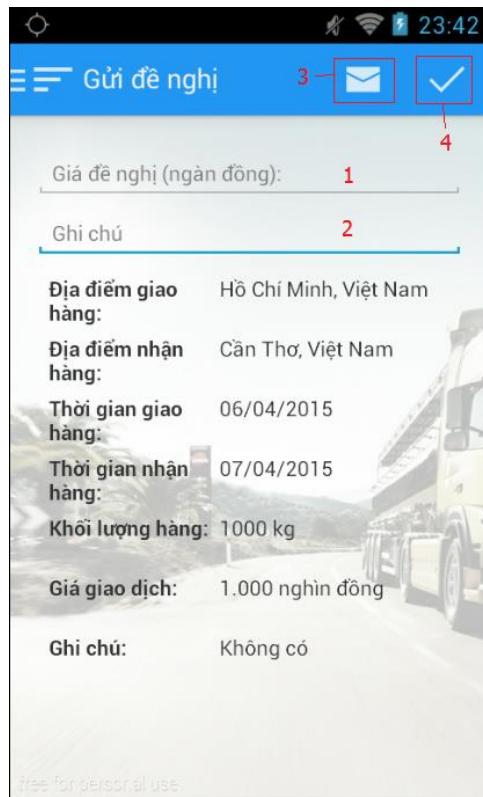
No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Start location	Fill start location	No	Yes	Textbox	String	100
2	End location	Fill end location	No	Yes	Textbox	String	100
3	Start date	Fill start date	No	Yes	Date picker	Datetime	N/A
4	Start hour	Fill start hour	No	Yes	Time picker	Datetime	N/A
5	Finish date	Fill finish date	No	Yes	Date picker	Datetime	N/A
6	Payload	Fill payload	No	Yes	Textbox	String	5
7	Frozen category	Add frozen to not-carrying category	No	Yes	Checkbox	Boolean	N/A
8	Fragile category	Add fragile to not-carrying category	No	Yes	Checkbox	Boolean	N/A
9	Flammable category	Add flammable to not-carrying category	No	Yes	Checkbox	Boolean	N/A
10	Food category	Add food to not-carrying category	No	Yes	Checkbox	Boolean	N/A

11	Passing location 1	Fill passing location 1	No	Yes	Textbox	String	100
12	Passing location 2	Fill passing location 2	No	Yes	Textbox	String	100

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
13	Customize route	Customize route using Google Map	No	Navigate to “Tùy chỉnh lộ trình” screen.
14	Add passing points	Add passing points to current route	No	Show “Passing location 1” and “Passing location 2” fields.
15	Update route	Update current route	No	Navigate to “Gợi ý” screen.

4.2.7 Send Deal



Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Offer price	Fill offer price	No	Yes	Textbox	String	5
2	Note	Fill note	No	No	Textbox	String	250

Buttons/ Action Bar

No	Function	Description	Validation	Outcome
3	Send offer	Send offer to owner	No	Navigate to “Đề nghị” screen
4	Accept good suggestion	Accept good suggestion immediately	No	Navigate to “Thông tin hóa đơn” screen.

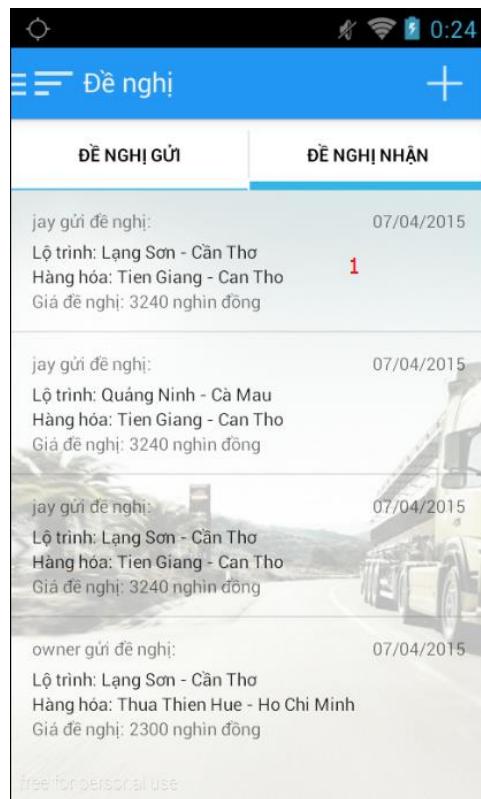
4.2.8 View Sent Deal



Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	View sent offer	View sent offer details	No	Navigate to “Chi tiết đề nghị” screen

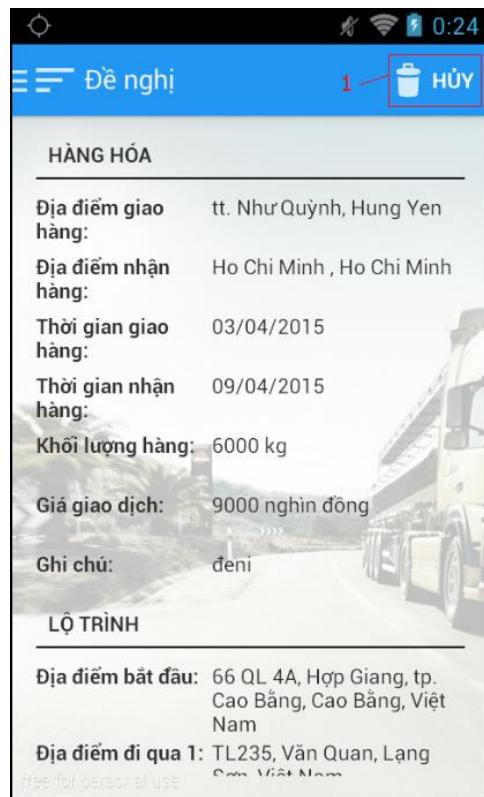
4.2.9 View Received Deal



Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	View received offer	View received offer details	No	Navigate to "Chi tiết đề nghị" screen

4.2.10 Cancel Deal



Buttons/ Action Bar

No	Function	Description	Validation	Outcome
1	Cancel offer	Cancel current offer	No	Navigate to “Đề nghị gửi” screen

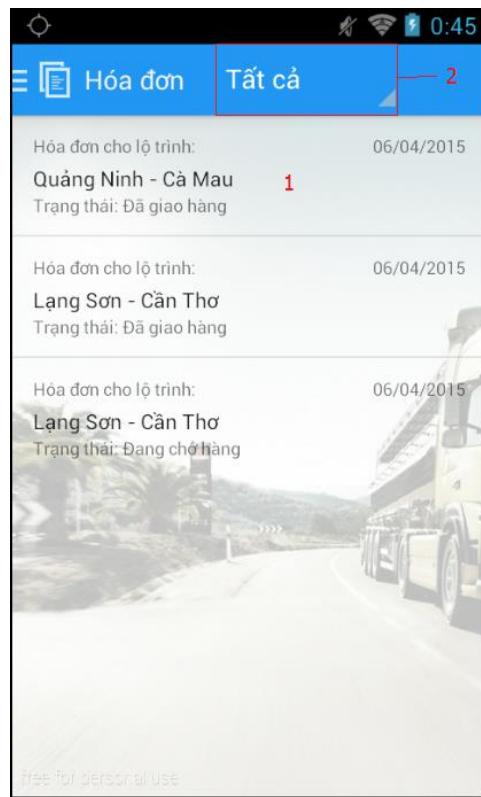
4.2.11 Confirm Deal



Buttons/ Action Bar

No	Function	Description	Validation	Outcome
1	Counter offer	Make counter offer for current offer	No	Navigate to “Gửi đề nghị” screen
2	Accept offer	Accept current offer	No	Navigate to “Chi tiết hóa đơn” screen
3	Decline offer	Decline current offer	No	Navigate to “Đề nghị gửi” screen

4.2.12 View List Order



Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
2	Sort by date	Sort by date	No	No	Combo box	String	N/A

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	View order details	View order details	No	Navigate to "Chi tiết hóa đơn" screen

4.2.13 View Order Detail



Buttons/ Action Bar

No	Function	Description	Validation	Outcome
1	Call good owner	Call good owner of the order	No	Navigate to mobile's phone screen.

5. Database Design

5.1 Logical Diagram

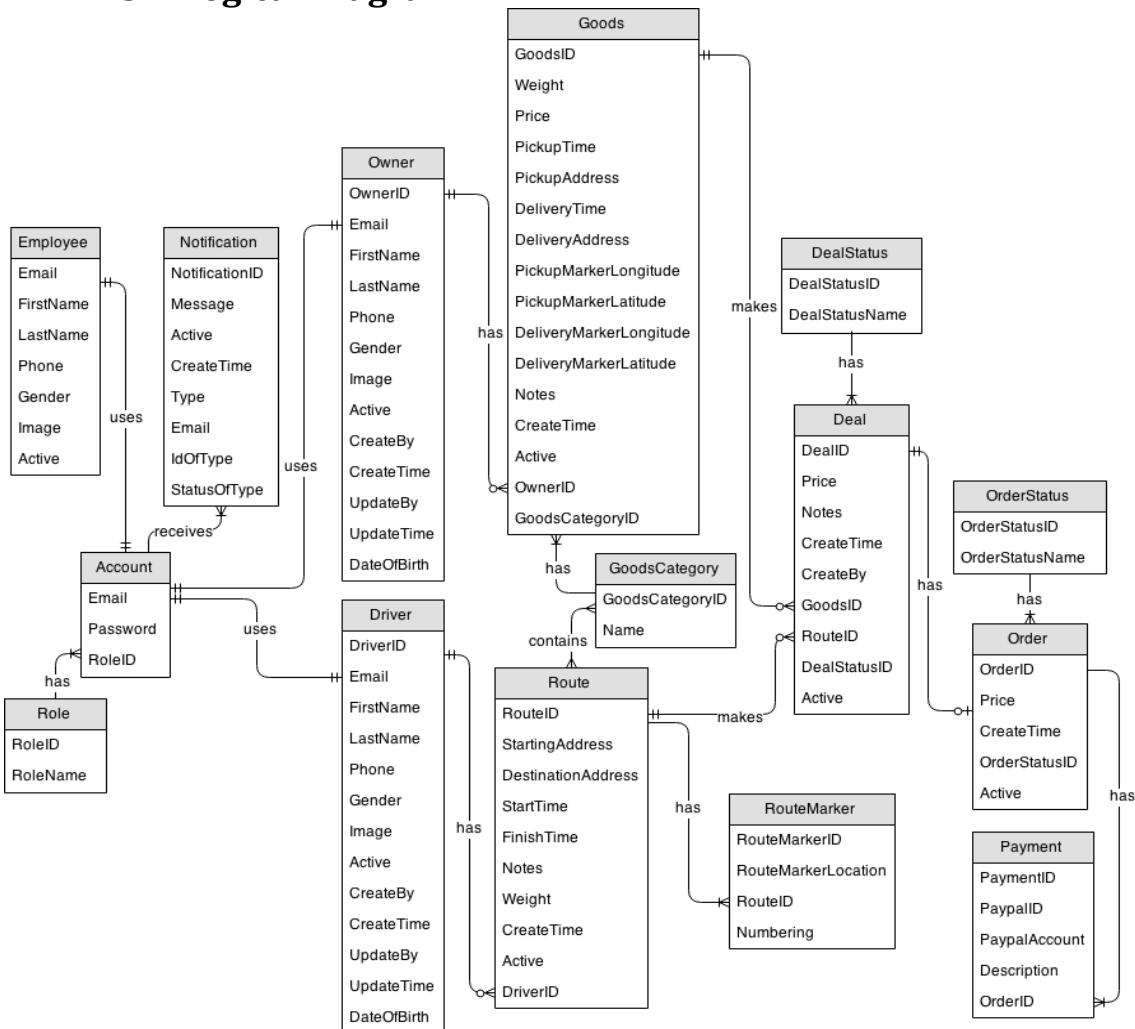


Figure 53: Logical Diagram

5.2 Data Dictionary

Entity Data dictionary: describe content of all entities

Entity Name	Description
Account	Describe all accounts in the system.
Employee	Describe all employees in the system.
Driver	Describe all drivers in the system.
Owner	Describe all owners in the system.
Role	Describe all roles in the system.
Notification	Describe all notifications for accounts.
Route	Describe all routes in the system.
Goods	Describe all goods in the system.
Deal	Describe all deals in the system.
Order	Describe all orders in the system.
RouteMarker	Describe all route markers of driver.
GoodsCategory	Describe all goods' category in the system.
DealStatus	Describe all deal statuses of deals.

OrderStatus	Describe all order statuses of orders.
-------------	--

Table 11: Data Dictionary

Entity name	Attributes	Description	Domain	Null
Account	AccountID	Unique identifier of account, auto increment.	int	No
	Email	Email of account	nvarchar(50)	No
	Password	Password of account	nvarchar(10)	No
	RoleID	Foreign key, Unique identifier of role	int	No
Employee	EmployeeID	Unique identifier of an employee, auto increment.	int	No
	Email	Email of an employee	nvarchar(50)	No
	FirstName	First name of an employee	nvarchar(50)	No
	LastName	Last name of an employee	nvarchar(50)	No
	Phone	Phone of an employee	nvarchar(50)	No
	Gender	Sex of an employee	int	Yes
	Image	Image of an employee account	nvarchar(50)	Yes
	Active	State of an employee account	int	No
Driver	DriverID	Unique identifier of a driver, auto increment	int	No
	Email	Email of a driver	nvarchar(50)	No
	FirstName	First name of driver	nvarchar(50)	No
	LastName	Last name of driver	nvarchar(50)	No
	Gender	Gender of driver	int	Yes
	Phone	Phone number of driver	nvarchar(50)	No
	Active	State of a driver account	int	No
	CreateBy	The person who creates a driver account	nvarchar(50)	No
	CreateTime	The time driver account is created	datetime	No
	UpdateBy	The person who updates a driver account	nvarchar(50)	Yes

	UpdateTime	The time driver account is updated	datetime	Yes
	DateOfBirth	Truck driver's date of birth	datetime	Yes
Owner	OwnerID	Unique identifier of a owner, auto increment	int	No
	Email	Email of a owner	nvarchar(50)	No
	FirstName	First name of owner	nvarchar(50)	No
	LastName	Last name of owner	nvarchar(50)	No
	Gender	Gender of owner	int	Yes
	Phone	Phone number of owner	nvarchar(50)	No
	Image	Image of owner	nvarchar(50)	Yes
	Active	State of a owner account	int	No
	CreateBy	The person who creates an owner account	nvarchar(50)	No
	CreateTime	The time owner account is created	datetime	No
	UpdateBy	The person who updates an owner account	nvarchar(50)	Yes
	UpdateTime	The time owner account is updated	datetime	Yes
	DateOfBirth	Owner's date of birth	datetime	Yes
Role	RoleID	Unique identifier of a role, auto increment	int	No
	RoleName	Role name	nvarchar(50)	No
Route	RouteID	Unique identifier of a route, auto increment	int	No
	StartingAddress	Starting point of a route	nvarchar(200)	No
	DestinationAddress	Destination point of a route	nvarchar(200)	No
	StartTime	Start time of a route	datetime	No
	FinishTime	Finish time of a route	datetime	No
	Notes	Note for route	nvarchar(250)	Yes
	Weight	Maximum weight the truck can load on this route	int	No
	CreateTime	The time the route is created	datetime	No

	Active	State of a route	int	No
	DriverID	Unique identifier of a driver, foreign key	int	No
RouteMarker	RouteMarkerID	Unique identifier of a role marker, auto increment	int	No
	RouteMarkerLocation	Route marker address	nvarchar(200)	No
	RouteID	Unique identifier of a route, foreign key	int	No
	Numbering	Order of markers	int	No
	GoodsID	Unique identifier of goods, auto increment	int	No
Goods	Weight	Goods' weight	int	No
	Price	Goods' price	float	No
	PickupTime	Time to pick up goods	datetime	No
	PickupAddress	Address to pick up goods	nvarchar(200)	No
	DeliveryTime	Time to deliver goods	datetime	No
	DeliveryAddress	Address to deliver goods	nvarchar(200)	No
	PickupMarkerLongitude	Pick up location's longitude	decimal(10, 7)	No
	PickupMarkerLatitude	Pick up location's latitude	decimal(10, 7)	No
	DeliveryMarkerLongitude	Delivery location's longitude	decimal(10, 7)	No
	DeliveryMarkerLatitude	Delivery location's latitude	decimal(10, 7)	No
	Notes	Note for goods	nvarchar(250)	Yes
	CreateTime	Good's create time	datetime	No
	Active	State of the goods	int	No
	OwnerID	Unique identifier of owner	int	No
	GoodsCategoryID	Unique identifier of goods' category, foreign key	int	No
GoodsCategory	GoodsCategoryID	Unique identifier of goods' category, auto increment	int	No
	Name	Category name	nvarchar(50)	No
RouteGoodsCategory	RouteID	Unique identifier of a route, foreign key	int	No
	GoodsCategoryID	Unique identifier of goods' category, foreign key	int	No

Deal	DealID	Unique identifier of a deal	int	No
	Price	Deal's price	float	No
	Notes	Deal's note	nvarchar(250)	Yes
	CreateTime	Deal's create time	datetime	No
	CreateBy	Sender of a deal	nvarchar(50)	No
	RouteID	Unique identifier of a route, foreign key	int	No
	GoodsID	Unique identifier of the goods, foreign key	int	No
	DealStatusID	Unique identifier of a deal status, foreign key	int	No
	Active	State of a deal	int	No
DealStatus	DealStatusID	Unique identifier of a deal status, auto increment	int	No
	DealStatusName	Deal status name	nvarchar(50)	No
Order	OrderID	Unique identifier of a deal, auto increment	int	No
	Price	Deal's price	float	No
	CreateTime	Deal's create time	datetime	No
	OrderStatusID	Unique identifier of an order, foreign key	int	No
	Active	State of an order	int	No
OrderStatus	OrderStatusID	Unique identifier of an order status, auto increment	int	No
	OrderStatusName	Order status name	nvarchar(50)	No
DealOrder	DealOrderID	Unique identifier of a deal order, auto increment	int	No
	DealID	Unique identifier of a deal, foreign key	int	No
	OrderID	Unique identifier of an order, foreign key	int	No
Notification	NotificationID	Unique identifier of an order status, auto increment	int	No
	Message	Notification's message	nvarchar(200)	No
	Active	State of notification	int	No
	CreateTime	Notification's create time	datetime	No
	Type	Notification's type	nvarchar(10)	No

	Email	Email of the user notification is made for	nvarchar(50)	No
	IdOfType	Unique identifier of a notification's type, foreign key	int	No
	StatusOfType	Notification's type status, foreign key	int	No
Payment	PaymentID	Unique identifier of a payment, auto increment	int	No
	PaypalID	Paypal key	nvarchar(200)	No
	PaypalAccount	Account of charge this payment	nvarchar(200)	No
	Description	Description of this payment	nvarchar	No
	CreateTime	Create time of this payment	datetime (10)	No
	OrderID	Unique identifier of an order	int	No

Table 12: Attribute Data Dictionary

❖ **Business integrity constraint:**

- Each user can only be in one single role and has his/her single profile. (If “owner” is an email exists in Account and Owner, it can’t exist in Driver or Employee).

6. Algorithms

6.1 Suggest Appropriate Goods/Route

6.1.1 Definition

- Goods owner want to find route passing nearly and choose truck driver for make deal.
- Truck driver want to get the goods nearly the route and choose the goods owner for make deal.

6.1.2 Requirement

- Goods which have category contains list category of truck driver can carry.
- The range of date between goods and route must have intersection.
- Weight of goods must be less than payloads of truck driver.
- Result should be sorted by shorted driving distance.
- Driving distance from route of driver to goods should be shorter than 50km or shorter as goods owner expect.
- Use Google Maps API to get actual distance from route to pick up address of goods and delivery address of goods.

6.1.3 Solution

- Reference to attachment flow chart in Folder: *Goods Owner Get Suggestion Route* and *“Truck Driver Get Suggestion Goods” flow chart*.

6.1.4 Complexity

In total, the complexity of this algorithm is $2n^2$.

6.2 Make deal process and handling conflict

6.2.1 Make deal process

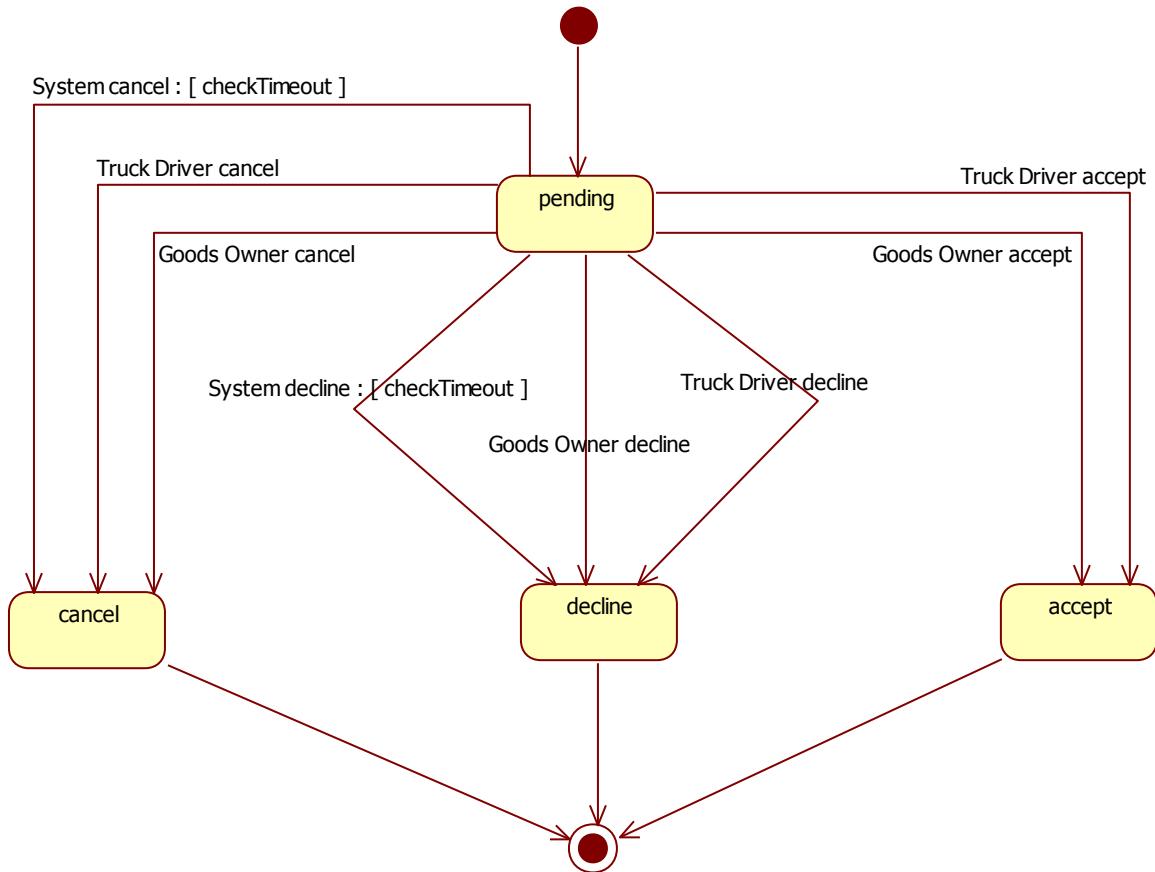


Figure 54: Make Deal Process

- First, goods owner can get suggestion driver from system matching.
- Next, goods owner make an offer as a deal and system notify this offer to truck driver, at the time, deal status is PENDING and create by is owner. If goods owner cancel this deal before truck driver bid, deal status would be CANCEL. If goods owner decline the bid from truck driver, deal status would be DECLINE.
- Finally, one of both satisfied with the price and decides to agree the deal, at this time deal status would be ACCEPT.

6.2.2 Requirement

- Goods owner and goods owner can making or receiving multiple deal for an offer.

6.2.3 Define problem

- Because goods of owner can deal with multiple truck driver but one deal is accept, another deal must be change to cancel or decline status.

6.2.4 Solution

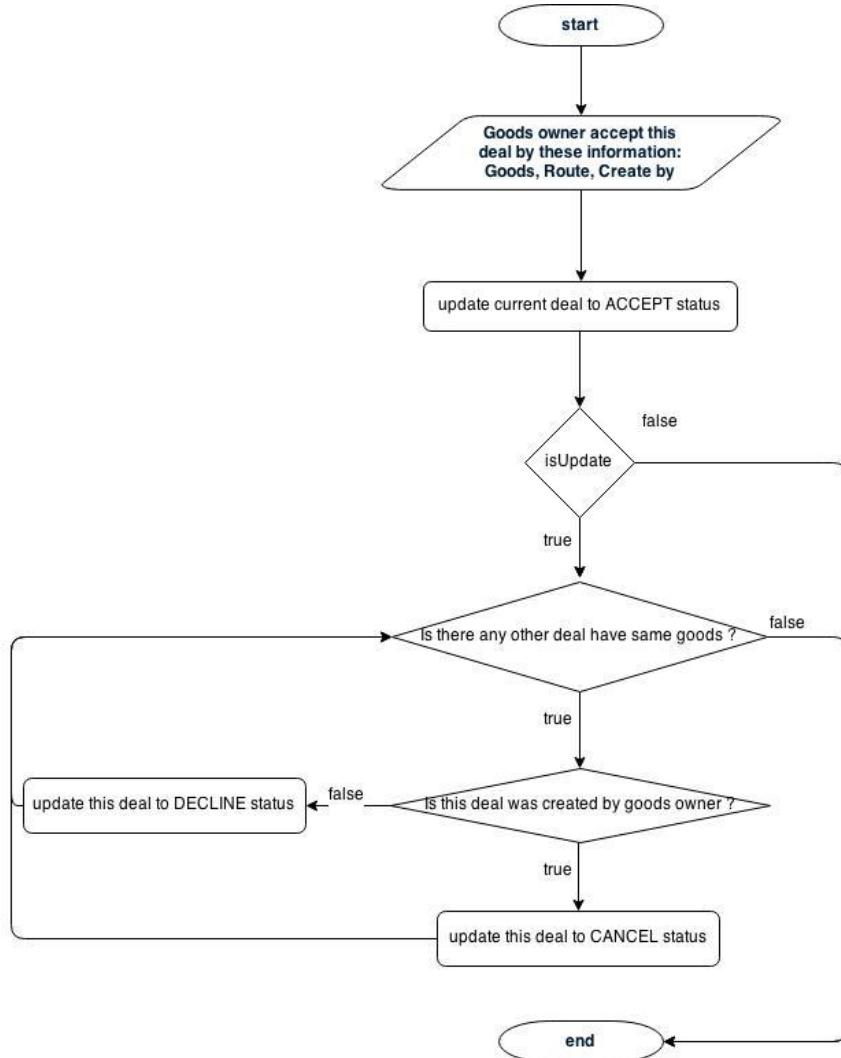


Figure 55: Handling Conflict

6.3 Payment process and managing order status

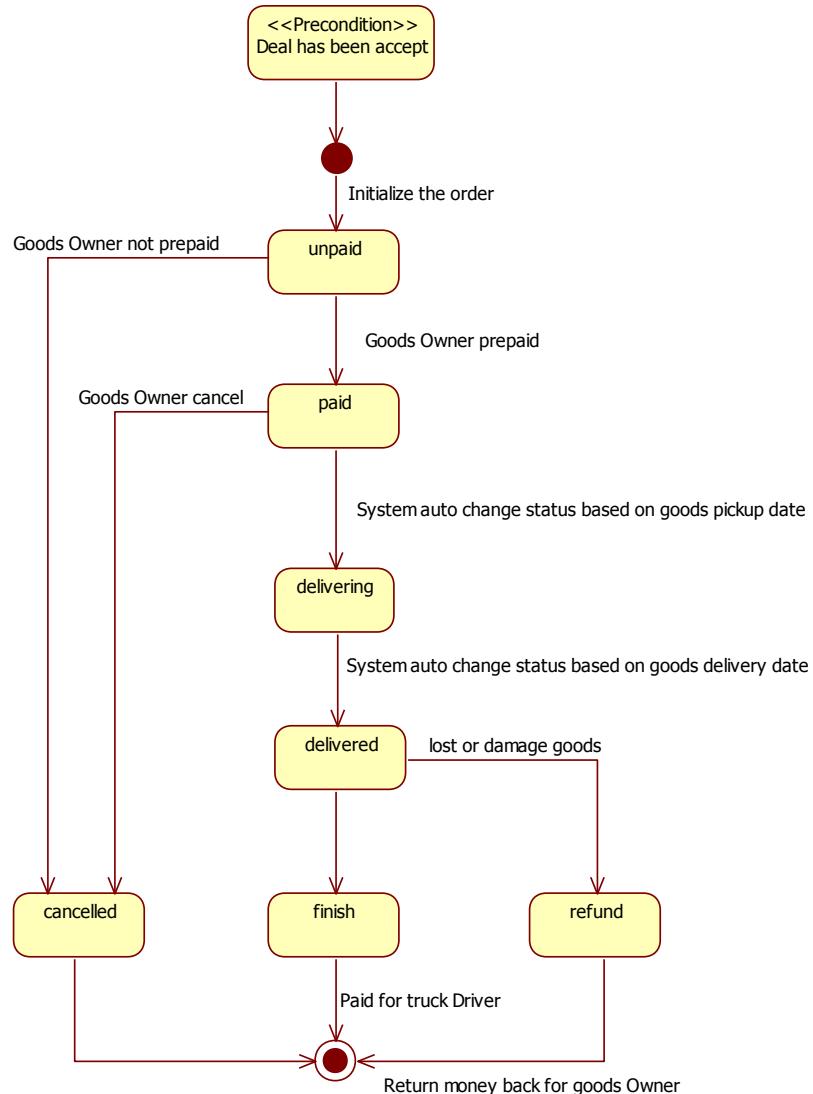


Figure 56: State Diagram for Order Status

- When truck driver/ goods owner accepts a deal, an order is created with status UNPAID. This requires goods owner to pre-pay the order in order to have their good delivered.
- From the day the order is created to 1 day before, truck driver begins to pick up the goods, if goods owner must prepay the order, order's status is changed to PAID and the goods is ready to be delivered. Otherwise, goods owner want to cancel, order status is CANCELLED and system fine this mistake of owner and refunds remain.
- On good's pickup date, order status is automatically changed to DELIVERING.
- On good's delivery date, order status is automatically changed to DELIVERED.
- From good's delivery date to 3 date after, goods owner has the right to report missing/broken good. If there is no report, order status is changed to FINISH and money is sent to truck driver. Otherwise, staff will check the situation carefully; if it right, staff change order status is REFUND, system will sent money back to goods owner.

E. System Implementation & Test

1. Introduction

1.1 Overview

This section provides in detail all necessary information about test plans, test cases, test result, test environments, pass/fail criteria and risks estimations as well as a checklist to cover all possible cases of this project.

1.2 Test Approach

- Goal: To test the whole system based on the core workflow.
- Method: System Testing, Black – box Testing.

2. Database Relationship Diagram

2.1 Physical Diagram

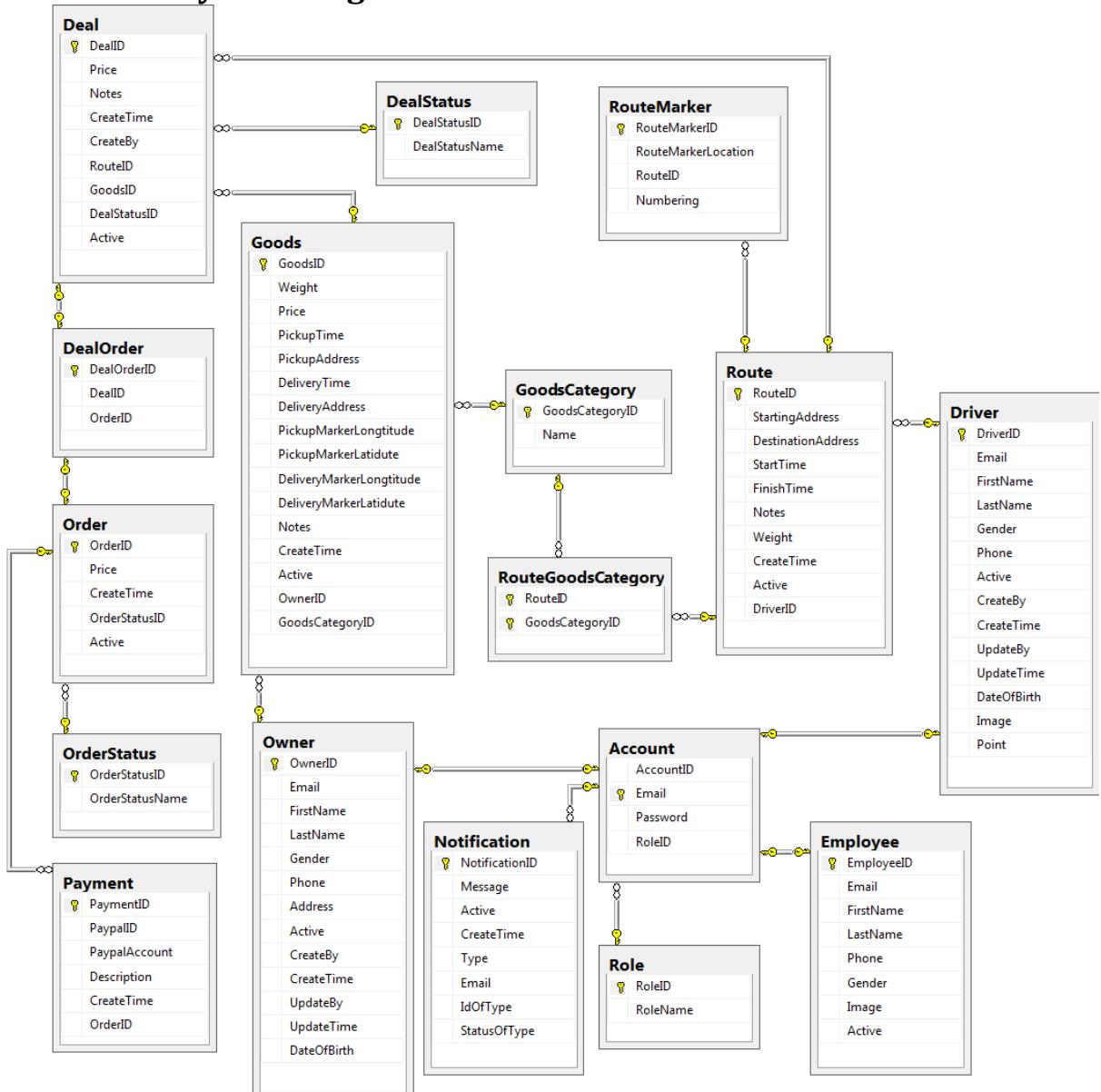


Figure 57: Physical Diagram

2.2 Data Dictionary

Entity Data dictionary: describe content of all entities		
No.	Entity Name	Description
1	Account	Describe all accounts in the system.
2	Employee	Describe all employees in the system.
3	Driver	Describe all drivers in the system.
4	Owner	Describe all owners in the system.
5	Role	Describe all roles in the system.
6	Notification	Describe all notifications for accounts.
7	Route	Describe all routes in the system.
8	Goods	Describe all goods in the system.
9	Deal	Describe all deals in the system.
10	Order	Describe all orders in the system.
11	RouteMarker	Describe all route markers of driver.
12	GoodsCategory	Describe all goods' category in the system.
13	RouteGoods Category	Describe all good's category truck doesn't carry in the system.
14	DealStatus	Describe all deal statuses of deals.
15	OrderStatus	Describe all order statuses of orders.
16	DealOrder	Describe all deals and orders relations.
17	Payment	Describe all payment relate to order.

Table 13: Data Dictionary

Entity name	Attributes	Description	Domain	Null
Account	AccountID	Unique identifier of account, auto increment.	int	No
	Email	Email of account	nvarchar(50)	No
	Password	Password of account	nvarchar(10)	No
	RoleID	Foreign key, Unique identifier of role	int	No
Employee	EmployeeID	Unique identifier of an employee, auto increment.	int	No
	Email	Email of an employee	nvarchar(50)	No
	FirstName	First name of an employee	nvarchar(50)	No
	LastName	Last name of an employee	nvarchar(50)	No
	Phone	Phone of an employee	nvarchar(50)	No
	Gender	Gender of an employee	int	Yes
	Image	Image of an employee account	nvarchar(50)	Yes
	Active	State of an employee account	int	No

Driver	DriverID	Unique identifier of a driver, auto increment	int	No
	Email	Email of a driver	nvarchar(50)	No
	FirstName	First name of driver	nvarchar(50)	No
	LastName	Last name of driver	nvarchar(50)	No
	Gender	Gender of driver	int	No
	Phone	Phone number of driver	nvarchar(50)	No
	Active	State of a driver account	int	No
	CreateBy	The person who creates a driver account	nvarchar(50)	No
	CreateTime	The time driver account is created	datetime	No
	UpdateBy	The person who updates a driver account	nvarchar(50)	Yes
	UpdateTime	The time driver account is updated	datetime	Yes
	DateOfBirth	Truck driver's date of birth	datetime	Yes
Owner	OwnerID	Unique identifier of an owner, auto increment	int	No
	Email	Email of an owner	nvarchar(50)	No
	FirstName	First name of owner	nvarchar(50)	No
	LastName	Last name of owner	nvarchar(50)	No
	Gender	Gender of owner	int	No
	Phone	Phone number of owner	nvarchar(50)	No
	Address	Address of owner	nvarchar(50)	Yes
	Active	State of a owner account	int	No
	CreateBy	The person who creates an owner account	nvarchar(50)	No
	CreateTime	The time owner account is created	datetime	No
	UpdateBy	The person who updates an owner account	nvarchar(50)	Yes
	UpdateTime	The time owner account is updated	datetime	Yes

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	DateOfBirth	Owner's date of birth	datetime	Yes
Role	RoleID	Unique identifier of a role, auto increment	int	No
	RoleName	Role name	nvarchar(50)	No
Route	RouteID	Unique identifier of a route, auto increment	int	No
	StartingAddress	Starting point of a route	nvarchar(200)	No
	DestinationAddress	Destination point of a route	nvarchar(200)	No
	StartTime	Start time of a route	datetime	No
	FinishTime	Finish time of a route	datetime	No
	Notes	Note for route	nvarchar(250)	Yes
	Weight	Maximum weight the truck can load on this route	int	No
	CreateTime	The time the route is created	datetime	No
	Active	State of a route	int	No
RouteMarker	RouteMarkerID	Unique identifier of a role marker, auto increment	int	No
	RouteMarkerLocation	Route marker address	nvarchar(200)	No
	RouteID	Unique identifier of a route, foreign key	int	No
	Numbering	Order of markers	int	No
Goods	GoodsID	Unique identifier of goods, auto increment	int	No
	Weight	Goods' weight	int	No
	Price	Goods' price	float	No
	PickupTime	Time to pick up goods	datetime	No
	PickupAddress	Address to pick up goods	nvarchar(200)	No
	DeliveryTime	Time to deliver goods	datetime	No
	DeliveryAddress	Address to deliver goods	nvarchar(200)	No
	PickupMarkerLongitude	Pick up location's longitude	decimal(10, 7)	No
	PickupMarkerLatitude	Pick up location's latitude	decimal(10, 7)	No
	DeliveryMarkerLongitude	Delivery location's longitude	decimal(10, 7)	No
	DeliveryMarkerLatitude	Delivery location's latitude	decimal(10, 7)	No

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	Notes	Note for goods	nvarchar(250)	Yes
	CreateTime	Good's create time	datetime	No
	Active	State of the goods	int	No
	OwnerID	Unique identifier of owner	int	No
	GoodsCategoryID	Unique identifier of goods' category, foreign key	int	No
GoodsCategory	GoodsCategoryID	Unique identifier of goods' category, auto increment	int	No
	Name	Category name	nvarchar(50)	No
RouteGoods Category	RouteID	Unique identifier of a route, foreign key	int	No
	GoodsCategoryID	Unique identifier of goods' category, foreign key	int	No
Deal	DealID	Unique identifier of a deal	int	No
	Price	Deal's price	float	No
	Notes	Deal's note	nvarchar(250)	Yes
	CreateTime	Deal's create time	datetime	No
	CreateBy	Sender of a deal	nvarchar(50)	No
	RouteID	Unique identifier of a route, foreign key	int	No
	GoodsID	Unique identifier of the goods, foreign key	int	No
	DealStatusID	Unique identifier of a deal status, foreign key	int	No
	Active	State of a deal	int	No
DealStatus	DealStatusID	Unique identifier of a deal status, auto increment	int	No
	DealStatusName	Deal status name	nvarchar(50)	No
Order	OrderID	Unique identifier of a deal, auto increment	int	No
	Price	Deal's price	float	No
	CreateTime	Deal's create time	datetime	No
	OrderStatusID	Unique identifier of an order, foreign key	int	No
	Active	State of an order	int	No
OrderStatus	OrderStatusID	Unique identifier of an order status, auto increment	int	No
	OrderStatusName	Order status name	nvarchar(50)	No
DealOrder	DealOrderID	Unique identifier of a deal order, auto	int	No

		increment		
	DealID	Unique identifier of a deal, foreign key	int	No
	OrderID	Unique identifier of an order, foreign key	int	No
Notification	NotificationID	Unique identifier of an order status, auto increment	int	No
	Message	Notification's message	nvarchar(200)	No
	Active	State of notification	int	No
	CreateTime	Notification's create time	datetime	No
	Type	Notification's type	nvarchar(10)	No
	Email	Email of the user notification is made for	nvarchar(50)	No
	IdOfType	Unique identifier of a notification's type	int	No
	StatusOfType	Notification's type status	int	No
Payment	PaymentID	Unique identifier of a payment, auto increment	int	No
	PaypalID	PayPal key	nvarchar(200)	No
	PaypalAccount	Email of payer	int	No
	Description	Payment's description	datetime	No
	CreateTime	Notification's create time	datetime	No
	OrderID	Unique identifier of an order, foreign key	int	No

Table 14: Attribute Data Dictionary

3. Performance Measures

- The complexity suggestion algorithm based on $2n^2$ which n is the number of goods/route. Also the request and receives data from Google Maps API affect on the performance. In general, the speed of suggestion algorithm should less than 10 seconds.

4. Test Plan

The purpose of this section is to verify and ensure that FTS System meets its design specification and other requirements from user. The following part will describe which features to be tested and which will not.

4.1 Features to be tested

- Goods owner: Create new goods, update goods, delete goods, get suggestion route; send deal to drive, accept deal, decline deal, cancel deal, pay order and reported order.

- Truck driver: Create new route, update route, delete route; send deal to owner, accept deal, decline deal and cancel deal.
- System task: Notify, check time out for deal, order; check available date for goods, route.

4.2 Features not to be tested

- Login, Logout, Change password, Forgot password, Update profile
- Staff: Configurations Management, Member Management.
- Administrator: Staffs Management.

5. System Testing Test Case

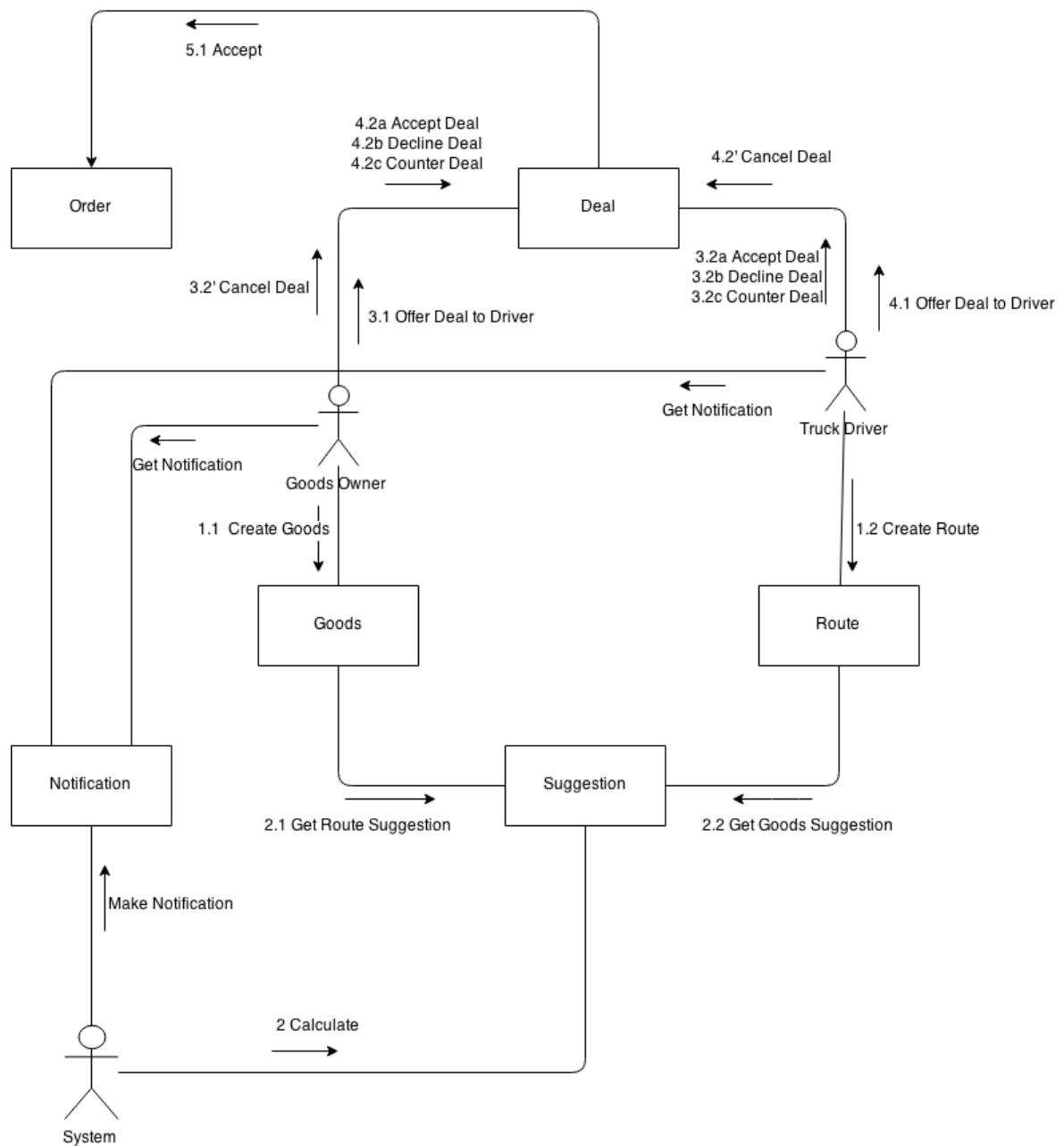


Figure 58: Goods Owner, Truck Driver Flow

5.1 Goods Owner Test Case

5.1.1 Owner Create Goods

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
OCG01	Goods owner creates new goods with possible delivery date earlier than possible pickup date	<p>1- From FTS Owner app, owner clicks “Tạo hàng” button.</p> <p>2- Owner inputs possible delivery date: “14/04/2015”</p> <p>3- Owner inputs possible pickup date: “19/4/2015”</p> <p>4- Owner clicks “Tạo hàng” button</p>	<p>- After step 1, show “Tạo hàng” screen.</p> <p>- After step 4, show error message: “Ngày nhận hàng không được trễ hơn ngày giao hàng”.</p>	N/A	Passed	14/04/2015	

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OCG02	Goods owner creates new goods with weight bigger than 45000kg	<p>1- From FTS Owner app, owner clicks “Tạo hàng” button.</p> <p>2- Owner inputs weight: “45001”</p> <p>3- Owner clicks “Tạo hàng” button</p>	<p>- After step 1, show “Tạo hàng” screen.</p> <p>- After step 3, show error message: “Khối lượng không thể vượt quá 45000 kg”.</p>	N/A	Passed	14/04/2015	
OCG03	Goods owner creates new goods with distance between pickup address and delivery address less than 10km	<p>1- From FTS Owner app, owner clicks “Tạo hàng” button.</p> <p>2- Owner inputs pickup address: “144 Trần Bình Trọng, phường 1, District 5, Ho Chi Minh”</p> <p>3- Owner inputs delivery address: “23 Lê Quang Định, 14, Bình Thạnh, Hồ Chí Minh”</p> <p>4- Owner clicks “Tạo</p>	<p>- After step 1, show “Tạo hàng” screen.</p> <p>- After step 4, show error message: “Khoảng cách giữa 2 địa chỉ phải hơn 10km”.</p>	N/A	Passed	14/04/2015	

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		hàng” button					
OCG04	Goods owner creates new goods with valid information	<p>1- From FTS Owner app, owner clicks “Tạo hàng” button.</p> <p>2- Owner inputs weight: “2000”, possible pickup date: “14/04/2015”, possible delivery date: “16/04/2015”, pickup address: “Quảng Trị”, delivery address: “TP Tuy Phước”, price: “3000”.</p> <p>3- Owner clicks “Tạo hàng” button</p> <p>3- Owner clicks “Đồng ý” button</p>	<p>- After step 1, show “Tạo hàng” screen.</p> <p>- After step 4, show success message: “Hàng đã tạo thành công”, show suggestion route screen.</p>	N/A	Passed	14/04/2015	

5.1.2 Owner Get Suggestion Route

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
OGR01	Goods owner get suggestion route for his goods.	<p>1- From FTS Owner app, clicks on tab “Tạo hàng”</p> <p>2- Owner inputs: category: “Hàng thực phẩm”, weight: “2000”, pickup date: “15/04/2015”, delivery date: “17/04/2015”, pickup address: “12 Trần Phú, Xương Huân, tp. Nha Trang”, delivery address: “144 Trần Bình Trọng, Hồ Chí Minh”, price: “3000”.</p> <p>3- Owner click “Tạo hàng” buttons.</p> <p>4- From FTS Driver app, create route with starting address: “Nha Trang”, destination</p>	<p>- After step 1, show “Tạo hàng” screen.</p> <p>-After step 3, show confirmation dialog.</p> <p>- After step 4, show suggestion route: “Nha Trang – Hồ Chí Minh”.</p>	OCG04, DCR03	Passed	14/04/2015	

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		<p>address: "Hồ Chí Minh".</p> <p>5- Owner clicks "Đồng ý" button</p>				
OGR02	Goods owner get no suggestion route for his goods because of no matching route.	<p>1- From FTS Owner app, clicks on tab "Tạo hàng"</p> <p>2- Owner inputs: category: "Hàng thực phẩm", weight: "2000", pickup date: "15/04/2015", delivery date: "17/04/2015", pickup address: "12 Trần Phú, Xương Huân, tp. Nha Trang", delivery address: "144 Trần Bình Trọng, Hồ Chí Minh", price: "3000".</p> <p>3- Owner click "Tạo</p>	<p>- After step 1, show "Tạo hàng" screen.</p> <p>-After step 3, show confirmation dialog.</p> <p>- After step 4, show screen with message: "Không tìm thấy lộ trình phù hợp".</p>	OCG04, DCR03	Passed	14/04/2015

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		<p>hàng” buttons.</p> <p>4- From FTS Driver app, create route with starting address: “Hồ Chí Minh”, destination address: “Nha Trang”.</p> <p>5- Owner clicks “Đồng ý” button</p>				
OGR03	Goods owner get no suggestion route for his goods because of no matching category.	<p>1- From FTS Owner app, clicks on tab “Tạo hàng”</p> <p>2- Owner inputs: category: “Hàng thực phẩm”, weight: “2000”, pickup date: “15/04/2015”, delivery date: “17/04/2015”, pickup address: “12 Trần Phú, Xương Huân, tp. Nha Trang”, delivery address: “144 Trần Bình Trọng, Hồ Chí Minh”, price: “3000”.</p> <p>3- Owner click “Tạo</p>	<p>- After step 1, show “Tạo hàng” screen.</p> <p>-After step 3, show confirmation dialog.</p> <p>- After step 4, show screen with message: “Không tìm thấy lộ trình phù hợp”.</p>	OCG04, DCR03	Passed	14/04/2015

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		<p>hàng” buttons.</p> <p>4- From FTS Driver app, create route with excluded category: “Hàng thực phẩm”.</p> <p>5- Owner clicks “Đồng ý” button</p>				
OGR04	Goods owner get no suggestion route for his goods because of no matching date.	<p>1- From FTS Owner app, clicks on tab “Tạo hàng”</p> <p>2- Owner inputs: category: “Hàng thực phẩm”, weight: “2000”, pickup date: “15/04/2015”, delivery date: “17/04/2015”, pickup address: “12 Trần Phú, Xương Huân, tp. Nha Trang”, delivery address: “144 Trần Bình Trọng, Hồ Chí Minh”, price: “3000”.</p> <p>3- Owner click “Tạo</p>	<p>- After step 1, show “Tạo hàng” screen.</p> <p>-After step 3, show confirmation dialog.</p> <p>- After step 4, show screen with message: “Không tìm thấy lộ trình phù hợp”.</p>	OCG04, DCR03	Passed	14/04/2015

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		<p>hàng” buttons.</p> <p>4- From FTS Driver app, create route with starting time: “18/04/2015”, destination time: “19/04/2015”.</p> <p>5- Owner clicks “Đồng ý” button</p>				
OGR05	Goods owner get no suggestion route for his goods because of no matching weight.	<p>1- From FTS Owner app, clicks on tab “Tạo hàng”</p> <p>2- Owner inputs: category: “Hàng thực phẩm”, weight: “2000”, pickup date: “15/04/2015”, delivery date: “17/04/2015”, pickup address: “12 Trần Phú, Xương Huân, tp. Nha Trang”, delivery address: “144 Trần Bình Trọng, Hồ Chí Minh”, price: “3000”.</p>	<p>- After step 1, show “Tạo hàng” screen.</p> <p>-After step 3, show confirmation dialog.</p> <p>- After step 4, show screen with message: “Không tìm thấy lộ trình phù hợp”.</p>	OCG04, DCR03	Passed	14/04/2015

	<p>3- Owner click “Tạo hàng” buttons.</p> <p>4- From FTS Driver app, create route with weight: “1000”.</p> <p>5- Owner clicks “Đồng ý” button</p>					
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5.1.3 Owner Send Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
OOD01	Goods owner offers new deal to driver	<p>1- After creating new goods or clicking “Gợi ý lộ trình” button.</p> <p>2- Owner clicks on a route he wants to deal with.</p> <p>3- Owner inputs price: “3000” and note.</p> <p>4- Owner clicks “Gửi đề nghị thành công”.</p>	<p>- After step 1, show “Gợi ý lộ trình” screen.</p> <p>-After step 2, show “Thông tin lộ trình” screen.</p> <p>- After step 4, show success message: “Gửi đề nghị thành công”.</p>	OGR01	Passed	14/04/2015	

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		nghi” button					
OOD02	Goods owner offers new deal to driver when driver's weight limit is up	1- After creating new goods or clicking “Gọi ý lộ trình” button. 2- Owner clicks on a route he wants to deal with. 3- Owner inputs price: “3000” and note. 4- Owner clicks “Gửi để nghị” button	- After step 1, show “Gọi ý lộ trình” screen. -After step 2, show “Thông tin lộ trình” screen. - After step 4, if driver's weight limit is up, show error message: “Lộ trình không còn phù hợp”.	OGR01	Passed	14/04/2015	
OOD03	Goods owner offers new deal to driver when route	1- After creating new goods or clicking “Gọi ý	- After step 1, show “Gọi ý lộ	OGR01	Passed	14/04/2015	

	is unavailable	<p>lộ trình” button.</p> <p>2- Owner clicks on a route he wants to deal with.</p> <p>3- Owner inputs price: “3000” and note.</p> <p>4- Owner clicks “Gửi đề nghị” button</p>	<p>trình” screen.</p> <p>-After step 2, show “Thông tin lộ trình” screen.</p> <p>- After step 4, if route is unavailable, show error message: “Lộ trình không còn phù hợp”.</p>				
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5.1.4 Owner Counter Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
OCD01	Goods owner counter deal from driver	<p>1- From FTS Owner app, clicks on a goods which has deal from driver.</p> <p>2- Owner clicks on “Đề nghị” tab then clicks on a deal he wants to counter.</p> <p>3- Owner inputs price: “3000” and note.</p>	<p>- After step 1, show “Thông tin hàng hóa” screen.</p> <p>-After step 2, show “Thông tin đề nghị” screen.</p> <p>- After step 4, show success</p>	N/A	Passed	14/04/2015	

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		4- Owner clicks “Trả giá đề nghị” button	message: “Trả giá đề nghị thành công”.				
OCD02	Goods owner counters deal from driver when deal is canceled	1- From FTS Owner app, clicks on a goods which has deal from driver. 2- Owner clicks on “Đề nghị” tab then clicks on a deal he wants to counter. 3- Owner inputs price: “3000” and note. 4- Owner clicks “Trả giá đề nghị” button	- After step 1, show “Thông tin hàng hóa” screen. - After step 2, show “Thông tin đề nghị” screen. - After step 4, if deal is canceled by driver, show error message: “Lộ trình không còn tồn tại”.	DCA01	Passed	14/04/2015	

5.1.5 Owner Accept Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
OAD01	Goods owner accepts deal sent from driver	<p>1- From FTS Owner app, clicks on a goods which has deal from driver.</p> <p>2- Owner clicks on “Đề nghị” tab then clicks on a deal he wants to accept.</p> <p>3- Owner click “Chấp nhận” buttons.</p>	<p>- After step 1, show “Thông tin hàng hóa” screen.</p> <p>-After step 2, show “Thông tin đề nghị” screen.</p> <p>- After step 4, show success message: “Chấp nhận đề nghị thành công”.</p>	N/A	Passed	14/04/2015	
OAD02	Goods owner accepts deal sent from driver when deal is canceled	<p>1- From FTS Owner app, clicks on a goods which has deal from driver.</p> <p>2- Owner clicks on “Đề nghị” tab then clicks on a deal he wants to accept.</p> <p>3- Owner click “Chấp</p>	<p>- After step 1, show “Thông tin hàng hóa” screen.</p> <p>-After step 2, show “Thông tin đề nghị” screen.</p> <p>- After step 4, if deal is canceled</p>	DCA01	Passed	14/04/2015	

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		nhận" buttons.	by driver, show error message: “Đề nghị không còn tồn tại”.				
OAD03	Goods owner accepts deal sent from driver when weight limit is up	<p>1- Owner 1 creates goods 1 with weight: “5000”, owner 2 creates goods 2 with weight: “4000”, driver creates route with weight: “8000”. All goods and route are matched to each other.</p> <p>2- Driver offers deal to both owners.</p> <p>3- Owner 1 accepts deal.</p> <p>4- Owner 2 accept deal.</p>	- After step 4, show error message to owner 2: “Đề nghị không còn tồn tại”.	OCG04, DCR03, OAD01, DOD01			

5.1.6 Owner Decline Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
ODD01	Goods owner declines deal sent from driver	<p>1- From FTS Owner app, clicks on a goods which has deal from driver.</p> <p>2- Owner clicks on “Đề nghị” tab then clicks on a deal he wants to decline.</p> <p>3- Owner click “Tù chối” buttons.</p>	<p>- After step 1, show “Thông tin hàng hóa” screen.</p> <p>-After step 2, show “Thông tin đề nghị” screen.</p> <p>- After step 4, show success message: “Tù chối đề nghị thành công”.</p>	N/A	Passed	14/04/2015	
ODD02	Goods owner declines deal sent from driver when deal is canceled	<p>1- From FTS Owner app, clicks on a goods which has deal from driver.</p> <p>2- Owner clicks on “Đề nghị” tab then clicks on a deal he wants to decline.</p> <p>3- Owner click “Tù chối”</p>	<p>- After step 1, show “Thông tin hàng hóa” screen.</p> <p>-After step 2, show “Thông tin đề nghị” screen.</p> <p>- After step 4, if deal is canceled</p>	DCA01	Passed	14/04/2015	

		buttons.	by driver, show error message: “Đề nghị không còn tồn tại”.				
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5.1.7 Owner Cancel Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
OCA01	Goods owner cancels deal sent from owner	1- From FTS Owner app, clicks on a goods which has deal from owner. 2- Owner clicks on “Đề nghị” tab then clicks on a deal he wants to cancel. 3- Owner click “Hủy” buttons.	- After step 1, show “Thông tin hàng hóa” screen. - After step 2, show “Thông tin đề nghị” screen. - After step 4, show success message: “Hủy đề nghị thành công”.	N/A	Passed	14/04/2015	
OCA02	Goods owner cancels deal sent from owner when deal is accepted by driver	1- From FTS Owner app, clicks on a goods which has deal from owner. 2- Owner clicks on “Đề	- After step 1, show “Thông tin hàng hóa” screen. - After step 2,	DAD01	Passed	14/04/2015	

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		<p>nghị" tab then clicks on a deal he wants to cancel.</p> <p>3- Owner click "Hủy" buttons.</p>	<p>show "Thông tin đề nghị" screen.</p> <p>- After step 4, if deal is accepted by driver, show error message: "Đề nghị không còn tồn tại".</p>				
OCA03	Goods owner cancels deal sent from owner when deal is declined by driver	<p>1- From FTS Owner app, clicks on a goods which has deal from owner.</p> <p>2- Owner clicks on "Đề nghị" tab then clicks on a deal he wants to cancel.</p> <p>3- Owner click "Hủy" buttons.</p>	<p>- After step 1, show "Thông tin hàng hóa" screen.</p> <p>-After step 2, show "Thông tin đề nghị" screen.</p> <p>- After step 4, if deal is declined by driver, show error message: "Đề nghị không còn tồn tại".</p>	DDD01	Passed	14/04/2015	

OCA04	Goods owner cancels deal sent from owner when deal is countered by driver	<p>1- From FTS Owner app, clicks on a goods which has deal from owner.</p> <p>2- Owner clicks on “Đề nghị” tab then clicks on a deal he wants to cancel.</p> <p>3- Owner click “Hủy” buttons.</p>	<p>- After step 1, show “Thông tin hàng hóa” screen.</p> <p>- After step 2, show “Thông tin đề nghị” screen.</p> <p>- After step 4, if deal is countered by driver, show error message: “Đề nghị không còn tồn tại”.</p>	DCD01	Passed	14/04/2015	
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5.2 Truck Driver Test Case

5.2.1 Driver Create Route

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
DCR01	Truck driver creates new route with 2 addresses	<p>1- From FTS Driver app, driver clicks “Tạo mới” button.</p> <p>2- Driver inputs starting</p>	<p>- After step 1, show “Lộ trình mới” screen.</p> <p>- After step 3,</p>	N/A	Passed	14/04/2015	

Freight Truck Services

	<p>address: "Hà Nội", destination address: "Hải Phòng", start time: "15/04/2015 4:00", finish time: "17/04/2015", weight: "8000".</p> <p>3- Driver clicks "Tạo".</p> <p>4- Driver clicks "Không" button.</p> <p>5- Driver clicks "Cập nhật" button.</p> <p>6- Driver clicks "Tạo" button.</p>	<p>show suggest dialog</p> <ul style="list-style-type: none"> - After step 4, show "Tùy chỉnh lộ trình" screen - After step 5, show "Lộ trình mới" screen. - After step 6, show success message: "Tạo mới thành công". 				
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Freight Truck Services

DCR02	Truck driver creates new route with 3 addresses manually	<p>1- From FTS Driver app, driver clicks “Tạo mới” button.</p> <p>2- Driver inputs starting address: “Hà Nội”, destination address: “Hải Phòng”, start time: “15/04/2015 4:00”, finish time: “17/04/2015”, weight: “8000”.</p> <p>3- Driver clicks “Thêm điểm đi qua”, then input passing address 1: “Hải Dương”</p> <p>4- Driver clicks “Tạo”.</p>	<p>- After step 1, show “Lộ trình mới” screen.</p> <p>- After step 4, show success message “Tạo mới thành công”.</p>	N/A	Passed	14/04/2015	
DCR03	Truck driver creates new route with 4 addresses manually	<p>1- From FTS Driver app, driver clicks “Tạo mới” button.</p> <p>2- Driver inputs starting address: “Hà Nội”, destination address: “Hải Phòng”, start time: “15/04/2015 4:00”, finish time: “17/04/2015”, weight: “8000”.</p>	<p>- After step 1, show “Lộ trình mới” screen.</p> <p>- After step 4, show success message “Tạo mới thành công”.</p>	N/A	Passed	14/04/2015	

Freight Truck Services

		<p>“15/04/2015 4:00”, finish time: “17/04/2015”, weight: “8000”.</p> <p>3- Driver clicks “Thêm điểm đi qua”, then input passing address 1: “Hải Dương”, passing address 2: “tp Hưng Yên”</p> <p>4- Driver clicks “Tạo”.</p>					
DCR04	Truck driver creates new route with 4 addresses from suggestion	<p>1- From FTS Driver app, driver clicks “Tạo mới” button.</p> <p>2- Driver inputs starting address: “Hà Nội”, destination address: “Hải Phòng”, start time: “15/04/2015 4:00”, finish time: “17/04/2015”, weight: “8000”.</p> <p>3- Driver clicks “Tạo”.</p> <p>4- Driver clicks “Đồng ý”</p>	<p>- After step 1, show “Lộ trình mới” screen.</p> <p>- After step 3, show suggest dialog</p> <p>- After step 4, show “Tùy chỉnh lộ trình” screen</p> <p>- After step 5, show “Lộ trình mới” screen.</p>				

		<p>button.</p> <p>5- Driver clicks “Cập nhật” button.</p> <p>6- Driver clicks “Tạo” button.</p>	- After step 6, show success message: “Tạo mới thành công”.				
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5.2.2 Driver Get Suggestion Goods

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
DGG01	Truck driver gets suggestion goods for his route	<p>1- From FTS Driver app, driver clicks “Tạo mới” button.</p> <p>2- Driver inputs starting address: “Hà Nội”, destination address: “Hải Phòng”, start time: “15/04/2015 4:00”, finish time: “17/04/2015”, weight: “8000”.</p> <p>3- Driver clicks “Thêm điểm đi qua”, then input</p>	<p>- After step 1, show “Lộ trình mới” screen.</p> <p>-After step 5, show suggestion goods: “Hàng thực phẩm - 1000kg - 3,000,000 đồng”</p>	DRC03, OCG04	Passed	14/04/2015	

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		<p>passing address 1: "Hải Dương", passing address 2: "tp Hưng Yên"</p> <p>4- Owner create new goods category: "Hàng thực phẩm", weight: "1000", pickup date: "15/04/2015", delivery date: "16/04/2015", pickup address: "Hà Nội", delivery address: "Hải Dương", price: "3000".</p> <p>5- Driver clicks "Tạo" button</p>				
DGG02	Truck driver gets no suggestion goods for his route because of no matching route.	<p>1- From FTS Driver app, driver clicks "Tạo mới" button.</p> <p>2- Driver inputs starting address: "Hà Nội", destination address: "Hải Phòng", start time: "15/04/2015 4:00", finish time:</p>	<p>- After step 1, show "Lộ trình mới" screen.</p> <p>-After step 5, show screen with message "Không có hàng nào".</p>	DRC03, OCG04	Passed	14/04/2015

Freight Truck Services

		<p>"17/04/2015", weight: "8000".</p> <p>3- Driver clicks "Thêm điểm đi qua", then input passing address 1: "Hải Dương", passing address 2: "tp Hưng Yên"</p> <p>4- Owner create new goods category: "Hàng thực phẩm", weight: "1000", pickup date: "15/04/2015", delivery date: "16/04/2015", pickup address: "Huế", delivery address: "Nha Trang", price: "3000".</p> <p>5- Driver clicks "Tạo" button</p>				
DGG03	Truck driver gets no suggestion goods for his route because of no matching category.	<p>1- From FTS Driver app, driver clicks "Tạo mới" button.</p> <p>2- Driver inputs starting address: "Hà Nội",</p>	<p>- After step 1, show "Lộ trình mới" screen.</p> <p>-After step 5, show screen with</p>	DRC03, OCG04	Passed	14/04/2015

Freight Truck Services

	<p>destination address: "Hải Phòng", start time: "15/04/2015 4:00", finish time: "17/04/2015", weight: "8000", exclude category: "Hàng thực phẩm".</p> <p>3- Driver clicks "Thêm điểm đi qua", then input passing address 1: "Hải Dương", passing address 2: "tp Hưng Yên"</p> <p>4- Owner create new goods category: "Hàng thực phẩm", weight: "1000", pickup date: "15/04/2015", delivery date: "16/04/2015", pickup address: "Huế", delivery address: "Nha Trang", price: "3000".</p> <p>5- Driver clicks "Tạo" button</p>	<p>message "Không có hàng nào".</p>				
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Freight Truck Services

DGG04	Truck driver gets no suggestion goods for his route because of no matching date.	<p>1- From FTS Driver app, driver clicks “Tạo mới” button.</p> <p>2- Driver inputs starting address: “Hà Nội”, destination address: “Hải Phòng”, start time: “15/04/2015 4:00”, finish time: “17/04/2015”, weight: “8000”.</p> <p>3- Driver clicks “Thêm điểm đi qua”, then input passing address 1: “Hải Dương”, passing address 2: “tp Hưng Yên”</p> <p>4- Owner create new goods category: “Hàng thực phẩm”, weight: “1000”, pickup date: “18/04/2015”, delivery date: “19/04/2015”, pickup address: “Huế”, delivery address: “Nha</p>	<p>- After step 1, show “Lộ trình mới” screen.</p> <p>-After step 5, show screen with message “Không có hàng nào”.</p>	DRC03, OCG04	Passed	14/04/2015	
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Freight Truck Services

		Trang", price: "3000". 5- Driver clicks "Tạo" button					
DGG05	Goods owner get no suggestion route for his goods because of no matching weight.	1- From FTS Driver app, driver clicks "Tạo mới" button. 2- Driver inputs starting address: "Hà Nội", destination address: "Hải Phòng", start time: "15/04/2015 4:00", finish time: "17/04/2015", weight: "8000". 3- Driver clicks "Thêm điểm đi qua", then input passing address 1: "Hải Dương", passing address 2: "tp Hưng Yên" 4- Owner create new goods category: "Hàng thực phẩm", weight: "9000", pickup date:	- After step 1, show "Lộ trình mới" screen. -After step 5, show screen with message "Không có hàng nào".	DRC03, OCG04	Passed	14/04/2015	

	<p>“15/04/2015”, delivery date: “16/04/2015”, pickup address: “Huế”, delivery address: “Nha Trang”, price: “3000”.</p> <p>5- Driver clicks “Tạo” button</p>					
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5.2.3 Driver Send Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
DOD01	Truck driver offers new deal to owner	<p>1- After creating new route or clicking “Xem gợi ý” button.</p> <p>2- Driver clicks on a goods he wants to deal with.</p> <p>3- Driver inputs price: “3000” and note.</p> <p>4- Driver clicks “Gửi” button</p>	<p>- After step 1, show “Gợi ý” screen.</p> <p>-After step 2, show “Gửi đề nghị” screen.</p> <p>- After step 4, show success message: “Gửi đề nghị thành công”.</p>	DGG01	Passed	14/04/2015	

DOD02	Truck driver offers new deal to owner but goods is unavailable	<p>1- After creating new route or clicking “Xem gợi ý” button.</p> <p>2- Driver clicks on a goods he wants to deal with.</p> <p>3- Driver inputs price: “3000” and note.</p> <p>4- Driver clicks “Gửi” button</p>	<p>- After step 1, show “Gợi ý” screen.</p> <p>-After step 2, show “Gửi đề nghị” screen.</p> <p>- After step 4, show success message: “Gửi đề nghị không thành công”.</p>	DGG01	Passed	14/04/2015	
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5.2.4 Driver Counter Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
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Freight Truck Services

DCD01	Truck driver counters deal from owner	<p>1- From FTS Driver app, clicks on “Đề nghị” menu</p> <p>2- Driver clicks on “Đề nghị nhận” tab then clicks on a deal he wants to counter.</p> <p>3- Driver clicks on “Gửi đề nghị mới” button.</p> <p>4- Driver inputs price: “3000” and note.</p> <p>5- Owner clicks “Gửi” button</p>	<p>- After step 1, show “Đề nghị” screen.</p> <p>- After step 2, show “Trả lời đề nghị” screen.</p> <p>- After step 3, show “Gửi đề nghị” screen.</p> <p>- After step 5, show success message: “Gửi đề nghị thành công”.</p>	N/A	Passed	14/04/2015	
DCD02	Truck driver counters deal from owner when deal is canceled by owner	<p>1- From FTS Owner app, clicks on a goods which has deal from driver.</p> <p>2- Owner clicks on “Đề nghị” tab then clicks on a deal he wants to counter.</p> <p>3- Owner inputs price: “3000” and note.</p> <p>4- Owner clicks “Trả giá”</p>	<p>- After step 1, show “Đề nghị” screen.</p> <p>- After step 2, show “Trả lời đề nghị” screen.</p> <p>- After step 3, show “Gửi đề nghị” screen.</p>	OCA01	Passed	14/04/2015	

		đề nghị” button	- After step 5, if deal is canceled by owner, show error message: “Đề nghị đã bị hủy. Gửi đề nghị thất bại.”				
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5.2.5 Driver Accept Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
DAD01	Truck driver accepts deal sent from owner	<p>1- From FTS Driver app, clicks on “Đề nghị” menu</p> <p>2- Driver clicks on “Đề nghị nhận” tab then clicks on a deal he wants to accept.</p> <p>3- Driver clicks on “Chấp nhận” button.</p>	<p>- After step 1, show “Đề nghị” screen.</p> <p>- After step 2, show “Trả lời đề nghị” screen.</p> <p>- After step 3, success message: “Chấp nhận đề nghị thành công”.</p>	N/A	Passed	14/04/2015	

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DAD02	Truck driver accepts deal sent from owner when deal is canceled by owner	<p>1- From FTS Driver app, clicks on “Đề nghị” menu</p> <p>2- Driver clicks on “Đề nghị nhận” tab then clicks on a deal he wants to accept.</p> <p>3- Driver clicks on “Chấp nhận” button.</p>	<p>- After step 1, show “Đề nghị” screen.</p> <p>- After step 2, show “Trả lời đề nghị” screen.</p> <p>- After step 3, if deal is canceled by owner, success message: “Chấp nhận đề nghị không thành công”.</p>	OCA01	Passed	14/04/2015	
DAD03	Truck driver accepts deal sent from owner when goods is already accepted	<p>1- Owner 1 creates goods 1, driver 1 creates route 1, driver creates route 2. All goods and route are matched to each other.</p> <p>2- Owner offers deal to both driver.</p> <p>3- Driver 1 accepts deal</p>	<p>- After step 4, show error message to driver 2: “Đề nghị không còn tồn tại”.</p>	OCG04, DCR03, DAD01, OOD01	Passed	14/04/2015	

		4- Driver 2 accepts deal.					
DAD01	Truck driver accepts goods without making deal	<p>1- Owner creates goods, driver creates route. Both are matching to each other.</p> <p>2- Driver clicks on "Xem gợi ý" button.</p> <p>3- Driver clicks on goods.</p> <p>4- Driver clicks "Chấp nhận" button.</p>	<p>- After step 2, show "Gợi ý" screen.</p> <p>- After step 3, show "Gửi đề nghị" screen.</p> <p>- After step 3, show success message "Hàng hóa đã được chấp nhận".</p>	OCG04, DCR03, DGG01	Passed	14/04/2015	

5.2.6 Driver Decline Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note

Freight Truck Services

DDD01	Truck driver declines deal sent from owner	<p>1- From FTS Driver app, clicks on “Đề nghị” menu</p> <p>2- Driver clicks on “Đề nghị nhận” tab then clicks on a deal he wants to decline.</p> <p>3- Driver clicks on “Từ chối” button.</p>	<p>- After step 1, show “Đề nghị” screen.</p> <p>- After step 2, show “Trả lời đề nghị” screen.</p> <p>- After step 3, success message: “Từ chối đề nghị thành công”.</p>	N/A	Passed	14/04/2015	
DDD02	Truck driver declines deal sent from owner when deal is canceled by owner	<p>1- From FTS Driver app, clicks on “Đề nghị” menu</p> <p>2- Driver clicks on “Đề nghị nhận” tab then clicks on a deal he wants to decline.</p> <p>3- Driver clicks on “Từ chối” button.</p>	<p>- After step 1, show “Đề nghị” screen.</p> <p>- After step 2, show “Trả lời đề nghị” screen.</p> <p>- After step 3, if deal is canceled by owner, success message: “Từ chối đề nghị thành công”.</p>	OCA01	Passed	14/04/2015	

5.2.7 Driver Cancel Deal

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
DCA01	Truck driver cancels deal sent from owner	<p>1- From FTS Driver app, clicks on “Đề nghị” menu</p> <p>2- Driver clicks on “Đề nghị gửi” tab then clicks on a deal he wants to cancel.</p> <p>3- Driver clicks on “Hủy” button.</p>	<p>- After step 1, show “Đề nghị” screen.</p> <p>- After step 2, show “Đề nghị” screen.</p> <p>- After step 3, show success message: “Hủy đề nghị thành công”.</p>	N/A	Passed	14/04/2015	
DCA02	Truck driver cancels deal sent from owner when deal is accepted by owner	<p>1- From FTS Driver app, clicks on “Đề nghị” menu</p> <p>2- Driver clicks on “Đề nghị gửi” tab then clicks on a deal he wants to cancel.</p> <p>3- Driver clicks on “Hủy” button.</p>	<p>- After step 1, show “Đề nghị” screen.</p> <p>- After step 2, show “Đề nghị” screen.</p> <p>- After step 3, if deal is accepted by owner, show success message: “Hủy đề nghị”</p>	OAD01	Passed	14/04/2015	

Freight Truck Services

			không thành công”.				
DCA03	Truck driver cancels deal sent from owner when deal is declined by owner	1- From FTS Driver app, clicks on “Đề nghị” menu 2- Driver clicks on “Đề nghị gửi” tab then clicks on a deal he wants to cancel. 3- Driver clicks on “Hủy” button.	- After step 1, show “Đề nghị” screen. - After step 2, show “Đề nghị” screen. - After step 3, if deal is declined by owner, show success message: “Hủy đề nghị không thành công”.	ODD01	Passed	14/04/2015	
DCA04	Truck driver cancels deal sent from owner when deal is countered by owner	1- From FTS Driver app, clicks on “Đề nghị” menu 2- Driver clicks on “Đề nghị gửi” tab then clicks on a deal he wants to cancel. 3- Driver clicks on	- After step 1, show “Đề nghị” screen. - After step 2, show “Đề nghị” screen. - After step 3, if deal is countered by owner, show success message:	OCD01	Passed	14/04/2015	

Freight Truck Services

		"Hủy" button.	"Hủy đề nghị không thành công".				
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F. Software User's Manual

6. Installation Guide

6.1 Setting up environment at server side

The following software must be installed into the server machine:

6.1.1 Hardware requirements

Personal computers for developing with the minimum configuration:

- Processor: minimum Core 2 Duo 2.0 GHz.
- Memory: minimum 2GB RAM
- Available Disk Space: minimum 30GB hard disk
- Internet: minimum speed 10Mbps

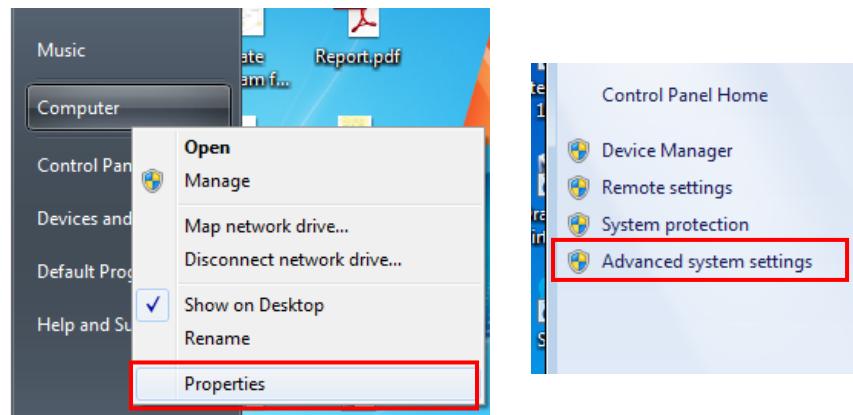
6.1.2 Software requirements

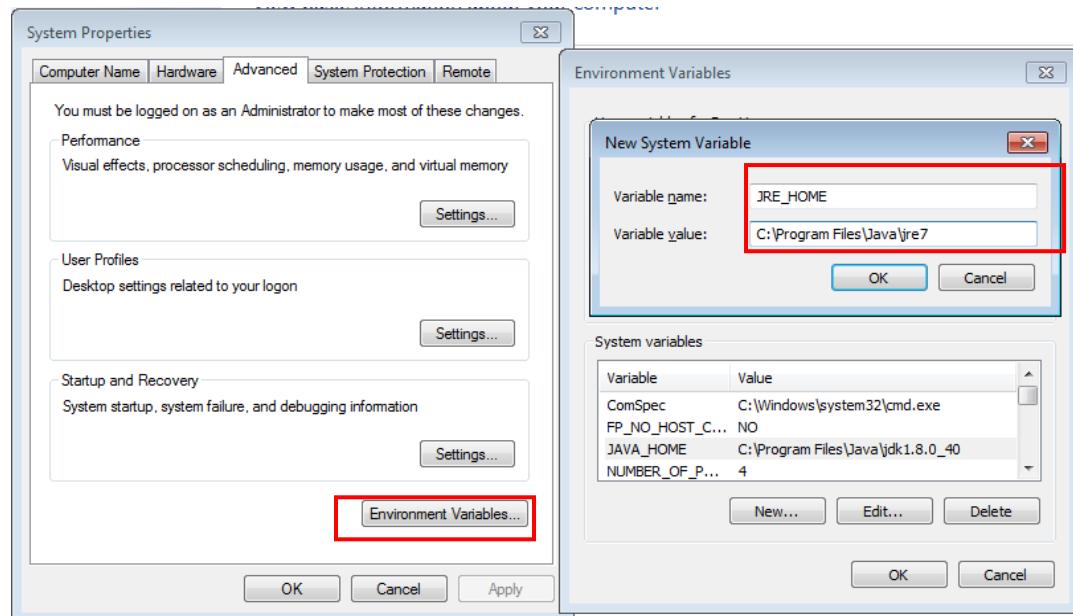
- Web Server: Apache Tomcat 7.0.47 with JRE 7.
- OS: Microsoft Windows Server 2008 R2 Enterprise
- SQL Server 2008 R2: used to create and manage the database for web application.

6.2 Deployment at server side

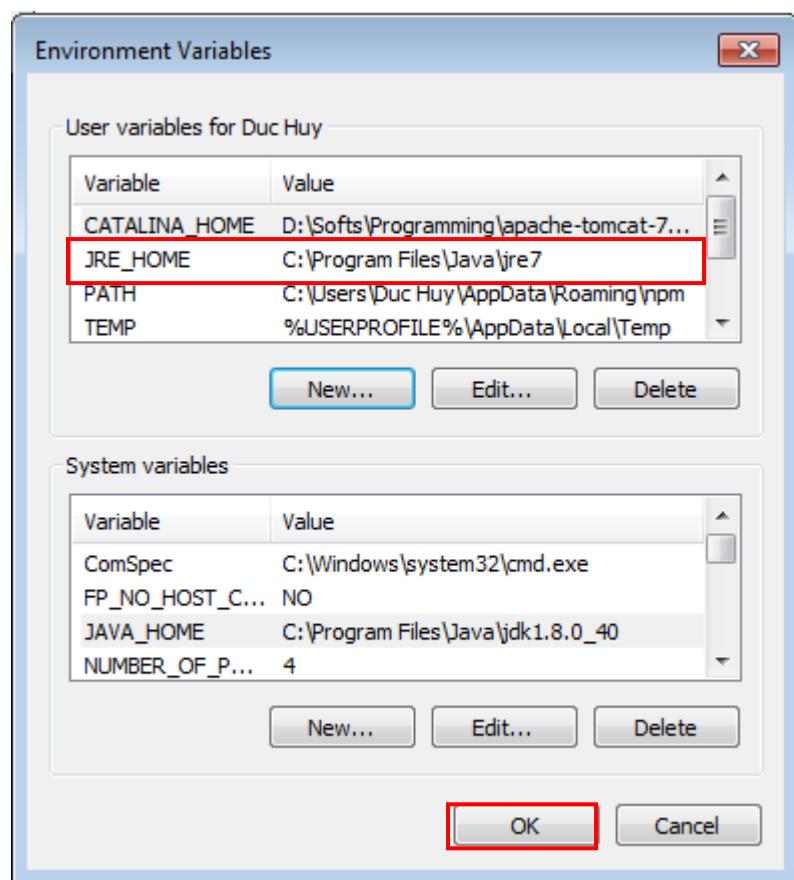
6.2.1 Setup environment variable

- Please go following path: Click **Properties of Computer**, then click **Advanced System Setting**, in “**Advanced**” tab select **Environment variables**.





- Add variable **JRE_HOME**: Directory path of Java Runtime Environment.



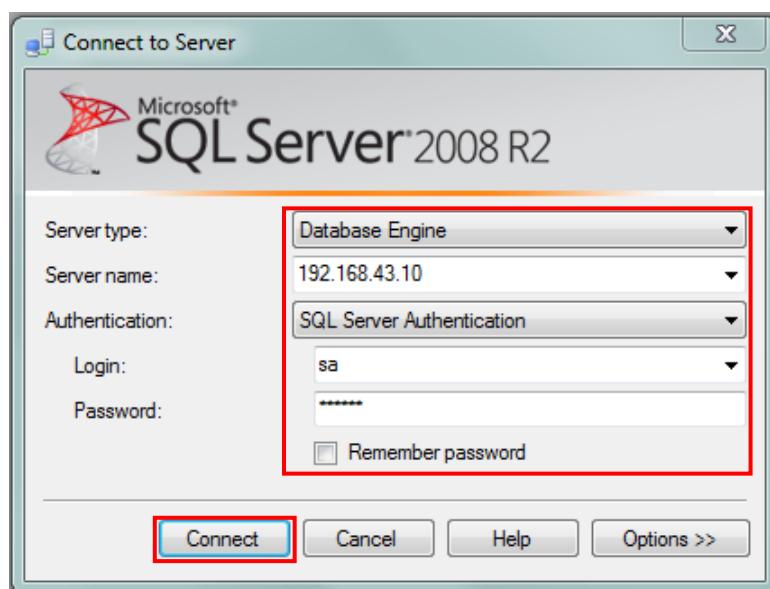
6.2.2 Prepare deployment package

- Copy the deployment package (8.6MB) to a folder on the Tomcat server

Name	Date modified	Type	Size
docs	3/18/2015 10:56 PM	File folder	
examples	3/18/2015 10:56 PM	File folder	
FTS	4/16/2015 12:41 AM	File folder	
host-manager	3/18/2015 10:56 PM	File folder	
manager	3/18/2015 10:56 PM	File folder	
ROOT	3/18/2015 10:56 PM	File folder	
FTS.war	4/16/2015 12:36 AM	WAR File	8,579 KB

6.2.3 Configure Server before deploy

- Open Microsoft SQL Server Management Studio and connect to server.



- Open and execute the FTS_DB.SQL file.

```

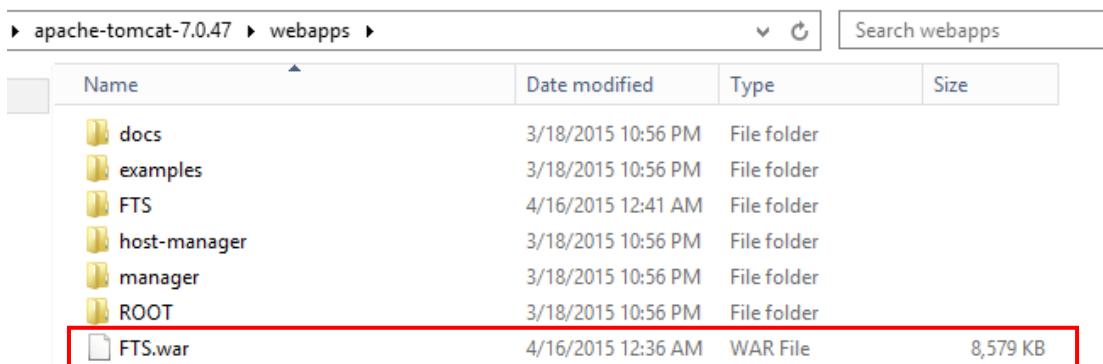
USE [master]
GO
/***** Object: Database [FTS] Script Date: 4/18/2015 2:22:03 PM *****/
CREATE DATABASE [FTS] ON PRIMARY
( NAME = N'FTS', FILENAME = N'C:\Program Files\Microsoft SQL Server\MSSQL11.MSSQLSERVER\MSSQL\DATA\FTS.mdf' , SI
LOG ON
( NAME = N'FTS_log', FILENAME = N'C:\Program Files\Microsoft SQL Server\MSSQL11.MSSQLSERVER\MSSQL\DATA\FTS_1.ldf'
GO
ALTER DATABASE [FTS] SET COMPATIBILITY_LEVEL = 100
GO
IF (1 = FULLTEXTSERVICEPROPERTY('IsFullTextInstalled'))
begin
EXEC [FTS].[dbo].[sp_fulltext_database] @action = 'enable'
end
GO
ALTER DATABASE [FTS] SET ANSI_NULL_DEFAULT OFF
GO
0 % < > !!!
Messages
Command(s) completed successfully.

```

- Replace 1 and 2 with Microsoft SQL Server local installed path [local_path]\MSSQL\DATA. Then run script file by click Execute.

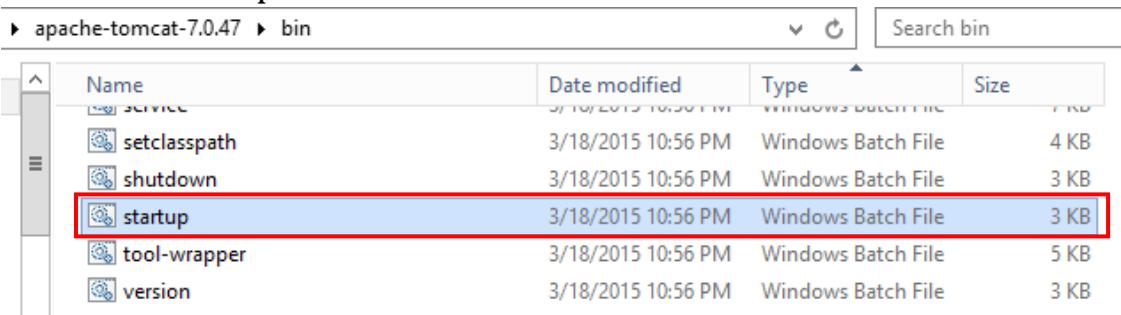
6.2.4 Deploy web application on server

- Please copy the deployment package **FTS.war** to a folder **webapps** in the directory of Tomcat server. Ex: C:\apache-tomcat-7.0.47\webapps



Name	Date modified	Type	Size
docs	3/18/2015 10:56 PM	File folder	
examples	3/18/2015 10:56 PM	File folder	
FTS	4/16/2015 12:41 AM	File folder	
host-manager	3/18/2015 10:56 PM	File folder	
manager	3/18/2015 10:56 PM	File folder	
ROOT	3/18/2015 10:56 PM	File folder	
FTS.war	4/16/2015 12:36 AM	WAR File	8,579 KB

- Navigate to folder **bin** in the directory of Tomcat server. Then click **startup.bat** file to start the server and wait for server startup.



Name	Date modified	Type	Size
service	3/18/2015 10:56 PM	Windows Batch File	1 KB
setclasspath	3/18/2015 10:56 PM	Windows Batch File	4 KB
shutdown	3/18/2015 10:56 PM	Windows Batch File	3 KB
startup	3/18/2015 10:56 PM	Windows Batch File	3 KB
tool-wrapper	3/18/2015 10:56 PM	Windows Batch File	5 KB
version	3/18/2015 10:56 PM	Windows Batch File	3 KB

6.3 Setting up the environment at client side

6.3.1 Setting up for computer

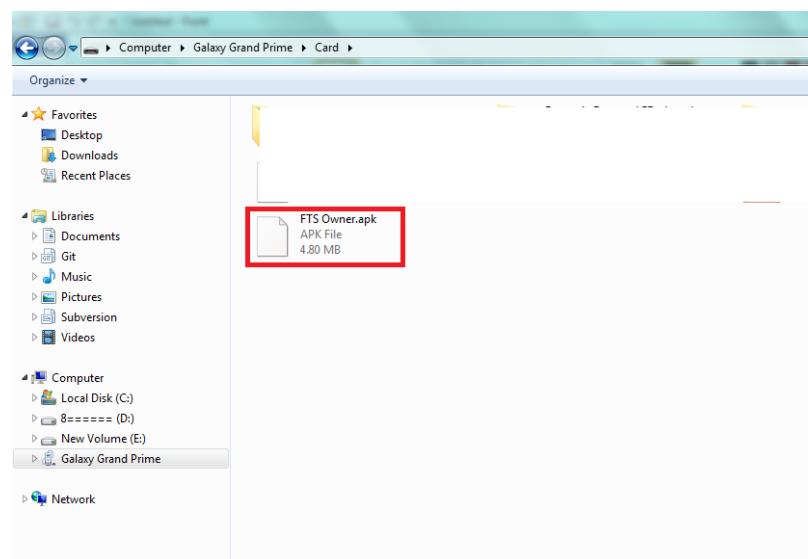
- The client devices need to have one of the following browsers to access the website: Firefox (v30 or above), Chromes (v14 or above) browser, enable JavaScript.

6.3.2 Setting up for Android device

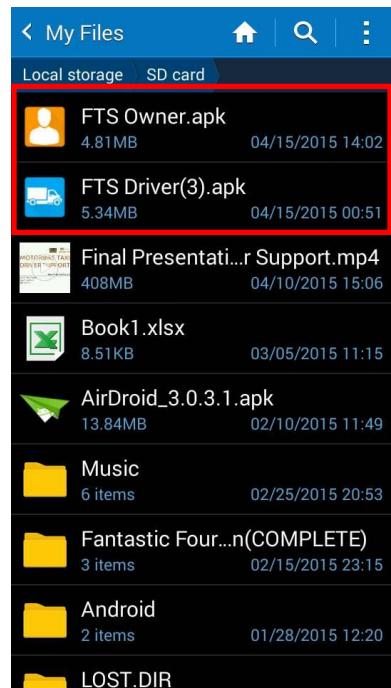
- Change setting to install unknown source **apk**. Go to **Setting/Security**, tick check box **Unknown sources**.



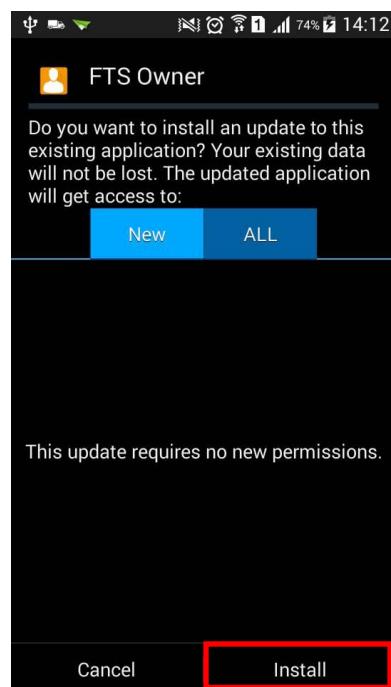
- Copy installation source into device external memory: **FTS Owner.apk or FTS Driver.apk**



- Open Android file explorer, navigate to external memory directory. Click on file to install.



- Click Install



7. User Guide

7.1 Goods Owner Guide

7.1.1 Web Application

7.1.1.1 Create Goods

XIN CHÀO, NGUYỄN VĂN! THÔNG BÁO

TẠO HÀNG

Thông tin hàng hoá

* Loại hàng: Hàng thực phẩm * Khối lượng: 2000 kg

Ghi chú: Ly chén các loại

Địa chỉ giao hàng

* Địa chỉ: 533 Huỳnh Văn Bánh, Ho Chi Minh City, H
Vị trí **7** * Ngày: 23-04-2015

Địa chỉ nhận hàng

* Địa chỉ: 23 Đại Cồ Việt, Hanoi, Vietnam
Vị trí **8** Ngày: 25-04-2015

Chi phí

Chi phí: 7000 nghìn đồng

Trở về **Tạo hàng** **6** **7** **8** **9**

Step	Description
1	Fill in fields: “Loại hàng”: Category “Khối lượng”: Weight “Ghi chú”: Note “Địa chỉ giao hàng”: Pickup address “Ngày giao hàng”: Pickup date “Địa chỉ nhận hàng” Delivery address “Ngày nhận hàng”: Delivery date “Chi phí”: Price
2	Click “Tạo hàng” button

7.1.1.2 Update goods

CHI TIẾT HÀNG

— Thông tin hàng hóa —

* Loại hàng: Hàng thực phẩm * Khối lượng: 1000 kg

Ghi chú: food

— Địa chỉ giao hàng —

* Địa chỉ: tp. Huế, Thua Thien Hue * Ngày: 16-04-2015

— Địa chỉ nhận hàng —

* Địa chỉ: tp. Cam Ranh, Khanh Hoa * Ngày: 16-04-2015

— Chi phí —

*Chi phí: 3803 nghìn đồng

1 ➡ Nhận gợi ý tuyến đường 2 ⚡ Cập nhật hàng 3 ✖ Xoá hàng

Step	Description
1	Fill in fields: “Loại hàng”: Category “Khối lượng”: Weight “Ghi chú”: Note “Địa chỉ giao hàng”: Pickup address “Ngày giao hàng”: Pickup date “Địa chỉ nhận hàng” Delivery address “Ngày nhận hàng”: Delivery date “Chi phí”: Price
2	Click “Cập nhật hàng” button

7.1.1.3 Delete Goods

Trang chủ > Quản lý hàng > Chi tiết hàng

CHI TIẾT HÀNG

— Thông tin hàng hóa —

* Loại hàng: Hàng thực phẩm * Khối lượng: 1000 kg

Ghi chú: food

— Địa chỉ giao hàng —

* Địa chỉ: tp. Huế, Thua Thien Hue * Ngày: 16-04-2015

— Địa chỉ nhận hàng —

* Địa chỉ: tp. Cam Ranh, Khanh Hoa * Ngày: 16-04-2015

— Chi phí —

*Chi phí: 3803 nghìn đồng

1 2 3

← Nhận gợi ý tuyến đường ✓ Cập nhật hàng ✖ Xóa hàng

Step	Description
1	Click “Xóa hàng” button

7.1.1.4 Offer Deal to Owner

#	ĐIỂM BẮT ĐẦU	ĐIỂM KẾT THÚC	THỜI GIAN	THAO TÁC
1	Cao Bằng	Khánh Hòa, Khánh Hoà	Ngày đi: 14-04-2015 Ngày về: 16-04-2015	Gửi đề nghị
2	Hà Tĩnh	Hồ Chí Minh	Ngày đi: 14-04-2015 Ngày về: 16-04-2015	Gửi đề nghị

Hiển thị từ 1 đến 2 của 2 kết quả

Previous 1 Next

Step	Description
1	Click “Gửi đề nghị” button

7.1.1.5 Accept

#	THỜI GIAN	NGƯỜI GỬI	NGƯỜI NHẬN	GIÁ	GHI CHÚ	TRANG THÁI
1	12:46 16-04-2015	Chủ hàng: thang@fts.vn	Tài xế: driver	24.240	jk	Đã hủy
2	12:46 16-04-2015	Tài xế: driver	Chủ hàng: thang@fts.vn	3.000		Đã hủy
3	10:56 19-04-2015	Tài xế: driver	Chủ hàng: thang@fts.vn	20.000	ok?	Đã từ chối
4	11:02 19-04-2015	Chủ hàng: thang@fts.vn	Tài xế: driver	3.000		Đã hủy
5	12:20 19-04-2015	Chủ hàng: thang@fts.vn	Tài xế: driver	24.240	jk	Đã từ chối
6	02:33 19-04-2015	Tài xế: driver	Chủ hàng: thang@fts.vn	60.000	ok	Đang chờ

Hiển thị từ 1 đến 6 của 6 kết quả

Previous 1 Next

Lịch sử đề nghị

Phản hồi

4

* Giá thương lượng: nghìn đồng

Ghi chú:

5

3

Gửi

Step	Description
1	Click “Chấp nhận” button

7.1.1.6 Decline

The screenshot shows the software's navigation bar at the top with links: Trang chủ > Quản lý đề nghị > Chi tiết đề nghị. On the left, a sidebar menu lists: Trình đơn, Tạo hàng, Quản lý hàng, Quản lý đề nghị (which is highlighted in orange), and Quản lý hóa đơn. The main content area is titled 'CHI TIẾT ĐỀ NGHỊ' and contains a table of 'Lịch sử đề nghị' (History of requests) with 6 rows of data. At the bottom right of the table are two buttons: 'Từ chối' (highlighted in red) and 'Chấp nhận'. Below the table is a note: 'Hiển thị từ 1 đến 6 của 6 kết quả'. On the right side of the main content area are three numbered boxes: 1, 2, and 3. Box 1 points to the 'Từ chối' button. Box 2 points to the 'Chấp nhận' button. Box 3 points to the 'Gửi' (Send) button located at the bottom right of the 'Phản hồi' (Feedback) section.

Step	Description
1	Click “Từ chối” button

7.1.1.7 Counter

The screenshot is identical to the one above, showing the software's navigation bar, sidebar menu, and main content area. The 'CHI TIẾT ĐỀ NGHỊ' table and the 'Phản hồi' (Feedback) section with numbered boxes 1 through 5 are also present. The 'Gửi' (Send) button in the 'Phản hồi' section is highlighted in red.

Step	Description
1	Input field: “Giá thương lượng”: price “Ghi chú”: note
2	Click “Gửi” button

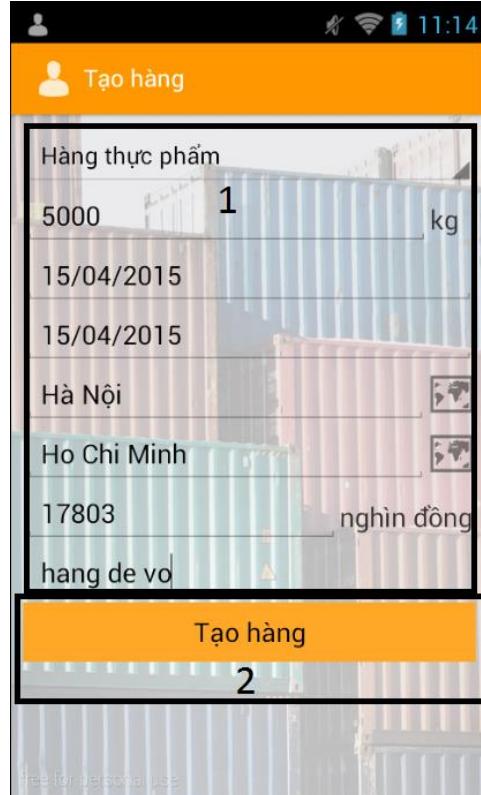
7.1.2 Android Application

7.1.2.1 Login



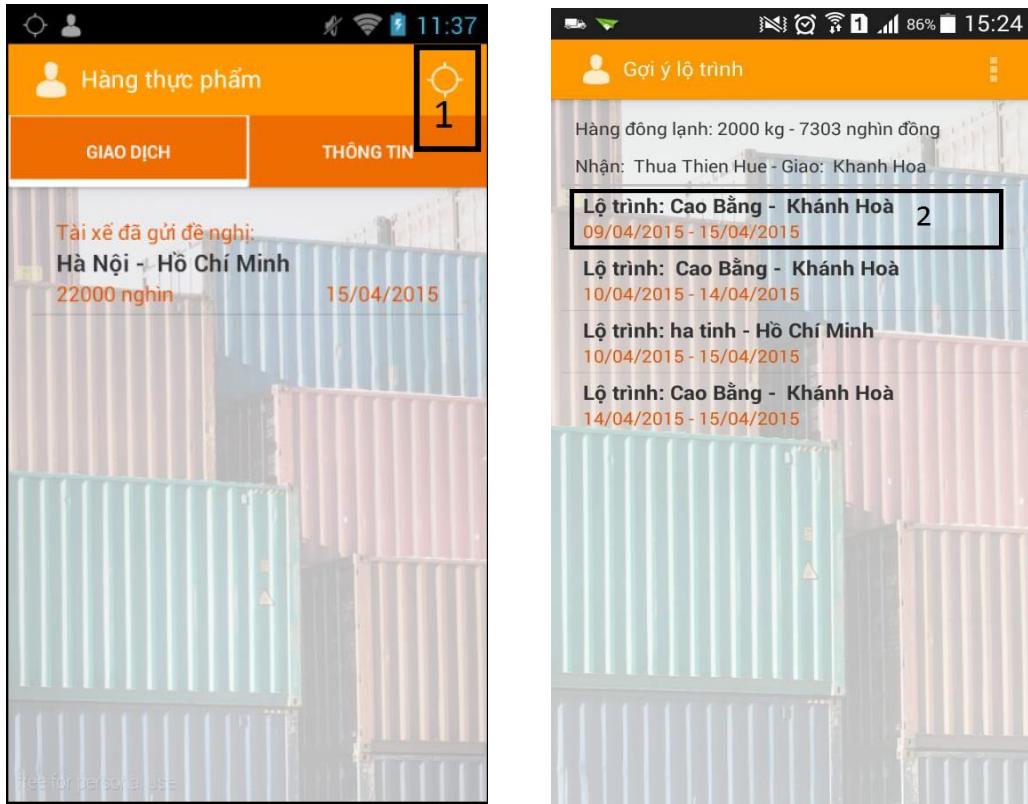
Step	Description
1	Fill in fields: “Email” “Password”
2	Click “Đăng nhập” button

7.1.2.2 Create Goods



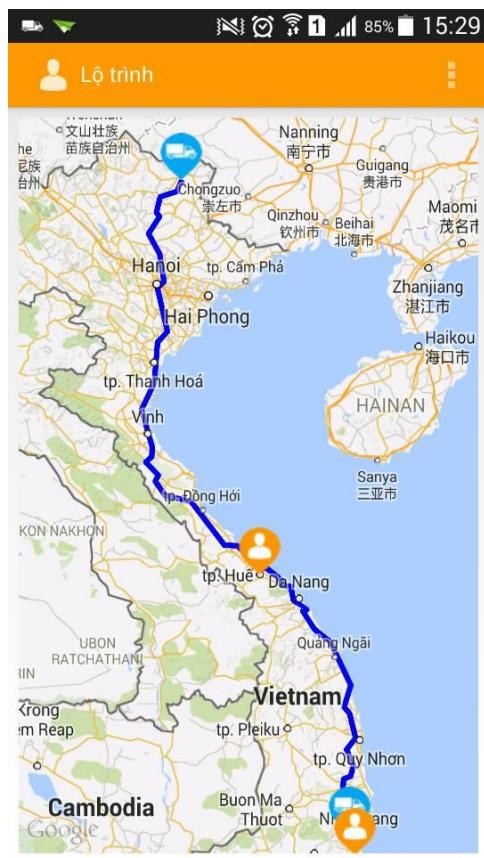
Step	Description
1	Fill in fields: “Loại hàng”: category. “Khối lượng”: weight “Ngày có thể nhận hàng”: possible pickup date “Ngày có thể giao hàng”: possible delivery date “Địa chỉ nhận hàng”: pickup address “Địa chỉ giao hàng”: delivery address “Giá tiền”: price “Ghi chú”: note
2	Click “Tạo hàng” button

7.1.2.3 View Suggestion Route



Step	Description
1	Click “Gọi ý lộ trình” button
2	Thông tin lộ trình

7.1.2.4 Send Deal



Step	Description
1	Fill in field: “Giá tiền”: price “Ghi chú”: note
2	Click “Gửi đề nghị” button
3	Click “Xem lô trình” link

7.1.2.5 Confirm Deal



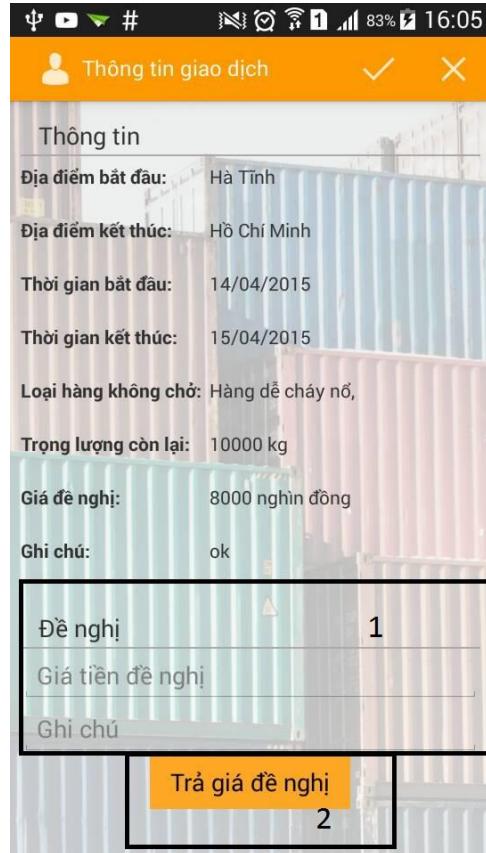
Step	Description
1	Click “Đồng ý” button
2	Click “Từ chối” button

7.1.2.6 Cancel Deal



Step	Description
1	Click “Hủy” button

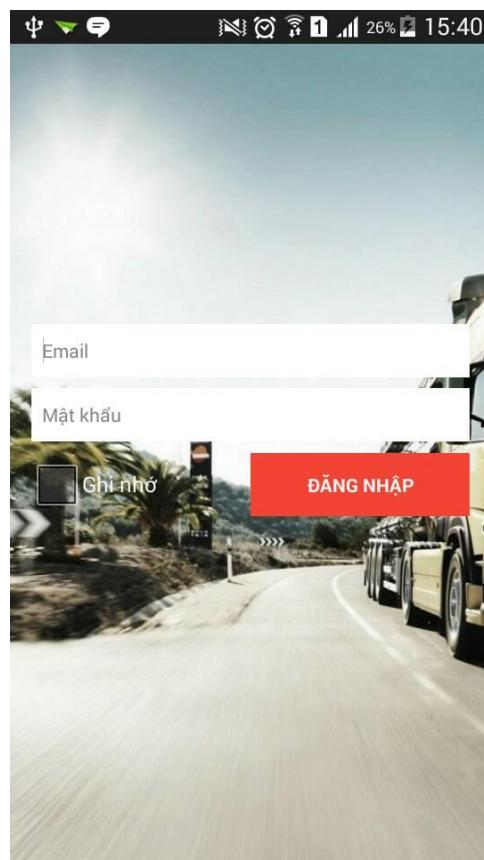
7.1.2.7 Counter Deal



Step	Description
1	Fill in field: “Giá tiền đề nghị”: price “Ghi chú”: note
2	Click “Trả giá đề nghị” button

7.2 Truck Driver Guide

7.2.1 Login



Step	Description
1	Fill in field: “Email”: Email “Mật khẩu”: Password
2	Click “Đăng nhập” button

7.2.2 Create Route

LỘ TRÌNH

13 **Tùy chỉnh lộ trình**

Địa điểm bắt đầu **1**

Địa điểm kết thúc **2**

Thêm điểm đi qua **14**

THỜI GIAN

14/4/2015 **3** Giờ bắt đầu **4**

Ngày kết thúc **5**

HÀNG HÓA

Khối lượng có thể chở **6** kg

Loại hàng không chở

Hàng đông lạnh Hàng dễ vỡ
 Hàng dễ cháy nổ Hàng thực phẩm

LỘ TRÌNH

Địa điểm bắt đầu

Địa điểm đi qua 1 **11**

Địa điểm đi qua 2 **12**

Địa điểm kết thúc

THỜI GIAN

14/4/2015 Giờ bắt đầu

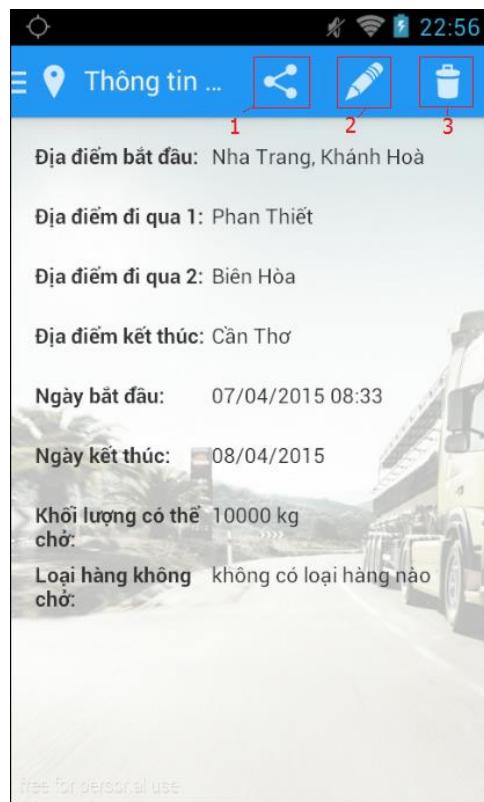
Ngày kết thúc

HÀNG HÓA

Khối lượng có thể chở kg

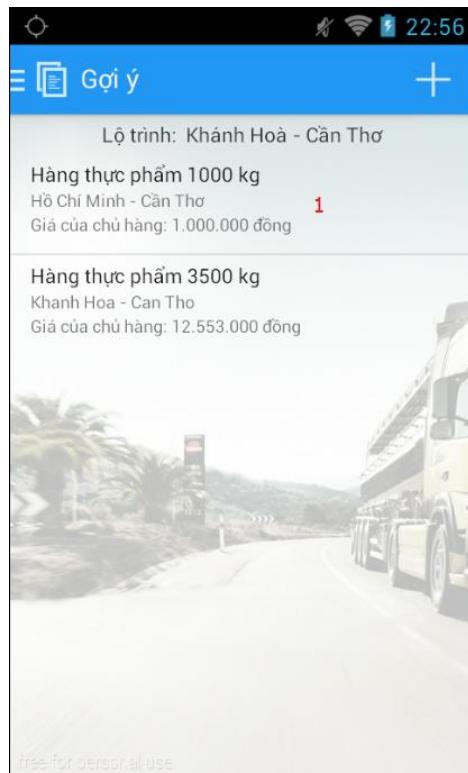
Step	Description
1	Fill in field: “Địa điểm bắt đầu”: Starting address “Địa điểm kết thúc”: Destination address “Địa điểm đi qua 1”: Marker 1 “Địa điểm đi qua 2”: Marker 2 “Ngày bắt đầu”: starting date “Giờ bắt đầu”: starting time “Ngày kết thúc”: ending date “Khối lượng có thể chở”: Weight “Loại hàng không chở”: Excluding goods category
2	Click “Tạo” button

7.2.3 View Suggestion List



Step	Description
1	Click “Xem gợi ý” button

7.2.4 View Suggestion Detail



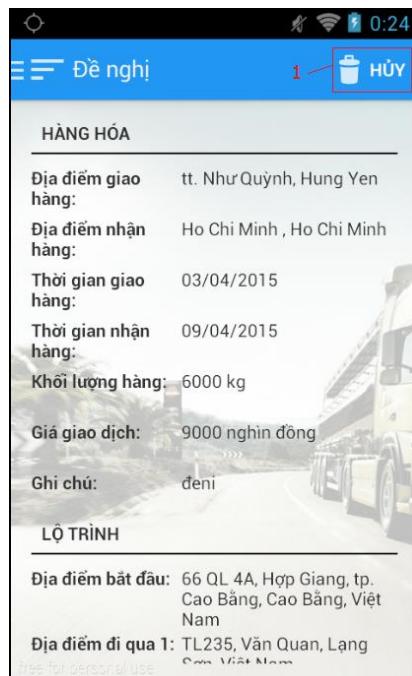
Step	Description
1	Click on a suggestion to view

7.2.5 Offer Deal to Owner



Step	Description
1	Input information: “Giá đề nghị”: price “Ghi chú”: note
2	Click “Gửi” button

7.2.6 Cancel Deal



Step	Description
1	Click “Hủy” button

7.2.7 Confirm Deal



Step	Description
1	Click “Chấp nhận” button for Accept Deal
2	Click “Từ chối” button for Decline Deal
3	Click “Trả lời” button for Counter Deal

G. Appendix

1. Android Programming – Kieu Trong Khanh
<http://kieutrongkhanh.net/index.php/androidx>
2. Google Maps API v2 for Android
<https://developers.google.com/maps/documentation/android/>
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<http://www.vogella.com/tutorials/REST/article.html>
6. Express Checkout with PayPal API
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