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## DEFINITION AND ACRONYMS

<b>Acronym</b>	<b>Definition</b>	<b>Note</b>
<b>F-Taxi</b>	Taxi Caller Application on Window Phone	
<b>PM</b>	Project Manager	
<b>PTL</b>	Project Technical Leader	
<b>QA</b>	Quality Assurance	
<b>PMP</b>	Project Management Plan	
<b>SRS</b>	Software Requirement Specification	
<b>SATD</b>	Software Architecture Design	Design document, included in SDD
<b>SDTD</b>	Software Detail Design	
<b>SDD</b>	Software Design Description	
<b>STD</b>	Software Test Documentation	
<b>UT</b>	Unit Test	
<b>IT</b>	Integration Test	
<b>ST</b>	System Test	
<b>R1</b>	Round 1	System Test
<b>R2</b>	Round 2	
<b>AT</b>	Acceptance Test	
<b>UC</b>	Use-case	
<b>SC</b>	Screen	
<b>UI</b>	User Interface	
<b>GUI</b>	Graphical User Interface	
<b>PRL</b>	Presentation Layer	Layers of software system
<b>BOL</b>	Business Operation Layer	
<b>DAL</b>	Data Access Layer	
<b>ERD</b>	Entity-Relationship diagram	
<b>DB</b>	Database	
<b>SUG</b>	Software User Manual	
<b>T-Net</b>	T-Net Solution	

# 1 INTRODUCTION

## 1.1 Project information



**Project Name:** Taxi Caller Application on Windows Phone  
**Project Code:** F-Taxi  
**Project Type:** Windows Phone Application  
**Timeline:** from 7th September 2015 to 14th December 2015

## 1.2 Project members

### 1.2.1 Supervisors

Full name	Phone	E-Mail	Title
Nguyễn Văn Sang		SangNV@fpt.edu.vn	Lecturer

### 1.2.2 Team members

TABLE 1-1 F-Taxi team members

Full name	Roll no.	Phone	E-mail	Position
Phạm Gia Hữu	SE02705		HuuPGSE02705@fpt.edu.vn	Leader
Nguyễn Văn Lập	SE02314		LapNVSE02314@fpt.edu.vn	Member
Tạ Thiên Hướng	SE02900		HuongTTSE02900@fpt.edu.vn	Member
Phạm Ngọc Hoàn	SE02268		HoanPNSE02268@fpt.edu.vn	Member

## 1.3 Purposes

A window phone application to help user using window phone OS want call a taxi with a taxi driver from taxi company communication easy. Call a taxi, pick up customer ... with a few actions from screen.

## 1.4 The existing system

### 1.4.1 Uber application

Pros:

- Provide information about taxi which is near user.
- There are a lot of taxi brands, so user can have many choices

Cons:

- Not support Vietnamese on Windows phone.

### 1.4.2 Grab Taxi application

Pros:

- Provide information about taxi which is near user.

Cons:

- Not support on Windows phone

## 1.5 Our proposal

A window phone application to help user using window phone OS want call a taxi with a taxi driver from taxi company communication easy. Call a taxi, pick up customer ... with a few actions from screen.

## **1.6 Product**

- This software is a windows phone application help user take a trip and pick up a customer easy. Show information of trip, taxi instance for user.
- System will working with internet connection, 2 user is Rider and Driver had login application. The most importance is have internet connection. The main function of this application is help customer as Rider easy take a taxi with information from taxi driver and price, in other hand taxi driver as Driver have more customer from user using Windows Phone, and know information about trip and customer.
- Purpose of this application is help Rider and Driver communicate better because have many trusted from application

## 2 SOFTWARE PROJECT MANAGEMENT

### 2.1 Project Overview

#### 2.1.1 Project Description

TABLE 2-1 Project description

<b>Project name:</b>	<b>Taxi Caller Application on Windows Phone</b>		
<b>Project Code:</b>	F-Taxi		
<b>Project manager:</b>	Phạm Gia Hữu		
<b>Project category:</b>	<input checked="" type="checkbox"/> New development	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Other
<b>Business domain:</b>	Windows application		
<b>Scope and Objective</b>	<ul style="list-style-type: none"><li>○ Objective: • The main objective of the project is creating application for window phone user, help user using app for take a taxi quickly and taxi driver pick up a customer easy.</li><li>○ Products:<ul style="list-style-type: none"><li>▪ This software is a windows phone application help user take a trip and pick up a customer easy. Show information of trip, taxi instance for user.</li><li>▪ System will working with internet connection, 2 user is Rider and Driver had login application. The most importance is have internet connection. The main function of this application is help customer as Rider easy take a taxi with information from taxi driver and price, in other hand taxi driver as Driver have more customer from user using Windows Phone, and know information about trip and customer.</li><li>▪ Purpose of this application is help Rider and Driver communicate better because have many trusted from application</li></ul></li><li>○ Scope: On Windows phone</li></ul>		
<b>Project start date:</b>	2015/09/07	<b>Expected end date:</b>	2015/12/14
<b>Planned duration:</b>	<b>75 days</b>		

#### 2.1.2 Scope Statement

The scope of this project includes these stages:

- ✓ Develop user requirement and software requirement specification.
- ✓ Develop architecture and detailed design documents.
- ✓ Coding and unit test.
- ✓ Develop test case and execute combination test.

The released software product is Taxi Caller application that will have function list as below:

**TABLE 2-2 Main Application function list**

No.	Component	Feature Name	Feature to be tested
1	Function	Main application	Login
2			Logout
3		Account management	Register account
4			View profile
5			Update profile
6			Change password
7			Forget password
8		Rider actions	Create trip
9			Cancel trip
10			View completed trips
11			View bill detail
12			Rate driver
13			View favorite driver
14		Favorites management	Add favorite driver
15			Delete favorite driver
16			Call favorite driver
17			Find lost assets
18		Driver actions	Send Application Feedback
19			Call Taxi Center
20			Accept trip
21		Work with trips	Reject trip
22			Cancel trip
23			Complete trip
24			Start trip
25			View bill detail
26			Notify lost assets
27			Change status

## 2.2 Project Organization

### 2.2.1 Organizational Structure

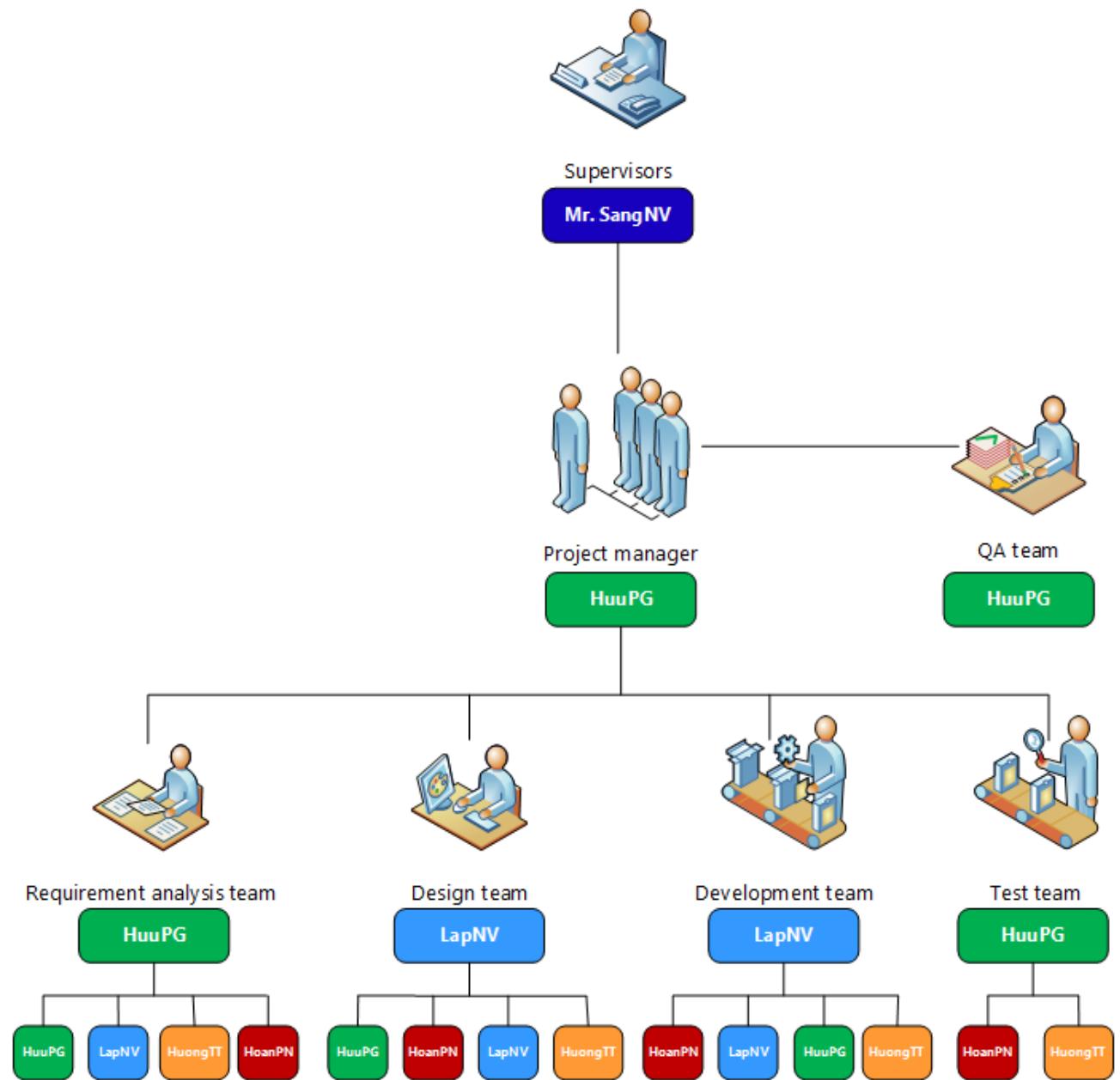


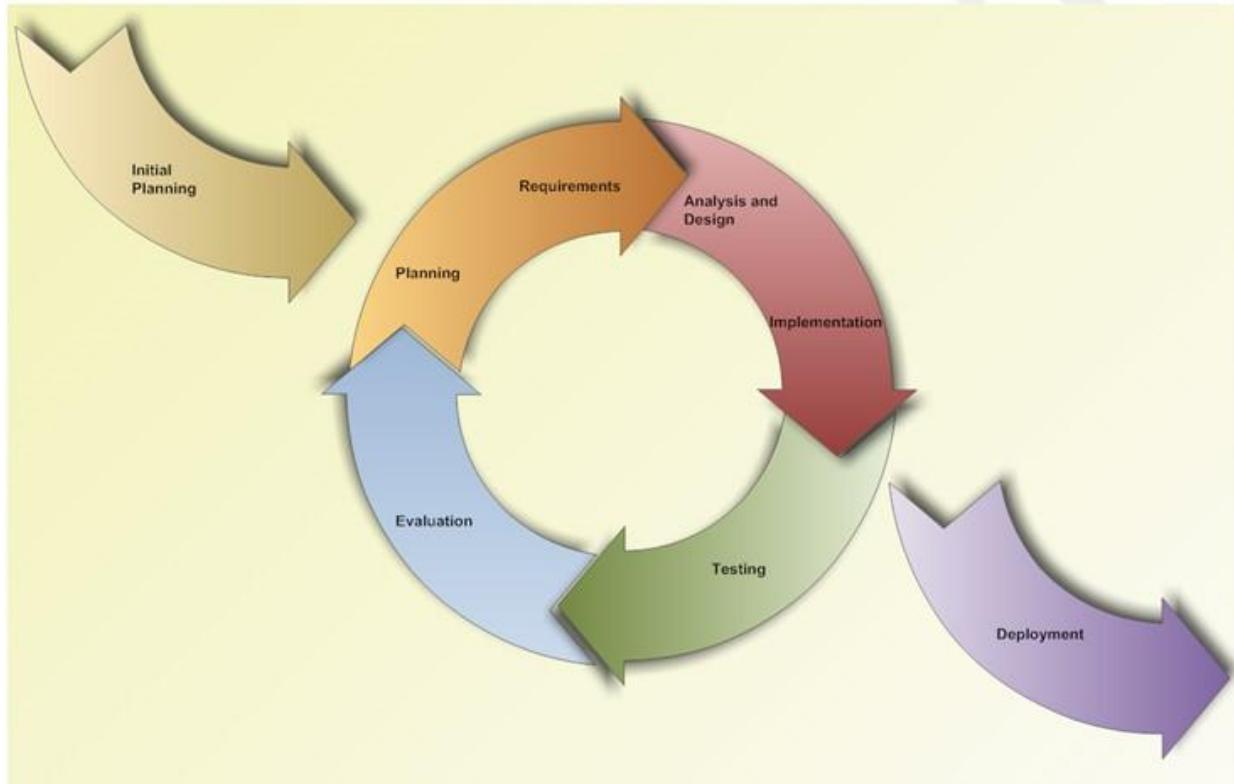
Figure 2-1 Project Organizational Structure

**TABLE 2-3 Roles and Responsibilities**

Full name	Roles in project	Responsibilities
<b>Phạm Gia Hữu</b>	Project manager	Develop project plan Manage project stakeholders, project team and resolve conflicts Manage project schedule, project risk Communication with members and supervisor, include weekly plan, weekly status report, hold meetings and assure to submit reports to supervisor on schedule. Manage data synchronization in project
	Requirement analysis	Create and co-operate with members to develop: SRS and SDD
	Architect designer	
	Detail designer	Create document format standards and coding conventions.
	Developer	Provide tools for project development process Co-operate with members to coding and fix bug (auxiliary)
	Tester	Execute test to ensure all functions fulfil requirements Review all documents and reports. Translation, and check language grammar and spelling (on English)
<b>Nguyễn Văn Lập</b>	Requirement analysis	Ensure that the project is completed on schedule and within scope
	Architect designer	Review all documents, reports and assure product quality
	GUI designer	
	Architect designer	
	Detail designer	
	Developer	Co-operate with members to develop SRS and SDD Co-operate with members to develop GUI for application
<b>Tạ Thiên Hướng</b>	Requirement analysis leader	Co-operate with members to coding (auxiliary)
	Tester	Conduct overall business process
	Developer	Co-operate with members to develop SRS
<b>Phạm Ngọc Hoàn</b>	QA	Execute test to ensure all functions fulfil requirements
	Tester	Provide suitable technology solutions
	Developer	Co-operate with members to fix bug (main)

### 2.2.2 Software Process Model

To develop the system, we decided to use the Iterative and Incremental Software Process Model.



**Figure 2-2 Iterative and Incremental Software Process Model**

Why this model was chosen:

- We can learn from time to time during our process, and use anything we learned to improve the product.
- Through every iteration, we are able to control scope and requirements, flexibly update or even change anything if we think it will help us to have a better product.
- Customers can respond after each build of the product.
- It is easy to manage risks by dividing into many pieces and solve it as quick as possible in each iteration.
- It is also easy to test and debug during a smaller iteration.

## 2.3 Project Schedule

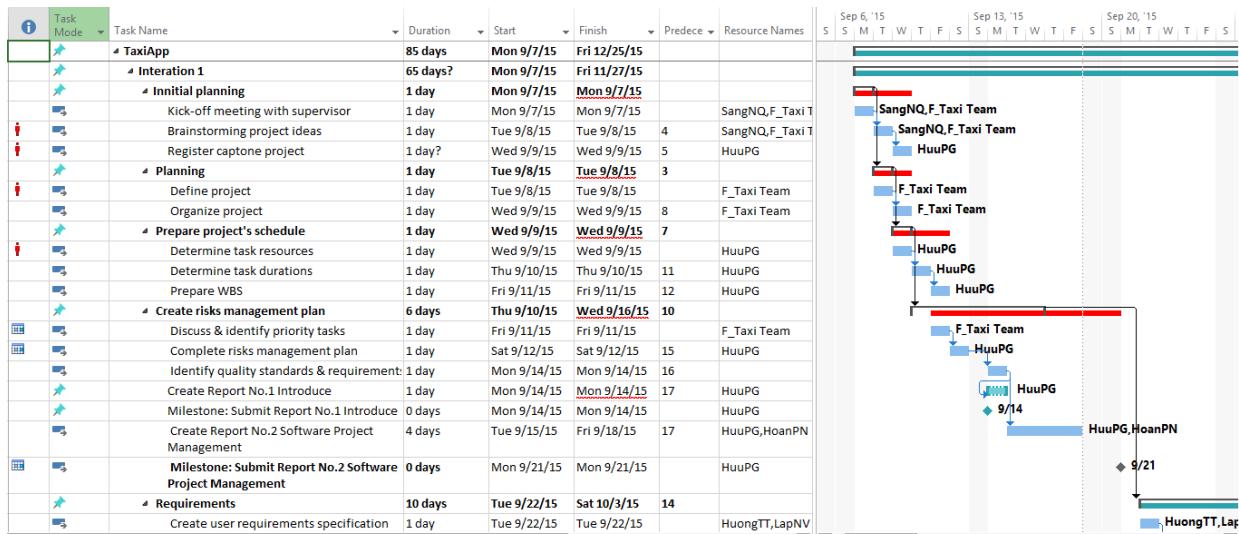
### 2.3.1 Milestone and Deliverables

TABLE 2-4 Milestone and Deliverables

No.	Phase	Deliverable/ Milestone	Delivery Date	Delivery Location
1	Definition	Project identification	2015/09/07	Project team
2		Deliver Report 1	2015/09/15	Supervisor
3		Deliver Report 2	2015/09/21	Supervisor
4	Solution	Complete Function analysis	2015/09/25	Project team
5		Deliver Report 3	2015/10/03	Supervisor
6		Complete Architectural Design	2015/10/04	Project team
7	Construction	Complete Detail Design	2015/10/10	Project team
8		Deliver Report 4	2015/10/17	Supervisor
9		Complete coding	2015/10/29	Project team
10		Complete system testing	2015/11/14	Project team
11		Deliver Report 5	2015/11/14	Supervisor
12		Deliver Report 6	2015/12/04	Supervisor
13		Complete full source code	2015/12/07	Project team
14	Transition	Complete fully project product	2015/12/10	Project team
15		Deliver Final Report & CD	2015/12/16	Supervisor, FU
16		Complete Presentation slide	2015/12/16	Supervisor, FU
17		Project completed	2015/12/24	Project team

### 2.3.2 Task Sheet

**Gantt chart:** refer to F-Taxi schedule task sheet. Example :



### 2.3.3 Meeting Minutes

Below is one of our meeting minute records. All other meeting minutes refer to Meeting minutes folder.

TABLE 2-5 Meeting Minutes 1

<b>Project:</b>	Taxi caller	<b>Project Code:</b>	F-Taxi
<b>Project Manager:</b>	Phạm Gia Hữu	<b>Conductor:</b>	Nguyễn Văn Sang
		<b>Secretary:</b>	Phạm Gia Hữu
<b>Date:</b>	2015/09/20		
<b>Venue:</b>	FPT University Hòa Lạc		
<b>Meeting topic:</b>	Check report 1 and remind plan		
<b>Attendees:</b>			
No	Full name	Unit/Group	Position
1	Nguyễn Văn Sang	FPT University	Supervisor
2	Phạm Gia Hữu	F-Taxi team	Project manager
3	Nguyễn Văn Lập	F-Taxi team	Member
4	Phạm Ngọc Hoàn	F-Taxi team	Member
5	Tạ Thị Thiên Hường	F-Taxi team	Member
<b>Objectives:</b>			
Meeting review report 1 and remind plan			
<b>Agenda:</b>			
<ul style="list-style-type: none"> <li>- Team member problems</li> <li>- Project introduction</li> </ul>			

Contents:	
1, Team member problems <ul style="list-style-type: none"> <li>• All the activities, the issues will be discussed and reported with supervisor in last week.</li> <li>• Discuss all issues &amp; problems on the job last week</li> <li>• Discuss the working plan next week</li> </ul>	
2, Project introduction <ul style="list-style-type: none"> <li>• Instruct the direction for project team to deal with the problems</li> <li>• Support &amp; comments the working plans next week</li> </ul>	
Conclusion:	
<b>Discussed Items</b>	<b>Decisions</b>
1, Team member problems	Project manager need to hold a meeting with all members' present, discuss and re-report in the next meeting

## 2.4 Risk Management

### 2.4.1 Risk register

TABLE 2-6 Risk register

ID	Risk Content	Probability	Effect	Solution
#	<b>People Risks</b>			
1	Team member may not follow deadlines.	HIGH	SERIOUS	<ul style="list-style-type: none"> <li>- Find out reasons</li> <li>- Depending on circumstances, may set penalty rule.</li> </ul>
2	Team members are sick, cannot complete task under deadline.	HIGH	SERIOUS	<ul style="list-style-type: none"> <li>- Increase project team's working effort in "peace period".</li> <li>- Allow all team members clear about what others do, so that they can cover the tasks when necessary.</li> </ul>
3	Conflict between team members.	HIGH	SERIOUS	<ul style="list-style-type: none"> <li>- Setup an open-talk environment in project team.</li> <li>- "<i>Do not criticize</i>" is set as a rule.</li> <li>- Organize team-building more often.</li> <li>- In some cases, manager must use his power to make decisions.</li> </ul>
4	New technology is hard to apply for project	HIGH	SERIOUS	<ul style="list-style-type: none"> <li>- List tasks and check continuously. Evaluate quality and progress weekly.</li> <li>- Send email to other member or supervisor to ask for help.</li> </ul>
5	Problems in communication breakdown makes changing time,	HIGH	SERIOUS	<ul style="list-style-type: none"> <li>- We need using words more clearly, improve our communication skills</li> <li>- Using note and email to confirm</li> </ul>

	work and delay plan			information.
#	<b>Technical Risk</b>			
6	Team member need to be trained about new technology. This can causes the project to be delayed	HIGH	SERIOUS	<ul style="list-style-type: none"> <li>- Divided knowledge into many technology research groups, each member just need to learn about things that are necessary to complete their own tasks.</li> <li>- Send technical issues to supervisor who has experience to get support.</li> </ul>
#	<b>Process Risk</b>			
7	Underestimate the scope of project, difficulty level of tasks and effectiveness of risks.	HIGH	SERIOUS	<ul style="list-style-type: none"> <li>- Estimate project scope with supervisor and experience people.</li> <li>- Assign task weight value to make task evaluation easier.</li> <li>- Involve all team members into risk management process, ask supervisor for his opinion.</li> </ul>
#	<b>Requirement Risk</b>			
8	Misunderstand system process, so we can have mistaken in describing the essential functions	HIGH	SERIOUS	<ul style="list-style-type: none"> <li>- Receive advice from experts</li> <li>- Develop prototypes and review prototypes with experts and supervisor</li> </ul>
#	<b>Management Risk</b>			
9	Poor experience of management so that team makes plan unrealistically	HIGH	SERIOUS	<ul style="list-style-type: none"> <li>- Team leader will tightly co-operate with team members during planning phase.</li> <li>- Get advice and review from supervisor about the plan.</li> </ul>

## 2.5 Communication Management

### 2.5.1 Communication between Team Members

- ☞ **Face-to-face meeting:** at least twice per week, Monday and Friday. This is the most effective way to communicate, and we can solve problems easily.
- ☞ **Email and message:** Gmail, Skype and Facebook are used to communicate online. It helps us to keep track of team's progress.
- ☞ **Mobile phone:** In an emergency situation, we use mobile phone to contact directly with other members.
- ☞ **Collaboration tool:** Tortoise GIT is used for managing document and source code.

### 2.5.2 Communication with the Supervisor

We have a weekly meeting on every Tuesdays, so the supervisor can keep track of the team's progress.

## 2.6 Tools and Infrastructure

Below is the list of tools and infrastructure requirements needed for development environment.

### 2.6.1 Software

TABLE 2-7 Software needed for project

Title	Details
<b>Operation System</b>	<ul style="list-style-type: none"><li>• Microsoft Windows 7</li><li>• Microsoft Windows 8</li><li>• Microsoft Windows 8.1</li><li>• Microsoft Windows 10</li></ul>
<b>Development and Design Software</b>	<ul style="list-style-type: none"><li>• Microsoft Visual Studio 2013</li></ul>
<b>Management and Document Software</b>	<ul style="list-style-type: none"><li>• Microsoft Office 2013</li><li>• Microsoft Project 2013</li><li>• Microsoft Visio 2013</li></ul>
<b>Development Framework</b>	<ul style="list-style-type: none"><li>• ASP .NET</li><li>• Window Phone Emulator</li></ul>
<b>Subversion Tool</b>	<ul style="list-style-type: none"><li>• TortoiseGIT</li></ul>
<b>Version Controller</b>	<ul style="list-style-type: none"><li>• GitHub</li></ul>
<b>Contact Software</b>	<ul style="list-style-type: none"><li>• Gmail</li><li>• Skype 7.0 or higher</li><li>• Facebook</li></ul>

### 2.6.2 Hardware

- ☞ Personal computer for developing/testing with the minimum configuration: 2GB Ram, 80GB of hard disk, Processor Intel Core 2 Duo (4M Cache, 2.20 GHz, 800 MHz FSB).
- ☞ Smart phone which has operating system is windows phone.
- ☞ Internet network connection with minimum speech 512kbit/s.

### 2.6.3 Others infrastructures

- ☞ A room for team's meeting.
- ☞ Internet and mobile phone services are needed for communication.

## 2.7 Coding conventions

Coding conventions are important to programmers for a number of reasons:

- 70% of the lifetime cost a piece of software goes to maintenance.
- Hardly any software is maintained for its whole life by the original author.

- Code convention improves the readability of the software, allowing engineer to understand new code more quickly and thoroughly.

### ***C#.NET Coding Conventions***

This project uses .NET and C# coding conventions which are following by <http://se.inf.ethz.ch/old/teaching/.../CSharpCodingStandards.pdf>.

Coding conventions serve the following purposes:

- They create a consistent look to the code, so that readers can focus on content, not layout.
- They enable readers to understand the code more quickly by making assumptions based on previous experience.
- They facilitate copying, changing, and maintaining the code.
- They demonstrate C#.NET best practices.

### **3 SOFTWARE REQUIREMENT SPECIFICATION**

#### **3.1 SRS Overview**

##### ***3.1.1 Purpose***

The main purpose of the requirement document is provides the information of the project from many perspectives. Readers can find out about the overview description or detail information in this document.

##### ***3.1.2 Scope***

This section of document is the **software requirement specification** of the project in order to develop the software, it includes two main parts: User Requirement Specification and System Requirements Specification:

- User Requirement Specification:
  - o Provides the general information about the software system.
  - o The project manager and supervisors should read this part because they can partly base on it to negotiate with each other about some particular problems.
- System Requirements Specification:
  - o Provides the detail information about the software system. This part is important for software designer, software developer, tester and maintainer.
  - o This part is also for the project manager because it can help him to monitor all the activities of the project effectively.

#### **3.2 Specific Requirements**

##### ***3.2.1 External Interface Requirements***

###### **3.2.1.1 User Interfaces**

- User interface should be easy to understand and easy to use.
- The text and color is attractive for all users.
- Hardware Interfaces
- Using Windows Phone with 8.0 version

###### **3.2.1.2 Software Interfaces**

- Windows Phone OS 8.1 or simulated in desktop

### 3.2.2 Functional Requirements

#### 3.2.2.1 Rider Requirement

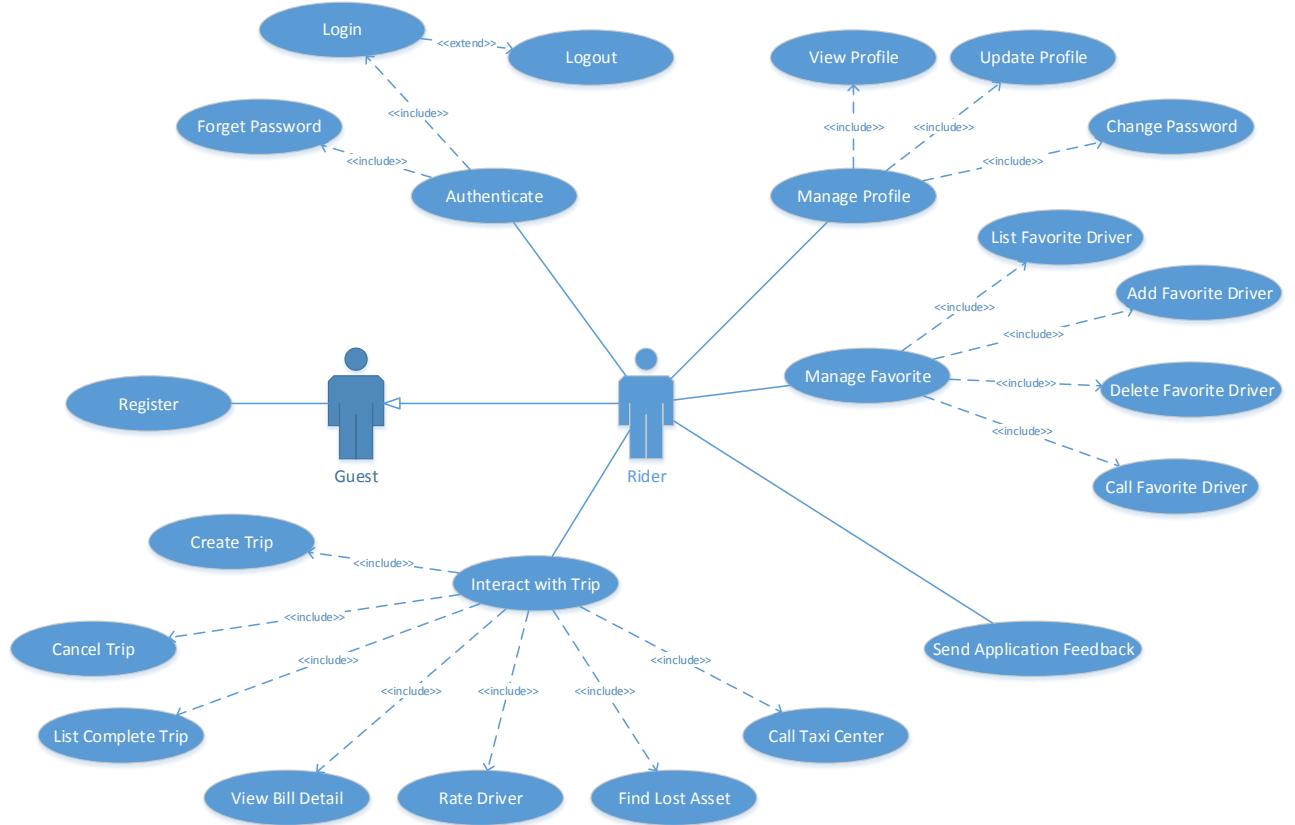
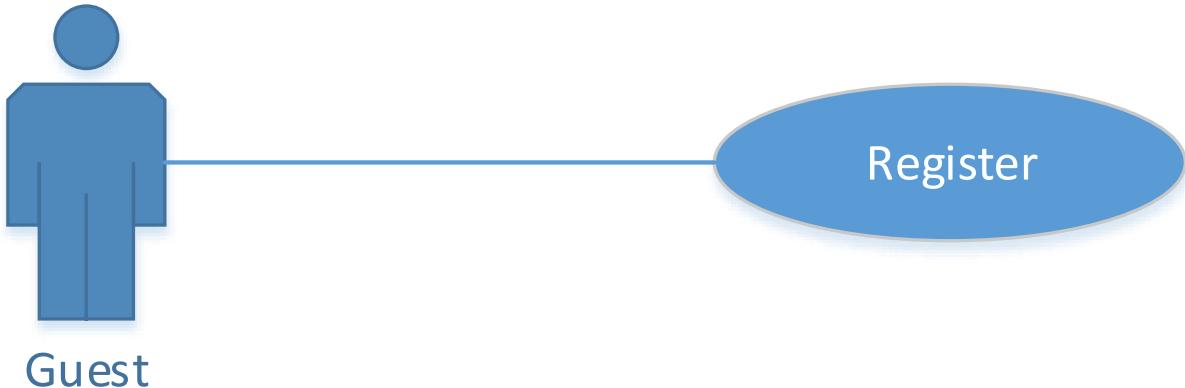


Figure 3-1 The Rider Use-case diagram

**TABLE 3-1 Rider Use-cases**

Use Case ID	Actor	Group of function	Name	Note
UC-01	Guest		Register	
UC-02	Rider	Authenticate	Login	
UC-03			Logout	
UC-04			Forget Password	
UC-05		Manage Profile	View Profile	
UC-06			Update Profile	
UC-07			Change Password	
UC-08		Manage Favorite	List Favorite Driver	
UC-09			Add Favorite Driver	
UC-10			Delete Favorite Driver	
UC-11			Call Favorite Driver	
UC-12			Send Application Feedback	
UC-13		Interact with Trip	Find Lost Asset	
UC-14			Call Taxi Center	
UC-15			Create Trip	
UC-16			Cancel Trip	
UC-17			List Complete Trip	
UC-18			View Bill Detail	
UC-19			Rate Driver	

### 3.2.2.1.1 UC-01 Register



*Figure 3-2 Use-case UC-01*

**TABLE 3-2 Use-case UC-01 specification**

<b>Use Case ID</b>	UC-01	
<b>Use Name</b>	Register	
<b>Actor</b>	Guest	
<b>Description</b>	Guest can register account to have a valid user in system	
<b>Precondition</b>	Have a valid email address	
<b>Trigger</b>	Tap on “Đăng ký” button, “tick” icon and click on activation link	
<b>Post-Condition</b>	Rider account information is stored in database	
<b>Main flows</b>		
<b>Step</b>	<b>Actor</b>	<b>Action</b>
1	Guest	Tap on “Đăng ký” button on Login screen
2	F-Taxi	Display Login screen with the following fields: - User Name/Email - Password - Password Again - First Name - Last Name - Phone Number
3	Guest	Enter “Email”, “Mật khẩu”, “Nhập lại mật khẩu”, “Tên đệm”, “Tên”, “Số ĐT” fields on the Register screen, then tap on “Đăng ký” icon.
4	F-Taxi	Validate the entered by Guest and show "Đăng ký thành công!" message, then display Login screen
<b>Alternative flows</b>		
<b>AT1</b>	At step 4 in the main flows, if guest insert wrong “Nhập lại mật khẩu”, wrong email format, or keep mandatory field blank	
<b>Step</b>	<b>Actor</b>	<b>Action</b>
4.1	F-Taxi	Display message to warning about wrong information and require enter again
<b>AT2</b>	Display message that email has existed, and require guest to change email	
<b>Step</b>	<b>Actor</b>	<b>Action</b>
4.1	F-Taxi	Display message that email has existed, and require guest to change email

### 3.2.2.1.2 UC-02 Login

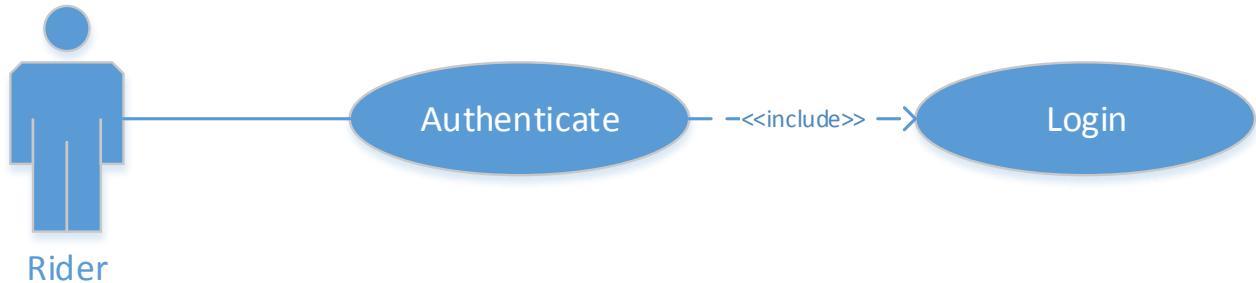


Figure 3-3 Use-case UC-02

TABLE 3-3 Use-case UC-02 specification

<b>Use Case ID</b>	UC-02	
<b>Use Name</b>	Login	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows a Rider to be able to login the application when he/she have registered an account and his/her account is active	
<b>Precondition</b>	Start screen	
<b>Trigger</b>	Input email and password correctly in the right textbox then tap on “Đăng nhập” button	
<b>Post-Condition</b>	Login successfully	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	Tap on “Bỏ qua để đăng nhập” button on Start screen
2	F-Taxi	Display Login screen with the following fields: - Email - “Mật khẩu” - “Đăng nhập” button - “Quên mật khẩu?” text block
3	Rider	Enter Email and “Mật khẩu” fields on the Login screen, then tap on “Đăng nhập” icon.
4	F-Taxi	Validate the entered Email and “Mật khẩu” and then display Home screen
<b>Alternative flows</b>		
<b>AT1</b>	At step 4 in the main flows, if F-Taxi failed to validate username and password	
Step	Actor	Action
4.1	F-Taxi	Display "Login" page with message "Email hoặc mật khẩu không đúng"

### 3.2.2.1.3 UC- 03 Logout

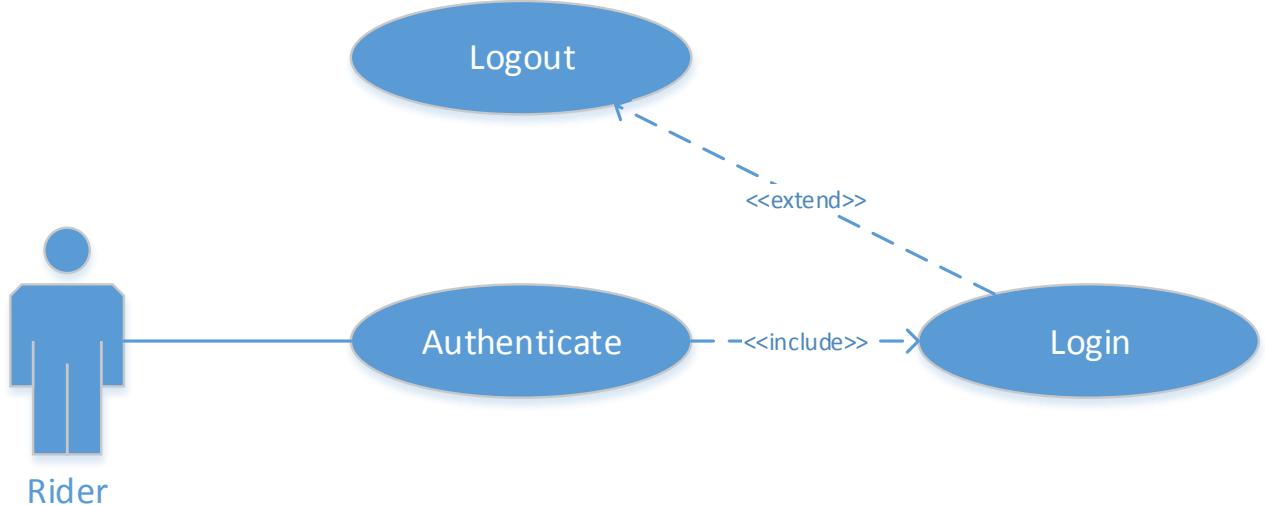


Figure 3-4 Use-case UC-03

TABLE 3-4 Use-case UC-03 specification

<b>Use Case ID</b>	UC-03	
<b>Use Name</b>	Logout	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows a Rider to logout F-Taxi	
<b>Precondition</b>	Login	
<b>Trigger</b>	Tap on back button or tap on “Đăng xuất” icon in menu bar, and then tap “Có” or tap on “Đăng xuất” icon and then tap “Có”	
<b>Post-Condition</b>	Logout successfully	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	On Home screen, tap on back button or tap on “Đăng xuất” icon in menu bar
2	F-Taxi	Display confirm message box with message “Bạn có muốn thoát không?”
3	Rider	Tap “Có” option on message box
4	F-Taxi	Log user out and display Login screen
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Rider tap “Không” option on message box	
Step	Actor	Action
3.1	F-Taxi	Display "Login" page with message "Email hoặc mật khẩu không đúng"

### 3.2.2.1.4 UC-04 Forget Password

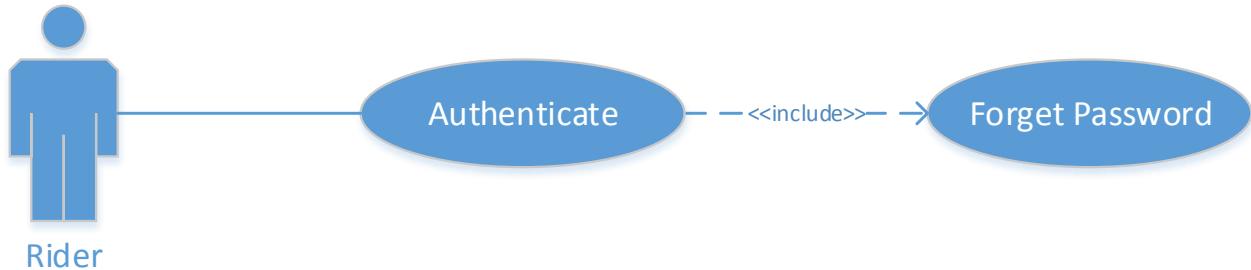
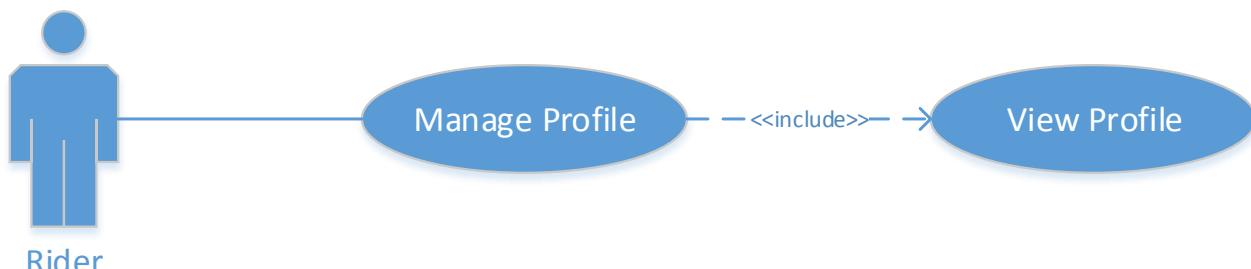


Figure 3-5 Use-case UC-04

TABLE 3-5 Use-case UC-04 specification

<b>Use Case ID</b>	UC-04	
<b>Use Name</b>	Forget Password	
<b>Actor</b>	Rider	
<b>Description</b>	The function allows an Rider create new password	
<b>Precondition</b>	Start app	
<b>Trigger</b>	Tap on “Quên mật khẩu?” text on Login screen	
<b>Post-Condition</b>	Reset password and create new password	
<b>Main flows</b>		
<b>Step</b>	<b>Actor</b>	<b>Action</b>
1	Rider	On Login screen, tap on “Quên mật khẩu?” text
2	F-Taxi	Display Forget Password screen
3	Rider	Enter email to Email field, tap on “Đặt lại mật khẩu” icon
4	F-Taxi	Show "Mật khẩu đã được gửi về hộp thư của bạn. Vui lòng kiểm tra và đăng nhập lại!" message and send email confirm for Rider
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Rider tap back button	
<b>Step</b>	<b>Actor</b>	<b>Action</b>
3.1	F-Taxi	Display "Login" screen

### 3.2.2.1.5 UC-05 View Profile

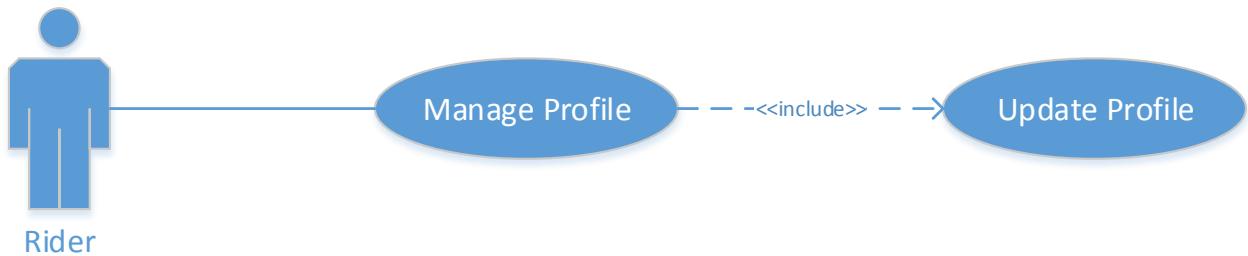


*Figure 3-6 Use-case UC-05*

**TABLE 3-6 Use-case UC-05 specification**

<b>Use Case ID</b>	UC-05	
<b>Use Name</b>	View Profile	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows Rider view profile	
<b>Precondition</b>	Login and on Home Page Screen	
<b>Trigger</b>	Tap on top left menu and then tap on image or name of Rider	
<b>Post-Condition</b>	View successful	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	In Home Page screen, tap on top left menu
2	F-Taxi	Show list left menu
3	Rider	Tap on image or name of Rider
4	F-Taxi	View successful
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Rider tap button back	
Step	Actor	Action
3.1	F-Taxi	Back to Home Page Screen

### **3.2.2.1.6 UC-06 Update profile**



*Figure 3-7 Use-case UC-06*

**TABLE 3-7 Use-case UC-06 specification**

<b>Use Case ID</b>	UC-06
<b>Use Name</b>	Update Profile
<b>Actor</b>	Rider
<b>Description</b>	The function allows Rider to change their profile
<b>Precondition</b>	Login and on Home Page Screen

<b>Trigger</b>	Tap on field want to change and update field	
<b>Post-Condition</b>	Updated successfully	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	On Home Page screen, tap on avatar or name of menu bar
2	F-Taxi	Display Profile screen
3	Rider	Tap on field want to change and update field, then tap on “Lưu” button.
4	F-Taxi	Display message notice changed successfully. Stayed on Rider Profile page
5	Rider	Tap on pencil image to change home or work address
6	F-Taxi	Show Add Home Place or Add Work Place page
7	Rider	Enter address textbox and choose right place from suggest to auto complete address
8	F-Taxi	Show marker on maps.
9	Rider	Tap on “Lưu lại” button
10	F-Taxi	Display "Cập nhật thông tin cá nhân thành công!" message notice changed successfully
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Rider enter wrong information form	
Step	Actor	Action
3.1	F-Taxi	Display message box remind Rider insert again

### 3.2.2.1.7 UC-07 Change password

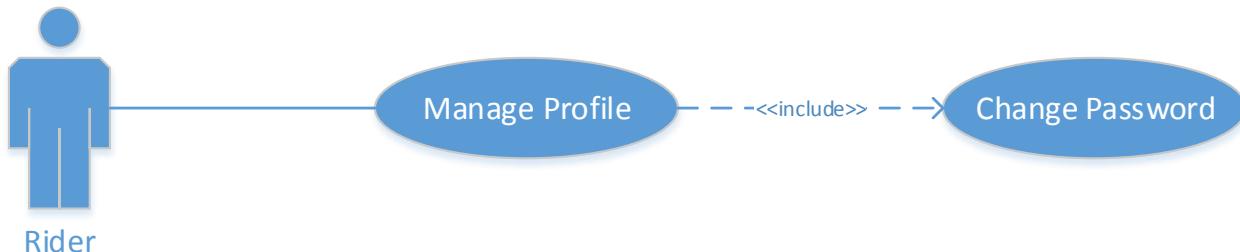


Figure 3-8 Use-case UC-07

TABLE 3-8 Use-case UC-07 specification

<b>Use Case ID</b>	UC-07
<b>Use Name</b>	Change Password
<b>Actor</b>	Rider
<b>Description</b>	The function allows a Rider to change their password
<b>Precondition</b>	Login and on Home Page Screen
<b>Trigger</b>	Tap on “Đổi mật khẩu” text and enter all field to change, then tap on “Xác nhận thay đổi” icon.
<b>Post-Condition</b>	Changed successfully
<b>Main flows</b>	

Step	Actor	Action
1	Rider	On Home Page screen, tap on avatar or name on left menu
2	F-Taxi	Display Profile screen
3	Rider	Tap on “Đổi mật khẩu” text
4	F-Taxi	Display Change password screen with the following fields: - “Mật khẩu cũ” - “Mật khẩu mới” - “Nhập lại mật khẩu mới”
5	Rider	Enter “Mật khẩu cũ”, “Mật khẩu mới”, “Nhập lại mật khẩu mới” field on Change Password screen and then tap on “Đặt lại mật khẩu”.
6	F-Taxi	Display a message box notice changed successfully
<b>Alternative flows</b>		
<b>AT1</b>	At step 4 in the main flows, if Rider insert wrong format password	
Step	Actor	Action
4.1	F-Taxi	Display message box remind Rider insert again

### 3.2.2.1.8 UC-08 List favorite drivers

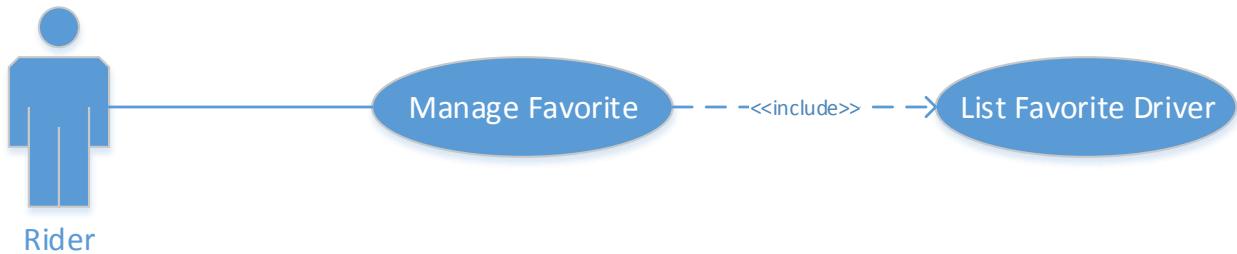


Figure 3-9 Use-case UC-08

TABLE 3-9 Use-case UC-08 specification

<b>Use Case ID</b>	UC-08	
<b>Use Name</b>	List Favorite Driver	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows Rider show list favorite Driver	
<b>Precondition</b>	Login and on Home Page Screen	
<b>Trigger</b>	Tap on “Tài xế ưa thích” on left menu	
<b>Post-Condition</b>	Show list successful	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	On Home Page screen, “Tài xế ưa thích” on left menu
2	F-Taxi	Show list favorite Driver

Alternative flows		
<b>AT1</b>	At step 2 in the main flows, if Rider has no favorite Driver	
Step	Actor	Action
2.1	F-Taxi	Show "Chưa có thông tin!" message

### 3.2.2.1.9 UC-09 Add favorite driver

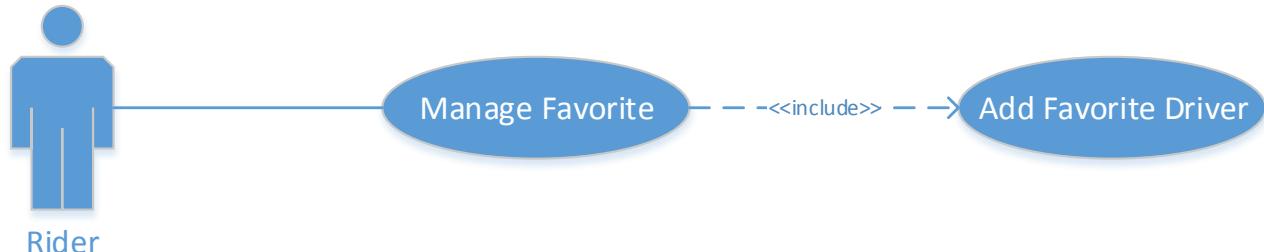


Figure 3-10 Use-case UC-09

TABLE 3-10 Use-case UC-09 specification

Use Case ID	UC-09	
Use Name	Add Favorite Driver	
Actor	Rider	
Description	This function allows Rider add favorite Driver	
Precondition	Finished Trip	
Trigger	Tap on Add Favorite button on detail bill	
Post-Condition	Add favorite Driver successful	
Main flows		
Step	Actor	Action
1	F-Taxi	Show detail bill on screen
2	Rider	Tap on “Thêm vào yêu thích” button
3	F-Taxi	Show “Bạn đã thêm thành công lái xe yêu thích!” and add favorite Driver successful
4		
Alternative flows		
Step	Actor	Action

### 3.2.2.1.10 UC-10 Delete favorite driver

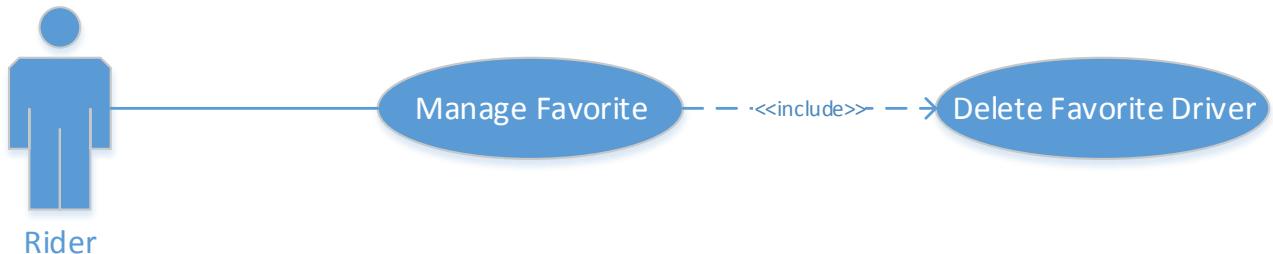
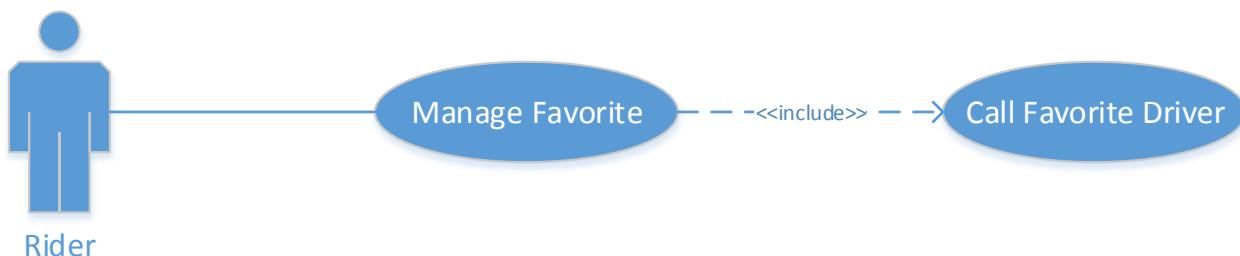


Figure 3-11 Use-case UC-10

TABLE 3-11 Use-case UC-10 specification

<b>Use Case ID</b>	UC-10	
<b>Use Name</b>	Delete Favorite Driver	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows Rider delete favorite Driver	
<b>Precondition</b>	Login and on Home Page Screen	
<b>Trigger</b>	Tap on favorite Driver and tap on “Xóa khỏi danh sách” button	
<b>Post-Condition</b>	Delete favorite Driver Successful	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	On Home Page screen, “Tài xế ưa thích” on left menu
2	F-Taxi	Show list favorite Driver
3	Rider	Choose Driver and tap on, then tap on “Xóa khỏi danh sách”
4	F-Taxi	Delete favorite Driver successful
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Rider tap on “Hủy” button	
Step	Actor	Action
3.1	F-Taxi	Back to List Favorite Driver page

### 3.2.2.1.11 UC-11 Call favorite driver



*Figure 3-12 Use-case UC-11*

**TABLE 3-12 Use-case UC-11 specification**

<b>Use Case ID</b>	UC-11	
<b>Use Name</b>	Call Favorite Driver	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows Rider call favorite Driver instantly	
<b>Precondition</b>	Login and on Home Page Screen	
<b>Trigger</b>	Tap on favorite Driver and tap on “Gọi tài xế” button	
<b>Post-Condition</b>	Call favorite Driver successful	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	On Home Page screen, tap on “Tài xế ưa thích” on left menu
2	F-Taxi	Show list favorite Driver
3	Rider	Choose Driver and tap on, then tap on “Gọi tài xế”
4	F-Taxi	Call favorite Driver successful
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Rider tap on “Hủy” button	
Step	Actor	Action
3.1	F-Taxi	Back to List Favorite Driver page

### **3.2.2.1.12 UC-12 Send application feedback**



*Figure 3-13 Use-case UC-12*

**TABLE 3-13 Use-case UC-12 specification**

<b>Use Case ID</b>	UC-12
<b>Use Name</b>	Send Application Feedback
<b>Actor</b>	Rider
<b>Description</b>	This function allows Rider send feedback of application
<b>Precondition</b>	On Home Page screen

<b>Trigger</b>	Tap on feedback and enter textbox field	
<b>Post-Condition</b>	Send feedback successful	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	On Home Page screen, tap on “Phản hồi” on left menu
2	F-Taxi	Show two textbox field
3	Rider	Enter “Tiêu đề” and “Nội dung” textbox field and tap on “Gửi” button
4	F-Taxi	Send feedback successfull
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Rider tap on back button	
Step	Actor	Action
3.1	F-Taxi	Back to Home Page screen

### 3.2.2.1.13 UC-13 Find lost asset

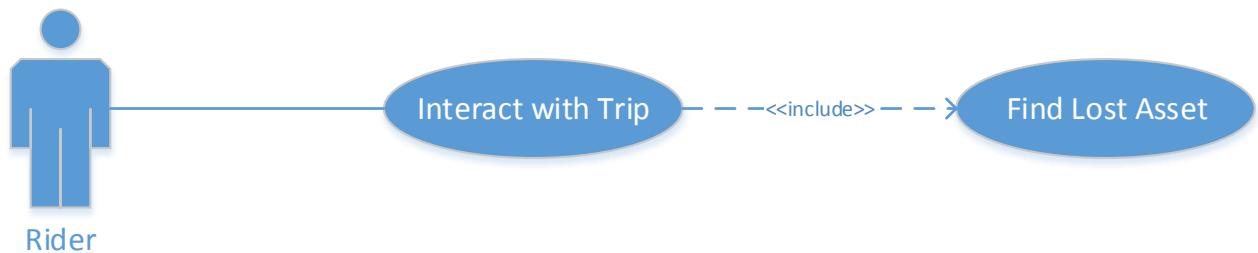


Figure 3-14 Use-case UC-13

TABLE 3-14 Use-case UC-13 specification

<b>Use Case ID</b>	UC-13	
<b>Use Name</b>	Find Lost Asset	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows Rider find lost asset after finished trip	
<b>Precondition</b>	Finished Trip and on Home Page screen	
<b>Trigger</b>	Tap on trip and enter message , then send the message	
<b>Post-Condition</b>	Send message successful	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	On Home Page screen, tap on “Lịch sử chuyến đi” on left menu
2	F-Taxi	Show list complete trip
3	Rider	Choose a trip and tap on, then tap on “Báo mất đồ” button
4	F-Taxi	Show textbox field
5	Rider	Enter textbox field and tap on “Gửi” button
6	F-Taxi	Send message successfull
<b>Alternative flows</b>		

<b>AT1</b>	At step 5 in the main flows, if Rider tap on “ Hủy” button	
<b>Step</b>	<b>Actor</b>	<b>Action</b>
5.1	F-Taxi	Back to List Complete Trip page

### 3.2.2.1.14 UC-14 Call taxi center

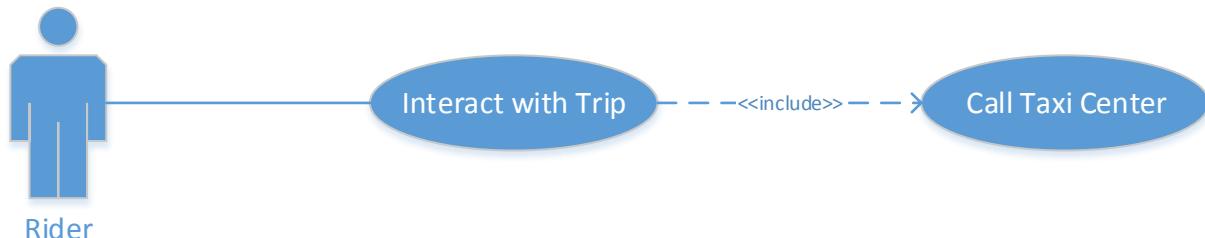


Figure 3-15 Use-case UC-14

TABLE 3-15 Use-case UC-14 specification

<b>Use Case ID</b>	UC-14	
<b>Use Name</b>	Call Taxi Center	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows Rider call taxi center when around without vehicle	
<b>Precondition</b>	On Home Page screen	
<b>Trigger</b>	Tap on red marker and choose the taxi company	
<b>Post-Condition</b>	Call taxi center successful	
<b>Main flows</b>		
<b>Step</b>	<b>Actor</b>	<b>Action</b>
1	Rider	On Home Page screen, tap on red marker name “Gọi hãng” on map screen
2	F-Taxi	Show list taxi companies
3	Rider	Choose taxi company and tap on logo taxi company to call
4	F-Taxi	Call taxi center successful
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Rider want search name of taxi company	
<b>Step</b>	<b>Actor</b>	<b>Action</b>
3.1	Rider	Enter character into search field
3.2	F-Taxi	Return result of search for Rider

### 3.2.2.1.15 UC-15 Create Trip

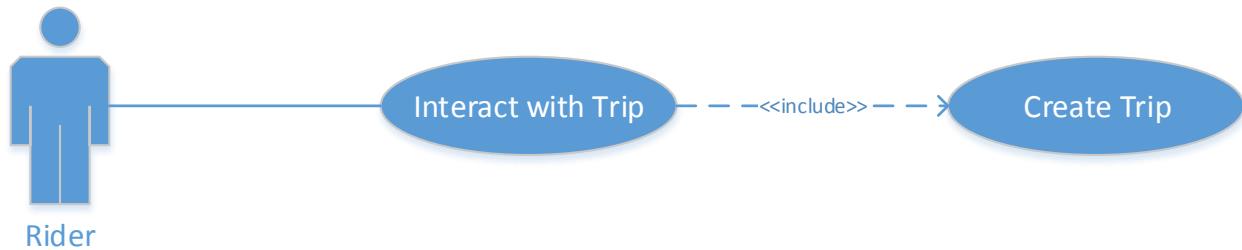


Figure 3-16 Use-case UC-15

TABLE 3-16 Use-case UC-15 specification

<b>Use Case ID</b>	UC-15	
<b>Use Name</b>	Create Trip	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows Rider create a trip	
<b>Precondition</b>	Login and on Home Page screen	
<b>Trigger</b>	Using finger to select or enter on field search address to pick up, then tap to call taxi	
<b>Post-Condition</b>	Created Trip	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	Using finger to select or enter on field search address to pick up
2	F-Taxi	Show Trip bar include Driver information and open price
3		
4		
5	Rider	Tap on "Yêu cầu Taxi" button
6	F-Taxi	Show "Vui lòng đợi..." message, Driver accepted, then show "Xe đang tới..." message and Driver started trip, show "Chúc bạn một chuyến đi vui vẻ" message and created trip
<b>Alternative flows</b>		
<b>AT1</b>	At step 1 in the main flows, if Rider enter wrong address field	
Step	Actor	Action
1.1	F-Taxi	Show ""Địa chỉ không hợp lệ, vui lòng thử lại!"" message on screen
<b>AT2</b>	At step 1 in the main flows, if around has no taxi	
Step	Actor	Action
1.2	F-Taxi	Show "Không có taxi nào gần đây, vui lòng thử lại sau!" message on screen
<b>AT3</b>	At step 4 in the main flows, if Driver rejected request from Rider	
Step	Actor	Action
4.1	F-Taxi	Show "Yêu cầu bị hủy bỏ!" message on screen


### 3.2.2.1.16 UC-16 Cancel Trip

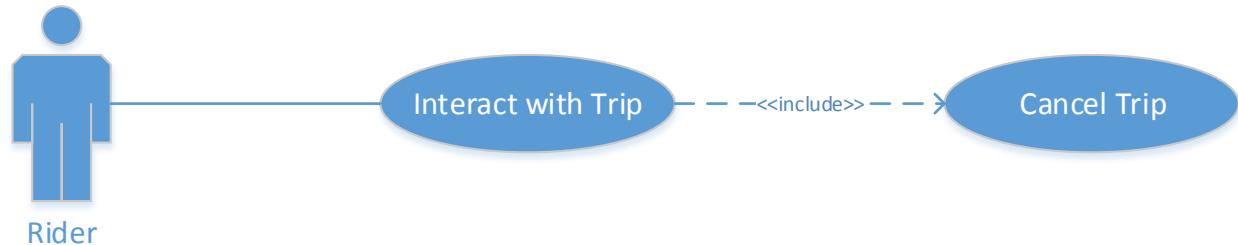


Figure 3-17 Use-case UC-16

TABLE 3-17 Use-case UC-16 specification

Use Case ID	UC-16	
Use Name	Cancel Trip	
Actor	Rider	
Description	This function allows Rider cancel a trip	
Precondition	Login and on Home Page screen	
Trigger	Using finger to select or enter on field search address to pick up, then tap to call taxi. During time wait taxi response. Tap cancel	
Post-Condition	Canceled Trip	
Main flows		
Step	Actor	Action
1	Rider	Using finger to select or enter on field search address to pick up
2	F-Taxi	Show Trip bar include Driver information and open price
3	Rider	Tap on "Yêu cầu Taxi" button
4	F-Taxi	Created Trip
5	Rider	Tap on "Hủy" red button
6	F-Taxi	Show "Yêu cầu bị hủy bỏ!" message, Canceled Trip
Alternative flows		
Step	Actor	Action

### 3.2.2.1.17 UC-17 List completed trip

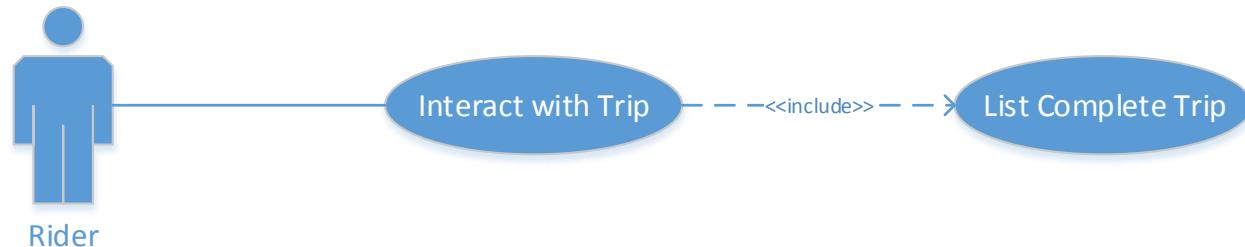


Figure 3-18 Use-case UC-17

TABLE 3-18 Use-case UC-17 specification

<b>Use Case ID</b>	UC-17	
<b>Use Name</b>	List Complete Trip	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows Rider view list completed trip	
<b>Precondition</b>	On Home Page screen	
<b>Trigger</b>	Tap on list complete trip button on left menu	
<b>Post-Condition</b>	Show list complete trip successful	
<b>Main flows</b>		
Step	Actor	Action
1	Rider	On Home Page Screen, them tap on “Lịch sử chuyến đi” on left menu
2	F-Taxi	Show list complete trip successful
3	Rider	Tap on “Xem chi tiết”
4	F-Taxi	Show detail trip
<b>Alternative flows</b>		
<b>AT1</b>	At step 2 in the main flows, if Rider have no trip before	
Step	Actor	Action
2.1	F-Taxi	Show "Bạn chưa có chuyến đi nào cả!" message

### 3.2.2.1.18 UC-18 View bill detail

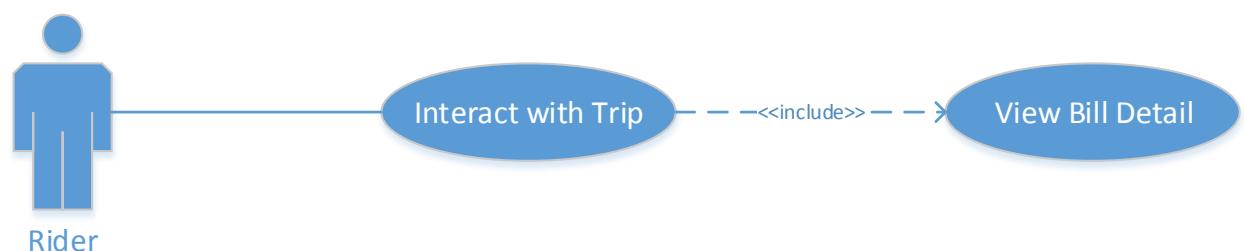


Figure 3-19 Use-case UC-18

TABLE 3-19 Use-case UC-18 specification

<b>Use Case ID</b>	UC-18	
<b>Use Name</b>	View Bill Detail	
<b>Actor</b>	Rider	
<b>Description</b>	This function allows Rider view bill detail of trip	
<b>Precondition</b>	Finished Trip	
<b>Trigger</b>	Tap on “Kết thúc” button	
<b>Post-Condition</b>	Show bill detail successful	
<b>Main flows</b>		
Step	Actor	Action
1	Driver	Tap on “Hoàn thành chuyến đi” button
2	F-Taxi	Show bill detail on screen Rider and Driver
<b>Alternative flows</b>		
Step	Actor	Action

### 3.2.2.1.19 UC-19 Rate driver

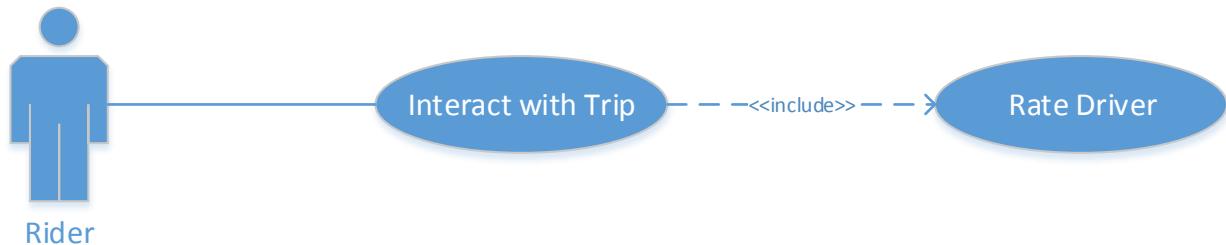


Figure 3-20 Use-case UC-19

TABLE 3-20 Use-case UC-19 specification

<b>Use Case ID</b>	UC-19
<b>Use Name</b>	Rate Driver
<b>Actor</b>	Rider
<b>Description</b>	This function allows Rider rate Driver after every trip
<b>Precondition</b>	Finished Trip
<b>Trigger</b>	Using finger choose from 1 to 5 star
<b>Post-Condition</b>	Rate Driver completed
<b>Main flows</b>	

Step	Actor	Action
1	F-Taxi	Show bill detail after finished trip
2	Rider	Using finger choose from 1 to 5 star
3	F-Taxi	Rate Driver completed
4	Rider	
<b>Alternative flows</b>		
Step	Actor	Action

### 3.2.2.2 Driver Requirement

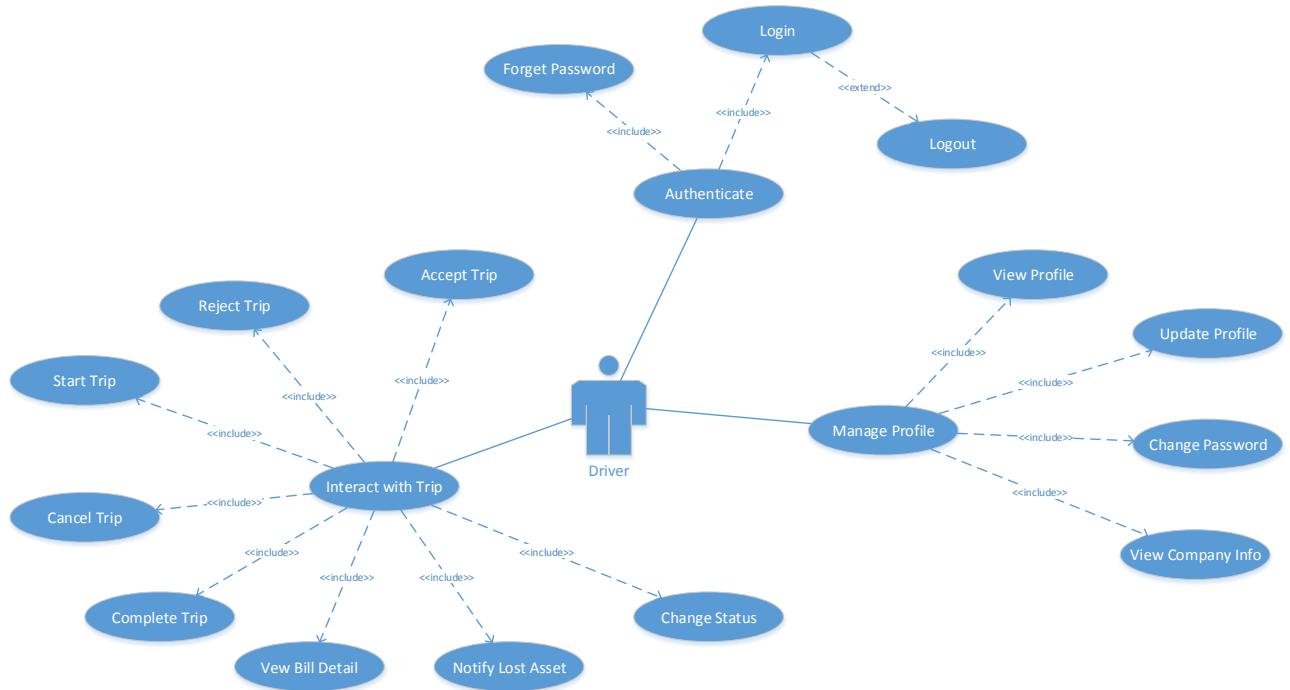


Figure 3-21 The Driver Use-case diagram

TABLE 3-21 Driver Use-cases

Use Case ID	Actor	Group of function	Name	Note
UC-20	Driver	Authenticate	Login	
UC-21			Logout	
UC-22			Forget Password	

UC-23			View Profile	
UC-24			Update Profile	
UC-25			Change Password	
UC-26			Company Info	
UC-27			Notification Lost Asset	
UC-28			Change Status	
UC-29			Accept Trip	
UC-30			Reject Trip	
UC-31			Start Trip	
UC-32			Cancel Trip	
UC-33			Complete Trip	
UC-34			View Bill Detail	

### 3.2.2.2.1 UC-20 Login

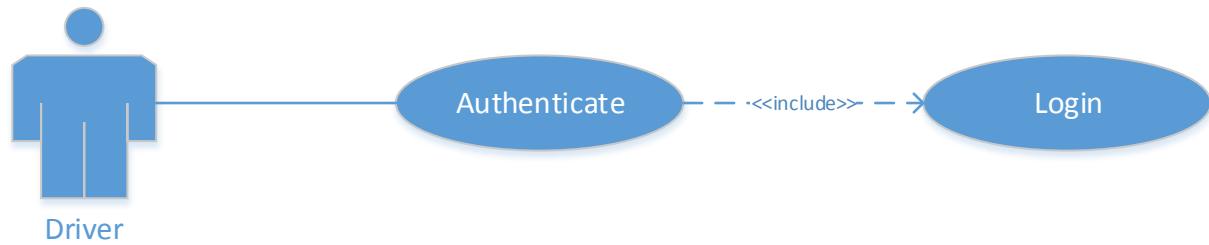


Figure 3-22 Use-case UC-20

TABLE 3-22 Use-case UC-20 specification

<b>Use Case ID</b>	UC-20	
<b>Use Name</b>	Login	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows a Rider to be able to login the application when he/she have registered an account and his/her account is active	
<b>Precondition</b>	Start screen	
<b>Trigger</b>	Input email and password correctly in the right textbox then tap on “Đăng nhập” button	
<b>Post-Condition</b>	Login successfully	
<b>Main flows</b>		
Step	Actor	Action
1	Driver	Tap on “Bỏ qua để đăng nhập” button on Start screen
2	F-Taxi	Display Login screen with the following fields: - Email - “Mật khẩu” - “Đăng nhập” button

		- “Quên mật khẩu?” text block
3	Driver	Enter Email and “Mật khẩu” fields on the Login screen, then tap on “Đăng nhập” icon.
4	F-Taxi	Validate the entered Email and “Mật khẩu” and then display Home screen
<b>Alternative flows</b>		
<b>AT1</b>	At step 4 in the main flows, if F-Taxi failed to validate username and password	
<b>Step</b>	<b>Actor</b>	<b>Action</b>
4.1	F-Taxi	Display "Login" page with message "Email hoặc mật khẩu không đúng"

### 3.2.2.2 UC-21 Logout

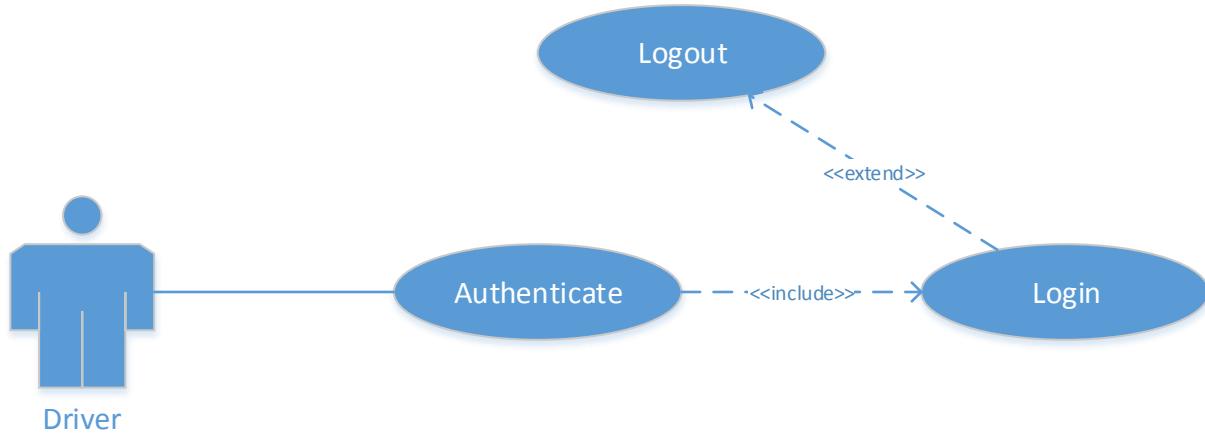


Figure 3-23 Use-case UC-21

TABLE 3-23 Use-case UC-21 specification

<b>Use Case ID</b>	UC-21	
<b>Use Name</b>	Logout	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows a Driver to logout F-Taxi	
<b>Precondition</b>	Login	
<b>Trigger</b>	Tap on back button or tap on “Đăng xuất” icon in menu bar, and then tap “Có” or tap on “Đăng xuất” icon and then tap “Có”	
<b>Post-Condition</b>	Logout successfully	
<b>Main flows</b>		
<b>Step</b>	<b>Actor</b>	<b>Action</b>
1	Driver	On Home screen, tap on back button or tap on “Đăng xuất” icon in menu bar
2	F-Taxi	Display confirm message box with message “Bạn có muốn thoát không?”
3	Driver	Tap “Có” option on message box
4	F-Taxi	Log user out and display Login screen
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Driver tap “Không” option on message box	

Step	Actor	Action
3.1	F-Taxi	Display "Login" page with message "Email hoặc mật khẩu không đúng"

### 3.2.2.2.3 UC-22 Forget password

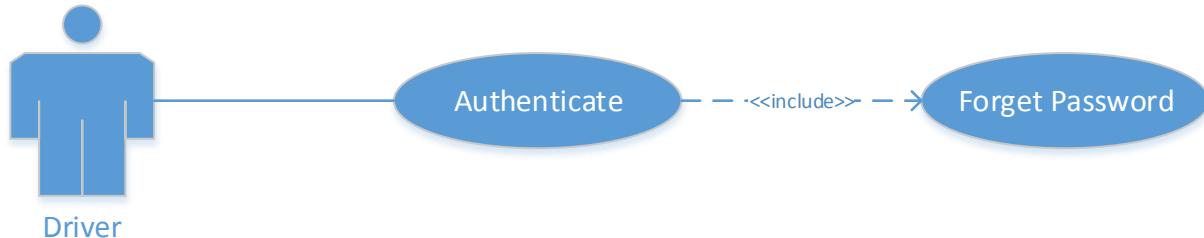
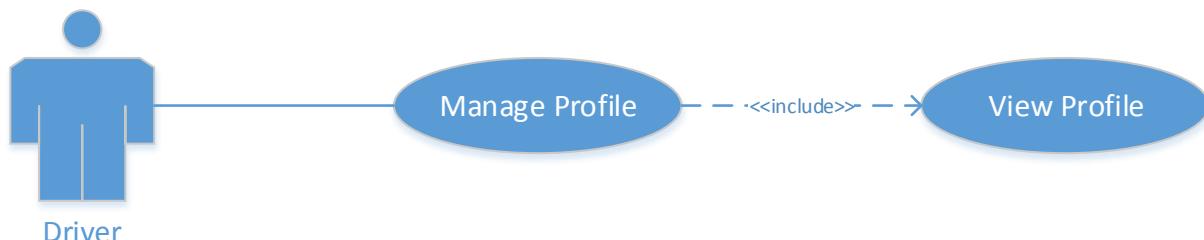


Figure 3-24 Use-case UC-22

TABLE 3-24 Use-case UC-22 specification

<b>Use Case ID</b>	UC-22	
<b>Use Name</b>	Forget Password	
<b>Actor</b>	Driver	
<b>Description</b>	The function allows an Driver create new password	
<b>Precondition</b>	Start app	
<b>Trigger</b>	Tap on “Quên mật khẩu?” text on Login screen	
<b>Post-Condition</b>	Reset password and create new password	
<b>Main flows</b>		
<b>Step</b>	<b>Actor</b>	<b>Action</b>
1	Driver	On Login screen, tap on “Quên mật khẩu?” text
2	F-Taxi	Display Forget Password screen
3	Driver	Enter email to Email field, tap on “Đặt lại mật khẩu” icon
4	F-Taxi	Send email confirm for Driver
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Driver tap back button	
<b>Step</b>	<b>Actor</b>	<b>Action</b>
3.1	F-Taxi	Display "Login" screen

### 3.2.2.2.4 UC-23 View profile

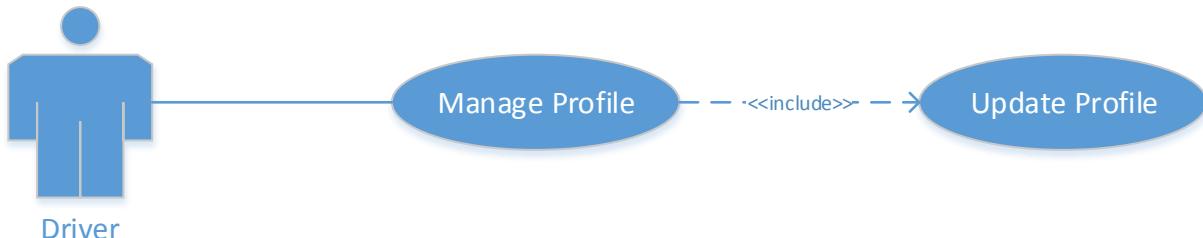


*Figure 3-25 Use-case UC-23*

**TABLE 3-25 Use-case UC-23 specification**

<b>Use Case ID</b>	UC-23	
<b>Use Name</b>	View Profile	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Driver view profile	
<b>Precondition</b>	Login and on Home Page Screen	
<b>Trigger</b>	Tap on top left menu and then tap on image or name of Driver	
<b>Post-Condition</b>	View successful	
<b>Main flows</b>		
<b>Step</b>	<b>Actor</b>	<b>Action</b>
1	Rider	In Home Page screen, tap on top left menu
2	F-Taxi	Show list left menu
3	Driver	Tap on image or name of Driver
4	F-Taxi	View successful
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Driver tap button back	
<b>Step</b>	<b>Actor</b>	<b>Action</b>
3.1	F-Taxi	Back to Home Page Screen

### **3.2.2.2.5 UC-24 Update profile**



*Figure 3-26 Use-case UC-24*

**TABLE 3-26 Use-case UC-24 specification**

<b>Use Case ID</b>	UC-24
<b>Use Name</b>	Update Profile
<b>Actor</b>	Driver
<b>Description</b>	The function allows Driver to change their profile
<b>Precondition</b>	Login and on Home Page Screen

<b>Trigger</b>	Tap on field want to change and update field	
<b>Post-Condition</b>	Updated successfully	
<b>Main flows</b>		
Step	Actor	Action
1	Driver	On Home Page screen, tap on avatar or name of menu bar
2	F-Taxi	Display Profile screen
3	Driver	Tap on field want to change and update field, then tap on “Lưu” button.
4	F-Taxi	Display message notice changed successfully. Stayed on Driver Profile page
5	Driver	Tap on pencil image to change home or work address
6	F-Taxi	Show Add Home Place screen
7	Driver	Enter address textbox and choose right place from suggest to auto complete address
8	F-Taxi	Show marker on maps.
9	Driver	Tap on “Lưu lại” button
10	F-Taxi	Display message notice changed successfully
<b>Alternative flows</b>		
<b>AT1</b>	At step 3 in the main flows, if Driver enter wrong information form	
Step	Actor	Action
3.1	F-Taxi	Display message box remind Driver insert again

### 3.2.2.2.6 UC-25 Change password

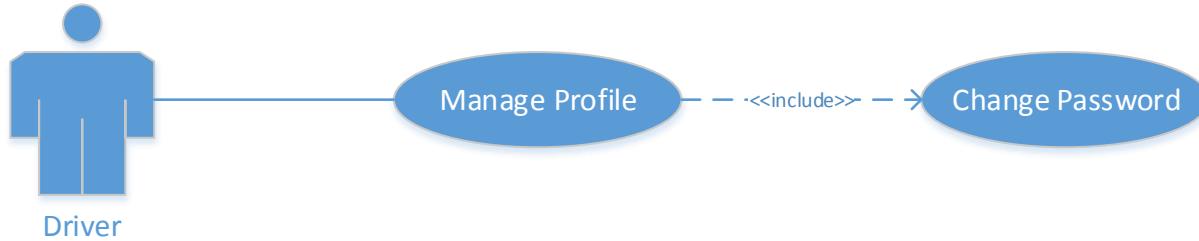


Figure 3-27 Use-case UC-25

TABLE 3-27 Use-case UC-25 specification

<b>Use Case ID</b>	UC-25	
<b>Use Name</b>	Change Password	
<b>Actor</b>	Driver	
<b>Description</b>	The function allows a Driver to change their password	
<b>Precondition</b>	Login and on Home Page Screen	
<b>Trigger</b>	Tap on “Đổi mật khẩu” text and enter all field to change, then tap on “Xác nhận thay đổi” icon.	
<b>Post-Condition</b>	Changed successfully	
<b>Main flows</b>		
Step	Actor	Action

1	Driver	On Home Page screen, tap on avatar or name on left menu
2	F-Taxi	Display Profile screen
3	Driver	Tap on “Đổi mật khẩu” text
4	F-Taxi	Display Change password screen with the following fields: - “Mật khẩu cũ” - “Mật khẩu mới” - “Nhập lại mật khẩu mới”
5	Driver	Enter “Mật khẩu cũ”, “Mật khẩu mới”, “Nhập lại mật khẩu mới” field on Change Password screen and then tap on “Đặt lại mật khẩu”.
6	F-Taxi	Display a message box notice changed successfully
<b>Alternative flows</b>		
<b>AT1</b>	At step 4 in the main flows, if Driver insert wrong format password	
<b>Step</b>	<b>Actor</b>	<b>Action</b>
4.1	F-Taxi	Display message box remind Driver insert again

### 3.2.2.2.7 UC-26 View company information

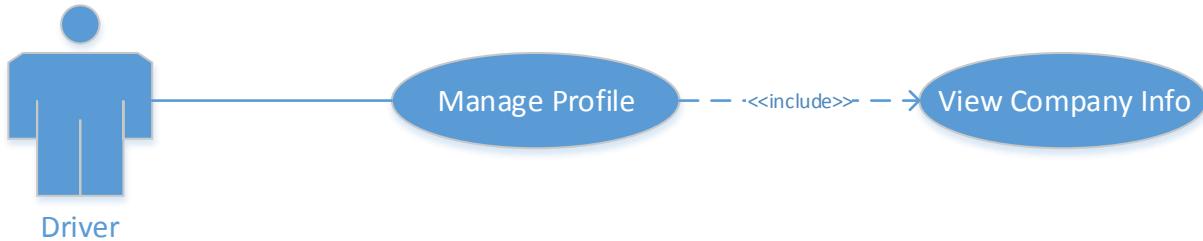


Figure 3-28 Use-case UC-26

TABLE 3-28 Use-case UC-26 specification

<b>Use Case ID</b>	UC-26	
<b>Use Name</b>	View Company Info	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Rider view company info	
<b>Precondition</b>	Login and on Home Page screen	
<b>Trigger</b>	Tap on company info	
<b>Post-Condition</b>	View successful	
<b>Main flows</b>		
<b>Step</b>	<b>Actor</b>	<b>Action</b>
1	Driver	On Home Page screen, tap on “Thông tin công ty” on left menu
2	F-Taxi	Show information of company Driver
3	Driver	View successfully

Alternative flows		
Step	Actor	Action

### 3.2.2.2.8 UC-27 Notify lost asset

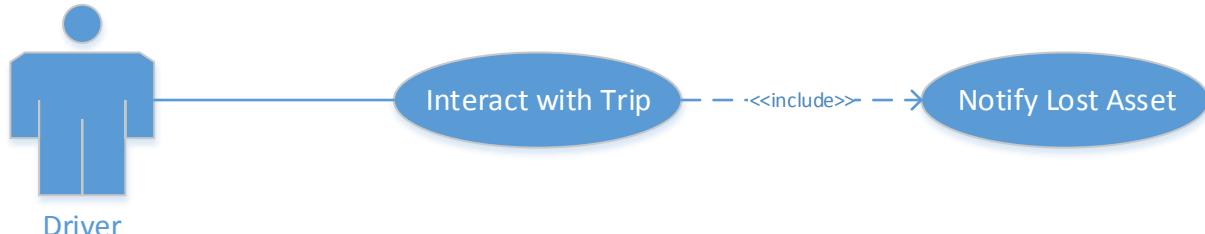


Figure 3-29 Use-case UC-27

TABLE 3-29 Use-case UC-27 specification

<b>Use Case ID</b>	UC-27	
<b>Use Name</b>	Notify Lost Asset	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Rider	
<b>Precondition</b>	On Home Page screen	
<b>Trigger</b>	Tap on list complete trip button on left menu, and tap on trip lost asset	
<b>Post-Condition</b>	Send message successful	
<b>Main flows</b>		
<b>Step</b>	<b>Actor</b>	<b>Action</b>
1	Driver	On Home Page screen, tap on “Lịch sử của tôi” on left menu
2	F-Taxi	Show list complete trip
3	Driver	Choose a trip and tap on, then tap on “Báo nhặt được đồ” button
4	F-Taxi	Show textbox field
5	Driver	Enter textbox field and tap on “Gửi” button
6	F-Taxi	Send message successful
<b>Alternative flows</b>		
<b>Step</b>	<b>Actor</b>	<b>Action</b>

### 3.2.2.9 UC-28 Change status

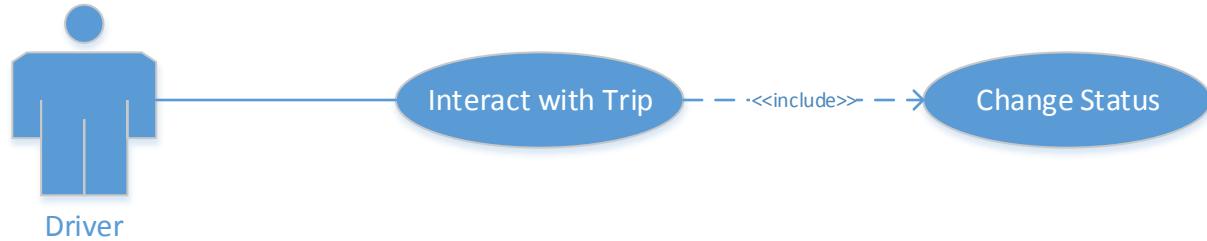


Figure 3-30 Use-case UC-28

TABLE 3-30 Use-case UC-28 specification

<b>Use Case ID</b>	UC-28	
<b>Use Name</b>	Change Status	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Driver change status not available when Driver want off time work day	
<b>Precondition</b>	Login and on Home Page screen	
<b>Trigger</b>	Tap on change status button or logout application	
<b>Post-Condition</b>	Changed Status	
<b>Main flows</b>		
Step	Actor	Action
1	Driver	On Home Page screen
2	F-Taxi	Tap on “Nhấn để chuyển qua trạng thái nghỉ” button or logout application
3	Driver	Changed Status
<b>Alternative flows</b>		
Step	Actor	Action

### 3.2.2.10 UC-29 Accept trip

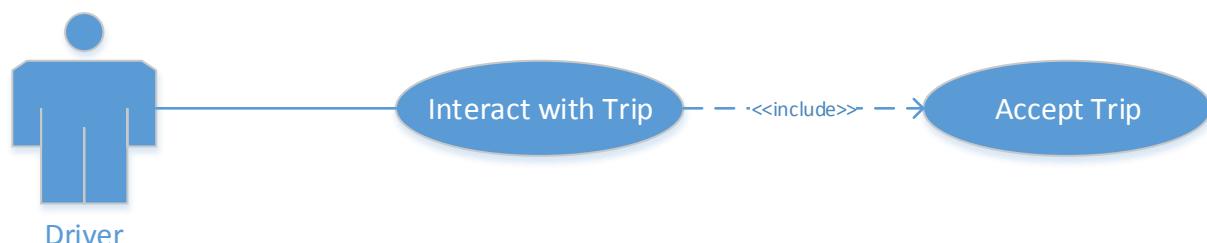
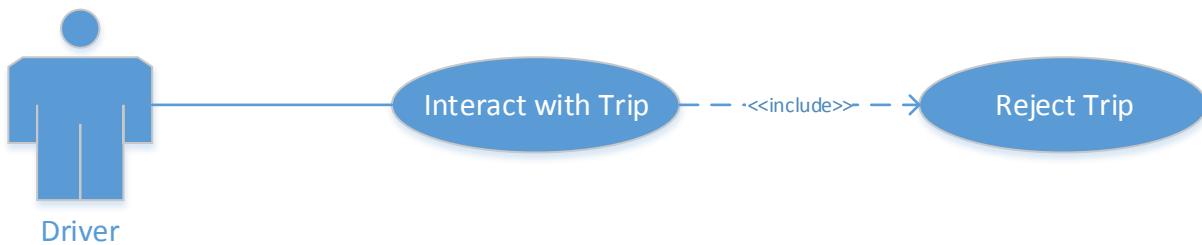


Figure 3-31 Use-case UC-29

**TABLE 3-31 Use-case UC-29 specification**

<b>Use Case ID</b>	UC-29	
<b>Use Name</b>	Accept Trip	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Driver accepted request from Rider call	
<b>Precondition</b>	Login	
<b>Trigger</b>	Dialog box show up and Driver tap on “Đồng ý” button	
<b>Post-Condition</b>	Driver accepted trip and pick up Rider	
<b>Main flows</b>		
Step	Actor	Action
1	F-Taxi	Send notification and request from Rider to Driver, show dialog box
2	Driver	Tap on “Đồng ý” button
3	F-Taxi	Driver accepted trip and pick up Rider
<b>Alternative flows</b>		
Step	Actor	Action

### 3.2.2.11 UC-30 Reject trip



*Figure 3-32 Use-case UC-30*

**TABLE 3-32 Use-case UC-30 specification**

<b>Use Case ID</b>	UC-30	
<b>Use Name</b>	Reject Trip	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Driver rejected request from Rider call	
<b>Precondition</b>	Login	
<b>Trigger</b>	Dialog box show up and Driver tap on “Tù chối” button	
<b>Post-Condition</b>	Driver rejected trip from Rider	
<b>Main flows</b>		

Step	Actor	Action
1	F-Taxi	Send notification and request from Rider to Driver, show dialog box
2	Driver	Tap on “Tù chối” button
3	F-Taxi	Driver rejected trip from Rider
<b>Alternative flows</b>		
Step	Actor	Action

### 3.2.2.12 UC-31 Start trip

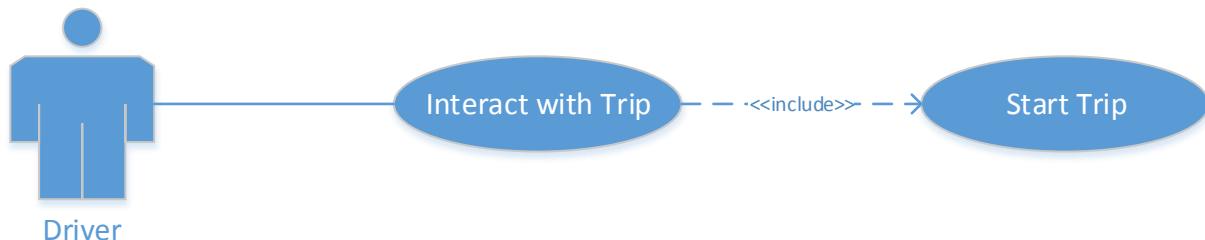


Figure 3-33 Use-case UC-31

TABLE 3-33 Use-case UC-31 specification

<b>Use Case ID</b>	UC-31	
<b>Use Name</b>	Start Trip	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Driver start a trip after accepted Rider request	
<b>Precondition</b>	Accepted Rider request	
<b>Trigger</b>	Tap on start trip for start calculate fee and distance	
<b>Post-Condition</b>	Started Trip	
<b>Main flows</b>		
Step	Actor	Action
1	F-Taxi	Show dialog box before Driver picked up Rider
2	Driver	When Rider on taxi, tap on “Bắt đầu” button
3	F-Taxi	Started Trip
<b>Alternative flows</b>		
Step	Actor	Action

### 3.2.2.13 UC-32 Cancel trip

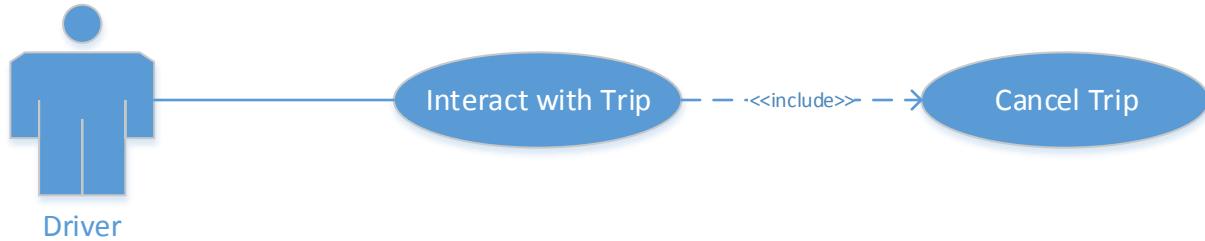


Figure 3-34 Use-case UC-32

TABLE 3-34 Use-case UC-32 specification

<b>Use Case ID</b>	UC-32	
<b>Use Name</b>	Cancel Trip	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Driver cancel a trip after accepted Rider request	
<b>Precondition</b>	Accepted Rider request	
<b>Trigger</b>	Tap on cancel trip when change decision	
<b>Post-Condition</b>	Canceled Trip	
<b>Main flows</b>		
Step	Actor	Action
1	F-Taxi	Show dialog box before Driver picked up Rider
2	Driver	When Driver change decision, tap on “Hủy” button
3	F-Taxi	Canceled Trip
<b>Alternative flows</b>		
Step	Actor	Action

### 3.2.2.14 UC-33 Complete trip

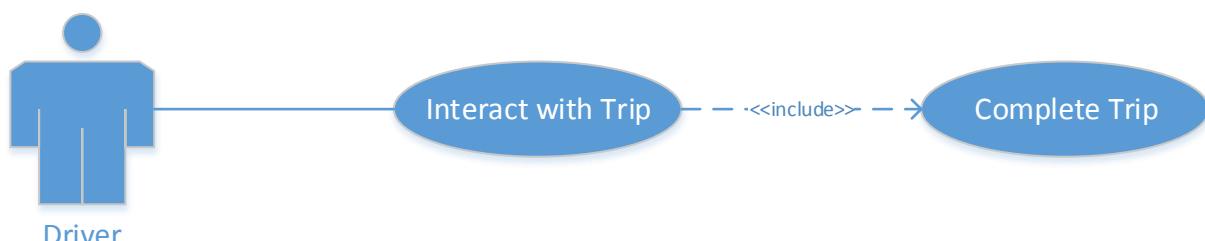
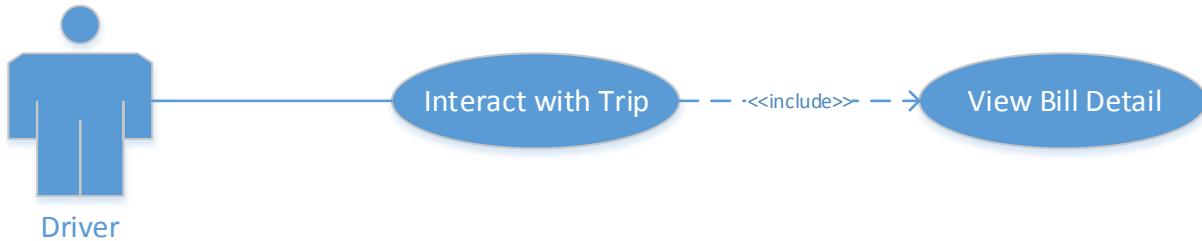


Figure 3-35 Use-case UC-33

**TABLE 3-35 Use-case UC-33 specification**

<b>Use Case ID</b>	UC-33	
<b>Use Name</b>	Complete Trip	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Driver view list completed trip	
<b>Precondition</b>	On Home Page screen	
<b>Trigger</b>	Tap on list complete trip button on left menu	
<b>Post-Condition</b>	Show list complete trip successful	
<b>Main flows</b>		
Step	Actor	Action
1	Driver	On Home Page Screen, them tap on “Lịch sử của tôi” on left menu
2	F-Taxi	Show list complete trip successful
3	Driver	Tap on “Xem chi tiết”
4	F-Taxi	Show detail trip
<b>Alternative flows</b>		
Step	Actor	Action

### 3.2.2.15 UC-34 View bill detail



*Figure 3-36 Use-case UC-34*

**TABLE 3-36 Use-case UC-34 specification**

<b>Use Case ID</b>	UC-34	
<b>Use Name</b>	View Bill Detail	
<b>Actor</b>	Driver	
<b>Description</b>	This function allows Driver view bill detail of trip	
<b>Precondition</b>	Finished Trip	
<b>Trigger</b>	Tap on “Chạm để thanh toán” button	
<b>Post-Condition</b>	Show bill detail successful	
<b>Main flows</b>		
Step	Actor	Action
1	Driver	Tap on “Chạm để thanh toán” button

2	F-Taxi	Show bill detail on screen Driver
3	Driver	Tap on “Thanh toán” button and receive payment from Rider
4	F-Taxi	Show bill detail on screen Rider
<b>Alternative flows</b>		
Step	Actor	Action

### 3.2.3 *Non-Functional Requirements*

#### 3.2.3.1 Usability

- User can easily take a trip in few taps on screen.
- Support Vietnamese for user to easily understand.

#### 3.2.3.2 Reliability

- Passwords must be encoded in database as MD5 type.
- The database must be backed up daily and can be recovered if necessary.

#### 3.2.3.3 Performance

- Time for loading content is 3-5 seconds depending on speed of internet.
- Time to process any function will not exceed 7 seconds.

#### 3.2.3.4 Supportability

- Coding standards, naming conventions and class library are noted to support later changes.
- Support log and fix bugs.

## 4 SOFTWARE DESIGN DESCRIPTION

### 4.1 SDD Overview

- This document provides the software design description of the Taxi Caller application. It relies on requirements in section 3 and includes all of important information that describes how the system does.
- This section of document is the **software design description** of the project in order to develop the software, it includes three main parts: Architecture Design, Class Design and Detail Design.

### 4.2 Architecture Design

#### 4.2.1 System Overall

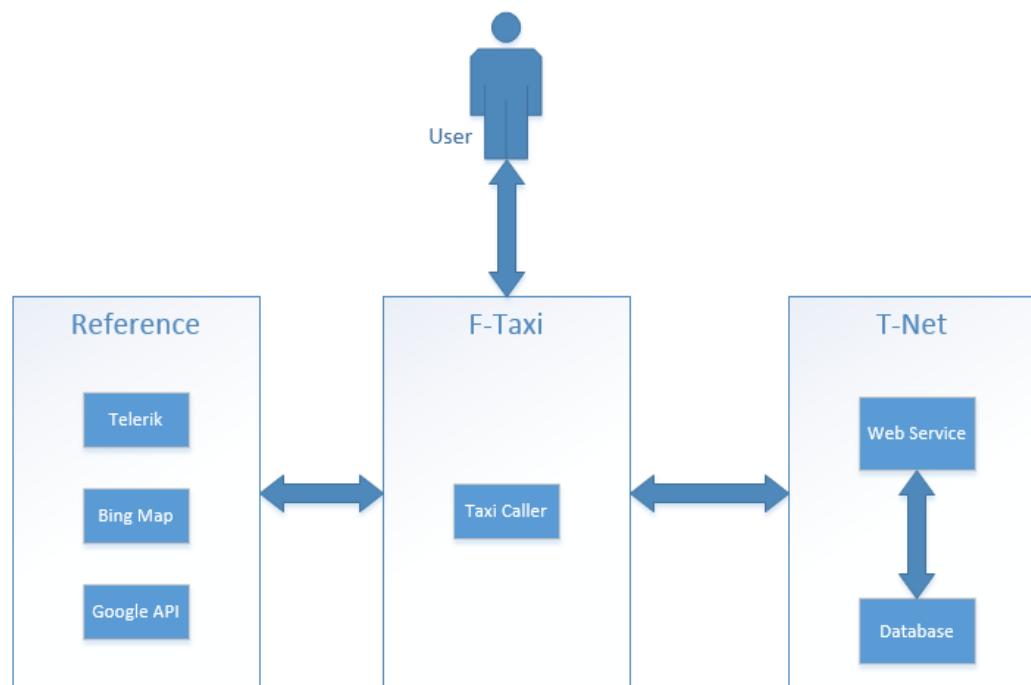


Figure 4-1 System Overall

## 4.2.2 Software Architect

### 4.2.2.1 Layered Architecture

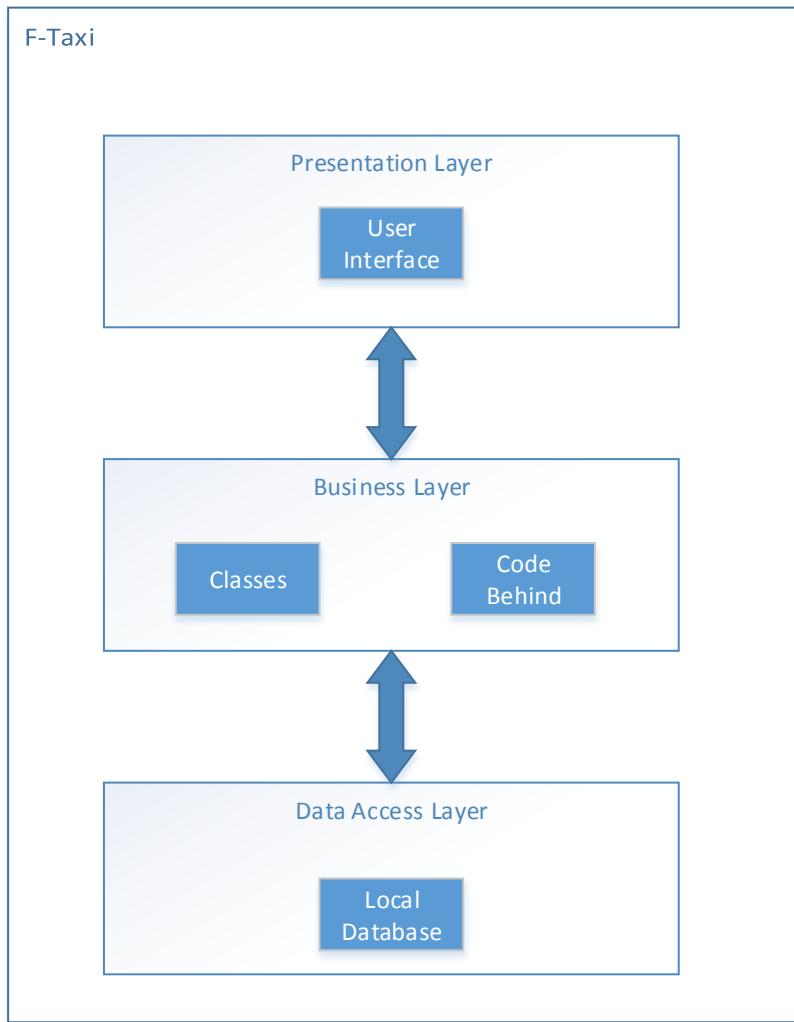


Figure 4-2 Layered architecture for F-Taxi application

#### 4.2.2.1.1 Layered Architecture Style

**Layered software architecture** is a hierarchical architecture that uses many layers for allocating the different responsibilities of a software product.

The system is decomposed into a number of higher and lower layers in a hierarchy; each layer consists of a group of related classes that are encapsulated in a package, in a deployed component, or as a group of subroutines in the format of method library or header file. Also, each layer has its own responsibility in the system.

Each layer has its own responsibility as follow:

##### 4.2.2.1.1.1 Presentation Layer

- Presentation Layer: provides user interface, handles the interaction with the user.
- Presentation Layer: is responsible for the delivery and formatting of information to the application layer for further processing or display.
- Presentation Layer: will receive input data from users and response the result again users.
- In F-Taxi application: using Telerik Controls to design some user interface. Bing map to display Maps and navigation with two main user. Google API. Notification to communicate with two kind of user Rider and Driver.

#### **4.2.2.1.1.2 Business Operation Layer**

- Business Layer: will set of rules for processing information, can accommodate many users.
- Business Layer: coordinates the application, process commands, makes logical decisions and evaluations and performs calculations, it also moves and processes data between the two surrounding layers.
- In F-Taxi application: using classes and object to work with T-Net which is a company that supply web service and communicate with database.

#### **4.2.2.1.1.3 Data access layer**

- Business Layer: will set of rules for processing information, can accommodate many users.
- Business Layer: coordinates the application, process commands, makes logical decisions and evaluations and performs calculations, it also moves and processes data between the two surrounding layers.
- In F-Taxi application: using classes and object to work with T-Net, T-Net is a company supply web service and communicate with database.

#### 4.2.2.1.2 Advantages of Layered Architecture

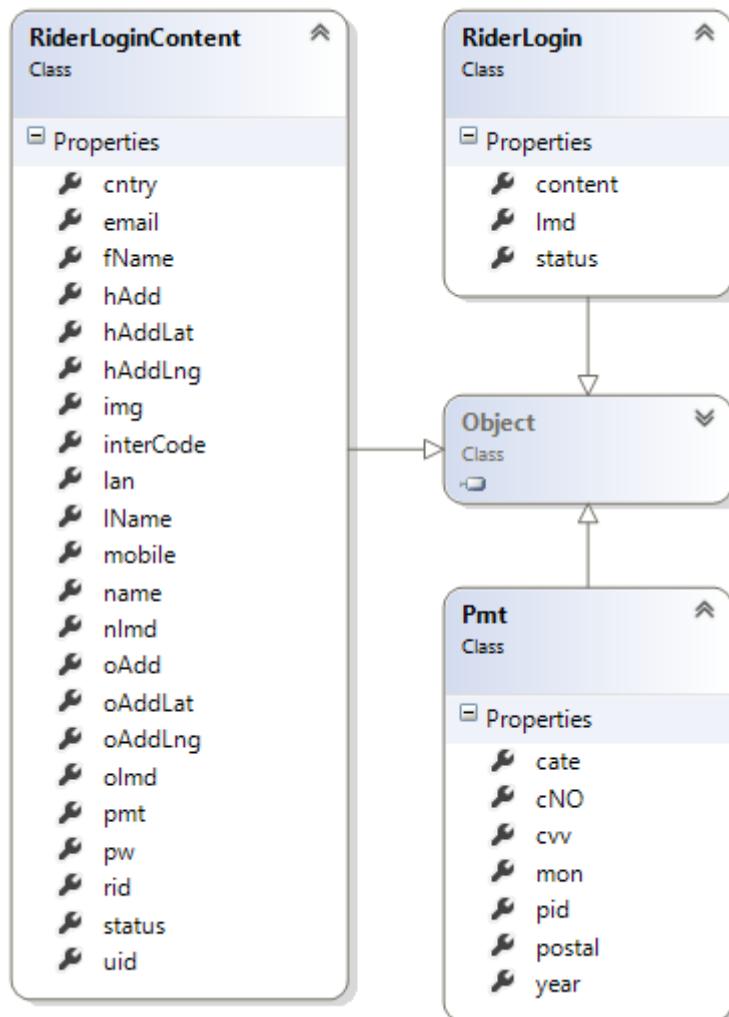
- Incremental software development base on increasing levels of abstraction.
- Enhanced independence of upper layer to lower layer since there is no impact from the changes of lower layer services as long as their interfaces remain unchanged.
- Enhanced flexibility: interchange ability and reusability are enhanced due to the separation of the standard interface and its implementation.
- Component-based technology is a suitable technology to implement layered architecture; this makes it much easier for the system to allow for plug-and-play of new components. Components are reusable, easier to maintain and fast development. Web designer does presentation, Software engineer does logic and Database admin does data model.
- Promotion of portability: each layer can be an abstract machine deployed independently.

### 4.3 Detail Design

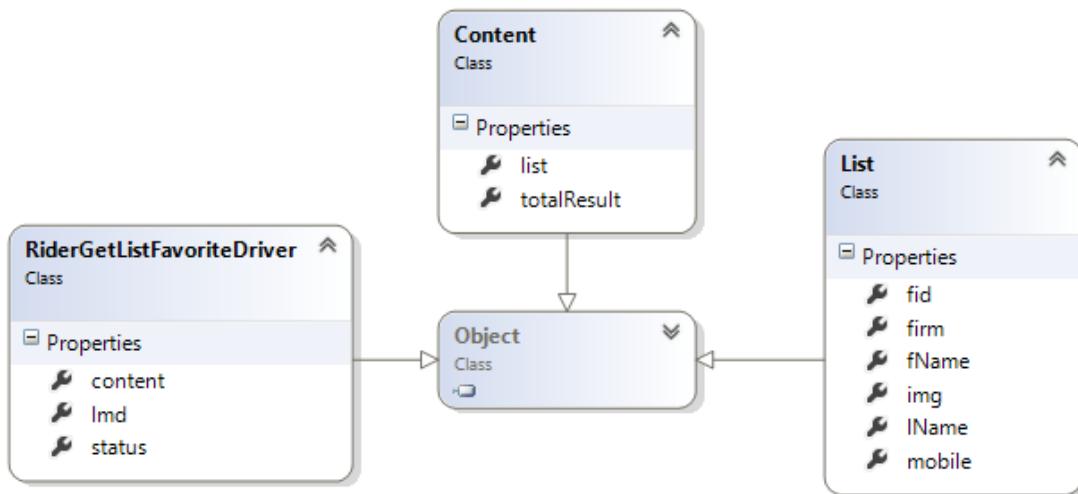
#### 4.3.1 Class Design

##### 4.3.1.1 Rider

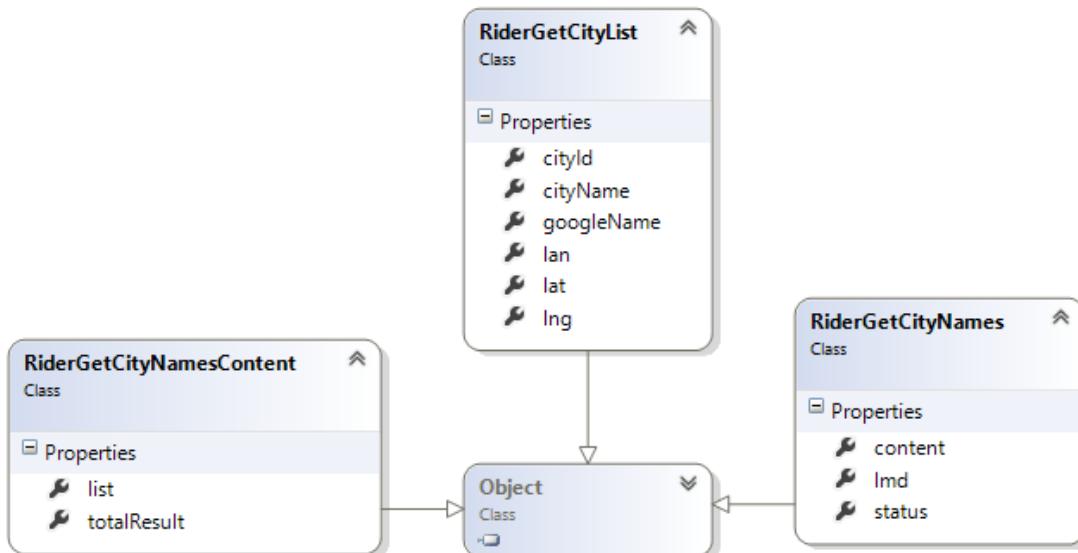
###### 4.3.1.1.1 Login



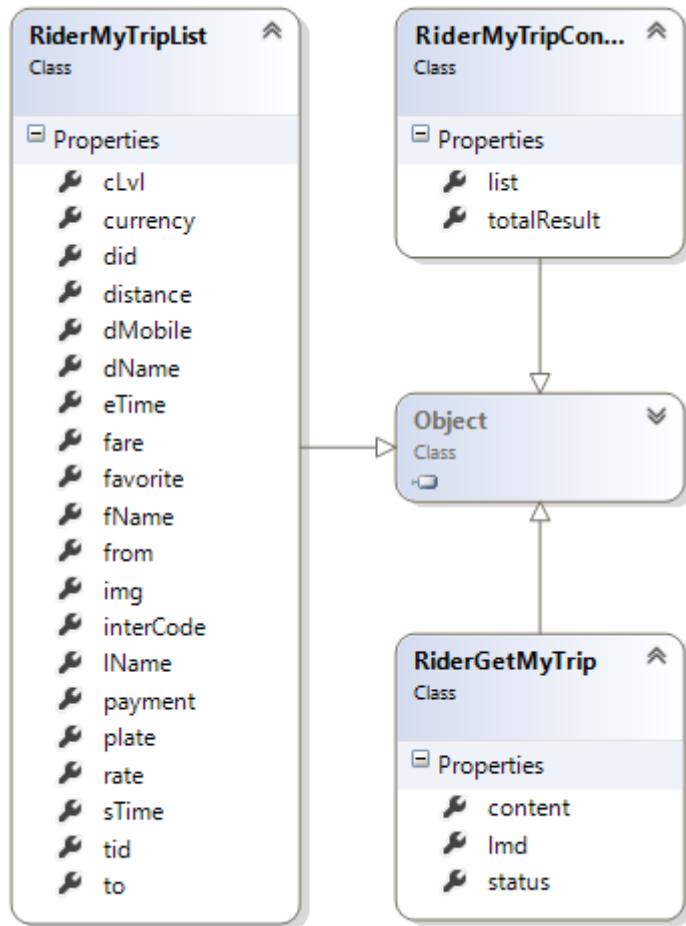
#### 4.3.1.1.2 Get List Favorite Driver



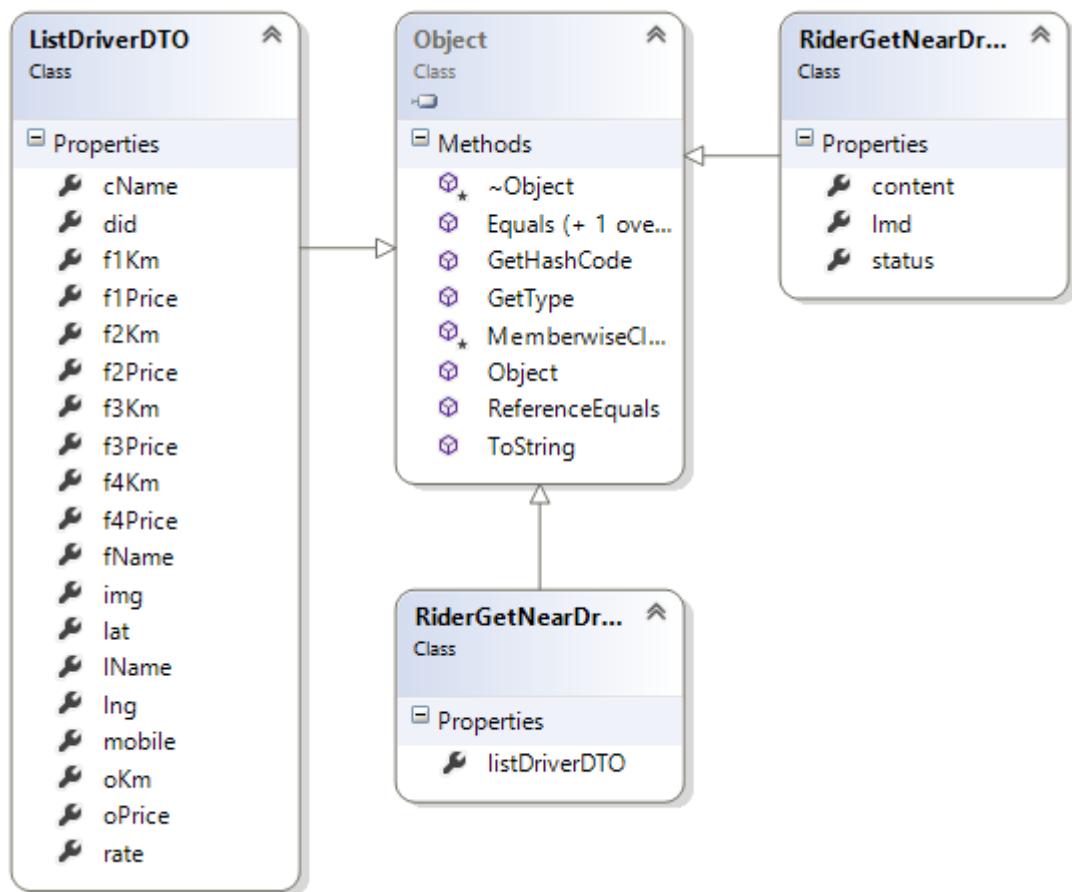
#### 4.3.1.1.3 Get List City



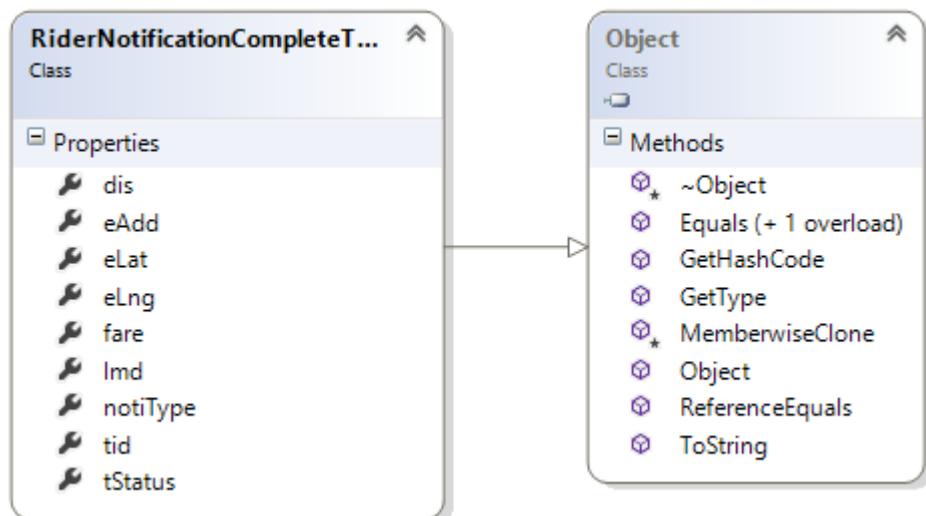
#### 4.3.1.1.4 Get My Trip



#### 4.3.1.1.5 Get Near Driver

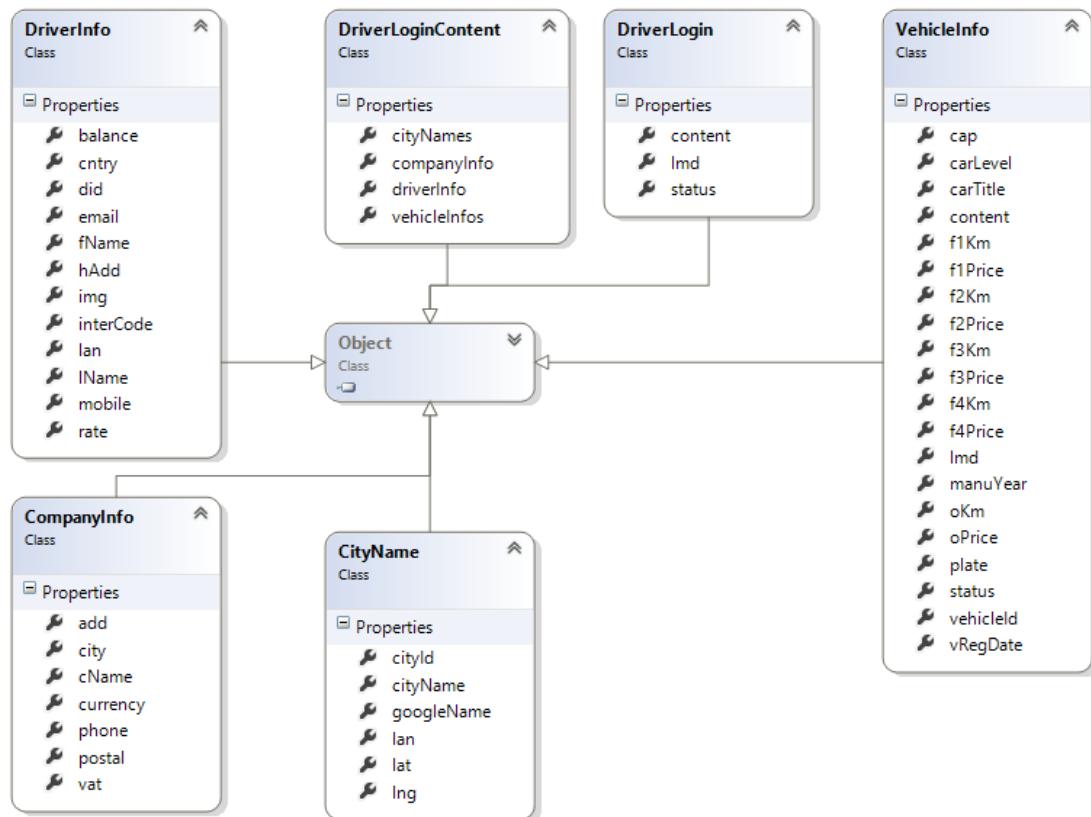


#### 4.3.1.1.6 Notification Complete Trip

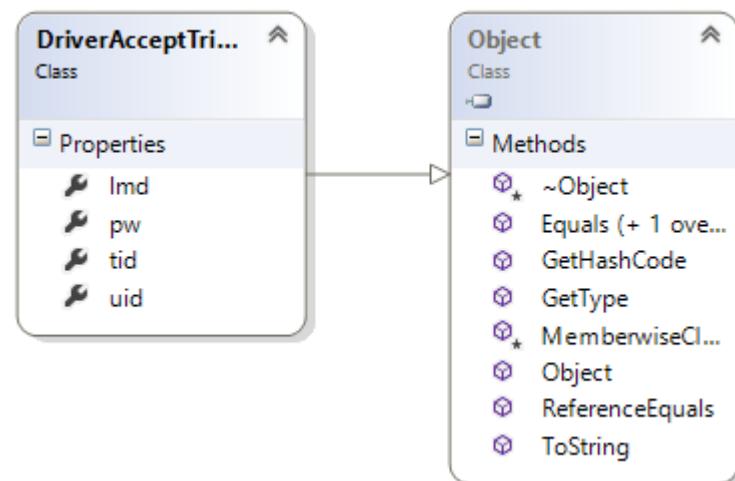


### 4.3.1.2 Driver

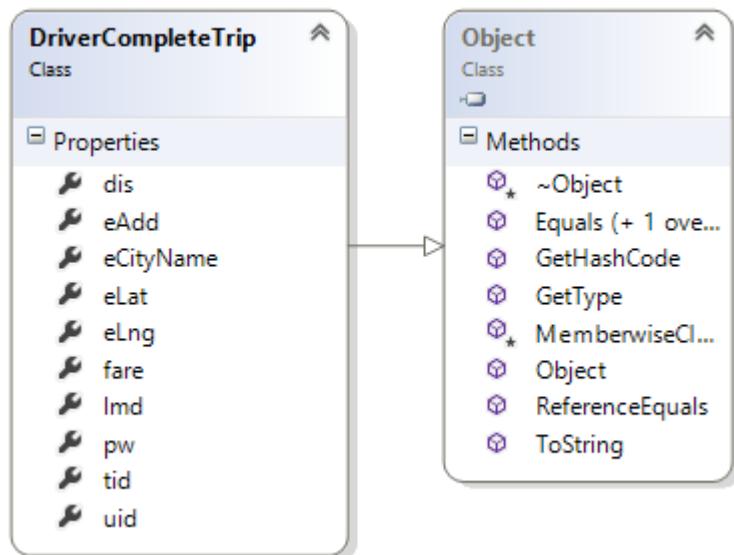
#### 4.3.1.2.1 Login



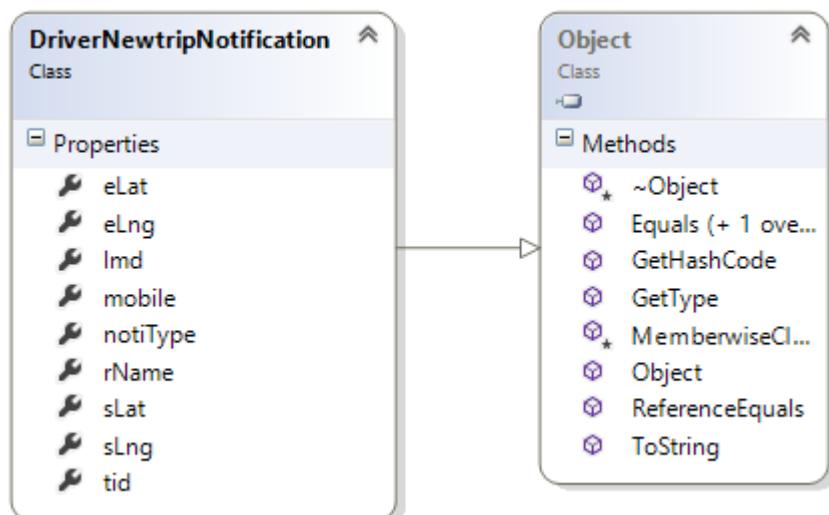
#### 4.3.1.2.2 Accept Trip



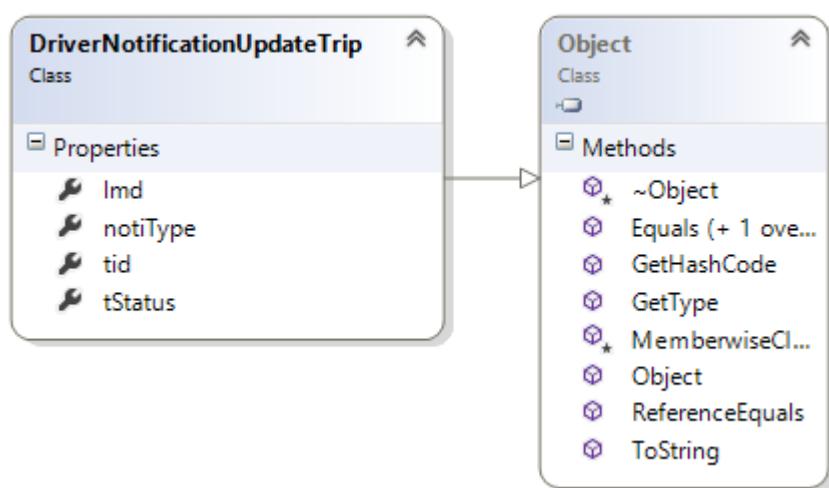
#### 4.3.1.2.3 Complete Trip



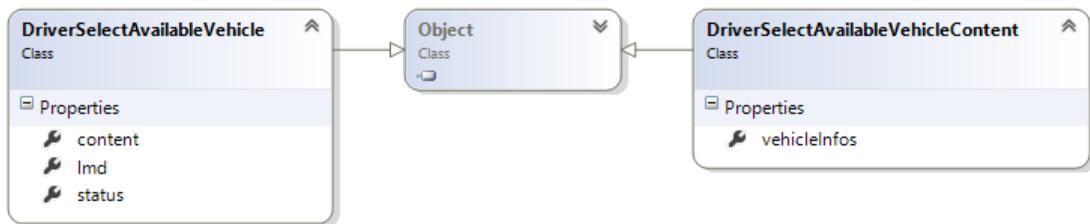
#### 4.3.1.2.4 Notify New Trip



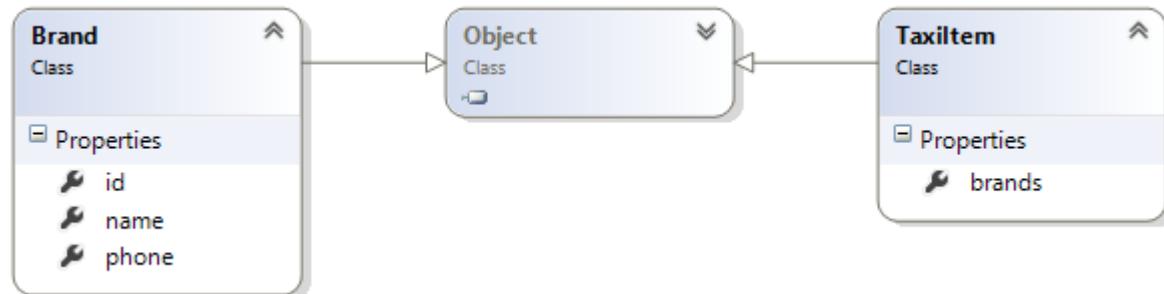
#### 4.3.1.2.5 Notify Update Trip



#### 4.3.1.2.6 Select Available Vehicle

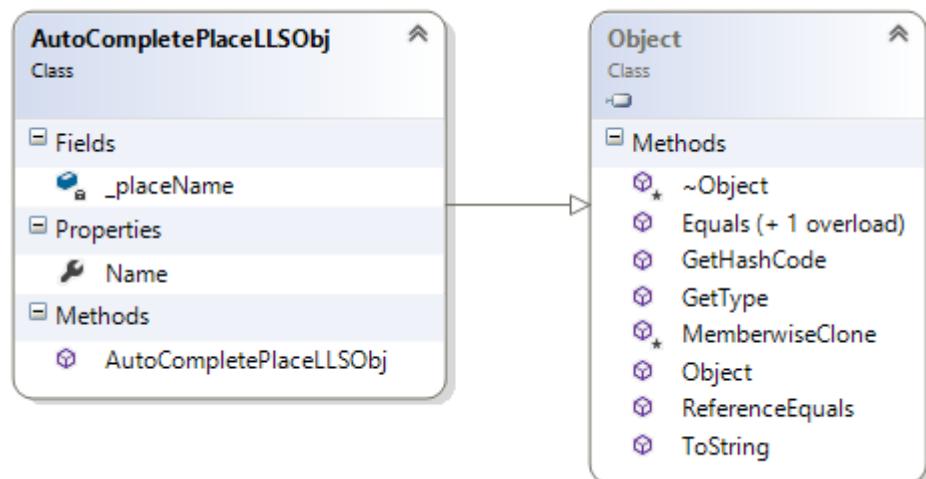


#### 4.3.1.2.7 Call Taxi Center

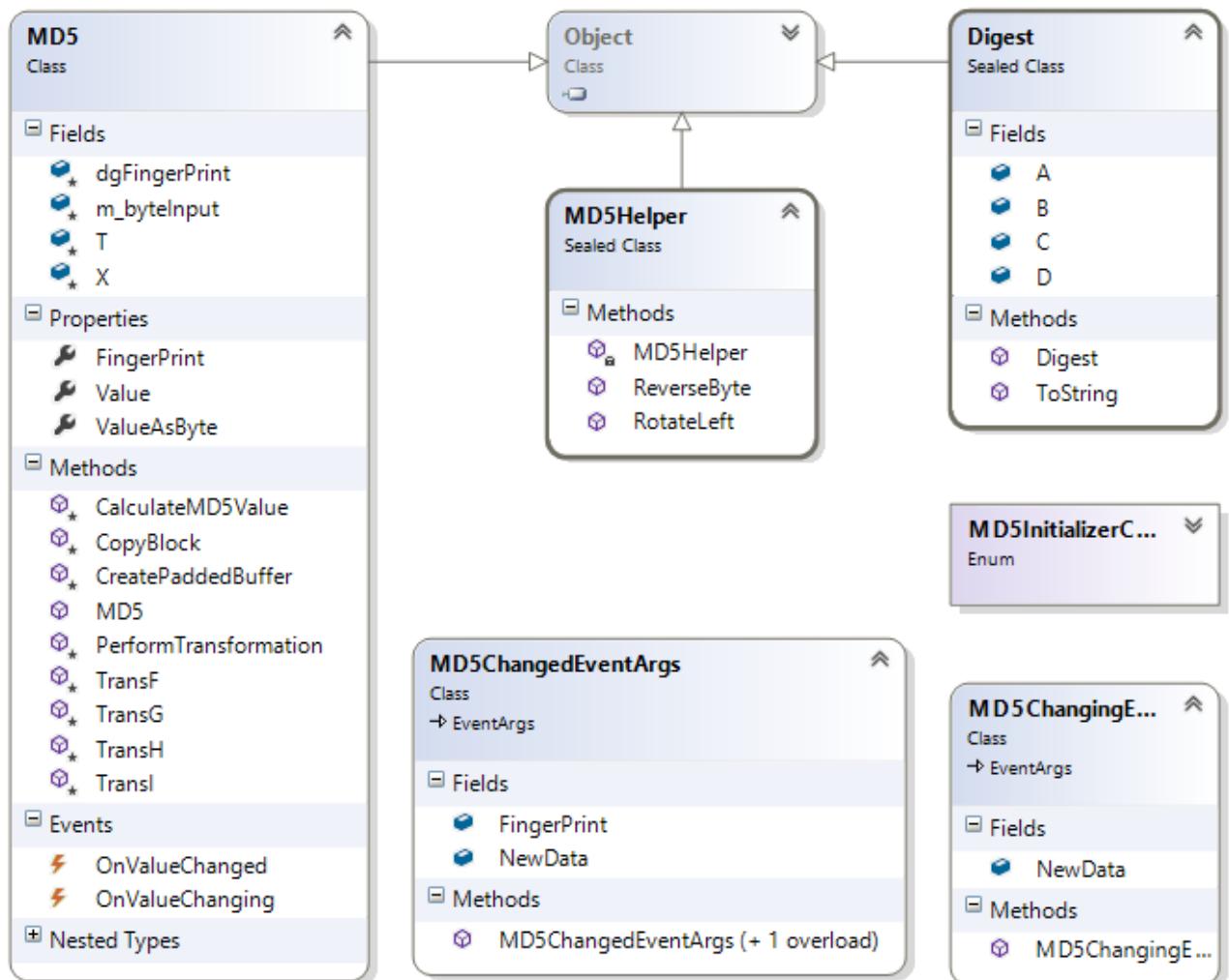


#### 4.3.1.3 Others

##### 4.3.1.3.1 Auto Complete Place

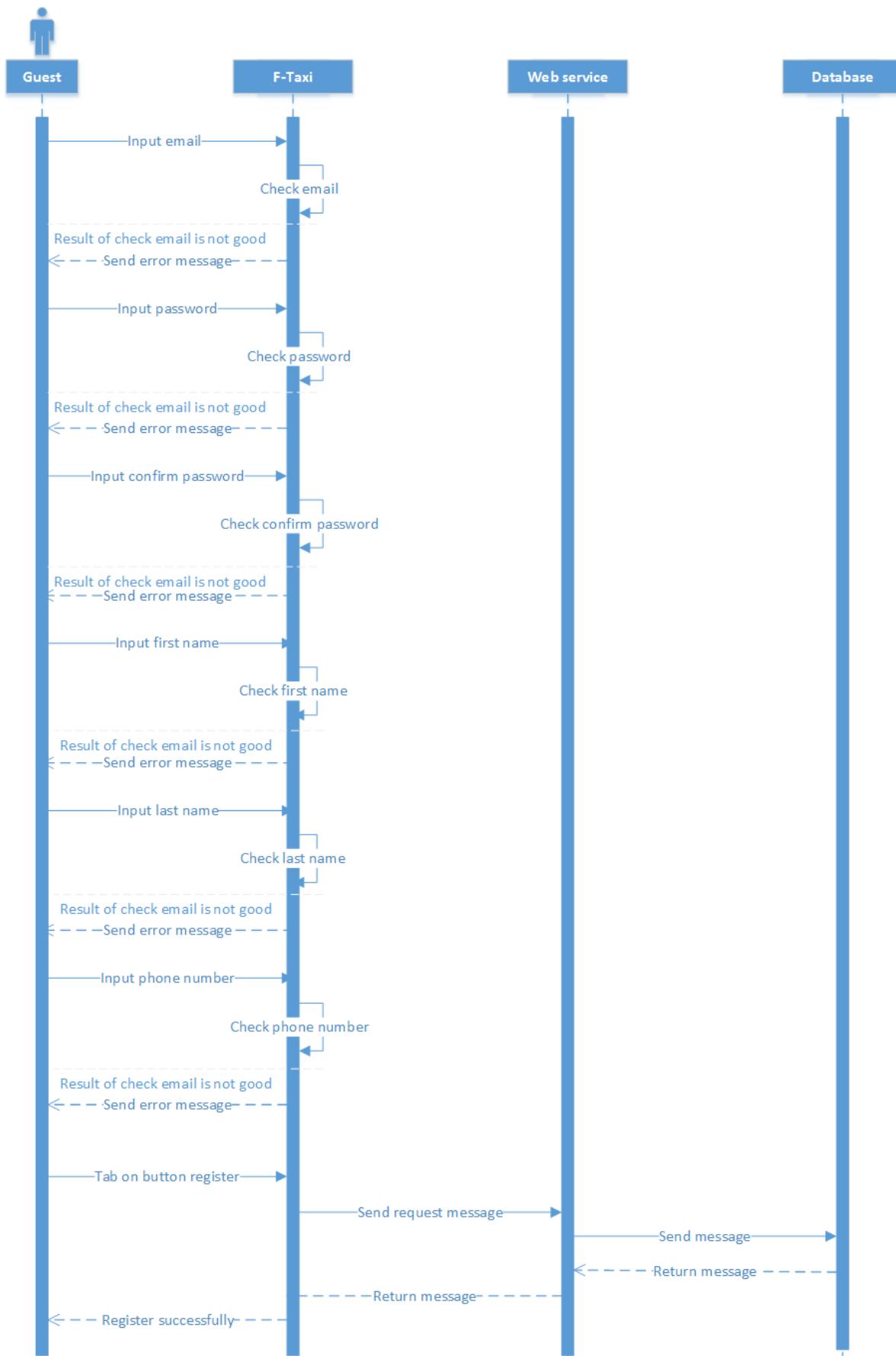


#### 4.3.1.3.2 MD5 Convert

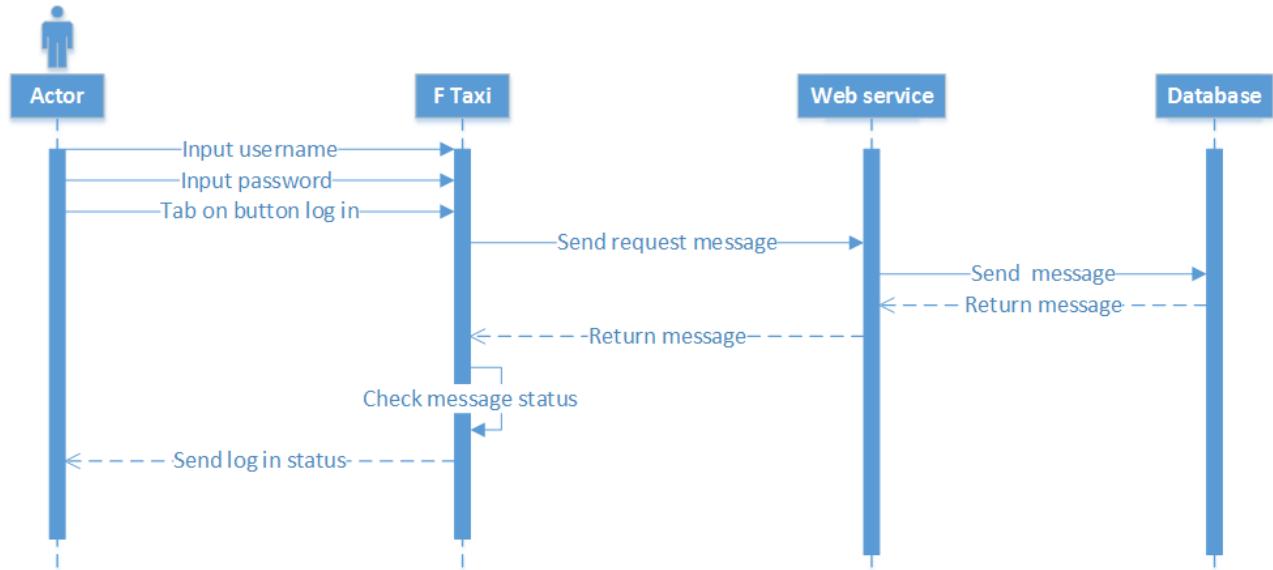


### 4.3.2 Sequence diagram

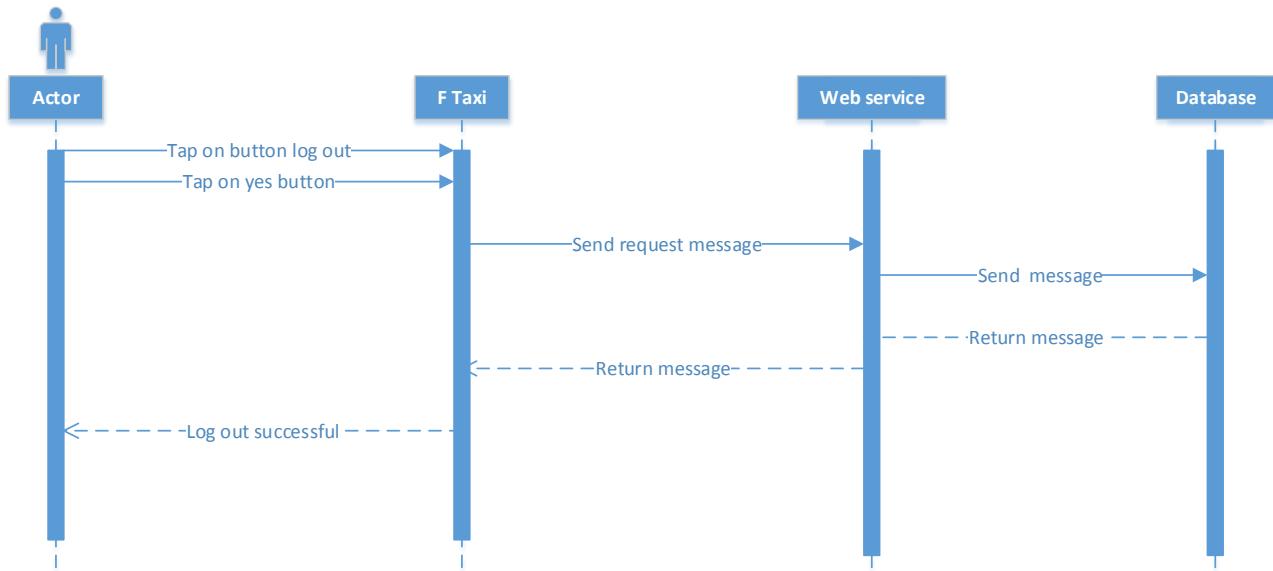
#### 4.3.2.1 Register sequence diagram



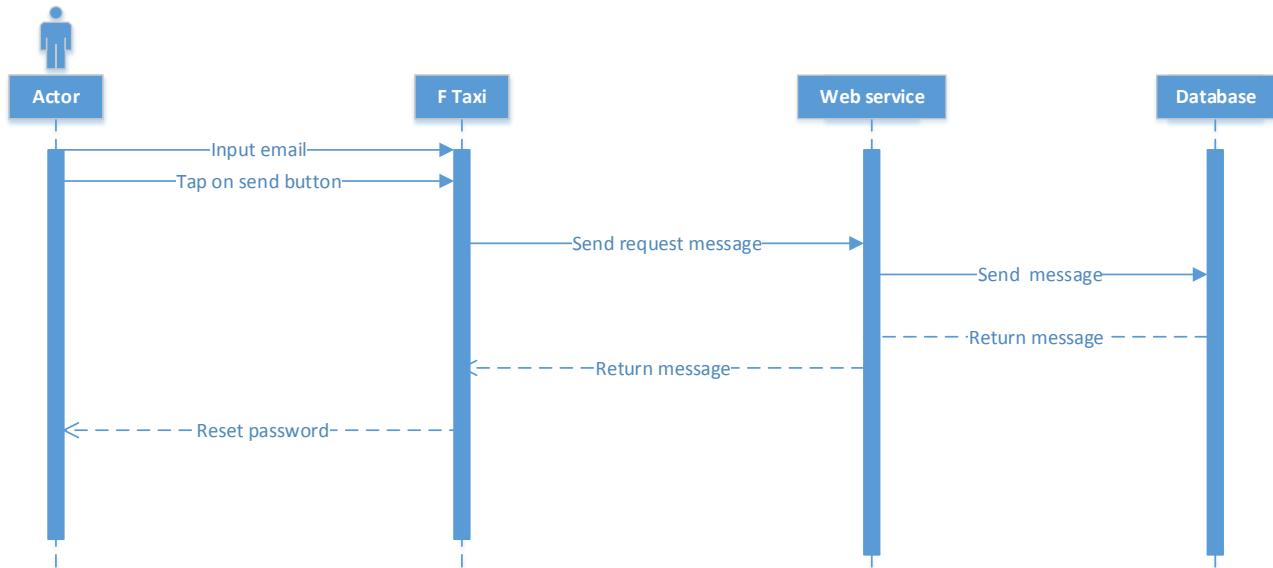
#### 4.3.2.2 Login sequence diagram



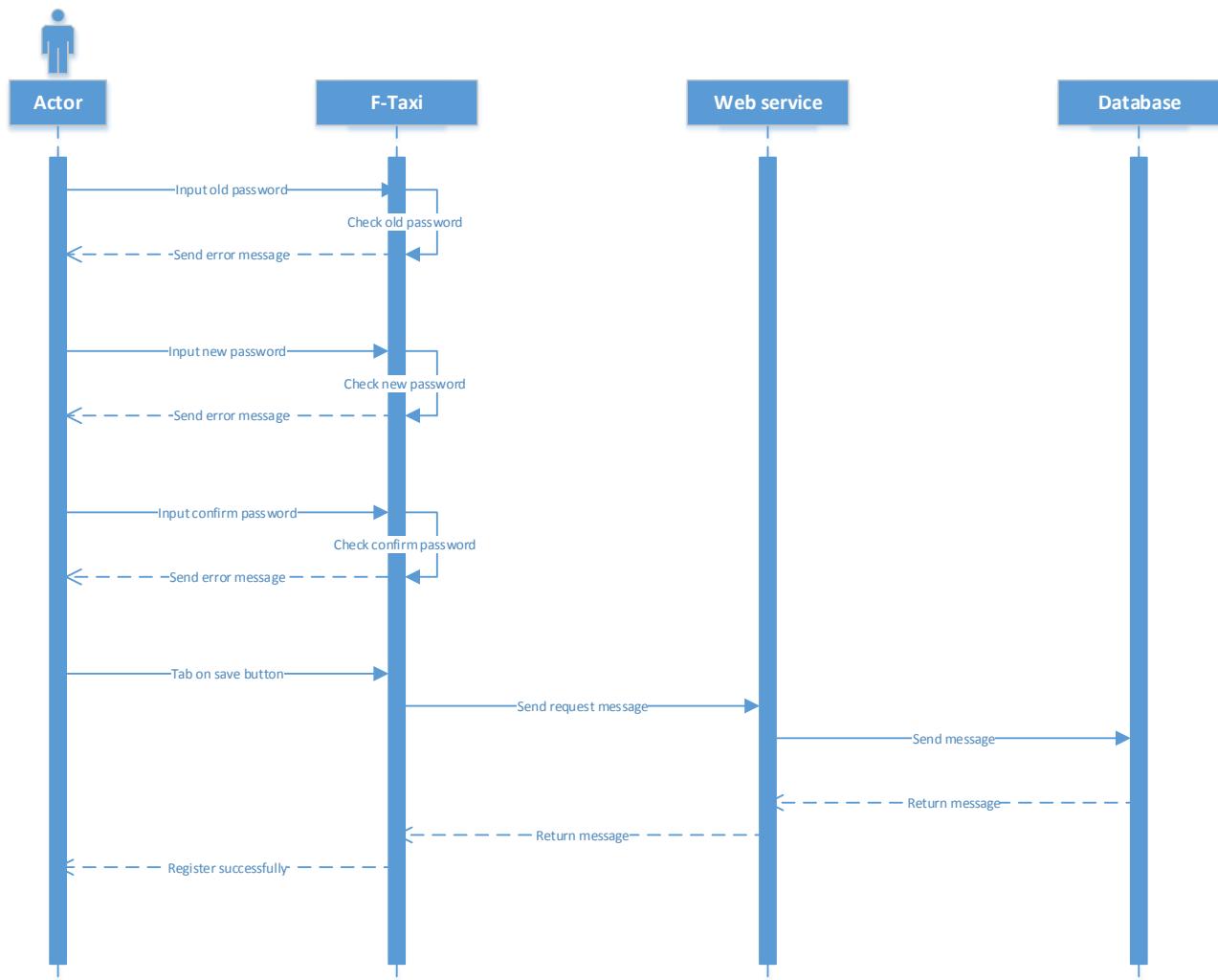
#### 4.3.2.3 Logout sequence diagram



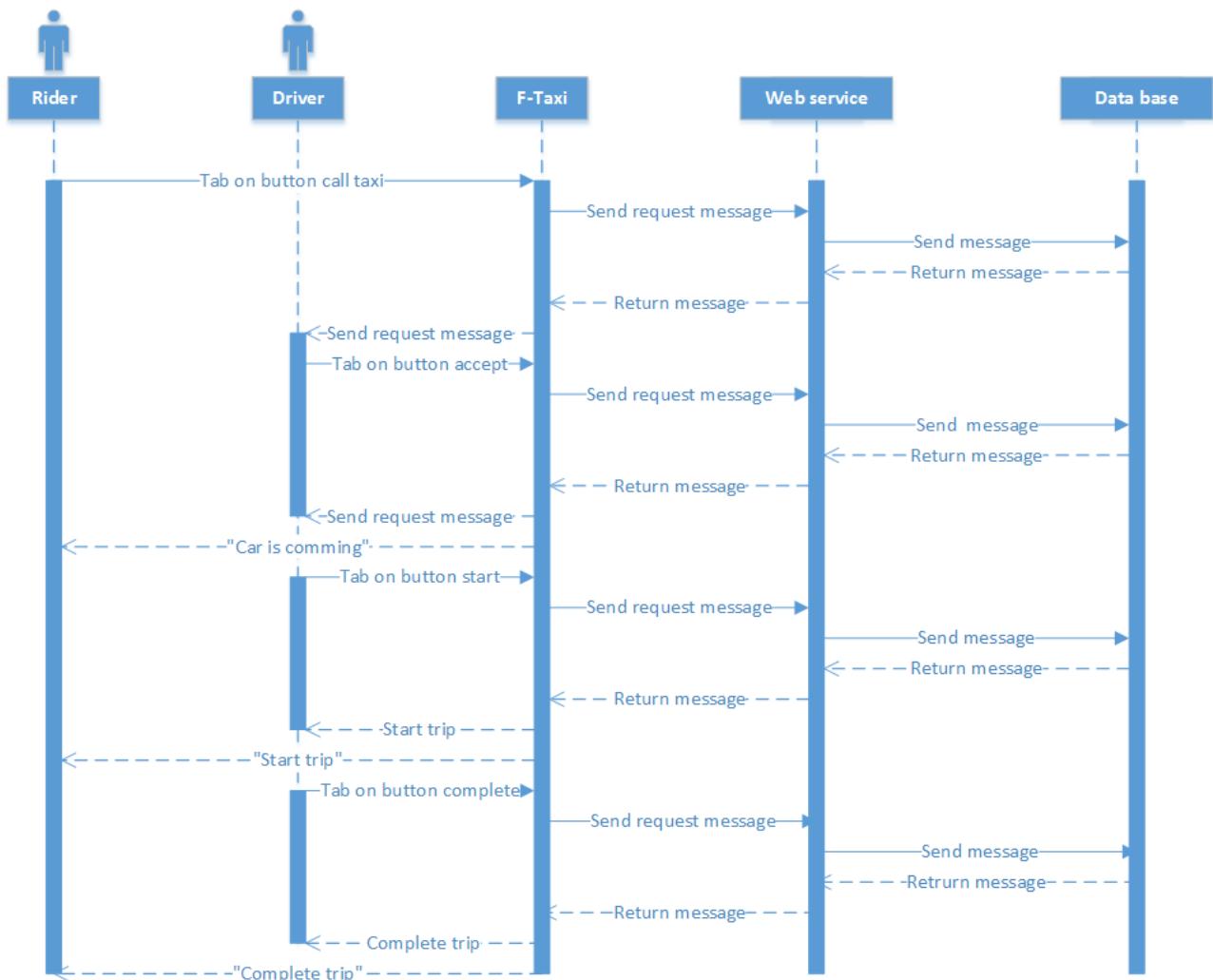
#### 4.3.2.4 Forget Password sequence diagram



#### 4.3.2.5 Change Password sequence diagram



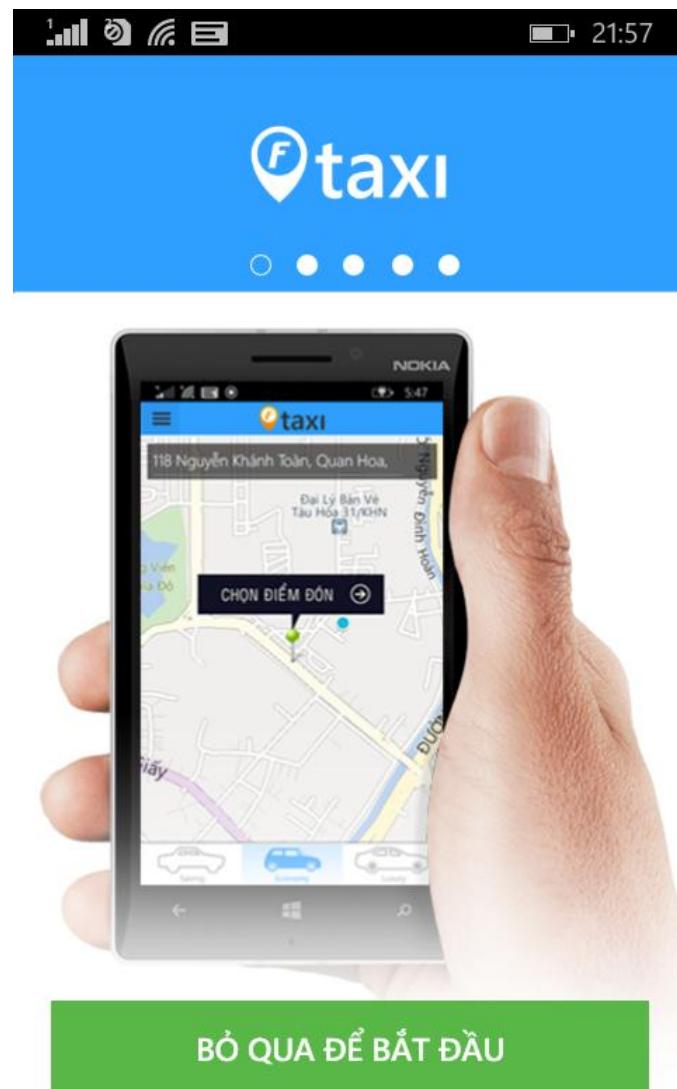
#### 4.3.2.6 Create Trip sequence diagram



### 4.3.3 Screen Design

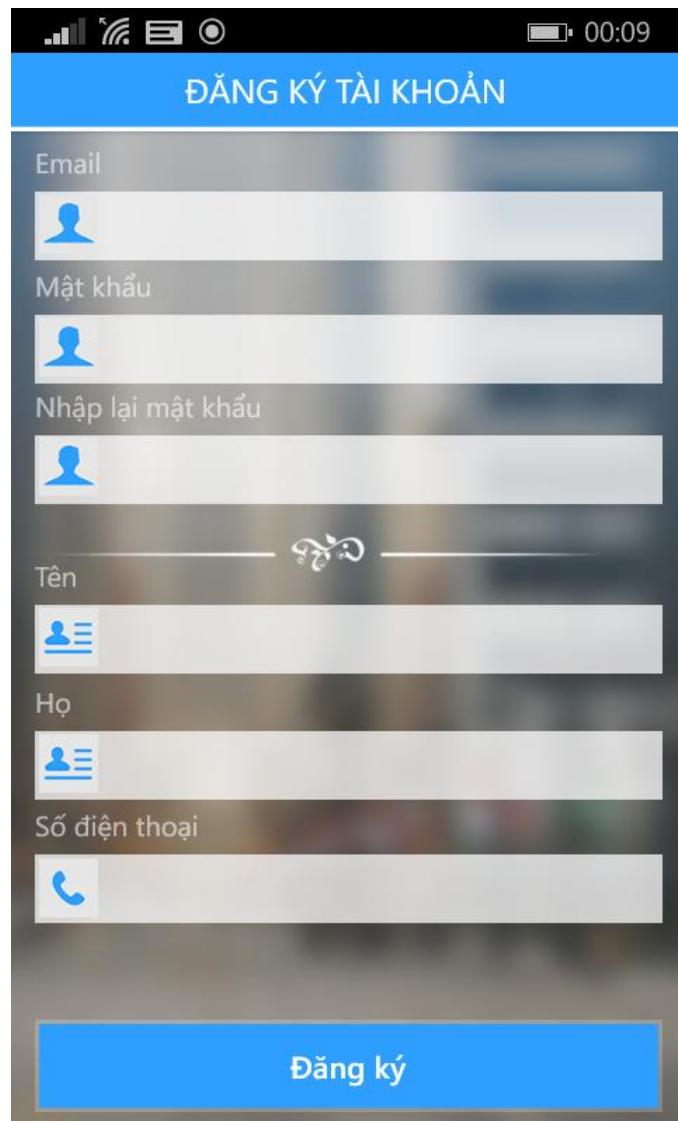
#### 4.3.3.1 Guest

##### 4.3.3.1.1 First Page



Element	Type	Description
BỎ QUA ĐỂ BẮT ĐẦU	Button	Show Login Page
Image	Image	Show Introduction of application

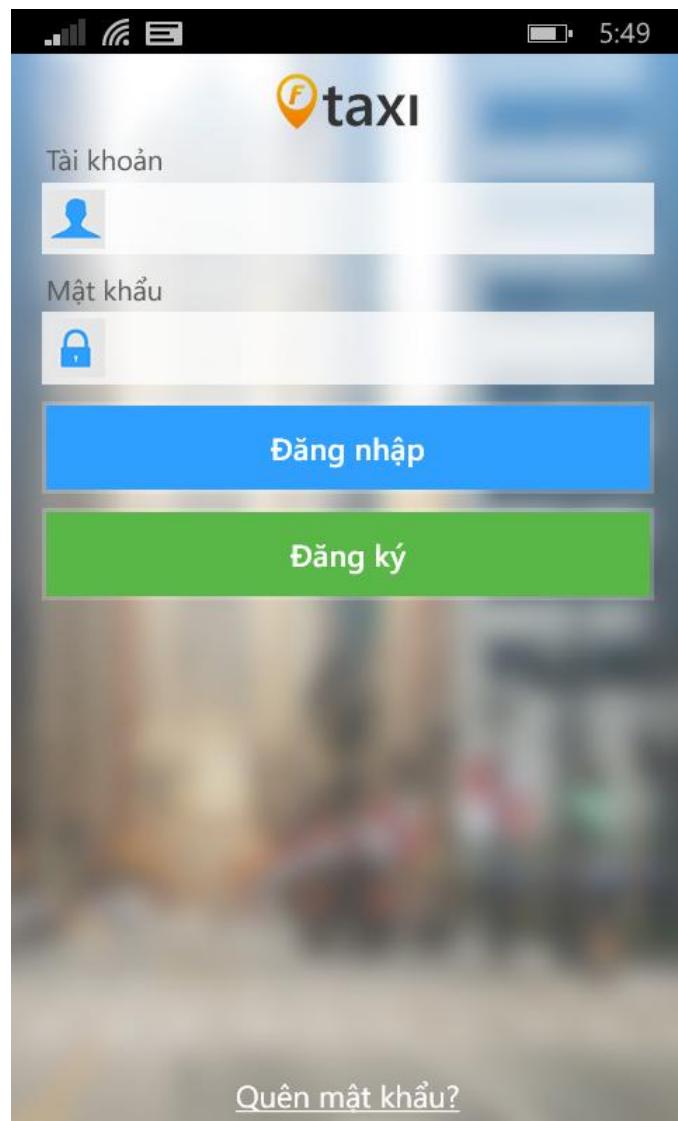
#### 4.3.3.1.2 Register



Element	Type	Description
Email text field	Edit text	Enter Email
Mật khẩu text field	Edit text	Enter Password
Nhập lại mật khẩu text field	Edit text	Enter Confirm Password
Tên text field	Edit text	Enter Last Name
Họ text field	Edit text	Enter First and Middle Name
Số điện thoại text file	Edit text	Enter Phone Number
Đăng ký	Button	Register new user as Rider

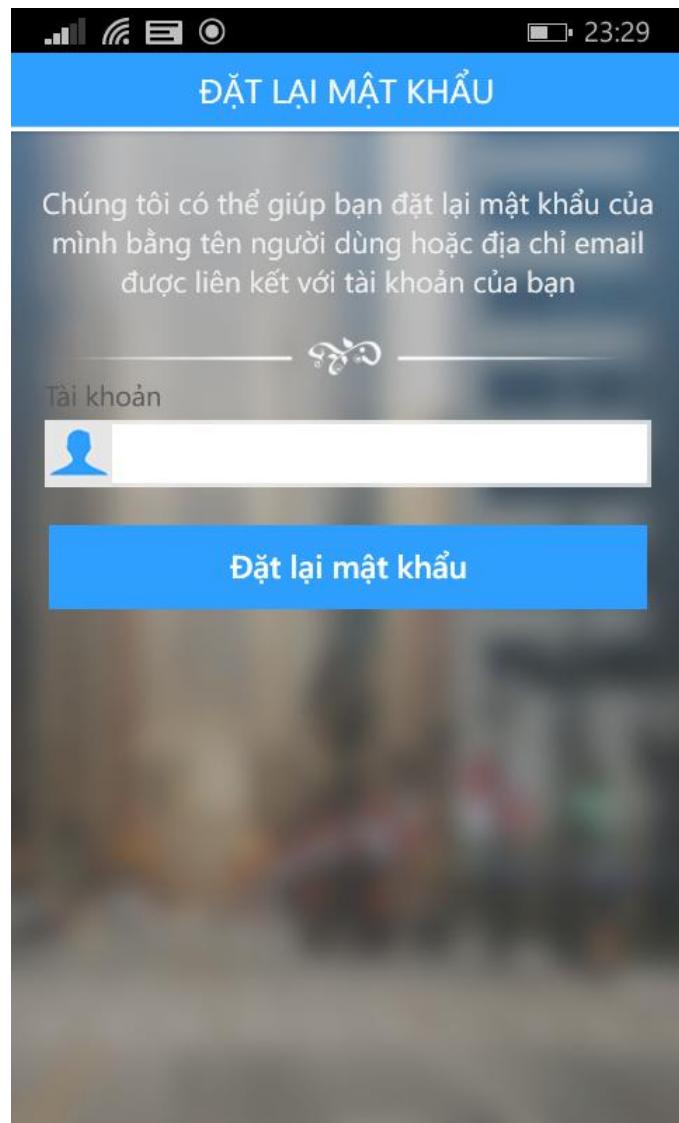
#### 4.3.3.2 Rider

##### 4.3.3.2.1 Login



Element	Type	Description
Tài khoản text field	Edit text	Enter Email
Mật khẩu text field	Edit text	Enter Password
Đăng nhập	Button	Tap button for logging in application
Đăng ký	Button	Tap button for register new rider
Quên mật khẩu	Label	Tap label for showing forget password screen

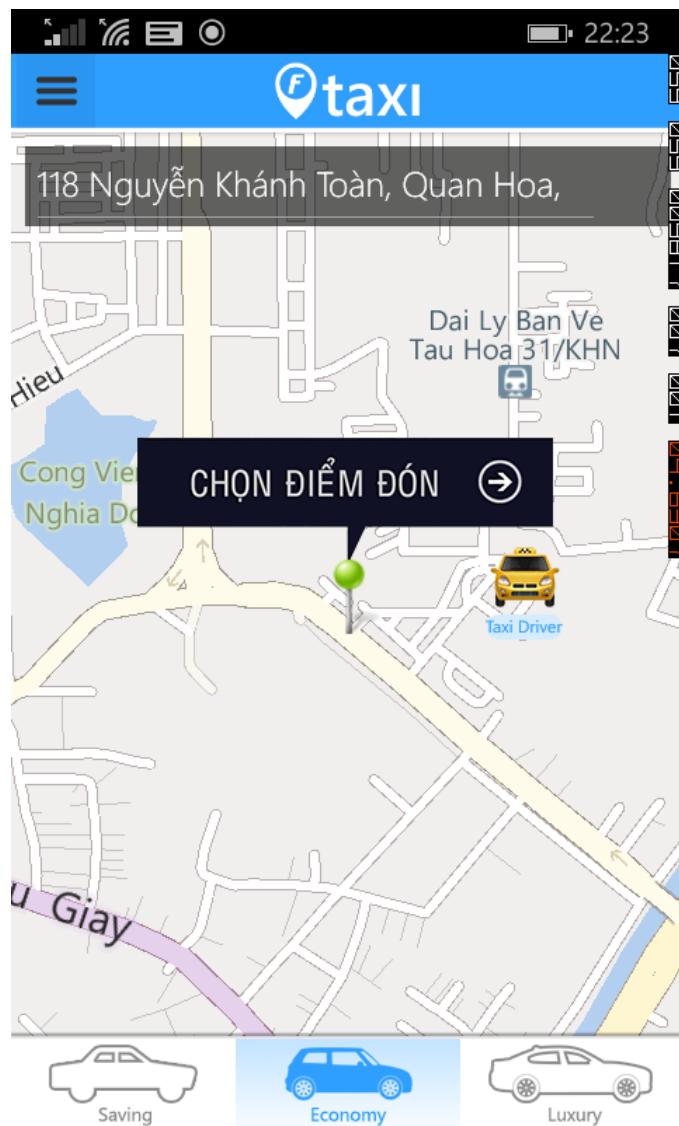
#### 4.3.3.2.2 Forget password



Element	Type	Description
Tài khoản text field	Edit text	Enter Email
Đặt lại mật khẩu	Button	Tap button for send password to email user

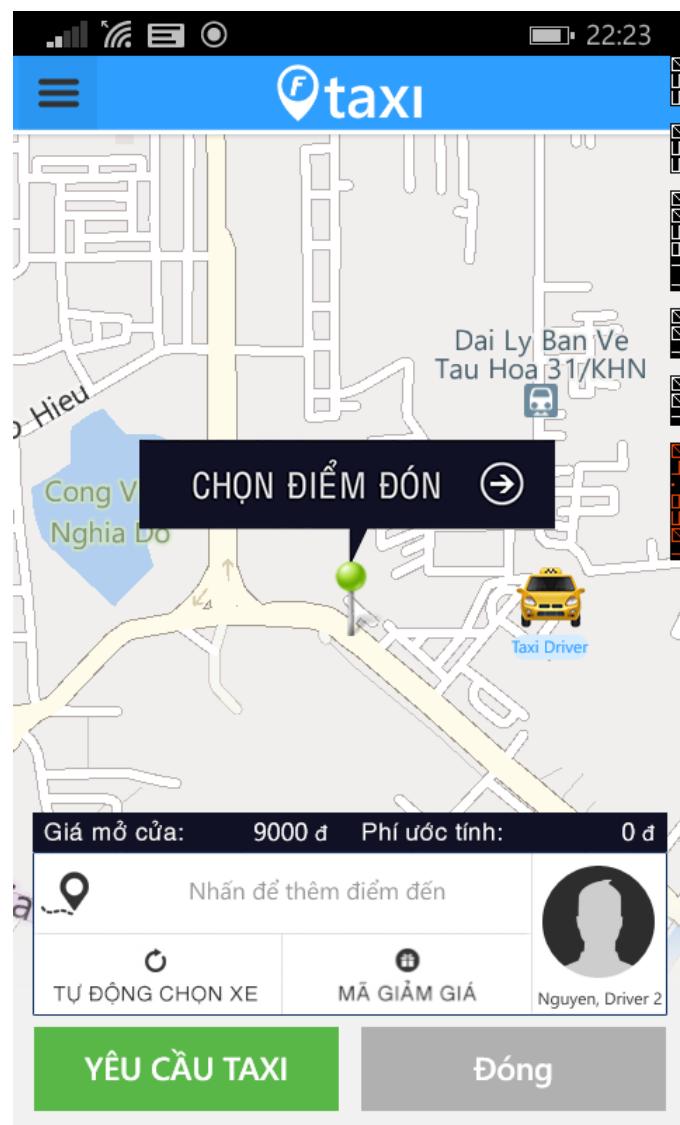
#### 4.3.3.2.3 Home Page

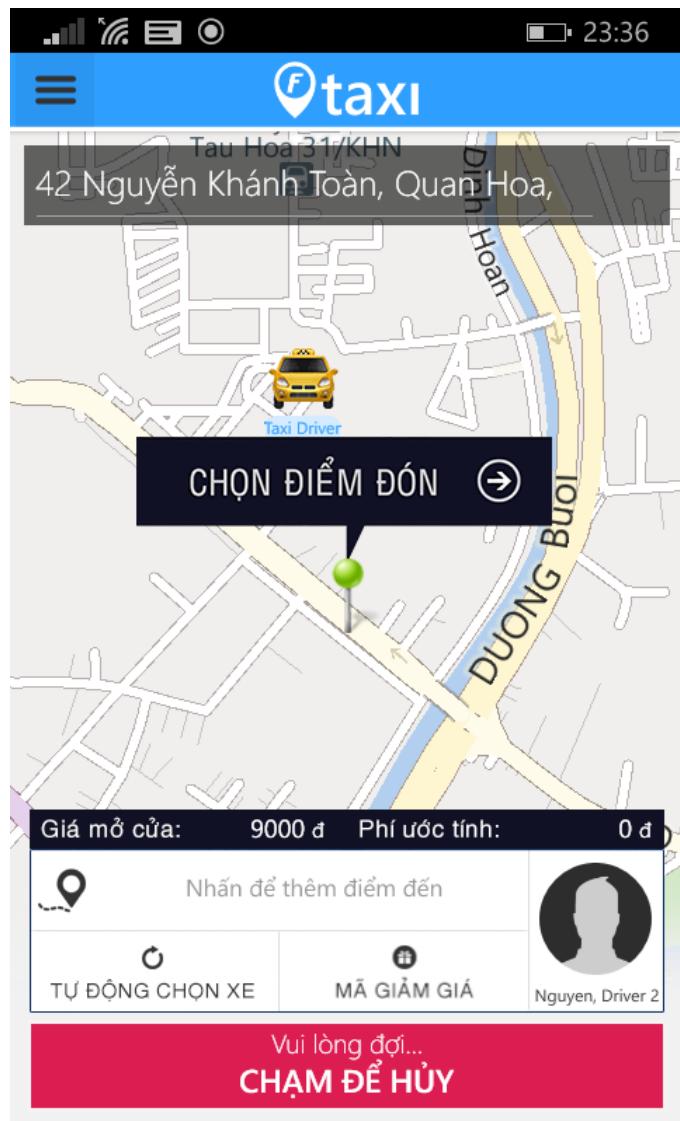
##### 4.3.3.2.3.1 Home Page

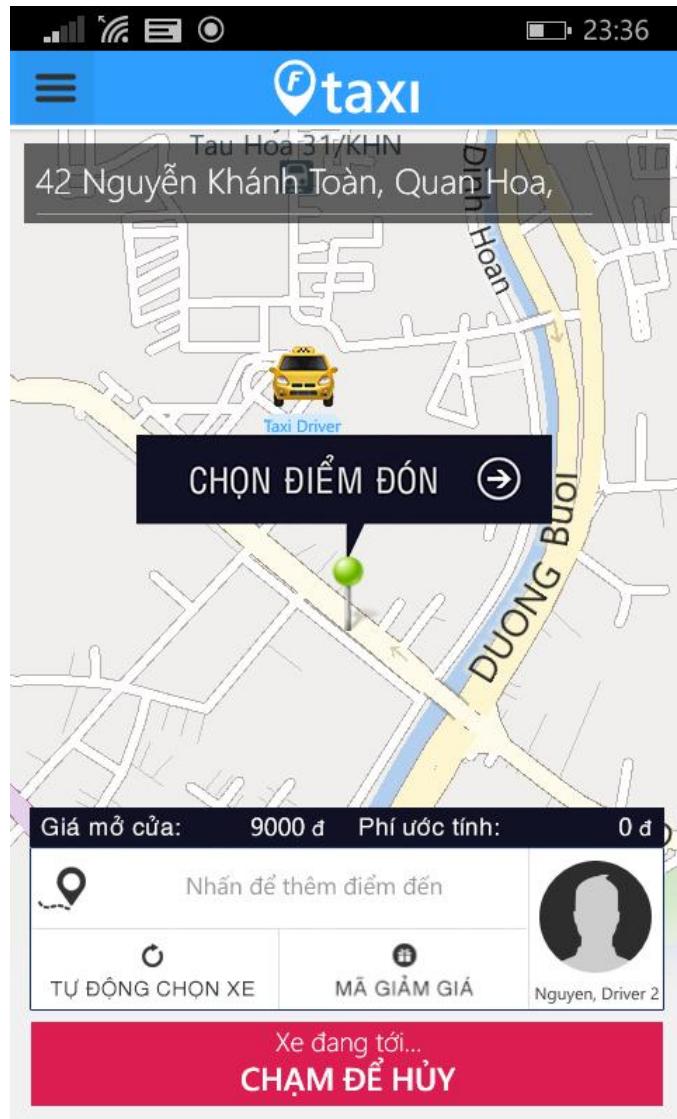


Element	Type	Description
Map	Map	Show map
Taxi Image	Button	Clickable button for show Trip bar
Chọn điểm đón	Button	Clickable button for choose pick up position
Menu	Menu	Show left menu
Địa chỉ đón text field	Edit Text	Text field to enter keyword to search
My position	Image	Show current user position
Marker	Image	Always on middle of screen for user choose pick up position
Taxi icon	Button	Clickable button for show kind of taxi

#### 4.3.3.2.3.2 Home Page with trip bar

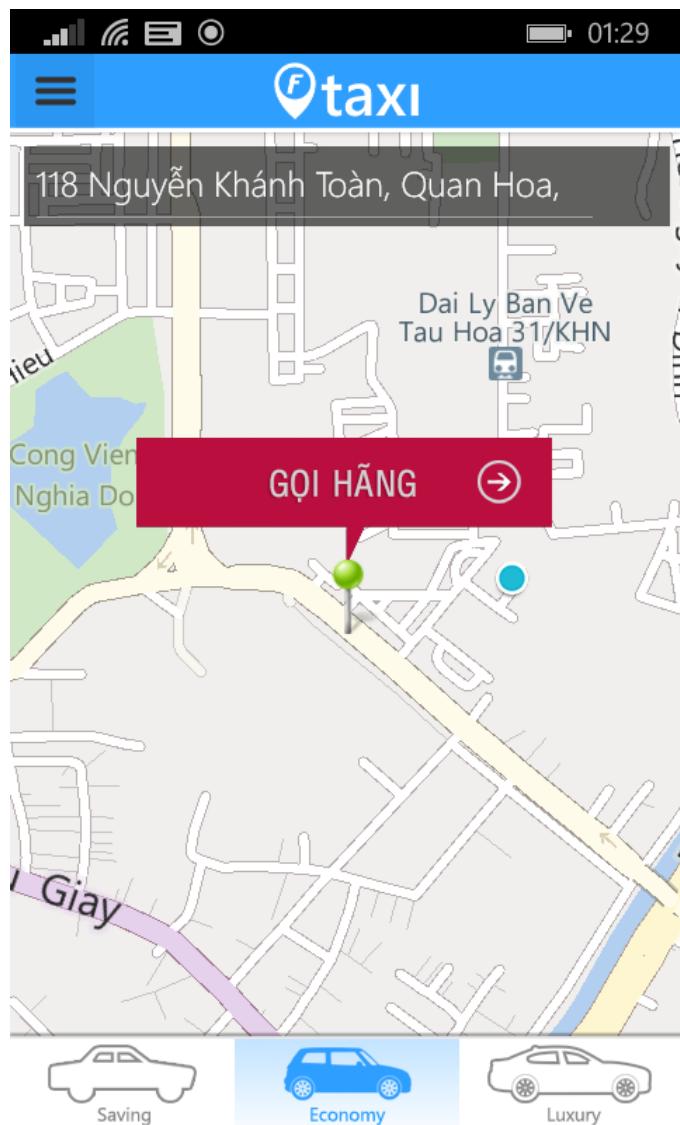






Element	Type	Description
Map	Map	Show map
Taxi Image	Button	Clickable button for show Trip bar
Menu	Menu	Show left menu
My position	Image	Show current user position
Địa chỉ đón text field	Edit Text	Text field to enter keyword to search
Giá mở cửa	Text	Show open price
Phi ước tính	Text	Show estimate payment price
Điểm đón	Text	Show pick up position
Điểm đến text field	Text edit	Text field to enter keyword to search
Ảnh (tên lái xe)	Image	Show driver information
Mã khuyến mại	Text edit	Enter field for discount trip
Tự động gọi xe khác khi bận	Checkbox	Tick on for automatic call other taxi
Yêu cầu taxi	Button	Tap button for call taxi
Vui lòng đợi (chạm để hủy)	Button	Tap button for cancel call taxi
Xe đang đến (chạm để hủy)	Button	Tap button for cancel call taxi

#### 4.3.3.2.3.3 Home Page when no taxi around



Element	Type	Description
Map	Map	Show map
Gọi hãng	Button	Tap button for calling taxi centre
Menu	Menu	Show left menu
My position	Image	Show current user position
Taxi icon	Button	Tap button for show kind of taxi

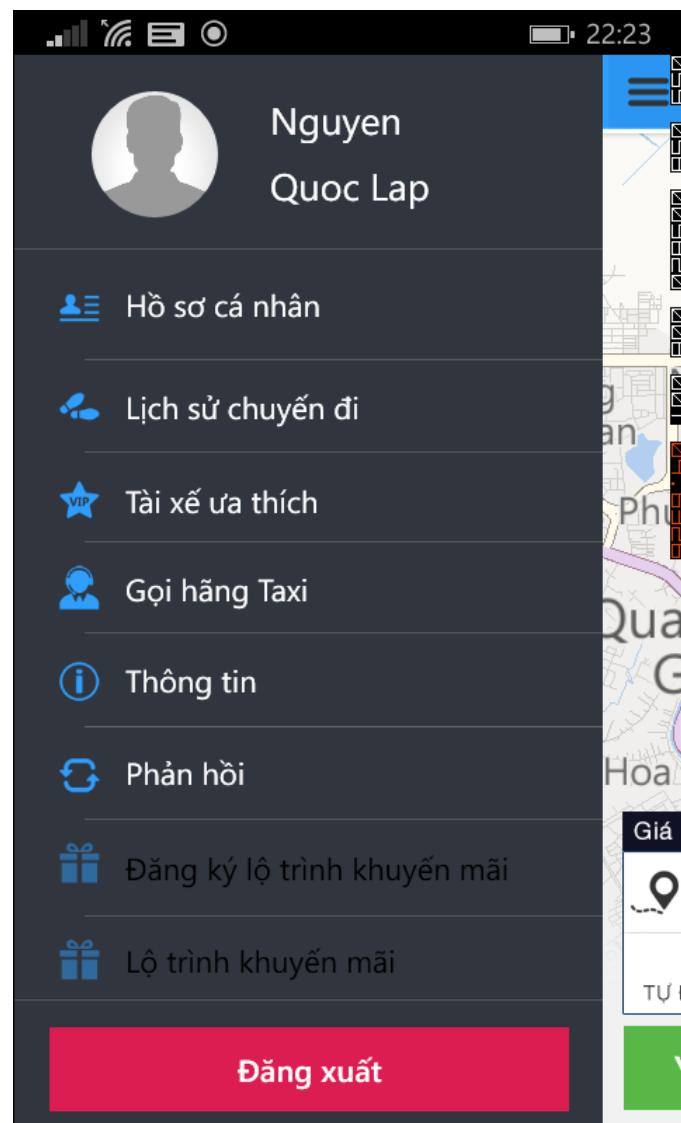
#### 4.3.3.2.4 Bill Detail

The screenshot shows a mobile application interface for a delivery service. At the top, there is a header bar with signal strength, battery level, and the time (11:54). Below the header, the title "HOÀN THÀNH CHUYẾN ĐI" (Completed Delivery) is displayed. The main content area contains the following information:

- Driver Information:** Nguyen Driver 2, represented by a blue icon of a person with a list. To the right is a placeholder circular profile picture.
- Contact:** Phone number 0913098675, represented by a blue phone icon.
- Start Location:** 118 Nguyen Khanh Toan, Quan Hoa, Cau Giay, Ha Noi, represented by a blue location pin icon.
- End Location:** 30 Kim Ma, Ba Dinh, Ha Noi, represented by a blue flag icon.
- Trip Details:**
  - Quãng đường (km): 11.2
  - Tổng phí (đ): 125.000
  - Khuyến mại (đ): 0.0
  - Thanh toán (đ): 125.000
- Rating:** A 5-star rating is shown under the heading "Đánh giá chuyến đi".
- Buttons:** A large dark button at the bottom center labeled "XÁC NHẬN" (Confirm) in white text.

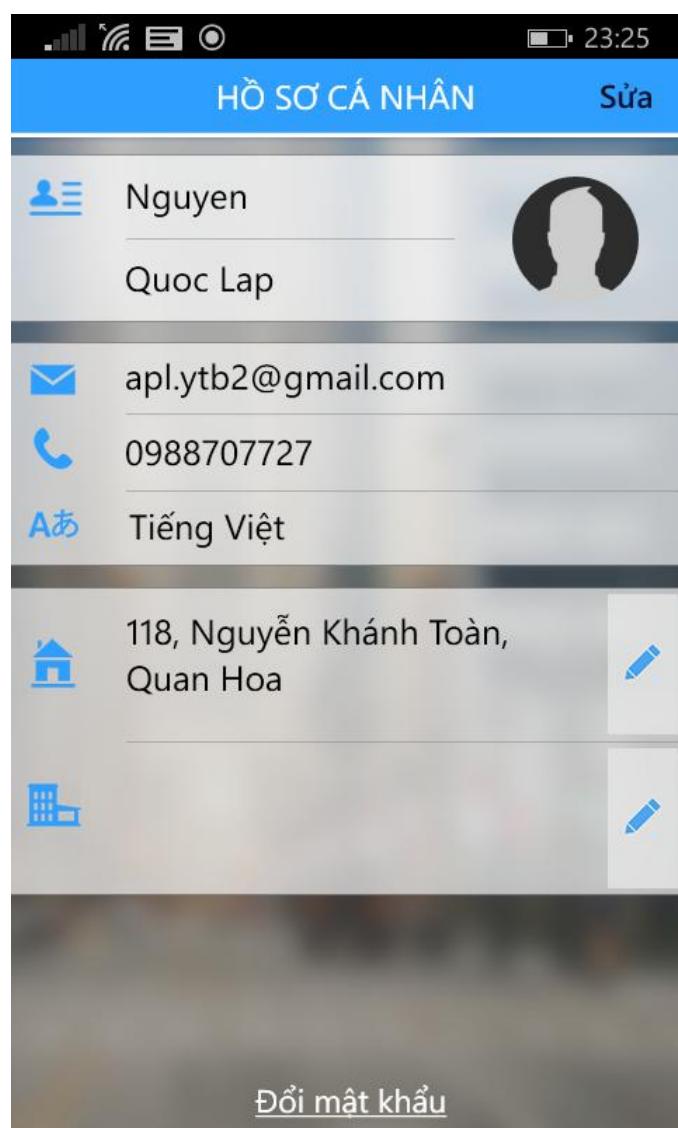
Element	Type	Description
<b>Nguyen Driver 2</b>	Text	Show name driver
<b>0913098675</b>	Text	Show driver phone number
<b>Ảnh</b>	Image	Show avatar of driver
<b>118 Nguyen Khanh Toan, Quan Hoa, Cau Giay, Ha Noi</b>	Text	Show start position
<b>30 Kim Ma, Ba Dinh, Ha Noi</b>	Text	Show destination position
<b>Quãng đường</b>	Text	Show total trip
<b>Tổng phí</b>	Text	Show total price
<b>Khuyến mại</b>	Text	Show price discount
<b>Thanh toán</b>	Text	Show payment price
<b>Hình thức thanh toán</b>	Text	Show form of payment
<b>Đánh giá chuyến đi</b>	Image	Show 1-5 star for user rate
<b>Xác nhận</b>	Button	Tap on for close detail bill

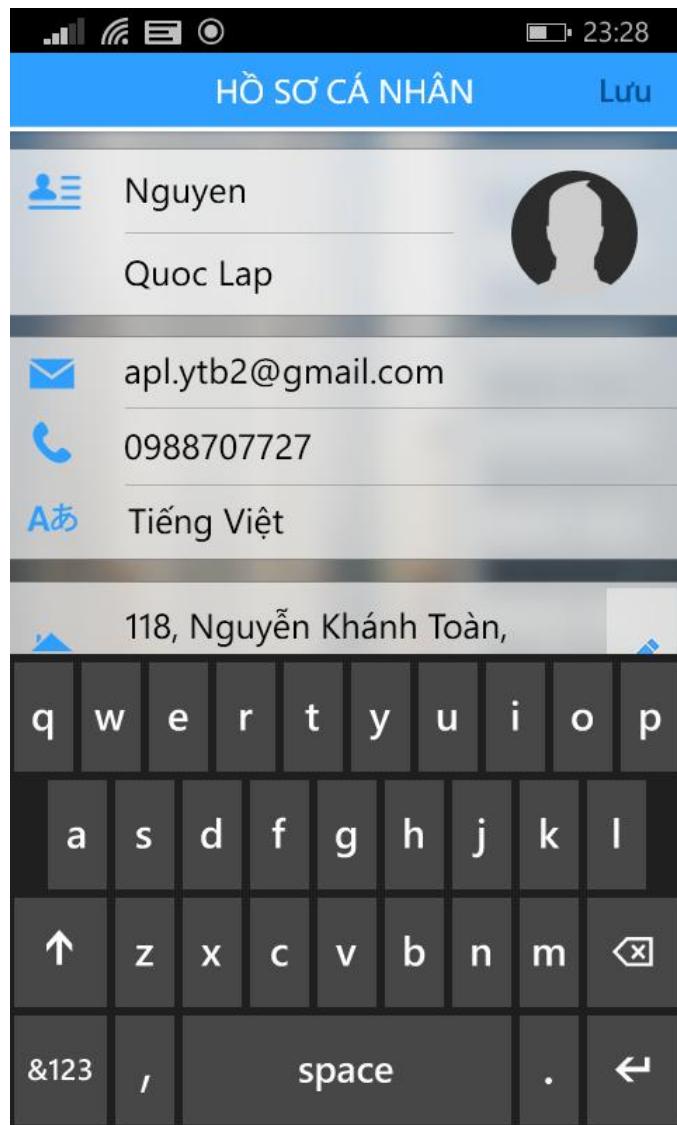
#### 4.3.3.2.5 Left menu



Element	Type	Description
Ảnh	Image	Show image avatar of user
Tên	Text	Show name of user
Họ và tên đệm	Text	Show first and middle name of user
Hồ sơ cá nhân	Text block	Tap on for show profile page
Lịch sử chuyến đi	Text block	Tap on for show history trip page
Tài xế yêu thích	Text block	Tap on for show favorite driver page
Gọi hãng Taxi	Text block	Tap on for show call taxi center page
Về chúng tôi	Text block	Tap on for show about page
Phản hồi	Text block	Tap on for show send feedback page
<b>Đăng xuất</b>	Button	Tap on for logout application

#### 4.3.3.2.5.1 Profile





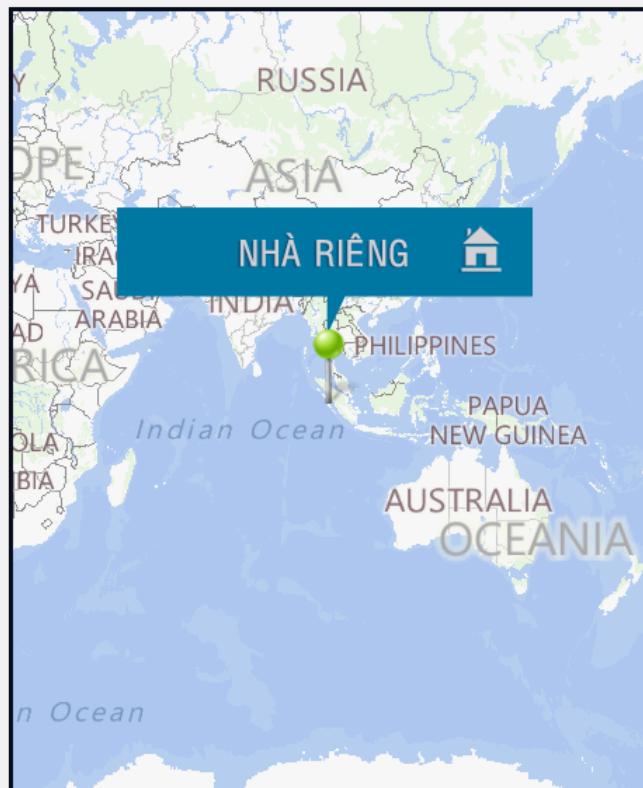
Element	Type	Description
Sửa	Button	Tap on for edit profile
Lưu	Button	Tap on for save edit profile
Ảnh	Image	Show image avatar of user
Tên	Text	Show name of user
Họ và tên đệm	Text	Show first and middle name of user
Mail	Textbox	Show email
Số điện thoại	Textbox	Show phone number
Ngôn ngữ	Textbox	Show language
Địa chỉ nhà	Textbox	Show home address
Địa chỉ công ty	Textbox	Show company address
Pen image	Button	Tap on for show home address page
Pen image 2	Button	Tap on for show company address page
Đổi mật khẩu	Text block	Tap on for show change password page

#### Add Home Address Page

## X ĐỊA CHỈ NHÀ RIÊNG

Nhập địa chỉ

118, Nguyễn Khánh Toàn, Quan



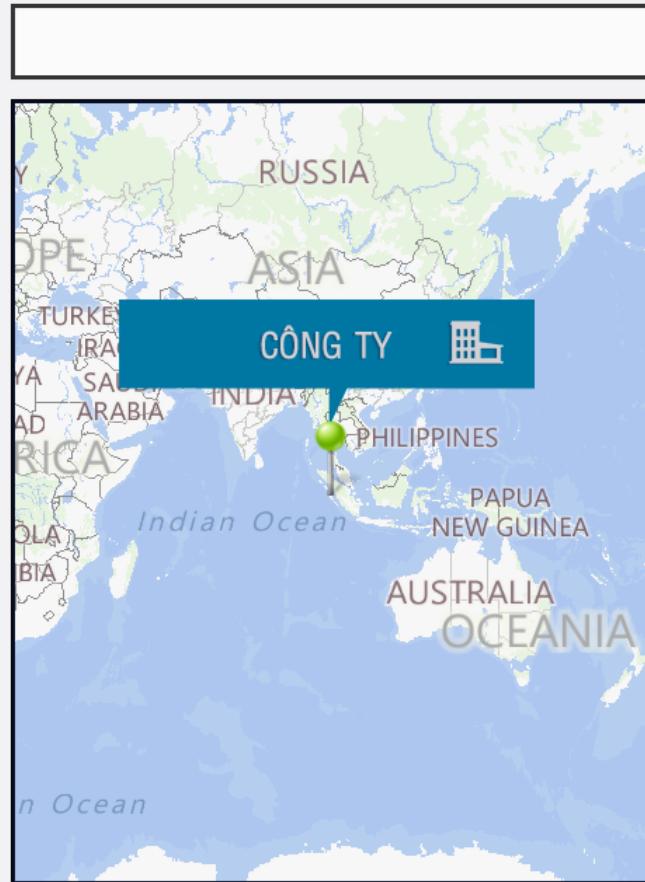
Element	Type	Description
Nhập địa chỉ text field	Edit Text	Text field to enter keyword to search
Map	Map	Show map
Marker	Image	Always on middle of screen for user choose pick up position

Add Work Address Page



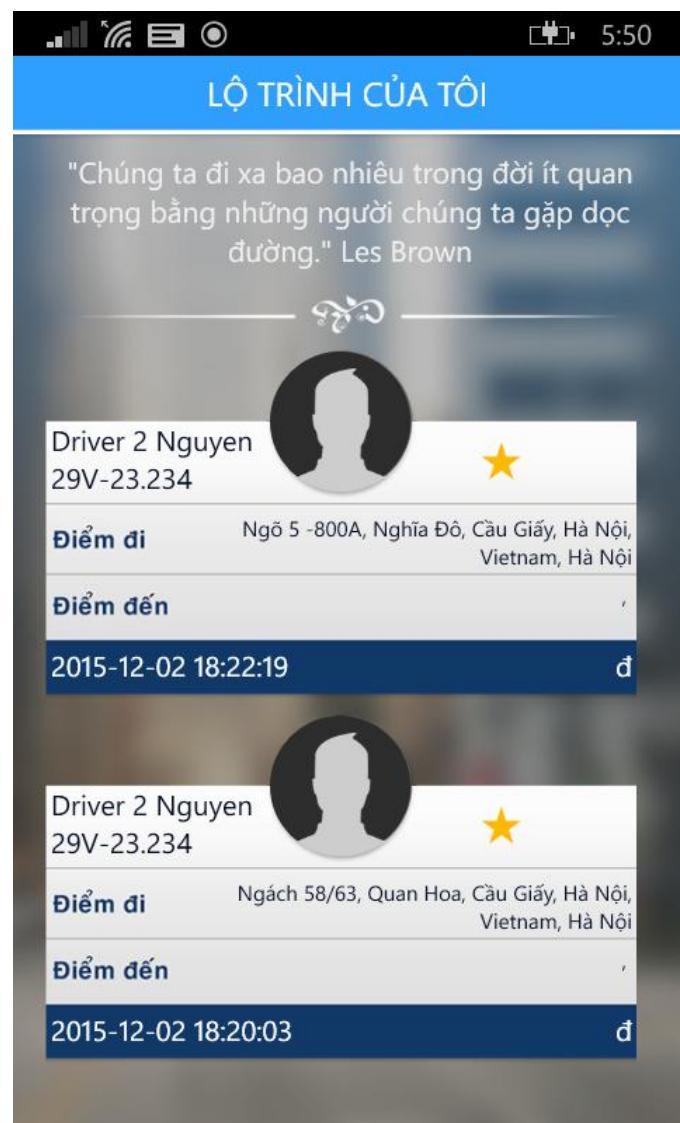
## ĐỊA CHỈ CÔNG TY

Nhập địa chỉ

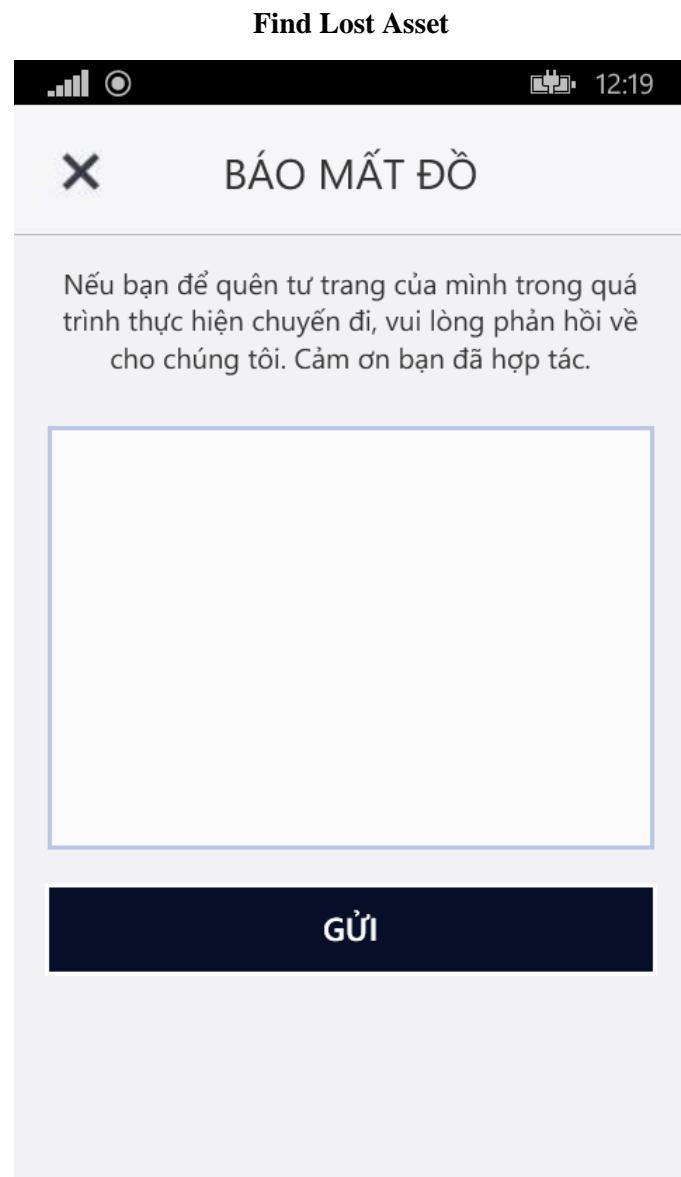


Element	Type	Description
Nhập địa chỉ text field	Edit Text	Text field to enter keyword to search
Map	Map	Show map
Marker	Image	Always on middle of screen for user choose pick up position

#### 4.3.3.2.5.2 History Trip

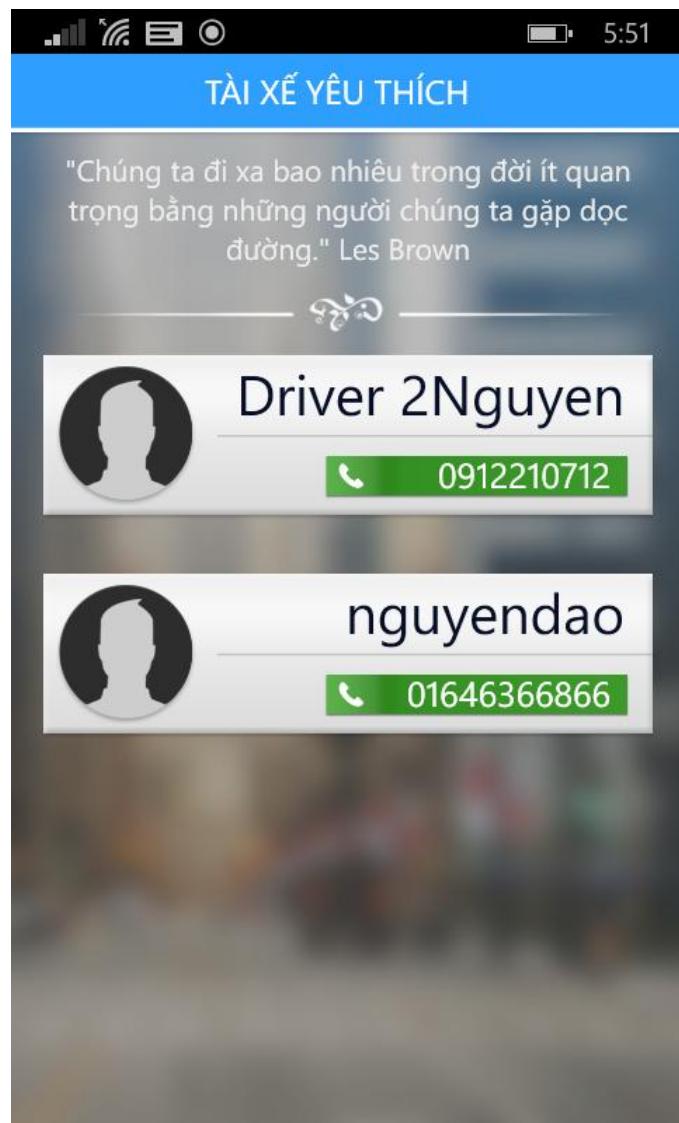


Element	Type	Description
Tên	Text	Show name driver
Biển số xe	Text	Show car number
Ảnh	Image	Show avatar of driver
Điểm đi	Text	Show start position
Điểm đến	Text	Show destination position
Thời gian	Text	Show time of trip
đ	Text	Show total money payment



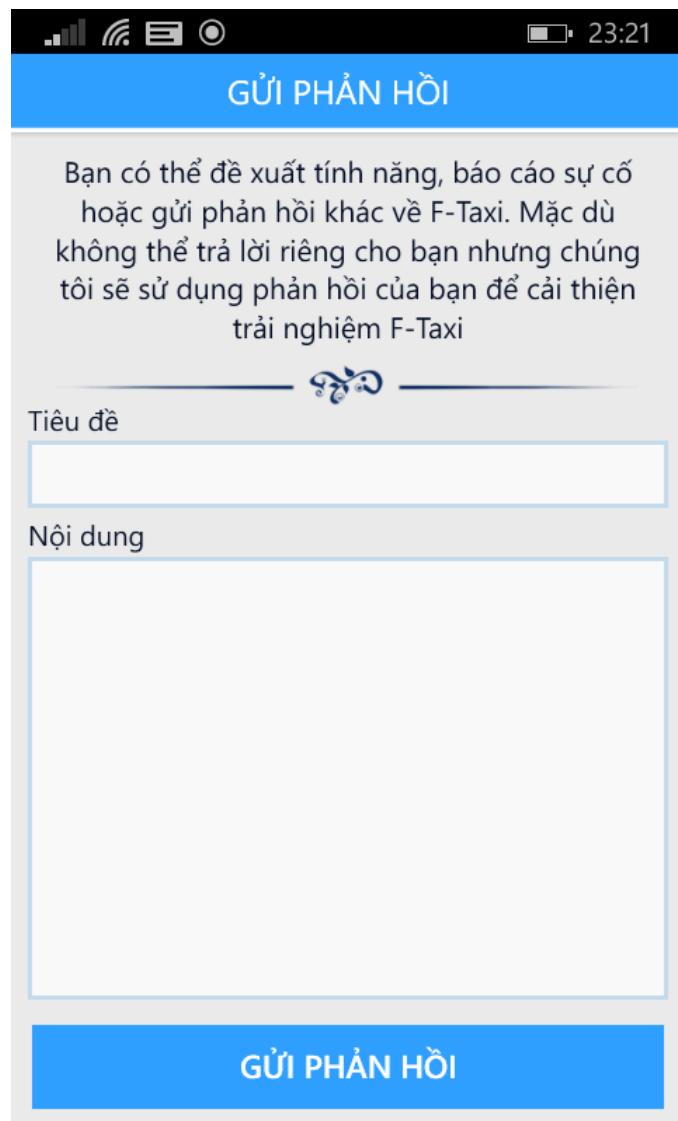
Element	Type	Description
<b>Text Field</b>	Edit Tex	Show name driver
<b>Gửi</b>	Button	Send message

#### 4.3.3.2.5.3 Favorite Driver



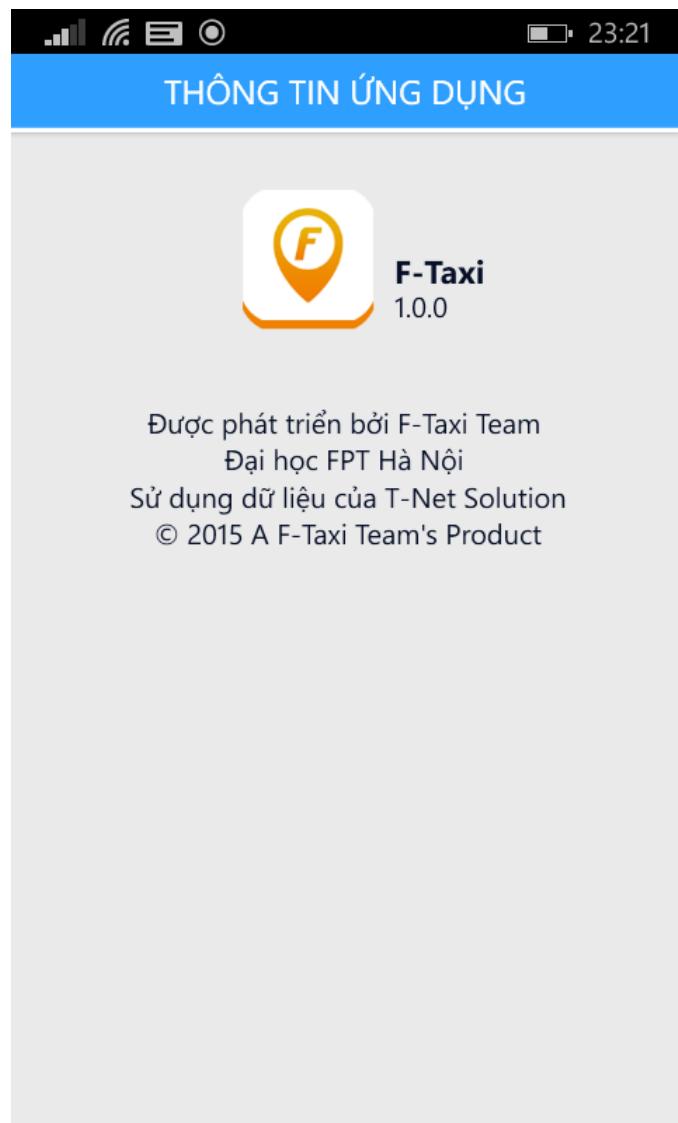
Element	Type	Description
Tên	Text	Show name driver
Số điện thoại	Text	Show phone number
Ảnh	Image	Show avatar of driver

#### 4.3.3.2.5.4 Send Application feedback



Element	Type	Description
Tiêu đề	Text edit	Enter title message
Nội dung	Text edit	Enter content message
Gửi phản hồi	Button	Tap on for send feedback message

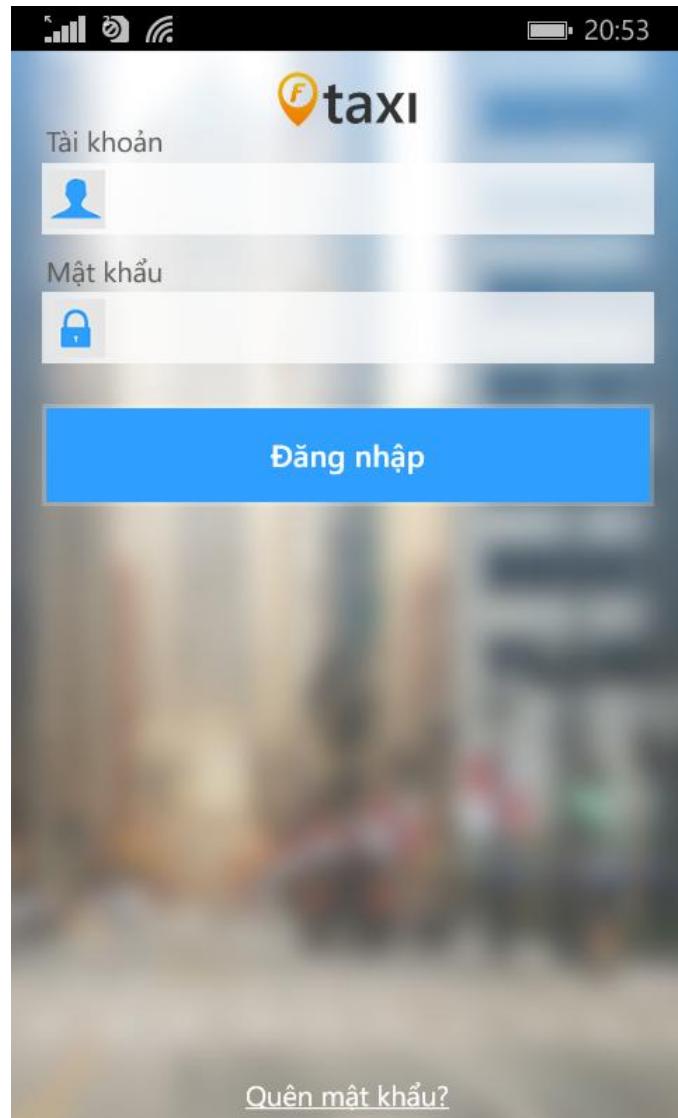
#### 4.3.3.2.5.5 About Us



Element	Type	Description
F-Taxi	Text	Description application

#### 4.3.3.3 Driver

##### 4.3.3.3.1 Login



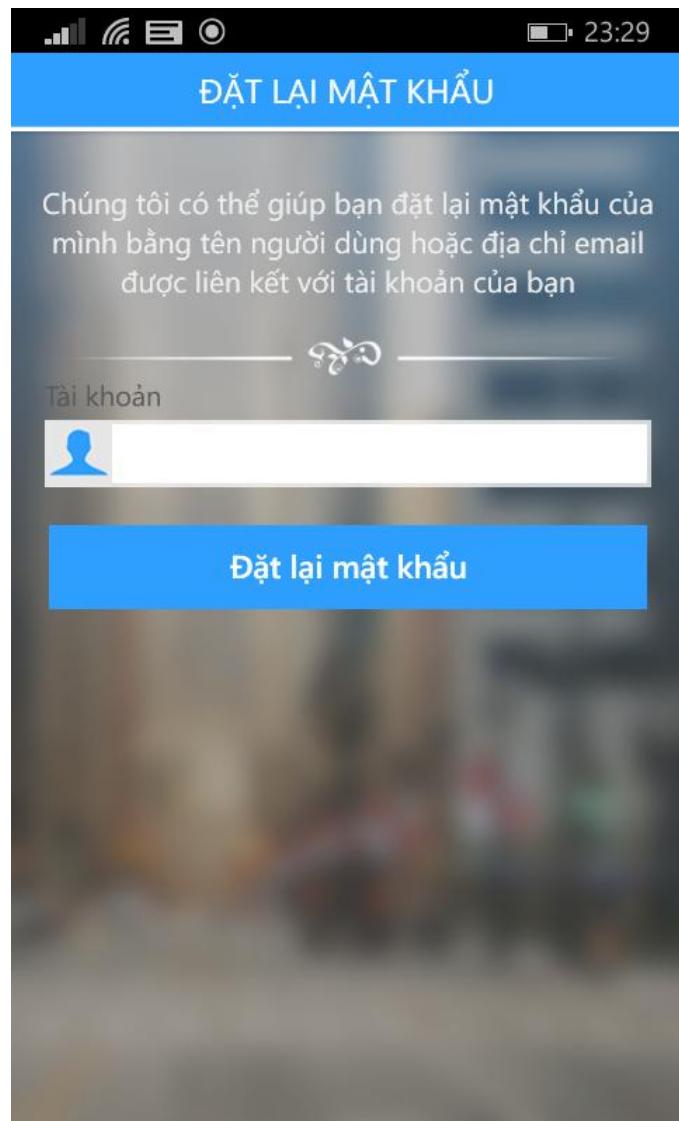
Element	Type	Description
Tài khoản text field	Edit text	Enter Email
Mật khẩu text field	Edit text	Enter Password
Đăng nhập	Button	Tap button for logging in application
Quên mật khẩu	Label	Tap label for showing forget password screen

Choose Car



Element	Type	Description
<b>Toyota Vios</b>	Text	Show type of car
<b>29V-52.123</b>	Text	Show car number
<b>Kinh tế</b>	Image	Show kind of car

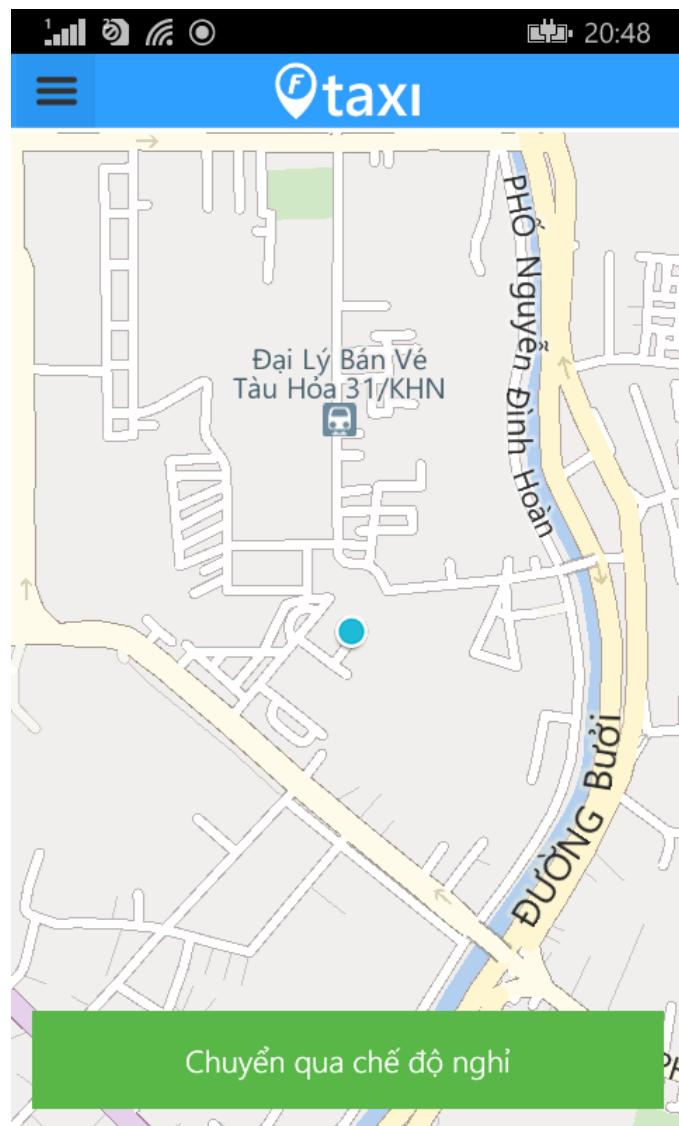
#### 4.3.3.3.2 Forget Password



Element	Type	Description
Email text field	Edit text	Enter Email
<b>Đặt lại mật khẩu</b>	Button	Tap button for send password to email user

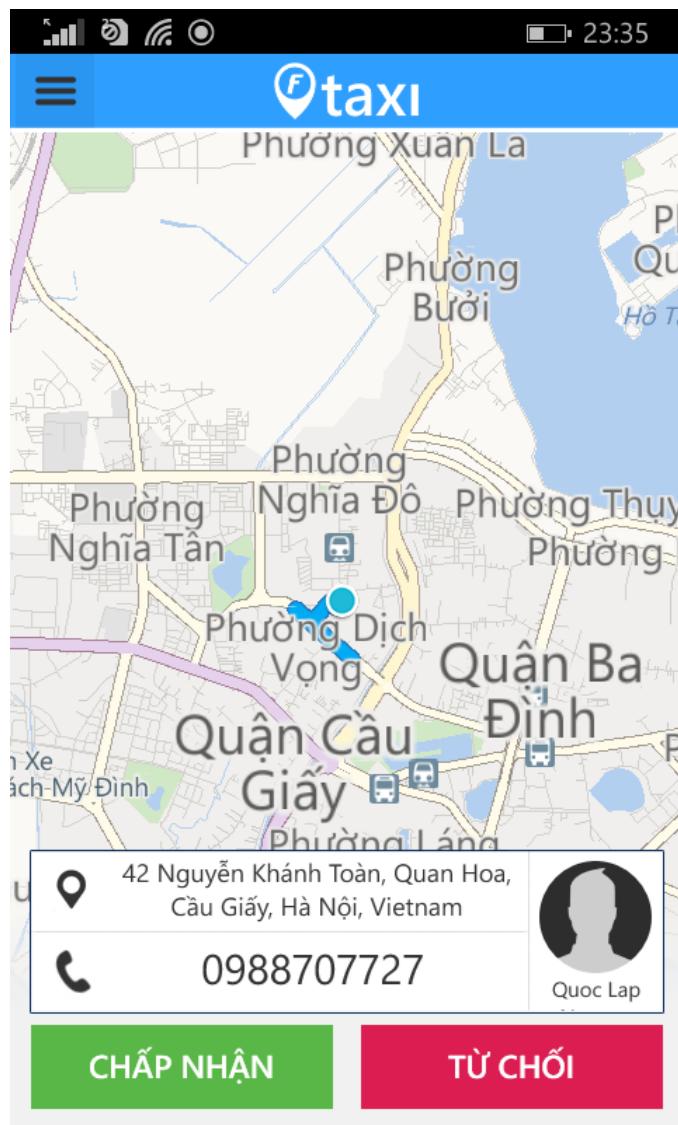
#### 4.3.3.3.3 Home Page

##### 4.3.3.3.1 Home Page

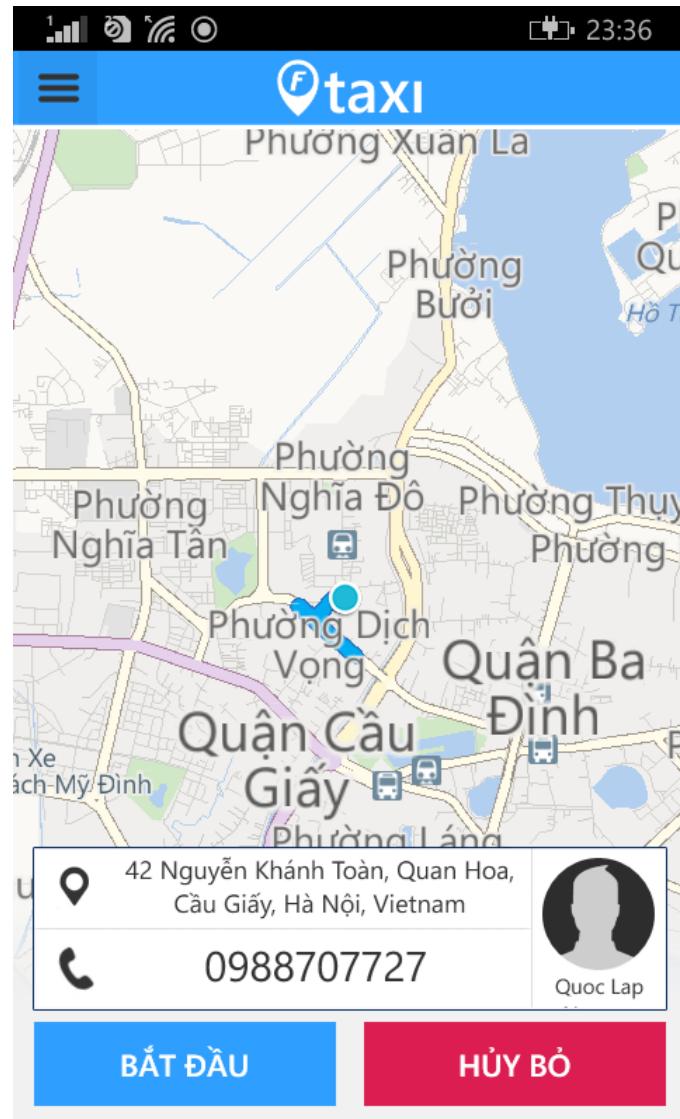


Element	Type	Description
Menu	Menu	Show left menu
My position	Image	Show current user position
Map	Map	Show Map
Chuyển qua chế độ nghỉ	Button	Tap on for change driver status

#### 4.3.3.3.3.2 Home Page with trip



Element	Type	Description
<b>Menu</b>	Menu	Show left menu
<b>My position</b>	Image	Show current user position
<b>Map</b>	Map	Show Map
<b>Ảnh</b>	Image	Show avatar Rider
<b>42 Nguyễn Khánh Toàn, Quan Hoa, Cầu Giấy, Hà Nội, Việt Nam</b>	Text	Show pick up location
<b>0988707727</b>	Text	Show phone number Rider
<b>Chấp nhận</b>	Button	Tap on for accept trip
<b>Từ chối</b>	Button	Tap on for reject trip



Element	Type	Description
<b>Menu</b>	Menu	Show left menu
<b>My position</b>	Image	Show current user position
<b>Map</b>	Map	Show Map
<b>Ảnh</b>	Image	Show avatar Rider
<b>42 Nguyễn Khánh Toàn, Quan Hoa, Cầu Giấy, Hà Nội, Việt Nam</b>	Text	Show pick up location
<b>0988707727</b>	Text	Show phone number Rider
<b>Bắt đầu</b>	Button	Tap on for start trip
<b>Hủy bỏ</b>	Button	Tap on for cancel trip

#### 4.3.3.3.4 Bill Detail

THÔNG TIN THANH TOÁN

Quoc Lap Nguyen

0988707727

Ngách 92/8, Quan Hoa, Cầu Giấy, Hà Nội, Vietnam

Ngách 58/63, Quan Hoa, Cầu Giấy, Hà Nội, Vietnam

Quãng đường (km) 0

Tổng phí (đ) 0

Khuyến mại (đ) 0.0

Thanh toán (đ) 0

Hình thức Thanh toán Tiền mặt

**THANH TOÁN**

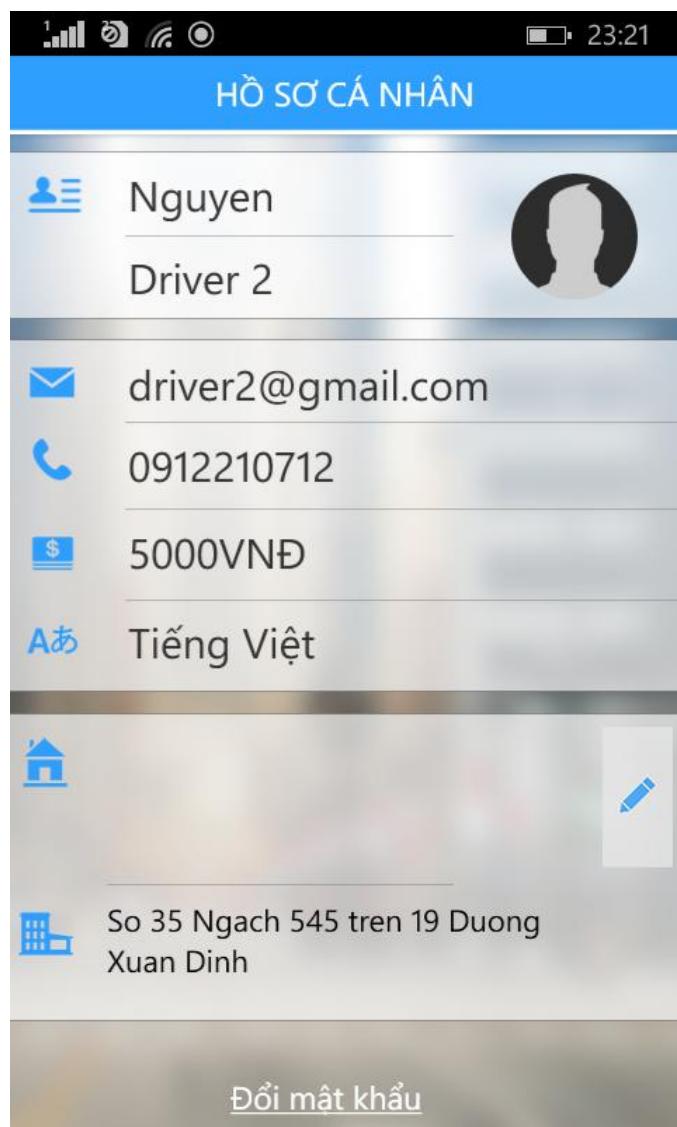
Element	Type	Description
Quoc Lap Nguyen	Text	Show name driver
0988707727	Text	Show driver phone number
	Image	Show avatar of driver
Ngách 92/8, Quan Hoa, Cầu Giấy, Hà Nội	Text	Show start position
Ngách 58/63, Quan Hoa, Cầu Giấy, Hà Nội	Text	Show destination position
Quãng đường	Text	Show total trip
Tổng phí	Text	Show total price
Khuyến mại	Text	Show price discount
Thanh toán	Text	Show payment price
Hình thức thanh toán	Text	Show form of payment
Thanh toán	Button	Tap on for close detail bill

#### 4.3.3.3.5 Left Menu



Element	Type	Description
Ảnh	Image	Show image avatar of user
Tên	Text	Show name of user
Họ và tên đệm	Text	Show first and middle name of user
Hồ sơ cá nhân	Text block	Tap on for show profile page
Lịch sử chuyến đi	Text block	Tap on for show history trip page
Thông tin công ty	Text block	Tap on for show company information
Về chúng tôi	Text block	Tap on for show about page
Phản hồi	Text block	Tap on for show send feedback page
Đăng xuất	Button	Tap on for logout application

#### 4.3.3.3.5.1 Profile



Element	Type	Description
Ảnh	Image	Show image avatar of user
Nguyen	Text	Show name of user
Driver 2	Text	Show first and middle name of user
driver2@gmail.com	Textbox	Show email
0912210712	Textbox	Show phone number
5000VNĐ	Text	Show balance money
Tiếng Việt	Textbox	Show language
Địa chỉ nhà	Textbox	Show home address
So 35 Ngach 545 tren 19 Duong Xuan Dinh	Text	Show office address
Đổi mật khẩu	Text block	Tap on for show change password page

[Add Home Address Page](#)

## X ĐỊA CHỈ NHÀ RIÊNG

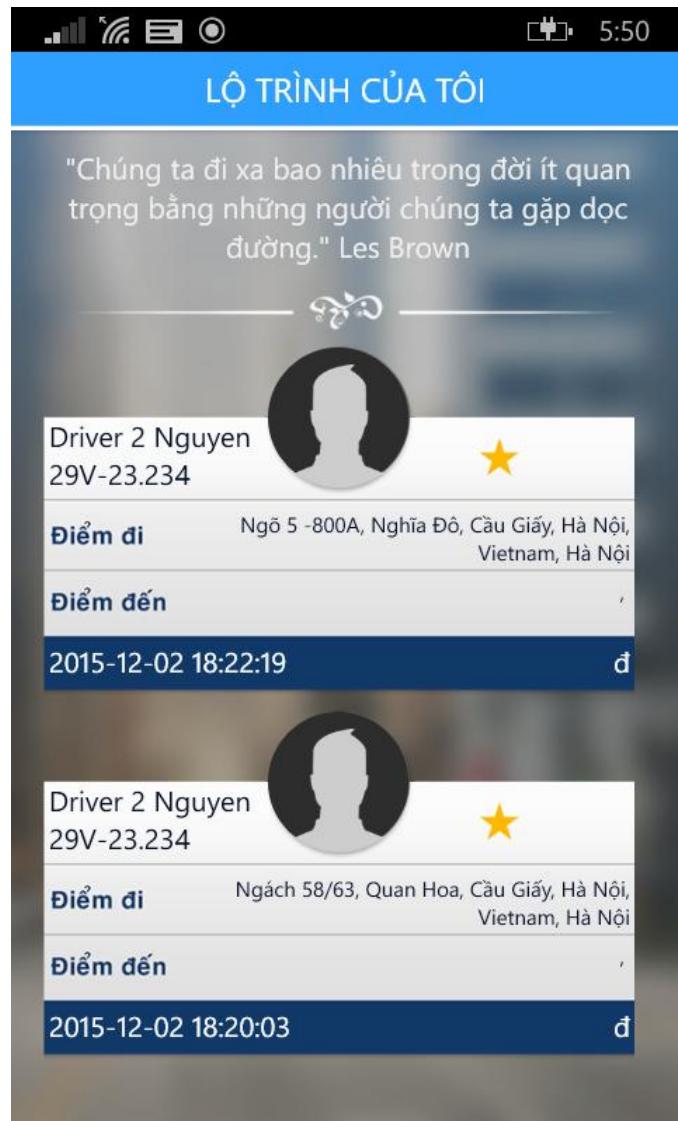
Nhập địa chỉ

118, Nguyễn Khánh Toàn, Quan



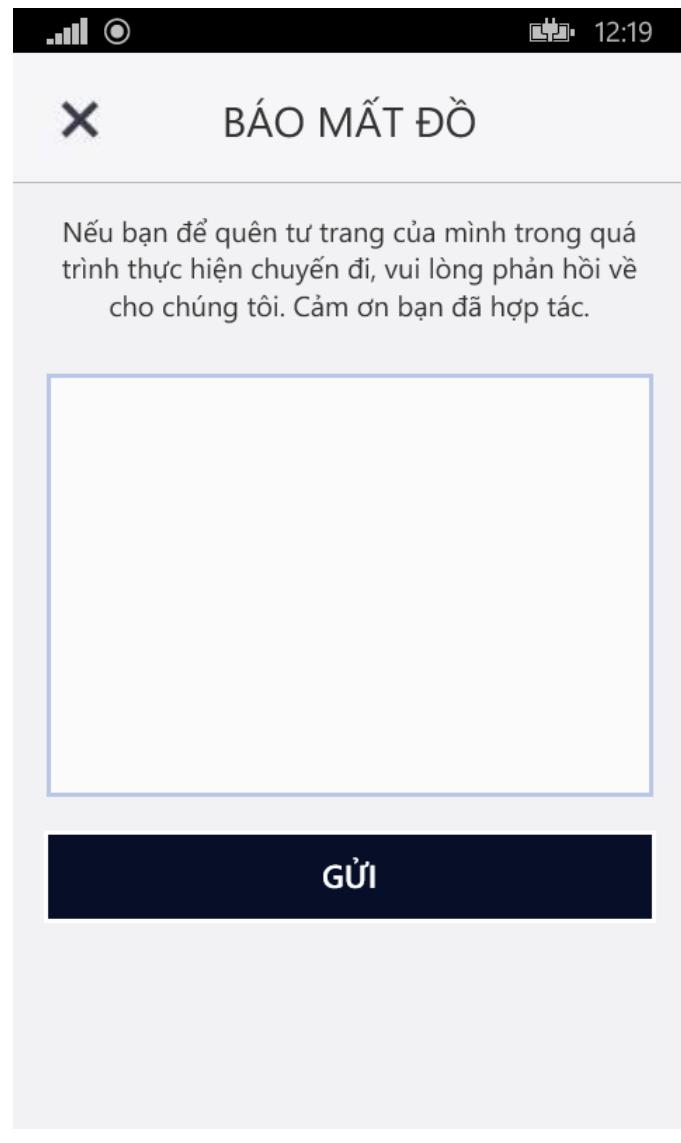
Element	Type	Description
Nhập địa chỉ text field	Edit Text	Text field to enter keyword to search
Map	Map	Show map
Marker	Image	Always on middle of screen for user choose pick up position

#### 4.3.3.3.5.2 History Trip



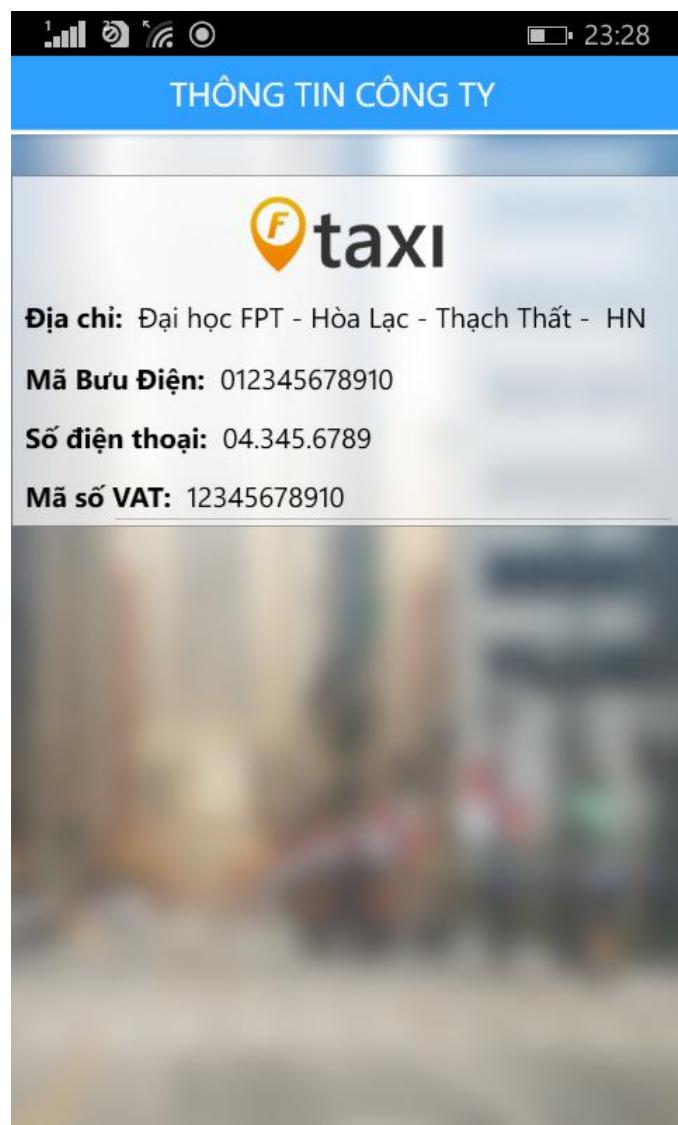
Element	Type	Description
Tên	Text	Show name driver
Biển số xe	Text	Show car number
Ảnh	Image	Show avatar of driver
Điểm đi	Text	Show start position
Điểm đến	Text	Show destination position
Thời gian	Text	Show time of trip

**Find Lost Asset**



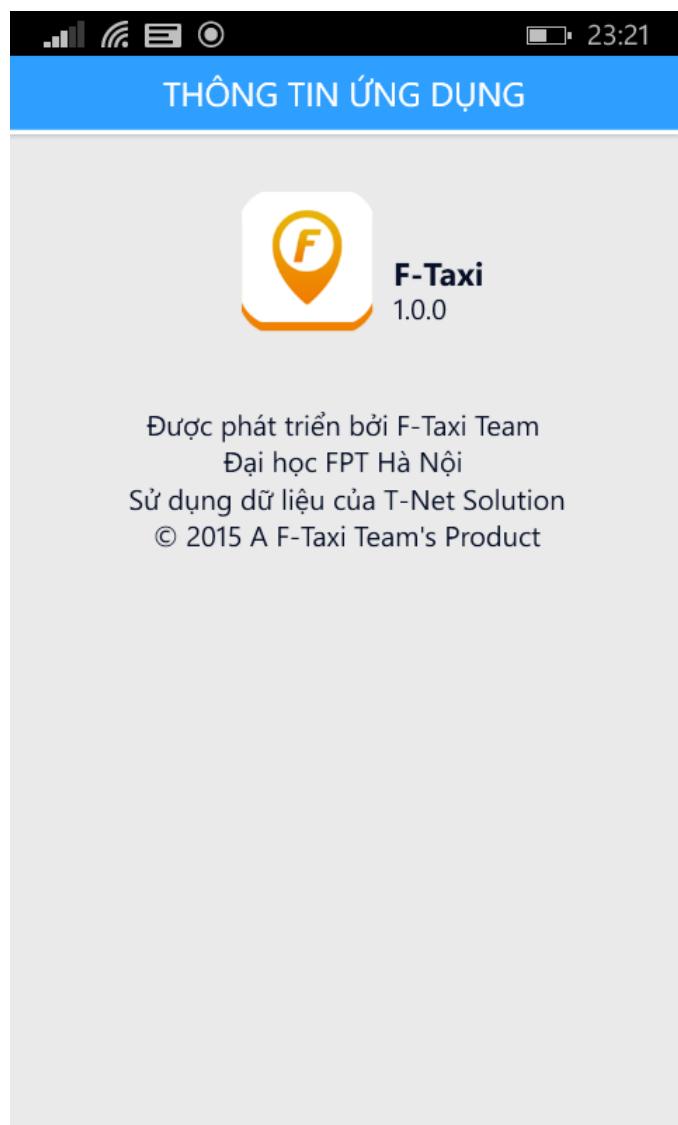
Element	Type	Description
Text Field	Edit Tex	Show name driver
Gửi	Button	Send message

#### 4.3.3.5.3 Company Information



Element	Type	Description
Logo	Image	Show logo company
Địa chỉ	Text	Show company address
Mã bưu điện	Text	Show postal code
Số điện thoại	Text	Show phone number
Mã số VAT	Text	Show VAT code

#### 4.3.3.3.5.4 About Us



Element	Type	Description
F-Taxi	Text	Description application

## 5 SOFTWARE TEST DOCUMENTATION

### 5.1 Test Overview

#### 5.1.1 Test Approach

We use V-model to implement testing process.

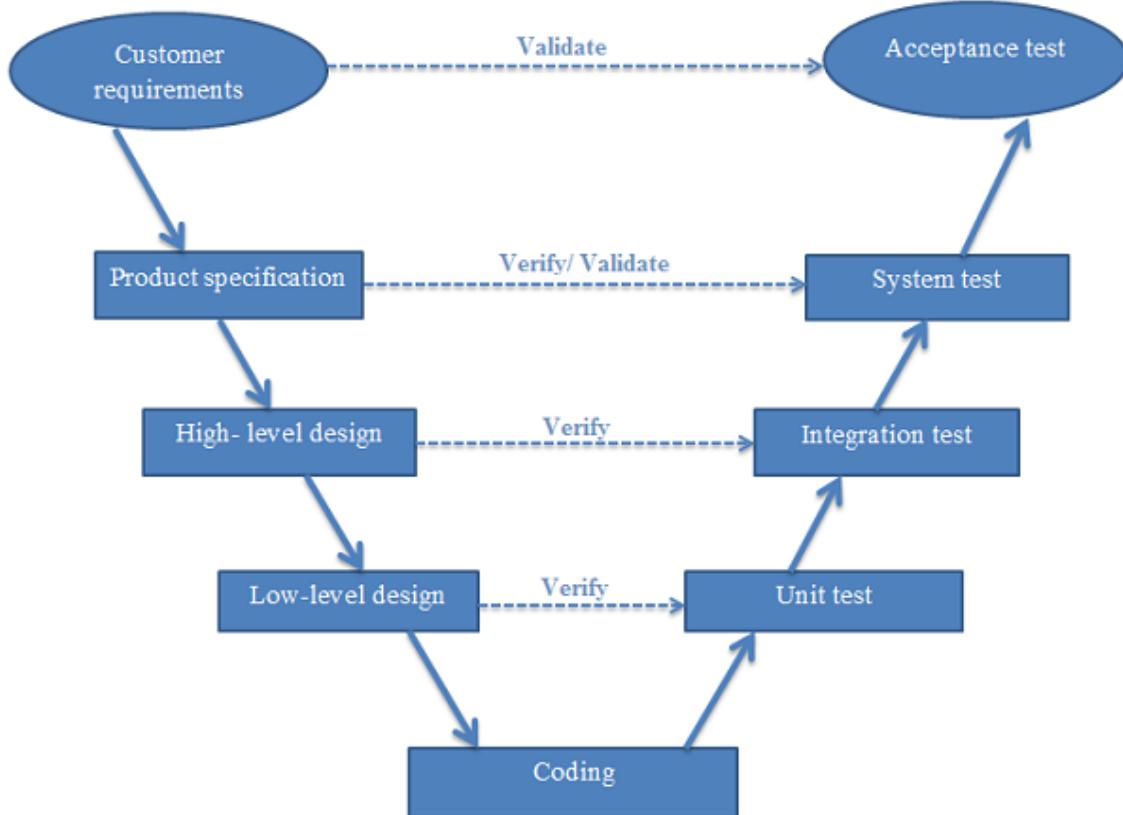


Figure 5-1 V-model

Due to requirement of project must be always suitable with user, we choose V-model to implement testing process. With V-Model, software development is separated into two appropriate phase's groups: development and testing. In this model, the verification and validation will be done side by side. It emphasizes the strict process flow to develop a quality product. The errors occurred in any phase will be corrected in that phase. Proactive defect tracking defects which are found at early stages even may be in the development phase before application being tested (Unit test).

Testing progress is divided to 4 phases include: Unit test, Integration test, System test and Acceptance test.

### **5.1.1.1 Unit testing**

- The purpose is to verify the internal logic code by testing every possible branch within the function, also known as test coverage.
- Unit test will be done by the developers and will be approved by the implementing team leader to ensure that the building blocks of the system work independently of each other and the specific function is working as expected. One function might have multiple tests to catch corner cases in the code

### **5.1.1.2 Integration testing**

- The separate modules will be tested together to expose faults in the interfaces and in the interaction between integrated components.
- Integration testing will be done by tester.

### **5.1.1.3 System testing**

- Compare the system specifications against the actual system.
- System testing checks if the integrated product meets the specified requirements.

### **5.1.1.4 Acceptance testing**

- Acceptance testing will be performed by the test manager and development team leader.
- The acceptance test will be done for a period of 1 week after completion of the System/Integration test process.
- Programs will enter into Acceptance test after all critical and major defects have been corrected.
- Prior to final completion of acceptance testing all open critical and major defects must be corrected.

## **5.1.2 Test Strategy**

### **5.1.2.1 Functional Test**

Functional testing bases its test cases on the specifications of the component under test. Functions are tested by feeding them input and examining the output.

Functional testing typically involves four steps:

- ✓ The creation of input data based on the function's specifications
- ✓ The determination of output based on the function's specification
- ✓ The execution of the test case
- ✓ The comparison of actual and expected outputs

### **5.1.2.2 User Interface Test**

During testing, focus is shifted towards application specific aspects of user interaction as they are manifested by interface syntax and semantics. The goal of interface testing is to:

- ☞ Uncover errors related to specific interface mechanism.
- ☞ Uncover errors in the way interface implements semantics of navigation, web application functionality or content display.

Objectives that should be achieved are:

- ☞ Interface features are tested to ensure that design rules, aesthetics, and related visual content are available for user without error.
- ☞ Individual interface mechanisms are tested in a manner that is analogous to unit testing.
- ☞ Each interface mechanism is tested within the context of a use case or navigation semantic units for a specific user category.
- ☞ The complete interface is tested against selected use cases and navigation semantic units to uncover errors in the semantics of the interface.

## 5.2 Test Plan

### 5.2.1 Feature to be tested

Developers will be performed unit test to ensure that all functions are working as expected.

The test team will be undertaking the responsibility of testing and validating the operation of the part that developed. The functions developed require completing design and execution of function tests to ensure proper coverage.

Following are items that will need to be tested by testers:

**TABLE 5-1 Feature to be tested**

No.	Component	Feature Name		Feature to be tested
1	Interface	Rider screen	Screen elements	Check the display of elements.
		Driver screen		
2	Function	Main application		Login
3				Logout
4			Account management	Register account
5				View profile
6				Update profile
7				Change password
8				Forget password
9			Rider actions	Create trip
10				Cancel trip
11				View completed trips
12				View bill detail
13				Rate driver
14			Favorites management	View favorite driver
15				Add favorite driver
16				Delete favorite driver
17				Call favorite driver
18			Find lost assets	Find lost assets
19			Send Application Feedback	Send Application Feedback
20			Call Taxi Center	Call Taxi Center
21			Driver actions	Accept trip
22				Reject trip
23				Cancel trip

24					Complete trip
25					Start trip
26					View bill detail
27				Notify lost assets	Notify lost assets
28				Change status	Change status
29	Conflict		Conflict		

### 5.2.2 *Feature not to be tested*

- Maintainability.
- Security testing

### 5.2.3 *Create test case plan*

TABLE 5-2 Create test cases plan

Date	November						Total
	27	27	27	27	27	27	
Create TC	43	25	13				10
HuuPG	GUI	Account	Log in-Log out	Rider actions	Driver action	Conflict	

### 5.2.4 *Execute test plan*

TABLE 5-3 Execute test plan

Date	Round 1						Total
	November						
Execute Test (TC)							
LapNV		x		x		x	
HuuPG	x		x		x		
Method	GUI	Log in-Log out	Account	Driver action	Rider actions	Conflict	

Date	Round 2								Total
	December								
	13				14				
Execute Test (TC)									
LapNV									
HuuPG									
Method	All								

## 5.2.5 Testing Environments

### 5.2.5.1 Software

TABLE 5-4 Software needed for testing

Category	Software name	Version
Operating System	Windows Phone	
Development framework	Microsoft .NET	4.0
Development tools	Microsoft Visual Studio	2013
	Notepad++	Newest
Data managing tools	TortoiseGIT	Newest
Support tools	Chrome, Internet Explorer, Photoshop	Newest
Assign task and tracking bug	Microsoft Excel	Newest
Testing tools	-	-

### 5.2.5.2 Hardware

At server: T-NET

Smart phone 1: LUMINA 630

- ☞ OS: Windows phone 8.1
- ☞ Install memory (RAM) : 1.00GB

Smart phone 2: LUMINA 720

- ☞ OS: Windows phone 8.1
- ☞ Install memory (RAM) : 1.00GB

## 5.2.6 Resource

Developer, tester and project manager has to join in testing process.

TABLE 5-5 Resource and Responsibility in Test process

Resource	Responsibility
Developers	Unit test, fix all bugs after testing
Tester	Create test cases, test plan, test report, bug list report
	Prepare data to test

	Log bugs
	Test and retest to limit maximize bugs
<b>Project manager</b>	Responsible for project schedules

### 5.2.7 Test Milestones

TABLE 5-6 Test milestones

Milestone Task	Resource	Start Date	Finish date
Create Test plan	Test leader	2015/11/27	2015/11/27
Create Unit Test cases	Developer	2015/11/28	2015/11/29
Create Integration Test cases	Tester	2015/11/28	2015/11/29
Create System Test cases	Tester	2015/11/30	2015/12/01
Review Unit Test cases	Project Team	2015/11/30	2015/11/30
Review Integration Test cases	Project Team	2015/12/01	2015/12/01
Review System Test cases	Project Team	2015/12/02	2015/12/02
Update Test cases	Tester	2015/12/03	2015/12/03
Create data test	Tester	2015/12/03	2015/12/03
Execute Unit Test	Developer		
Execute Integration Test	Tester		
Execute System Test	Tester		

## 5.3 Test Cases

### 5.3.1 Login

TABLE 5-7 Login test cases

Module Code		Login						
Test requirement								
Tester	HuuPG							
ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Result1	Result2	Test date	Note
<b>Login as Rider</b>								
[Login-1]	Login successfully	1. Input valid email and password 2. Tap on button "Đăng nhập"	2. Move to Rider Homepage screen		Fail	Pass	27/11	
[Login-2]	Check format of email	1. Input invalid format of email 2. Tap on button "Đăng Nhập"	2. Show error message "Email không hợp lệ"		Fail	Pass	27/11	
[Login-3]	Check email is blank	1. Let email is blank 2. Input password 3. Tap on button "Đăng Nhập"	3. Show error message "Mời bạn nhập email"		Fail	Pass	27/11	
[Login-4]	Check password is blank	1. Input valid email 2. Let password is blank 3. Tap on button "Đăng Nhập"	3. Show error message "Mời bạn nhập password"		Pass	Pass	27/11	
[Login-5]	Check email is invalid	1. Input invalid email 2. Input valid password 3. Tap on button "Đăng Nhập"	3. Show error message "Tài khoản không đúng"		Fail	Pass	27/11	
[Login-6]	Check password is invalid	1. Input valid email 2. Input invalid password 3. Tap on button "Đăng Nhập"	3. Show error message "Mật khẩu không đúng"		Pass	Pass	27/11	
<b>Log in as Driver</b>								
[Log in-7]	Login successfully	1. Input valid email and password 2. Tap on button "Đăng nhập"	2. Move to Car List screen		Fail	Pass	27/11	
[Log in-8]	Check format of email	1. Input invalid format of email 2. Tap on button "Đăng Nhập"	2. Show error message "Email không hợp lệ"		Fail	Pass	27/11	

[Log in-9]	Check email is blank	1. Let email is blank 2. Input password 3. Tap on button "Đăng Nhập"	3. Show error message "Mời bạn nhập email"		Fail	Pass	27/11	
[Log in-10]	Check password is blank	1. Input valid email 2. Let password is blank 3. Tap on button "Đăng Nhập"	3. Show error message "Mời bạn nhập password"		Pass	Pass	27/11	
[Log in-11]	Check email is invalid	1. Input invalid email 2. Input valid password 3. Tap on button "Đăng Nhập"	3. Show error message "Tài khoản không đúng"		Fail	Pass	27/11	
[Log in-12]	Check password is invalid	1. Input valid email 2. Input invalid password 3. Tap on button "Đăng Nhập"	3. Show error message "Mật khẩu không đúng"		Pass	Pass	27/11	

### 5.3.2 Register

TABLE 5-8 Register test cases

Module Code	Register							
Test requirement								
Tester	HuuPG							
ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Result1	Result2	Test date	Note
<b>Register</b>								
[Account-1]	Register successfully	1. Input valid data in all field. 2. Tap on "Đăng ký" button	2. Move to Log in screen		Pass	Pass	27/11	
[Account-2]	Check email is blank	1. Let email is blank	1. Show error message "Vui lòng nhập email" Name, Profile picture, Address f, Report breach area Reason textbox, "Report breach" button		Fail	Pass	27/11	
[Account-3]	Check password is blank	1. Let password is blank	1. Show error message "Vui lòng nhập mật khẩu"		Fail	Pass	27/11	
[Account-4]	Check confirm password is blank	1. Let confirm password is blank	1. Show error message "Vui lòng nhập mật khẩu"		Fail	Pass	27/11	
[Account-5]	Check first name is blank	1. Let first name is blank	1. Show error message "Vui lòng nhập tên của bạn"		Pass	Pass	27/11	
[Account-6]	Check last name is blank	1. Let last name is blank	1. Show error message "Vui lòng nhập họ của bạn"		Pass	Pass	27/11	
[Account-7]	Check phone number is blank	1. Let phone is blank	1. Show error message "Vui lòng nhập số điện thoại"		Pass	Pass	27/11	
[Account-8]	Check email is	1. Let email is space	1. Show error message "Vui lòng nhập email"		Pass	Pass	27/11	

	space								
[Account-9]	Check phone number is space	1. Let phone number is space	1. Show error message "Vui lòng nhập số điện thoại"		Fail	Pass	27/11		
[Account-10]	Check last name is space	1. Let last name is space	1. Show error message "Vui lòng nhập họ của bạn"		Fail	Pass	27/11		
[Account-11]	Check first name is space	1. Let first name is space	1. Show error message "Vui lòng nhập tên của bạn"		Pass	Pass	27/11		
[Account-12]	Check duplication	1. Input input email which is similarly to existed account 2. Tap on "Đăng ký" button	2. Show error message "Tài khoản đã tồn tại".		Fail	Pass	27/11		
[Account-13]	Check email format	1. Guest input invalid email format (eg: x@y.z) 2. Tap on "Đăng ký" button	1. Show error message "Nhập lại email".		Pass	Pass	27/11		
[Account-14]	Check max length of mail	1. Let email have more than 50 characters	1. Show error message "Email lớn nhất 50 kí tự".		Pass	Pass	27/11		
[Account-15]	Check min length of mail	1. Let email have less than 15 characters	1. Show error message "Email nhỏ nhất 15 kí tự".		Fail	Pass	27/11		
[Account-16]	Check max length of password	1. Let password have more than 24 characters	1. Show error message "Mật khẩu lớn nhất 24 kí tự".		Fail	Pass	27/11		
[Account-17]	Check min length of password	1. Let password have less than 6 characters	1. Show error message "Mật khẩu nhỏ nhất 6 kí tự".		Fail	Pass	27/11		
[Account-18]	Check max length of confirm password	1. Let confirm password have more than 24 characters	1. Show error message "Mật khẩu lớn nhất 24 kí tự".		Fail	Pass	27/11		
[Account-19]	Check min length of confirm password	1. Let confirm password have less than 6 characters	1. Show error message "Mật khẩu nhỏ nhất 6 kí tự".		Pass	Pass	27/11		

### 5.3.3 Conflict

TABLE 5-9 Conflict

Module Code		Conflict								
Test requirement										
Tester	HuuPG									
ID	Test Case Description	Test Case Procedure		Expected Output		Inter-test case Dependence	Result1	Result2	Test date	Note
<b>Conflict</b>										
[Conflict-1]	While using application, calling came	Accept call then finish call		Revert to latest status of application before calling			Fail	Pass	27/11	
[Conflict -2]		Reject call		Revert to latest status of application before calling			Fail	Pass	27/11	
[Conflict -3]	While using application, message came	View message and close		Revert to latest status of application before calling			Fail	Pass	27/11	
[Conflict -4]		Close message		Revert to latest status of application before calling			Pass	Pass	27/11	
[Conflict -5]	While using application, alarm came	Close alarm		Revert to latest status of application before calling			Fail	Pass	27/11	
[Conflict -6]	Check password is invalid	Let alarm run until finish		Revert to latest status of application before calling			Pass	Pass	27/11	

## 5.4 Test Report

TABLE 5-10 Test report

No	Module code	Pass	Fail	Untested	N/A	Number of test cases
1	GUI	78	8	0	0	41
2	Log in	24	0	0	0	12
3	Log out	2	0	0	0	1
4	Account management	47	3	0	0	25
5	Rider actions	53	7	0	0	30
6	Driver actions	20	4	0	0	30
7	Conflict	20	0	0	0	22
<b>Sub total</b>						
244 22 0 0 161						

Test coverage

**82.61** %

Test successful coverage

**75.78** %

## **6 SOFTWARE USER MANUAL**

### **6.1 INSTALLATION GUIDE**

#### ***6.1.1 Purposes***

This user's manual has been developed to help users better understand the requirements that may apply to use this windows phone application by providing them simple step-by-step tutorials. This manual is intended to help making application functions more accessible and their associated requirements more understandable to users.

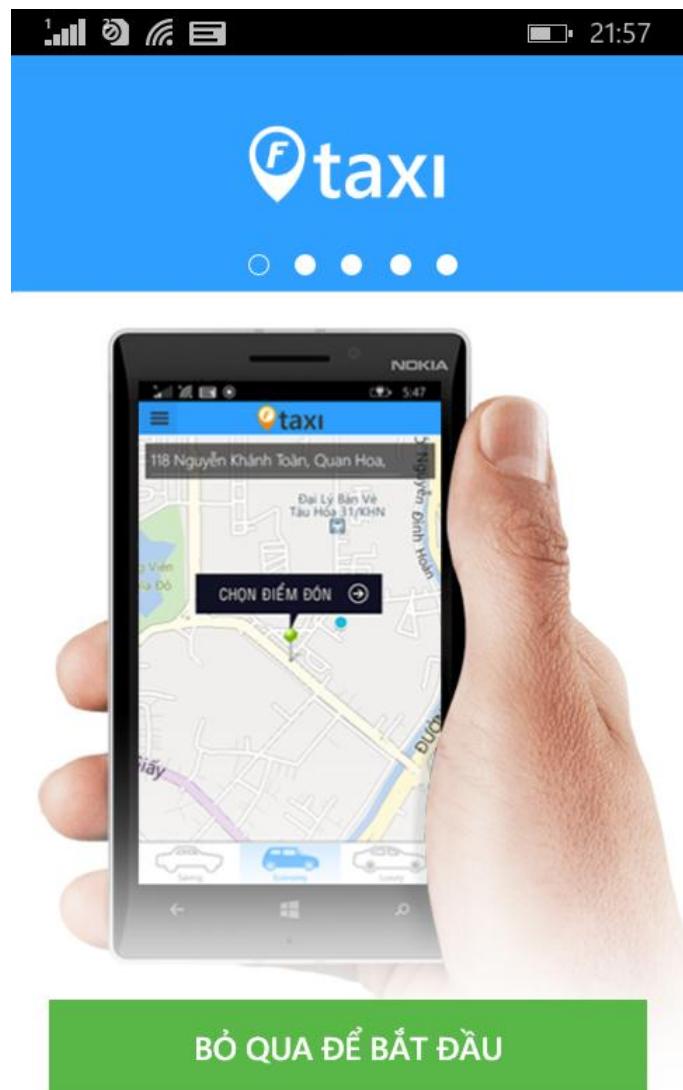
#### ***6.1.2 Environments***

- Visual Studio 2013:
  - Download on <https://www.visualstudio.com/downloads/download-visual-studio-vs> .
  - Install.
- Smart Phone with Windows Phone OS

## 6.2 USER's GUIDE

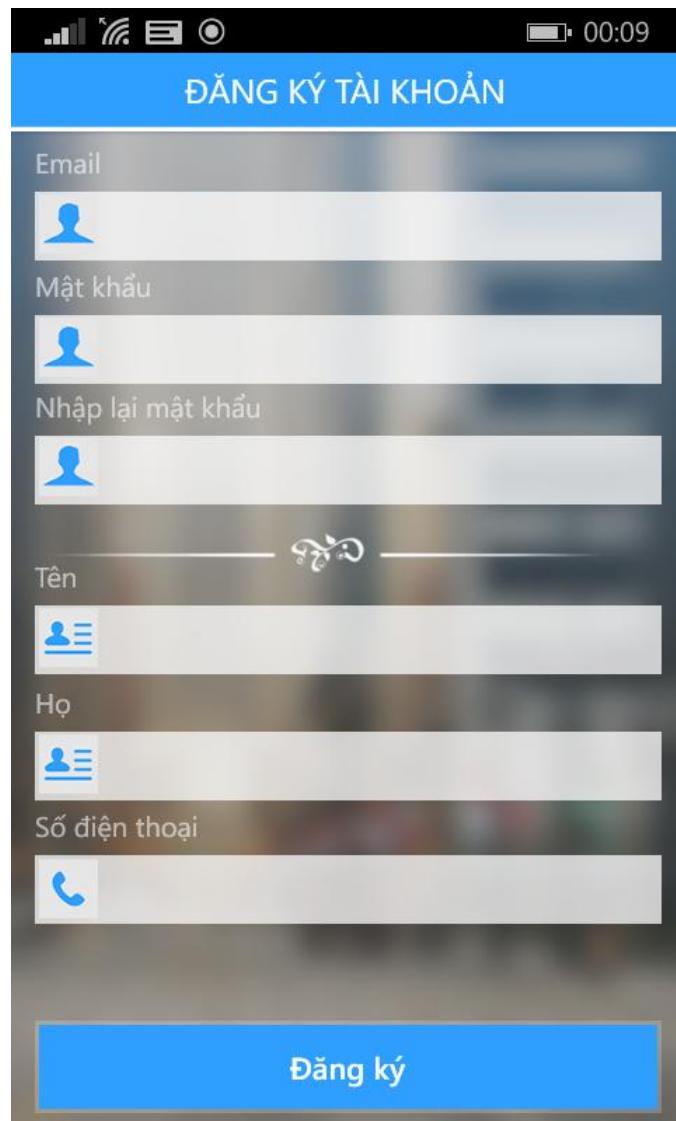
### 6.2.1 Guest

#### 6.2.1.1 First page



- Slide image on screen or tap on “Bỏ qua để bắt đầu” for move to Login page

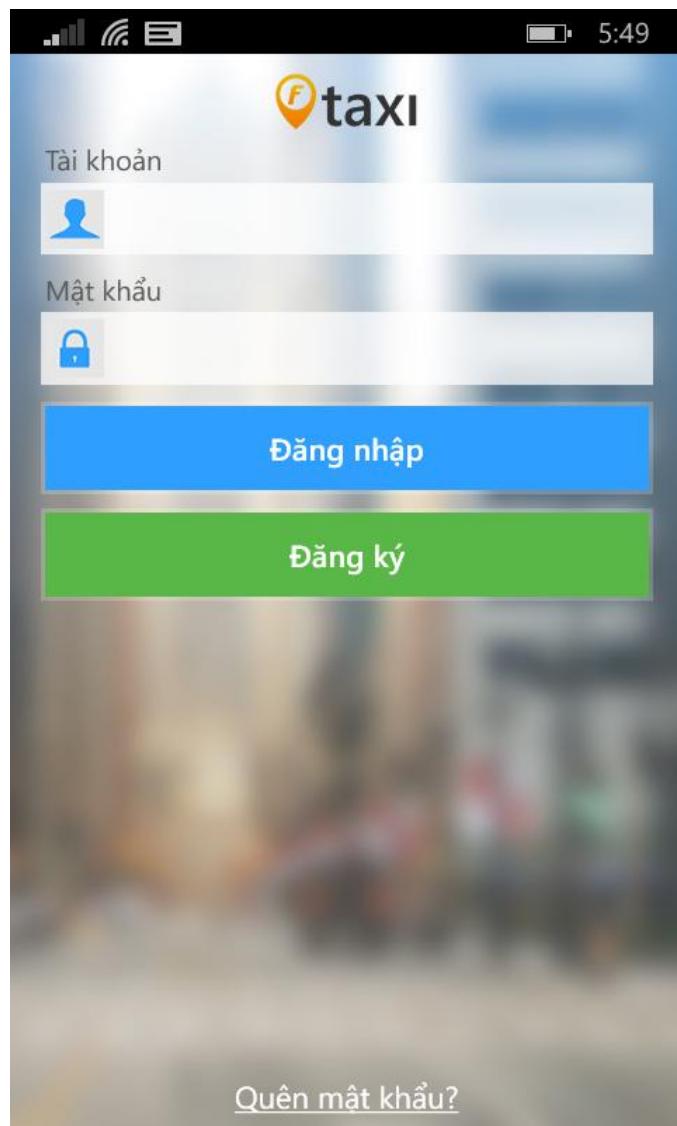
#### 6.2.1.2 Create an account



- Step 1: Tap on “Đăng ký” button on screen
- Step 2: Fill all information with right format.
- Step 3: Tap on “Đăng ký” button for register. After that, your account will be ready to using F-Taxi.

## 6.2.2 Rider

### 6.2.2.1 Login to application

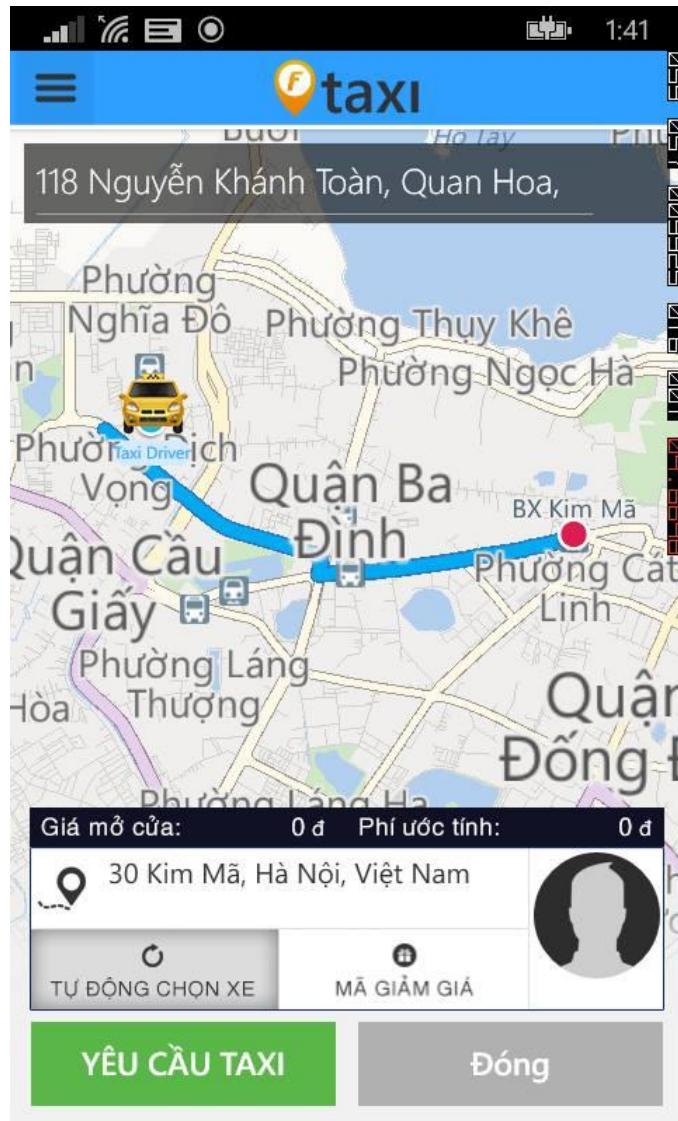


- Step 1: Fill your account on field.
- Step 2: Tap on “Đăng nhập” button.

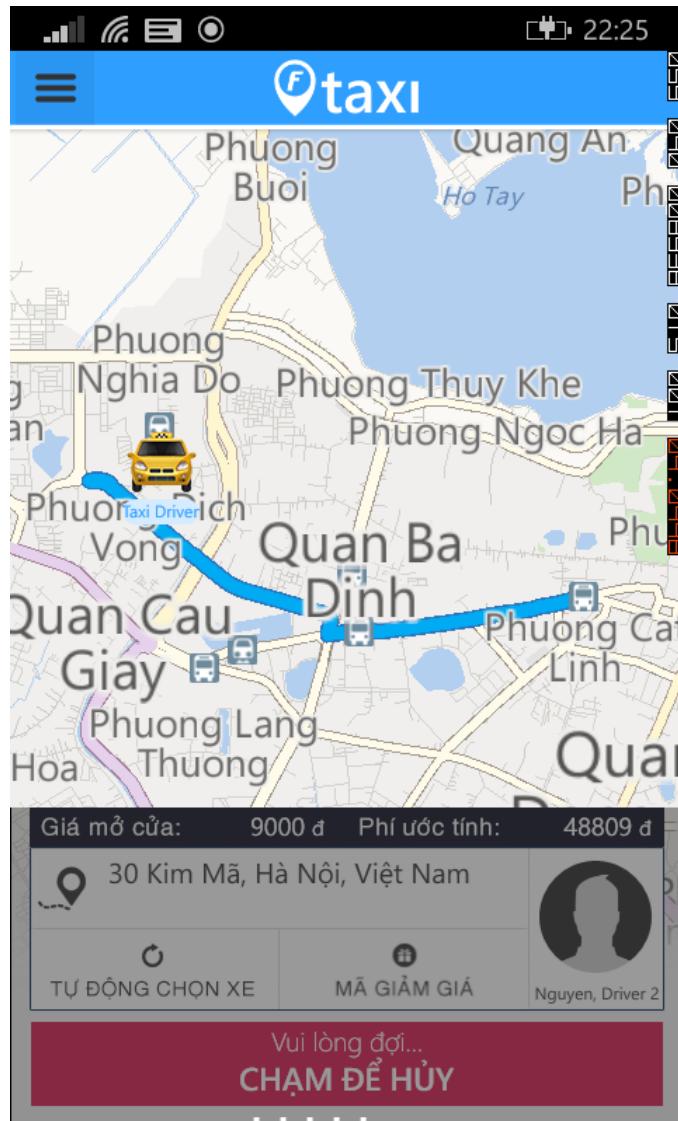
#### 6.2.2.2 Take a taxi



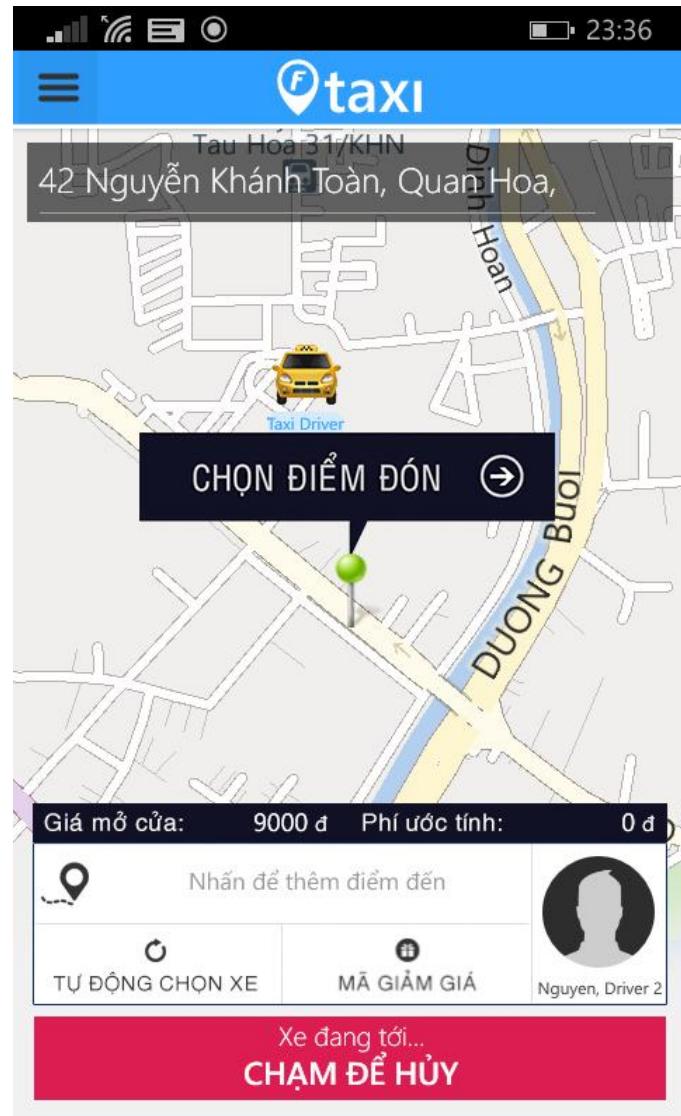
- Step 1: Using your finger to choose types of vehicle. There are up to three types of vehicle services for F-Taxi are: Saving, Economy, Luxury.
- Step 2: Mark your position on the map with a pin. This pin represents where the driver will be expecting to pick you up. You can also manually type in the pickup location on search bar. Once your location is set, tap on “Chọn điểm đón” button.



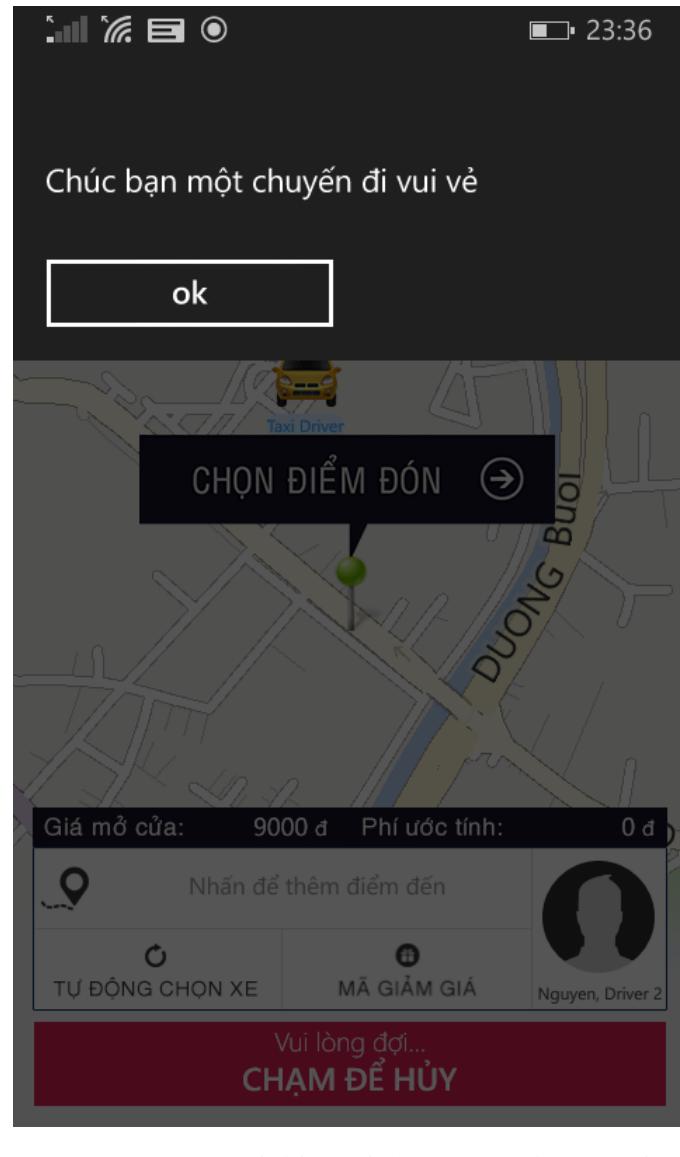
- Step 3: After tap on “Chọn điểm đón” button, show trip bar information. After, you can fill destination on line trip bar. If you have promotion code, tap on “Mã giảm giá”, F-Taxi will show the screen for you enter promotion code. Then, Tap on “Yêu cầu Taxi” button. (Tap on “Đóng” for new pick up address )



- Step 4: After tap on “Yêu cầu Taxi” button. Waiting Driver accept your request. You can tap on “Chạm để hủy” for cancel this request if you change your decision.



- Step 5: After Driver accept your request. You stand right your position and waiting car is coming.



- Step 6: Taxi driver pick you up and start a trip.

11:54

## HOÀN THÀNH CHUYẾN ĐI

 Nguyen Driver 2 

 0913098675

 118 Nguyen Khanh Toan, Quan Hoa, Cau Giay, Ha Noi

 30 Kim Ma, Ba Dinh, Ha Noi

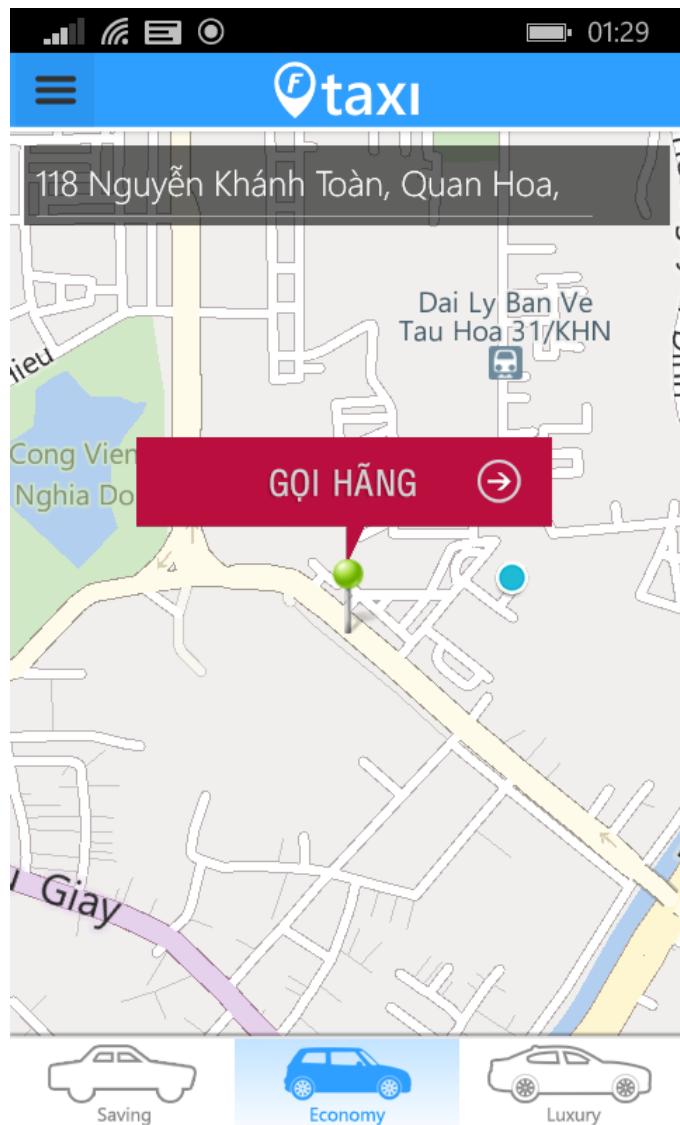
Quãng đường (km)	11.2
Tổng phí (đ)	125.000
Khuyến mại (đ)	0.0
Thanh toán (đ)	125.000

Đánh giá chuyến đi 

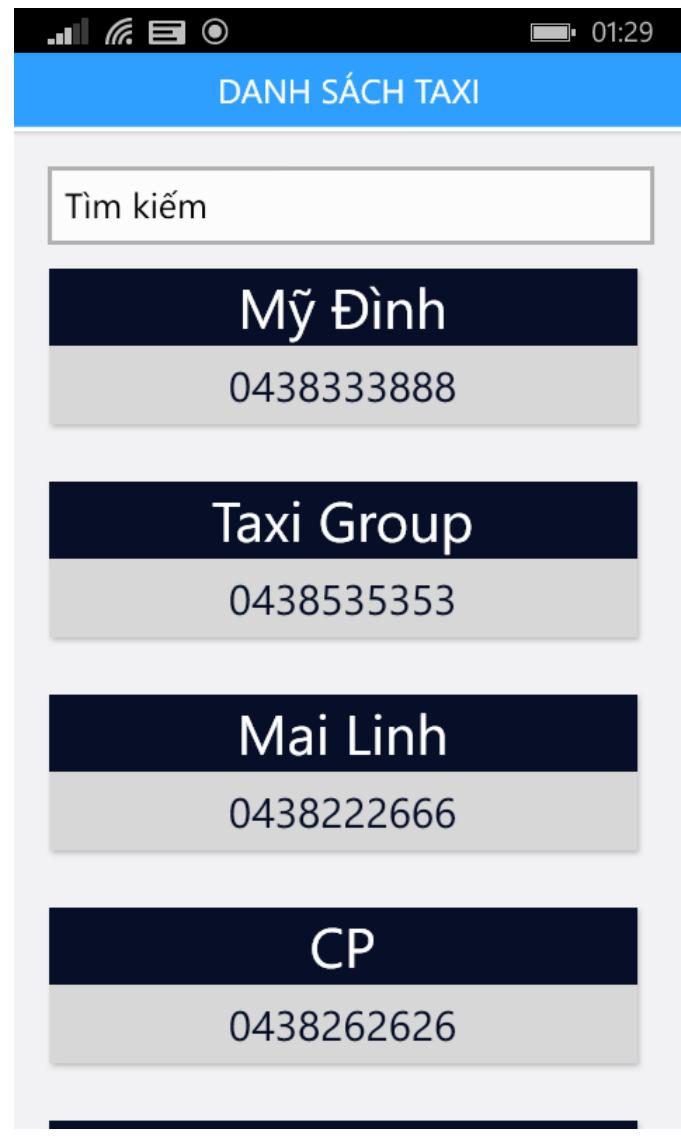
**XÁC NHẬN**

- Step 7: After finished a trip. Bill detail screen show up and pay your trip with cash. You can rate this trip from 1 to 5 star. Tap on "Đóng" button for back home page screen.

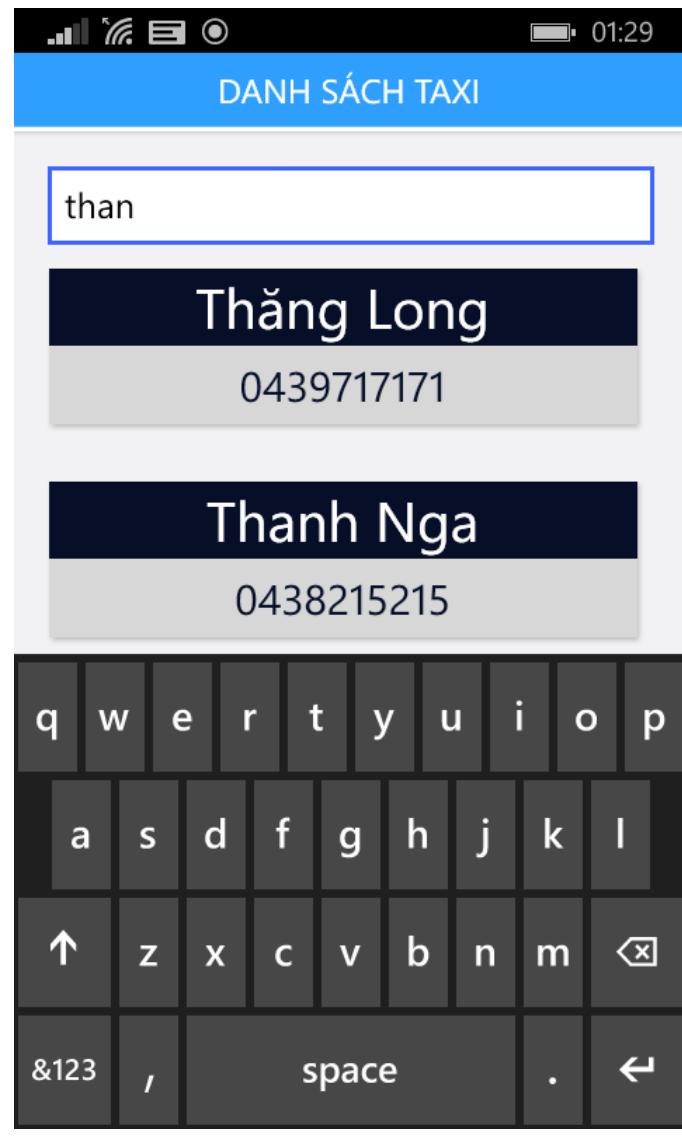
#### 6.2.2.2.1 Call taxi center if no taxi around



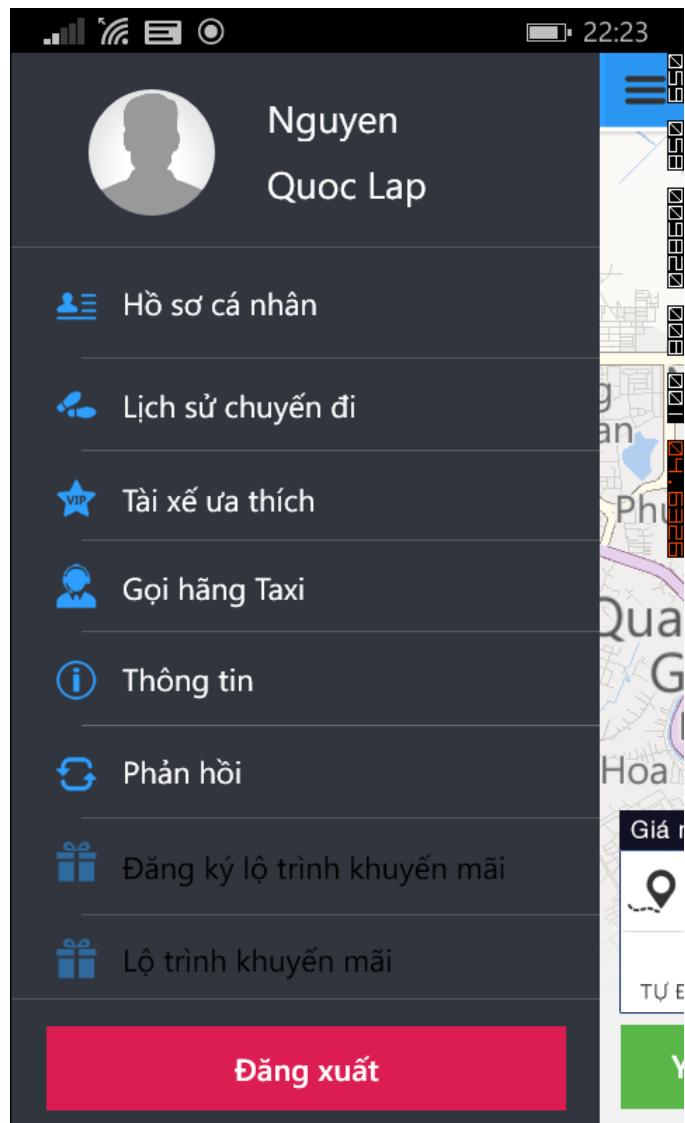
- Step 1: Tap on red “Gọi hãng” button for move to list taxi companies screen.



- Step 2: Tap on any taxi company for calling taxi center.
- Or enter character and tap on like :



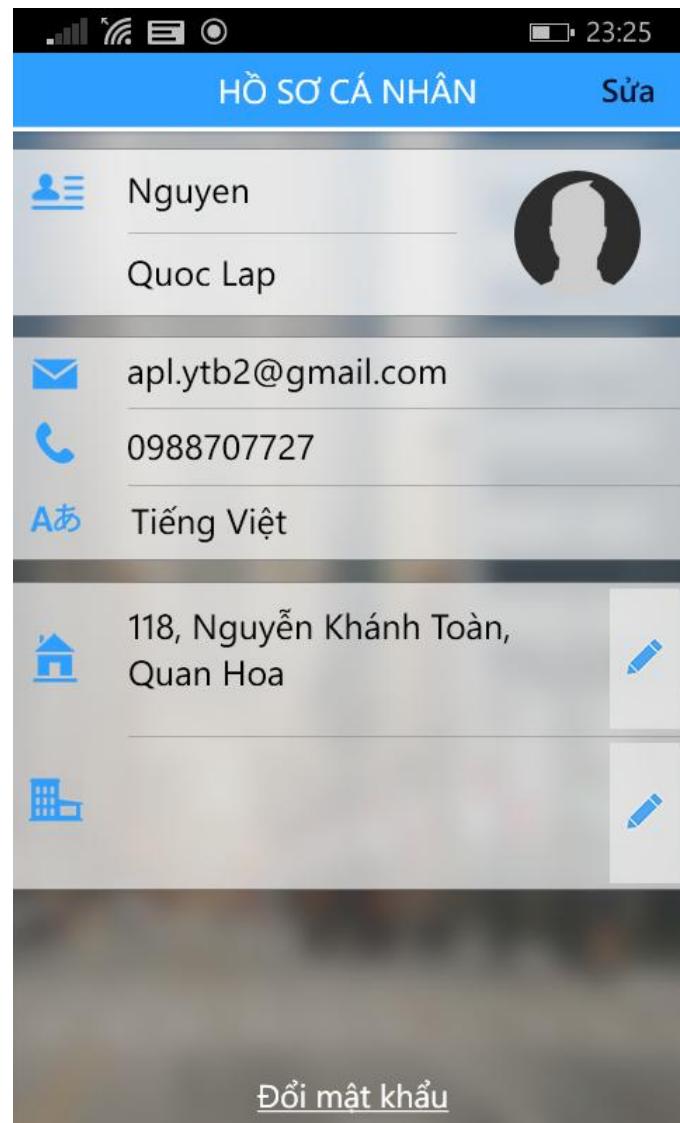
### 6.2.2.3 Left Menu



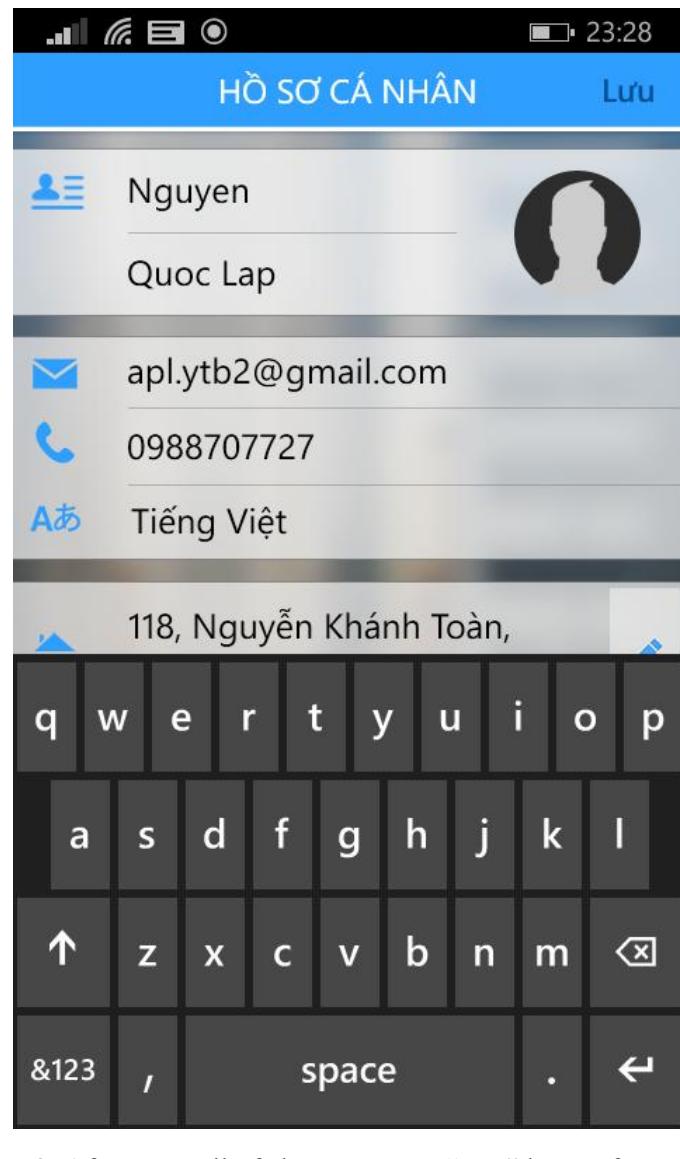
- You can tap on :

- Avatar, Name or “Hồ sơ cá nhân” for view profile page screen.
- “Lịch sử chuyến đi” for view history trip page screen.
- “Tài xế ưa thích” for view favorite Driver page screen.
- “Thông tin” for view application information.
  - “Phản hồi” for send feedback application.
  - “Đăng xuất” button for logout application.

#### 6.2.2.3.1 Update Profile

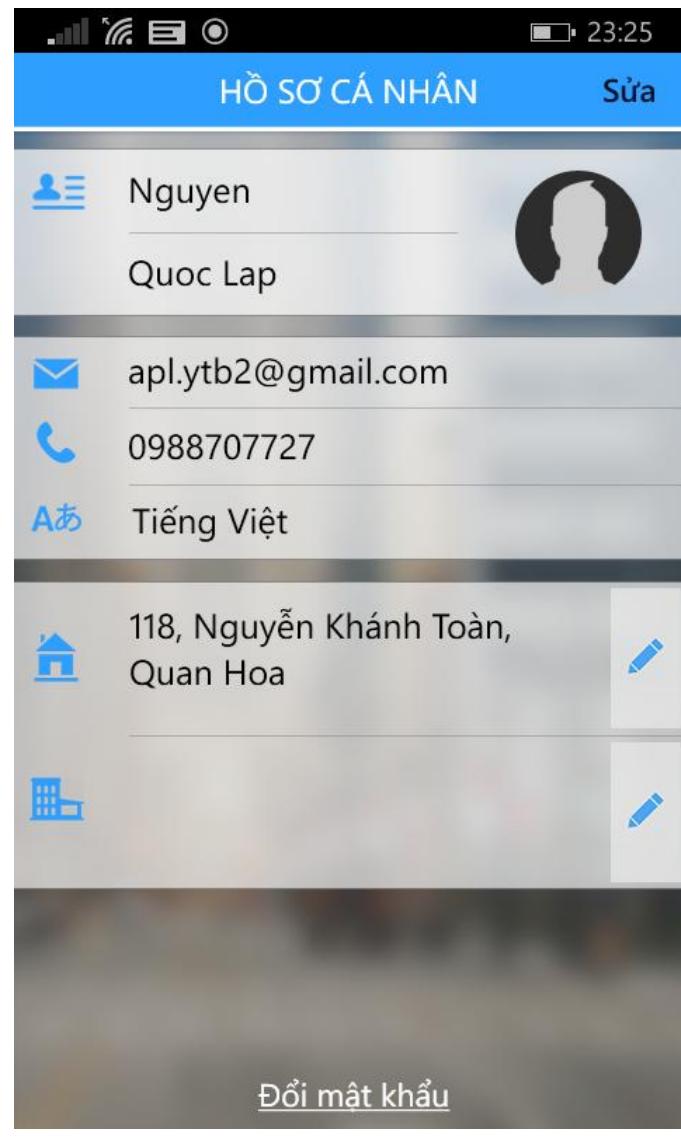


- Step 1: Tap on “Sửa” button on top right, and you enter new profile.



- Step 2: After enter all of change, tap on “Lưu” button for update profile.

**Update Address:**

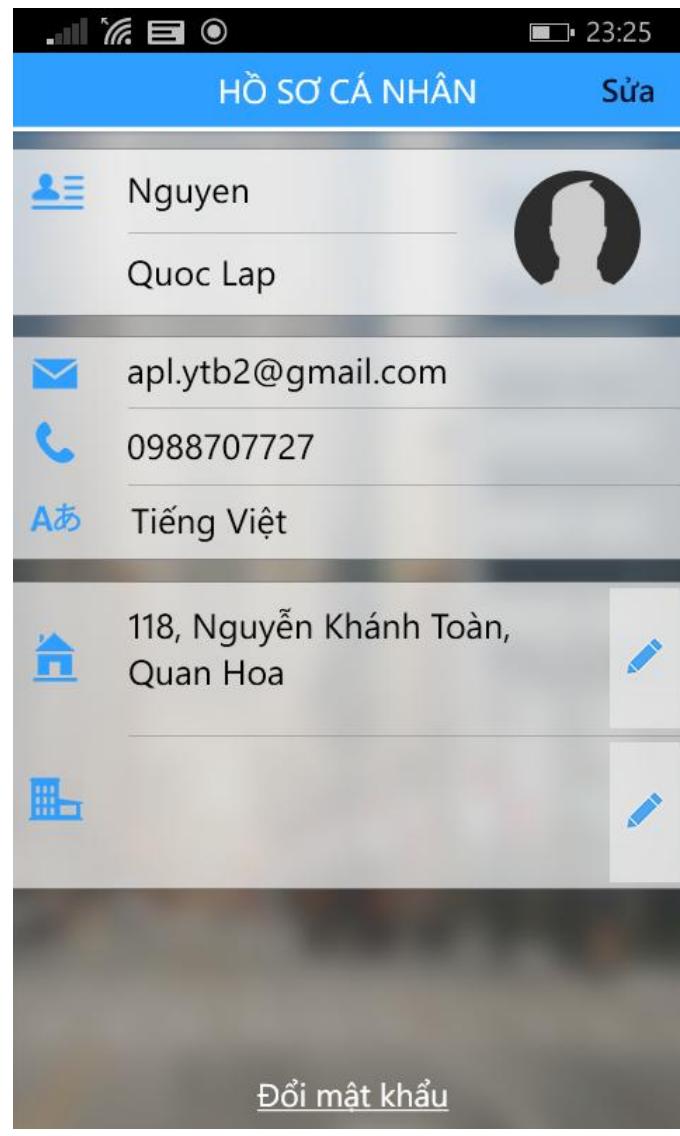


- Step 1: Tap on pen icon , side by address for move to address page.

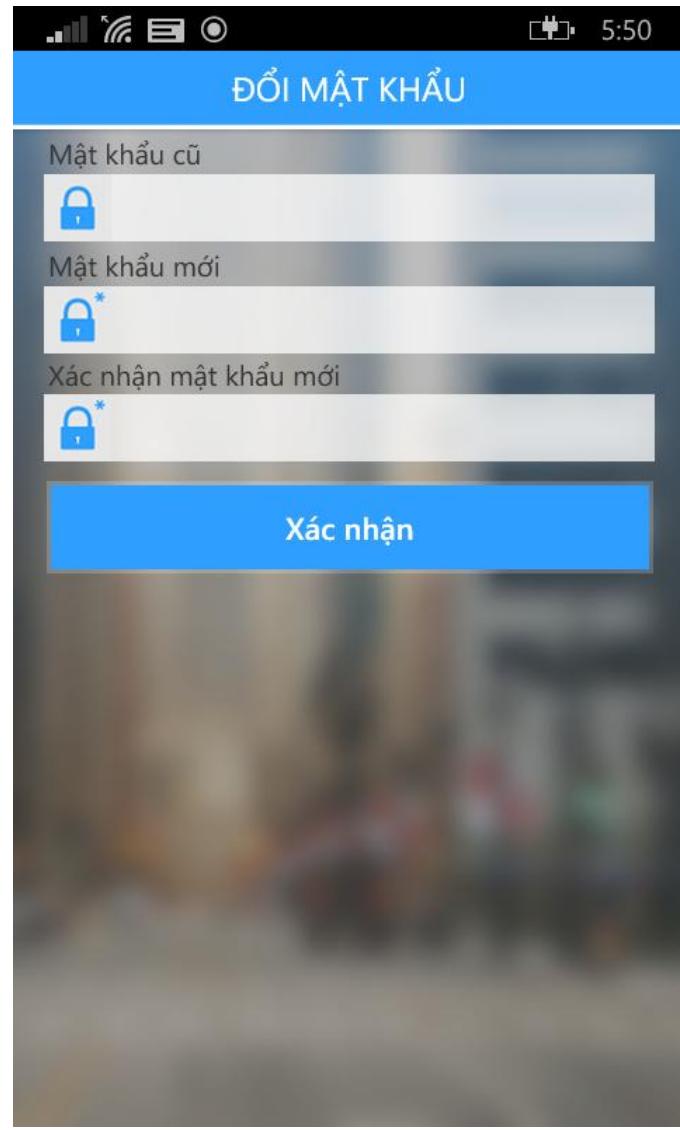


- Step 2: Enter your address and tap on “Luu lại” button for update change address.

**Change Password:**

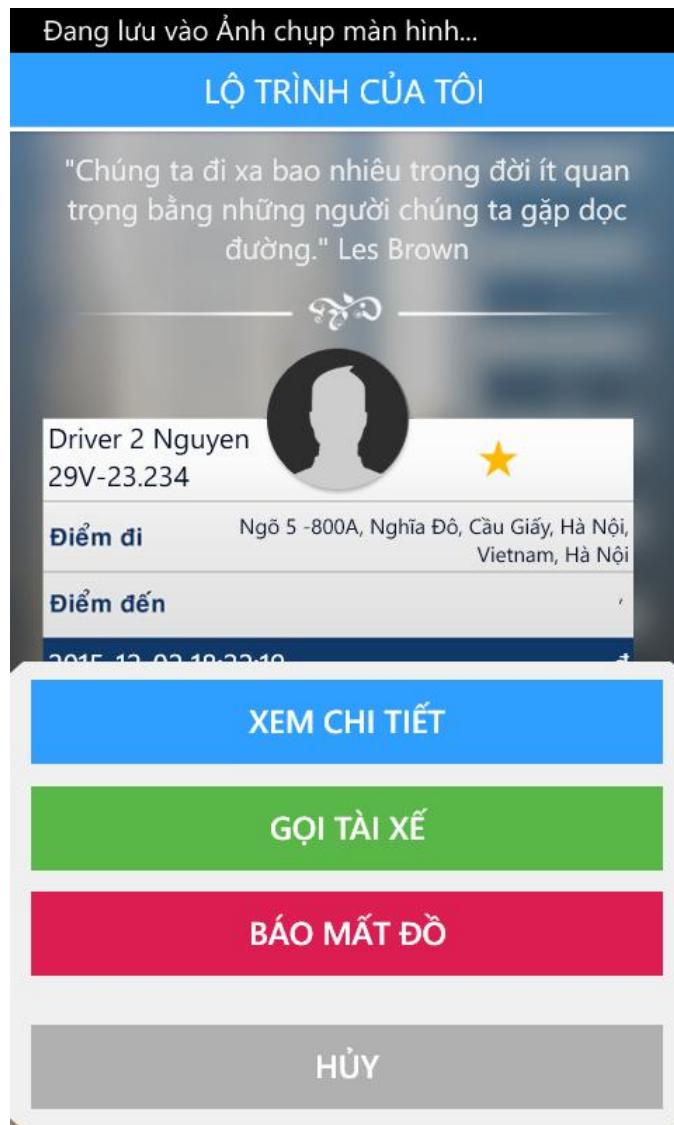


- Step 1: Tap on “Đổi mật khẩu” text for move change password page.



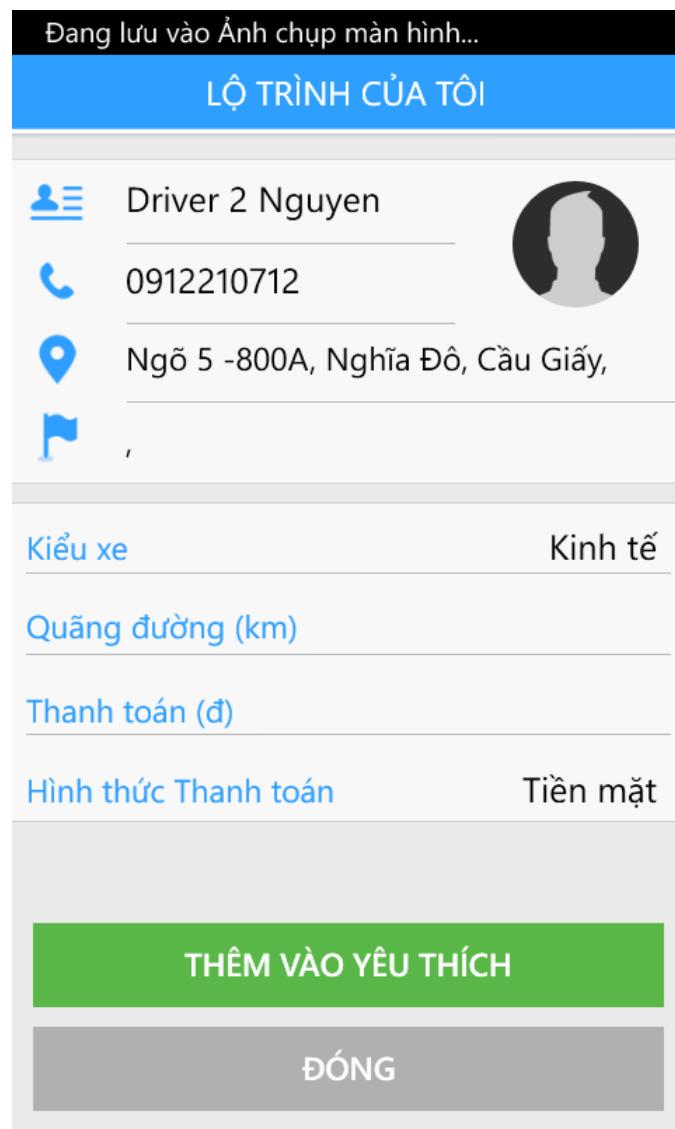
- Step 2: Fill all field and tap on “Xác nhận” button for change password.

#### 6.2.2.3.2 View History Trip



- Step 2: you can tap on :
  - o Tap on “Xem chi tiết” button for view detail trip.
  - o Tap on “Gọi tài xế” button for call taxi driver.
  - o Tap on “Báo mất đồ” button for send notification lost asset.
  - o Tap on “Hủy” button for back to view list history trip.

### Detail Trip



- View detail trip.
- Tap on “Thêm vào yêu thích” button for add favorite driver. Or tap on “Đóng” for close detail trip.

### Find Lost Asset



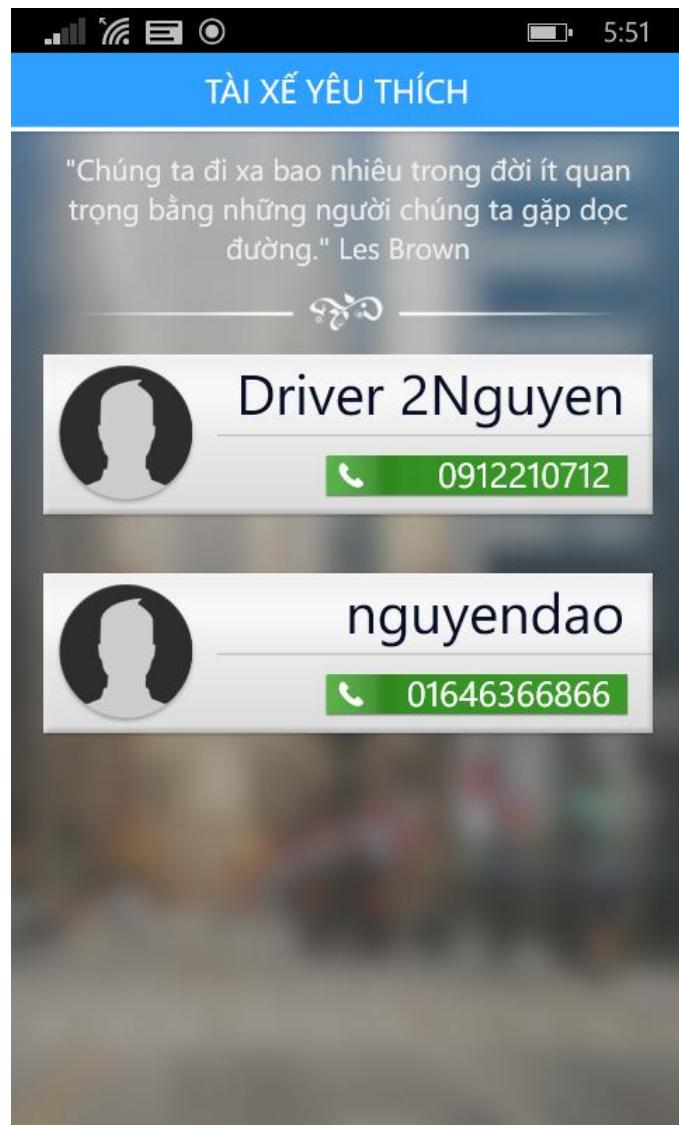
## BÁO MẤT ĐỒ

Nếu bạn để quên tư trang của mình trong quá trình thực hiện chuyến đi, vui lòng phản hồi về cho chúng tôi. Cảm ơn bạn đã hợp tác.

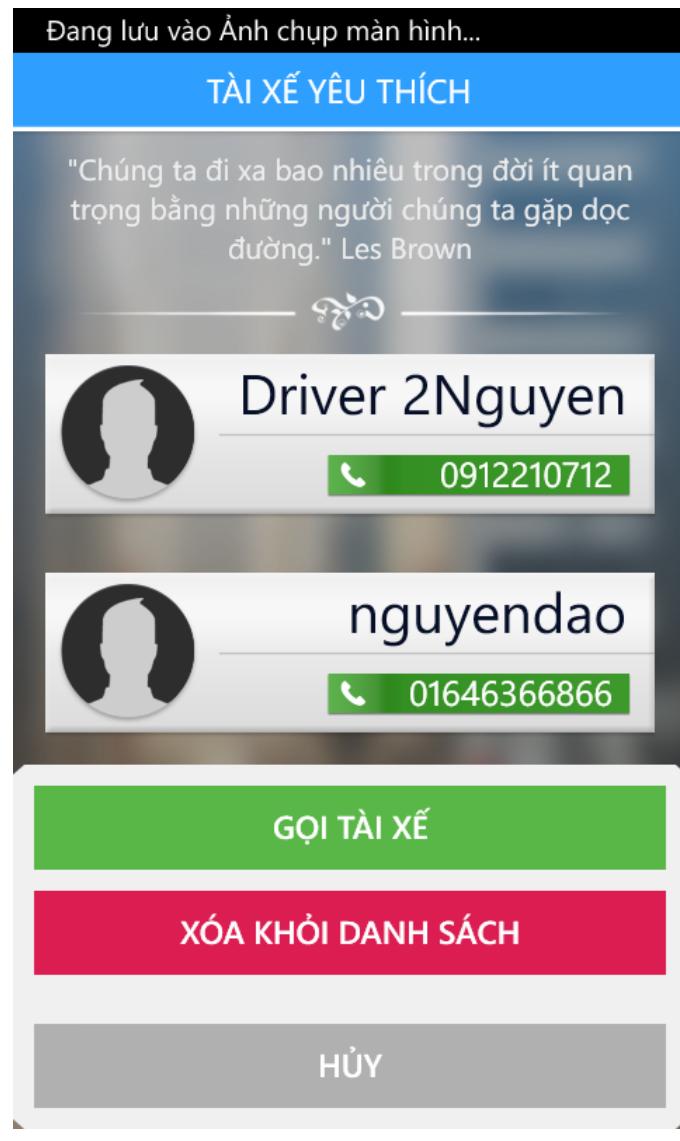
GỬI

- Enter text field and tap on “Gửi” button.

#### 6.2.2.3.3 View Favorite Driver

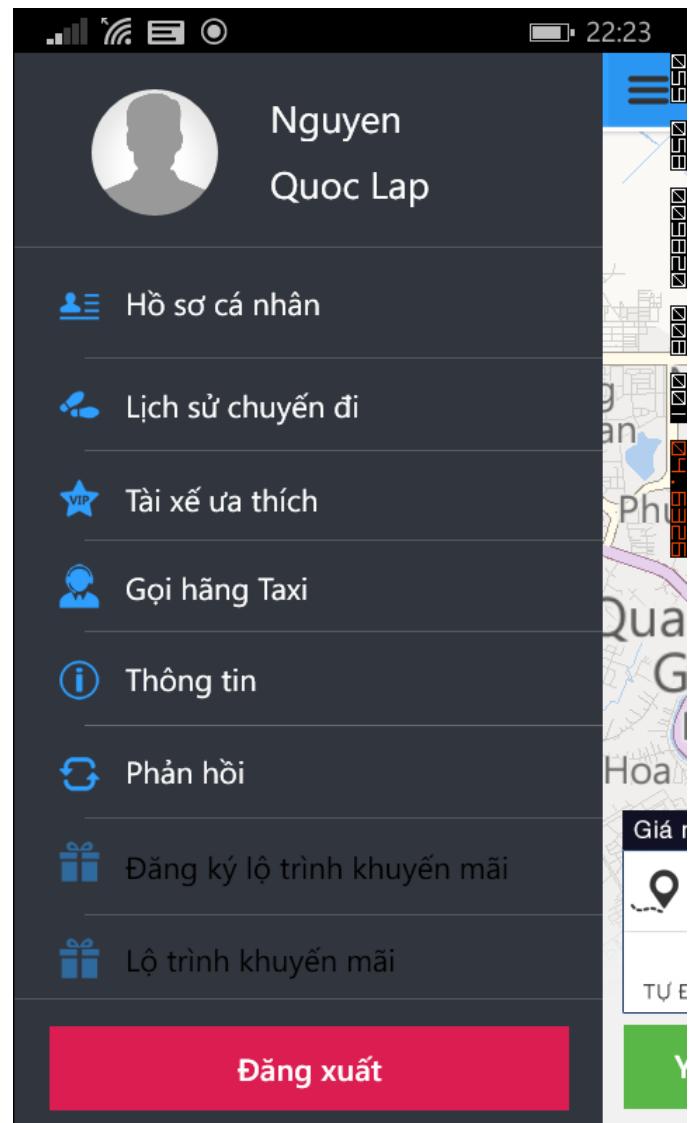


- Step 1: Tap on one of your Favorite Driver



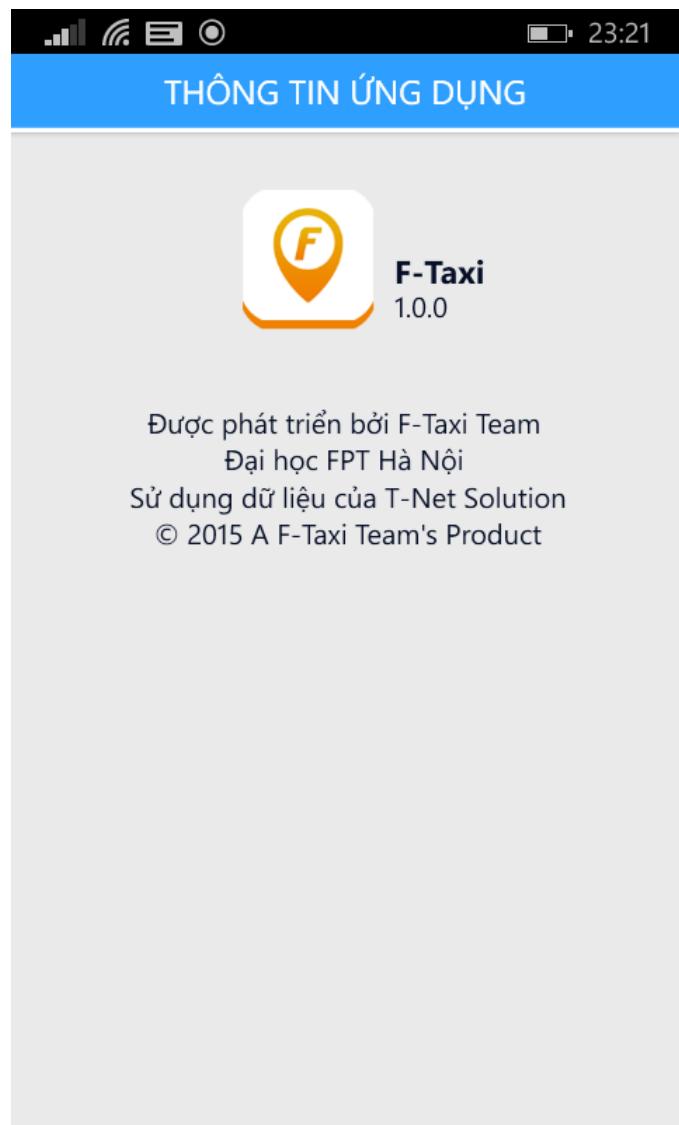
- Step 2: You can tap on :
  - o “Gọi tài xế” button for calling driver instance.
  - o “Xóa khỏi danh sách” button for delete favorite driver.
  - o “Hủy” for back to list favorite driver.

#### 6.2.2.3.4 Log out application



- Step 1: Tap on “Đăng xuất” button on menu bar.
- Step 2: Tap on “Có” button.

#### 6.2.2.3.5 About Us



- Tap on “Thông tin” and view about us information

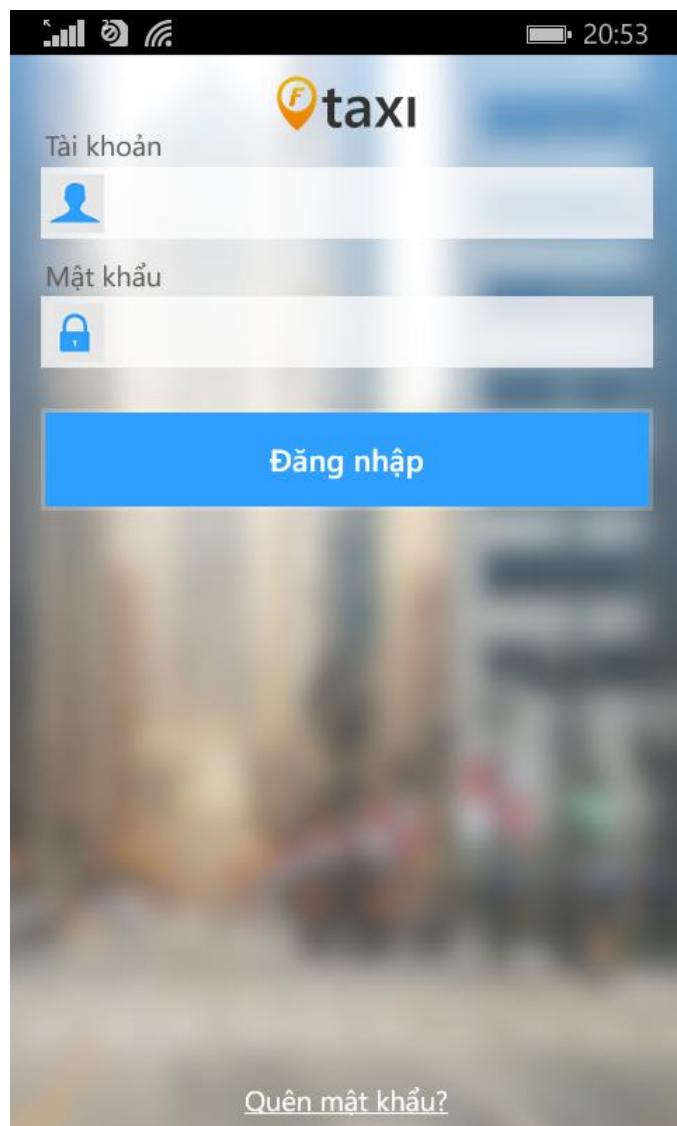
#### 6.2.2.3.6 Feedback



- Enter “Tiêu đề” and “Nội dung” text field, then tap on “Gửi phản hồi” button.

### 6.2.3 Driver

#### 6.2.3.1 Login to application

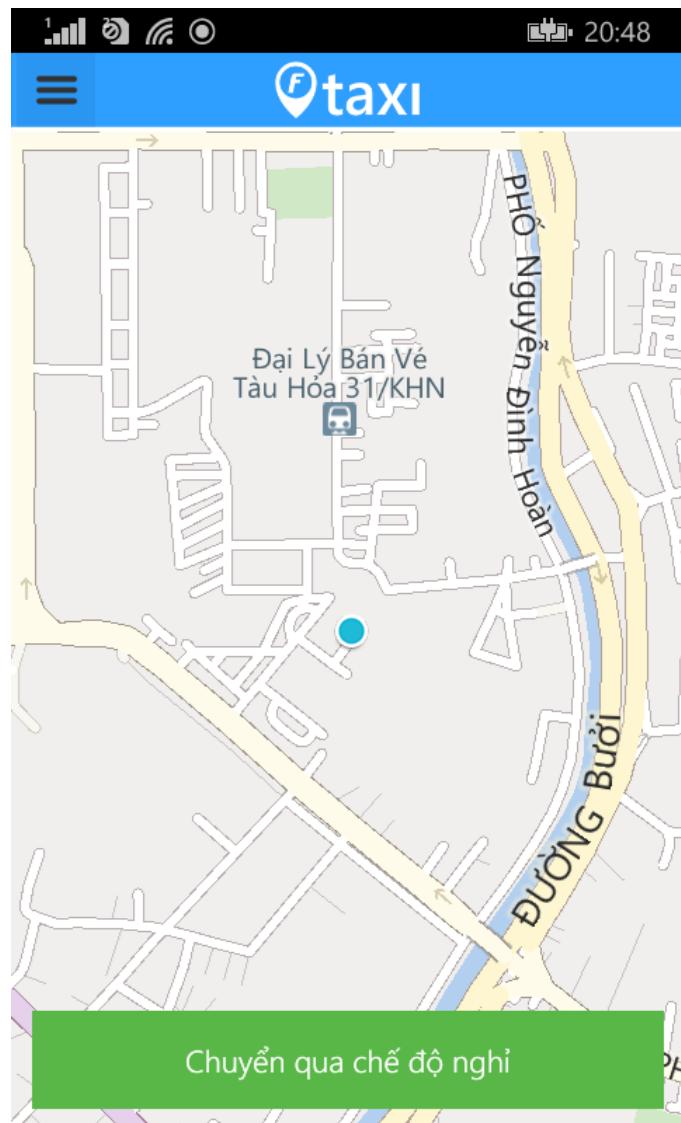


- Step 1: Fill your account on field.
- Step 2: Tap on “Đăng nhập” button.



- Step 3: Choose your car.

### 6.2.3.2 Change Status

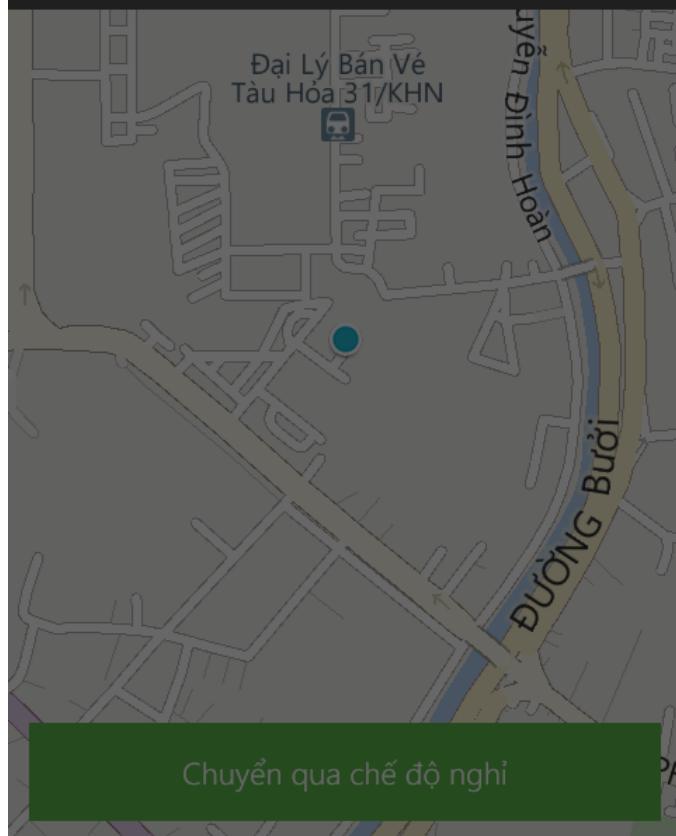


- Step 1: Tap on “Chuyển qua chế độ nghỉ” button.

Bạn có chắc là bạn muốn đổi trạng thái không?

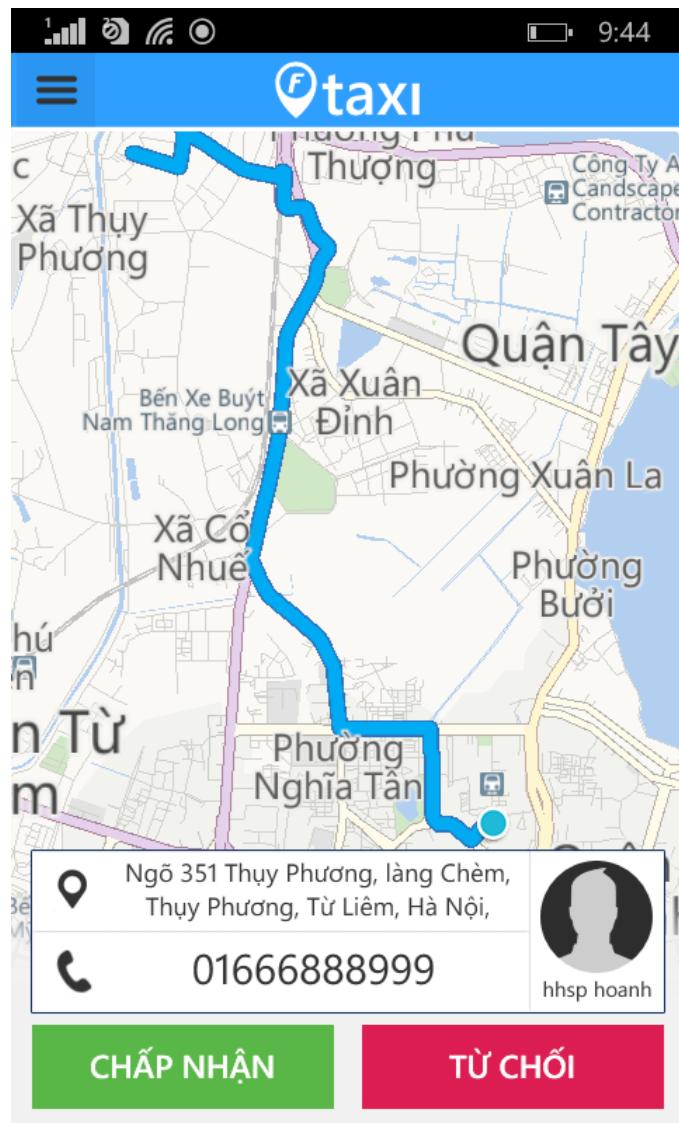
Có

Không

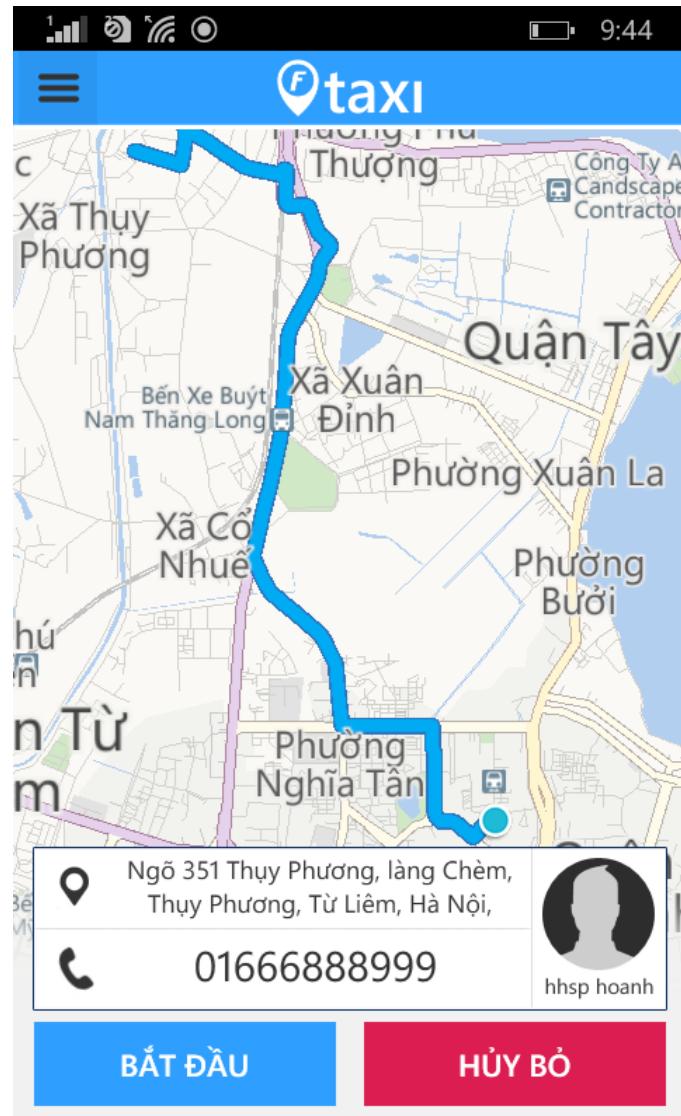


- Step 2: Tap on “Có” button.

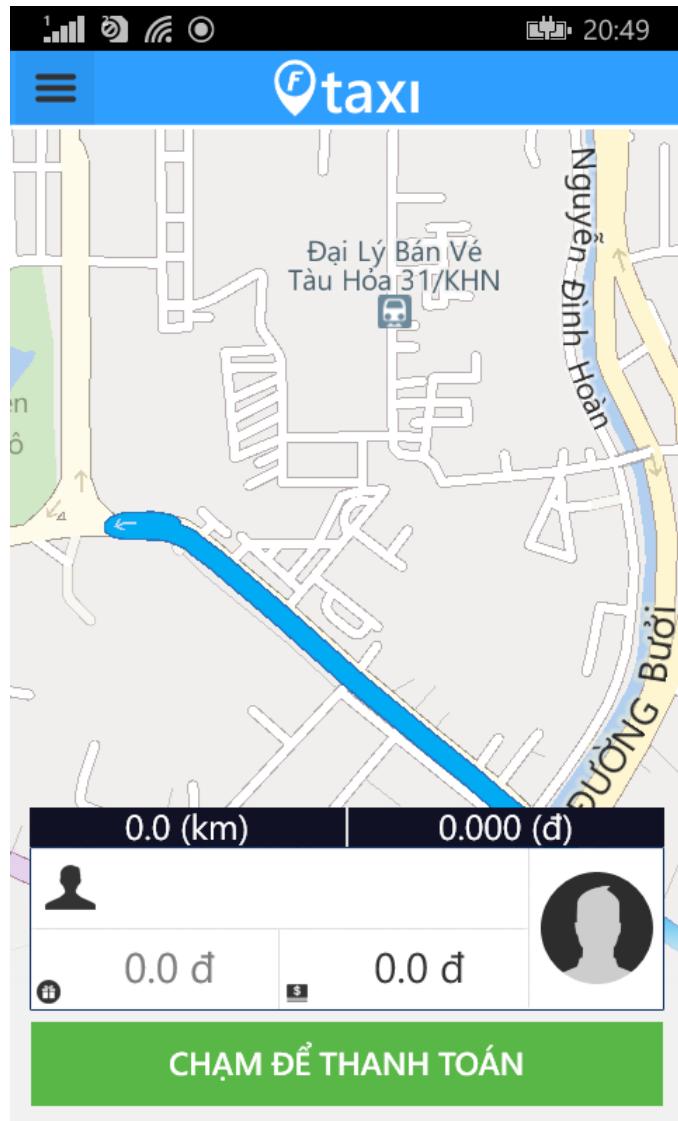
### 6.2.3.3 Take a trip with Customer request



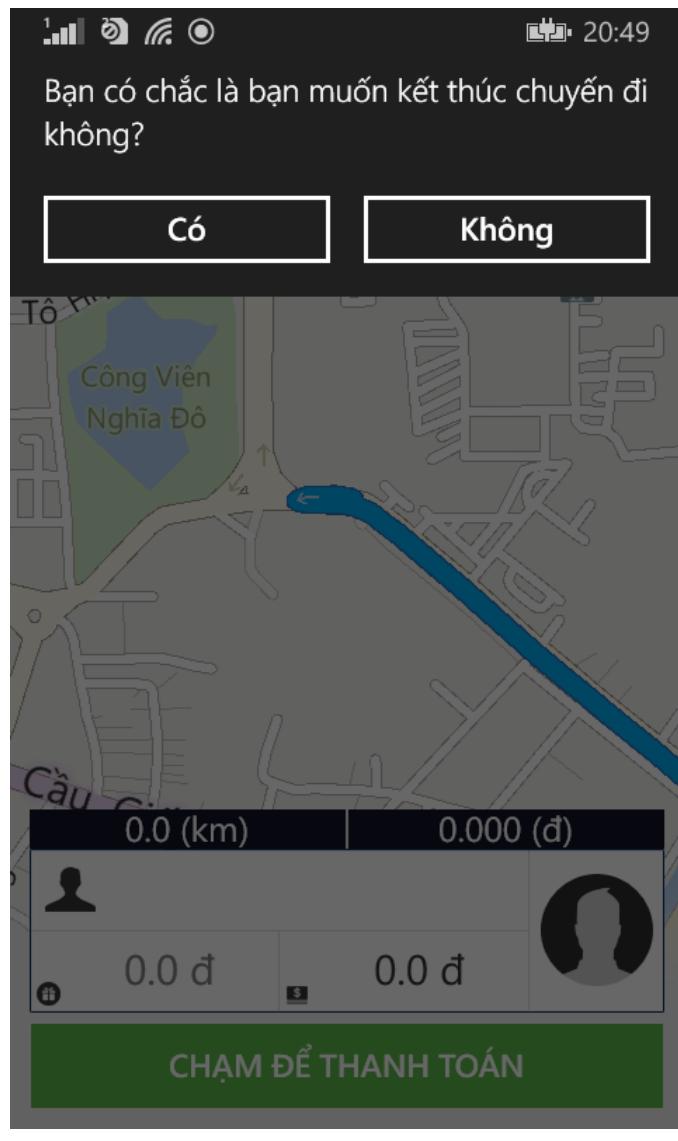
- Step 1: After received Customer request, tap on “Chấp nhận” button. And drive taxi to pick up address.



- Step 2: After pick up your customer. Tap on “Bắt đầu” button for start a trip



- Step 3: After finished trip. Tap on “Chạm để thanh toán” for show bill detail.



- F-Taxi will ask you want finished trip yes or not.



## THÔNG TIN THANH TOÁN



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Vietnam



Ngách 58/63, Quan Hoa, Cầu Giấy, Hà Nội,  
Vietnam

Quãng đường (km) 0

Tổng phí (đ) 0

Khuyến mại (đ) 0.0

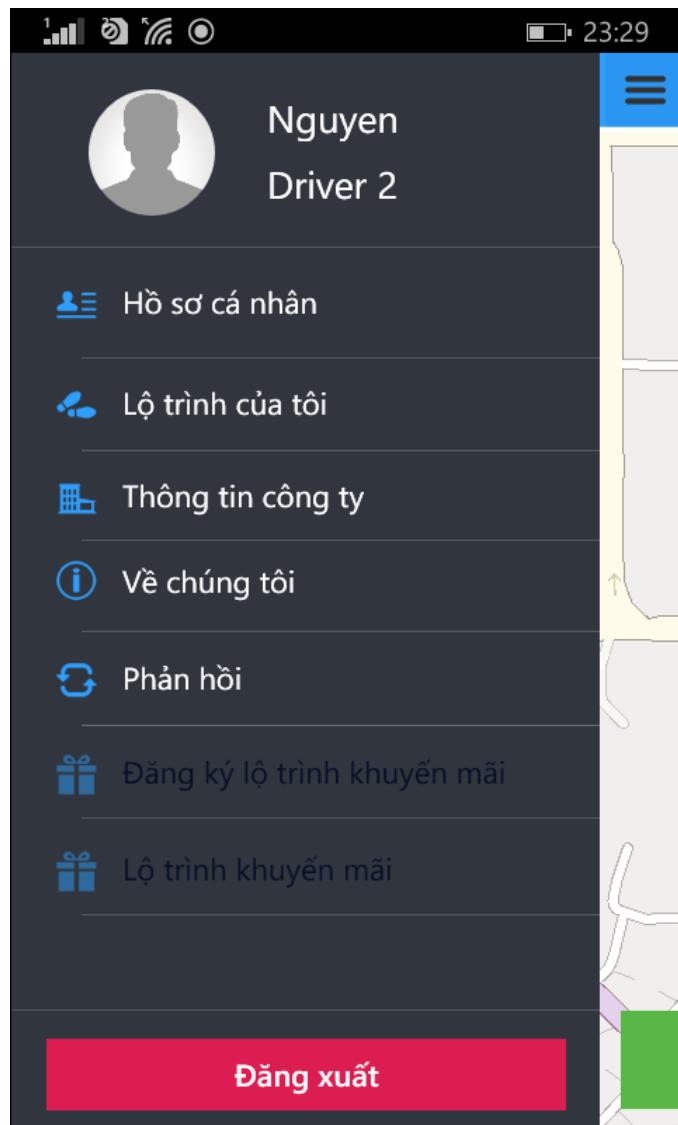
Thanh toán (đ) 0

Hình thức Thanh toán Tiền mặt

**THANH TOÁN**

- Step 4: Receive cash from customer and tap on “Thanh toán” for end this trip.

#### 6.2.3.4 Left Menu

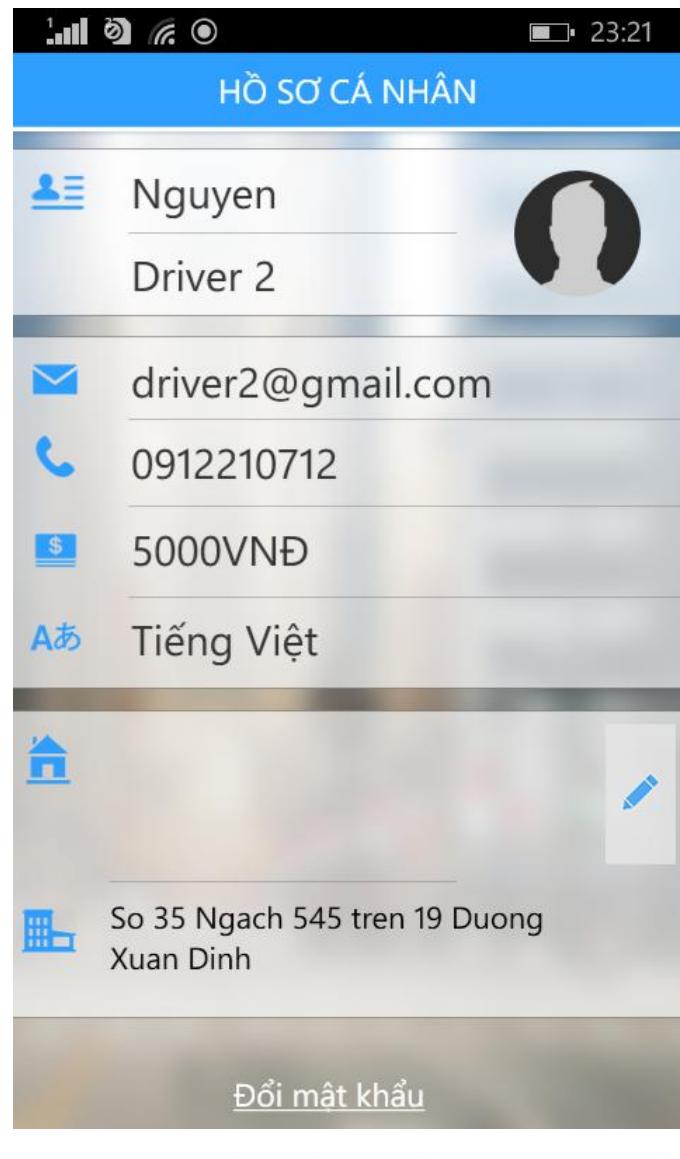


- You can tap on :

- o Avatar, Name or “Hồ sơ cá nhân” for view profile page screen.
- o “Lịch sử chuyến đi” for view history trip page screen.
- o “Thông tin công ty” for view company information.
- o “Về chúng tôi” for application information.
- o “Phản hồi” for send feedback application.
- o “Đăng xuất” button for logout application.

##### 6.2.3.4.1 Update Profile

**Update Address:**



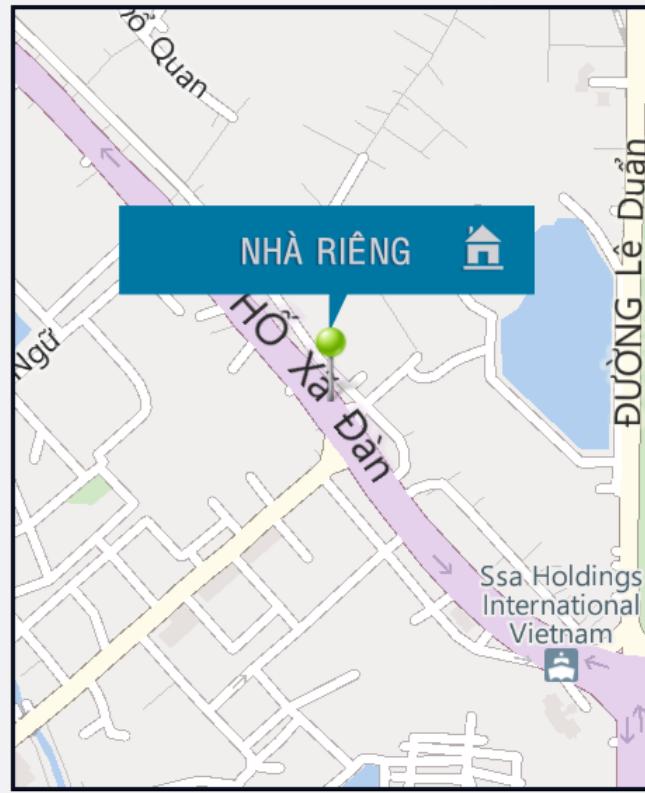
- Step 1: Tap on pen icon , side by address for move to address page.



X ĐỊA CHỈ NHÀ RIÊNG Lưu

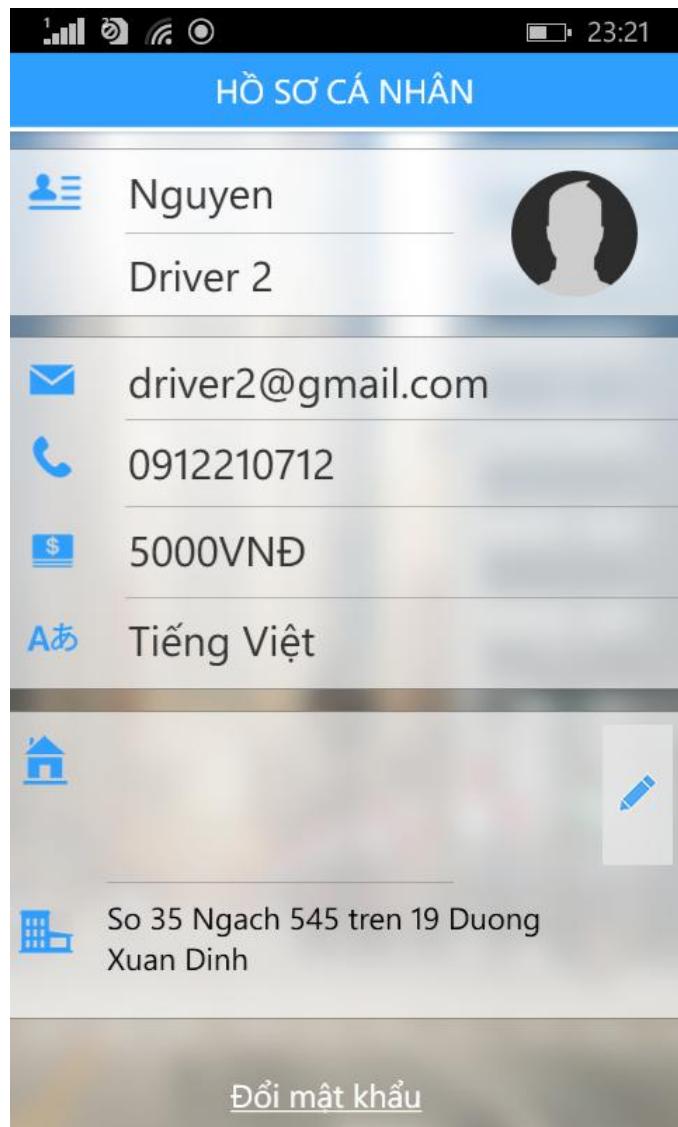
Nhập địa chỉ

234, Xã Đàn, Phương Liên

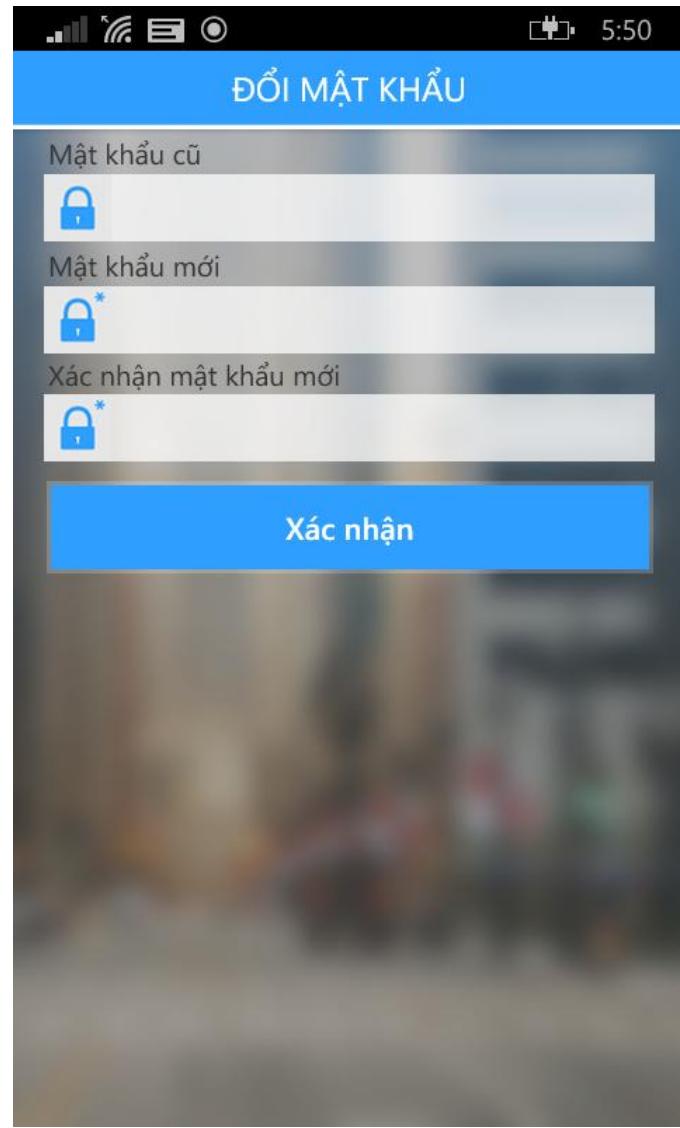


- Step 2: Enter your address and tap on “Lưu lại” button for update change address.

**Change Password:**



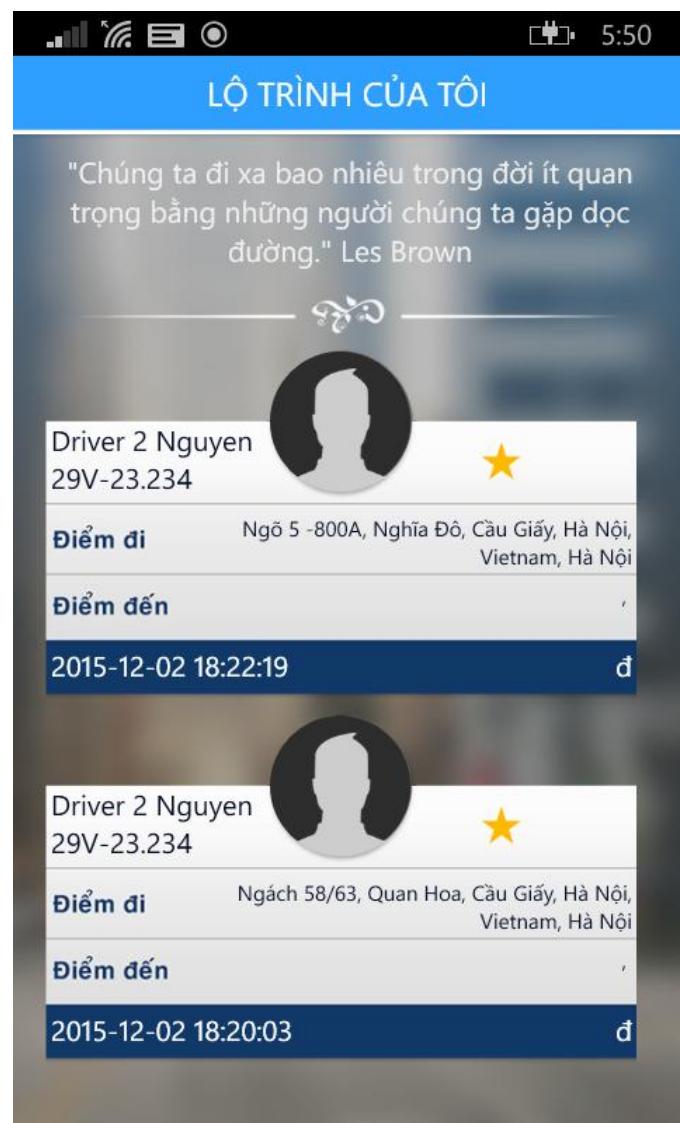
- Step 1: Tap on “Đổi mật khẩu” text for move change password page.



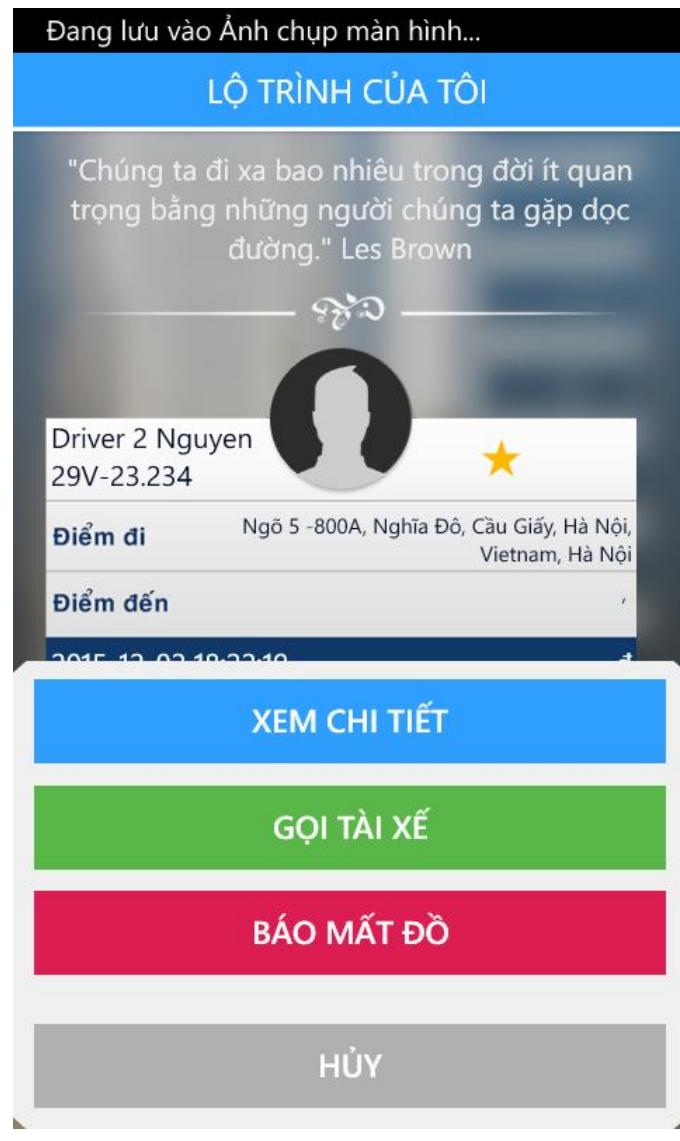
- Step 2: Fill all field and tap on “Xác nhận” button for change password.

#### 6.2.3.4.2 View Company Information

#### 6.2.3.4.3 View History Trip



- Step 1: Tap on trip you want.



- Step 2: you can tap on :
  - Tap on “Xem chi tiết” button for view detail trip.
  - Tap on “Báo mất đồ” button for send notification lost asset.
  - Tap on “Hủy” button for back to view list history trip.

## Detail Trip

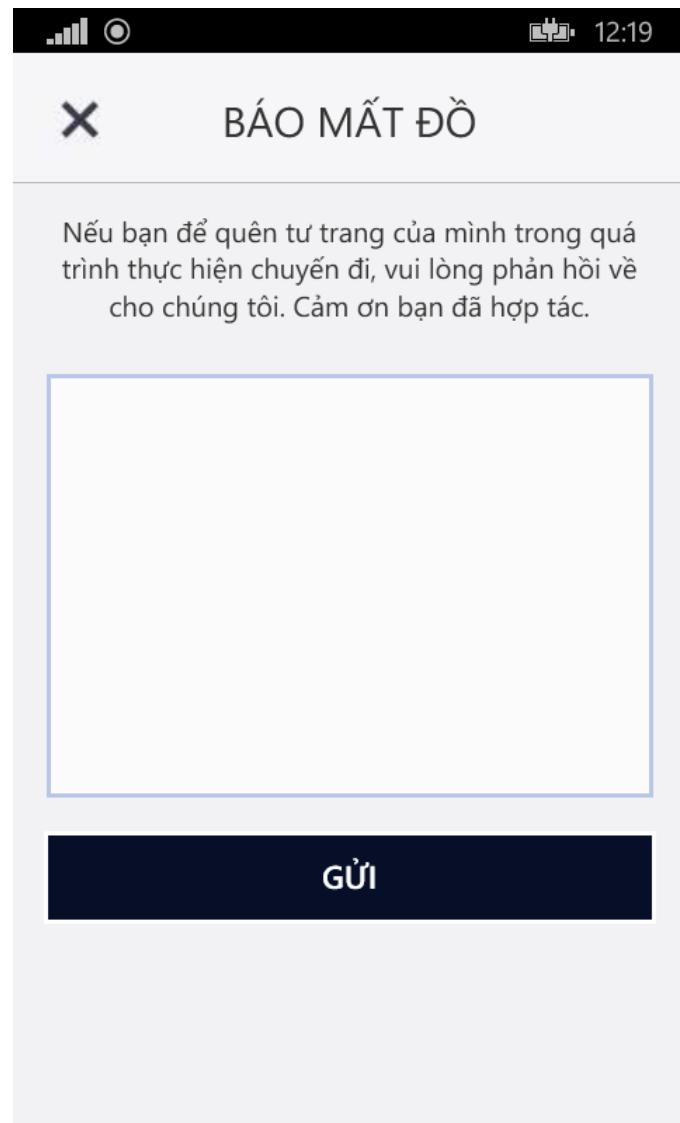
23:37

### THÔNG TIN THANH TOÁN

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	0988707727	
	Ngách 92/8, Quan Hoa, Cầu Giấy, Hà Nội, Vietnam	
	Ngách 58/63, Quan Hoa, Cầu Giấy, Hà Nội, Vietnam	
Quãng đường (km)	0	
Tổng phí (đ)	0	
Khuyến mại (đ)	0.0	
Thanh toán (đ)	0	
Hình thức Thanh toán	Tiền mặt	
<b>THANH TOÁN</b>		

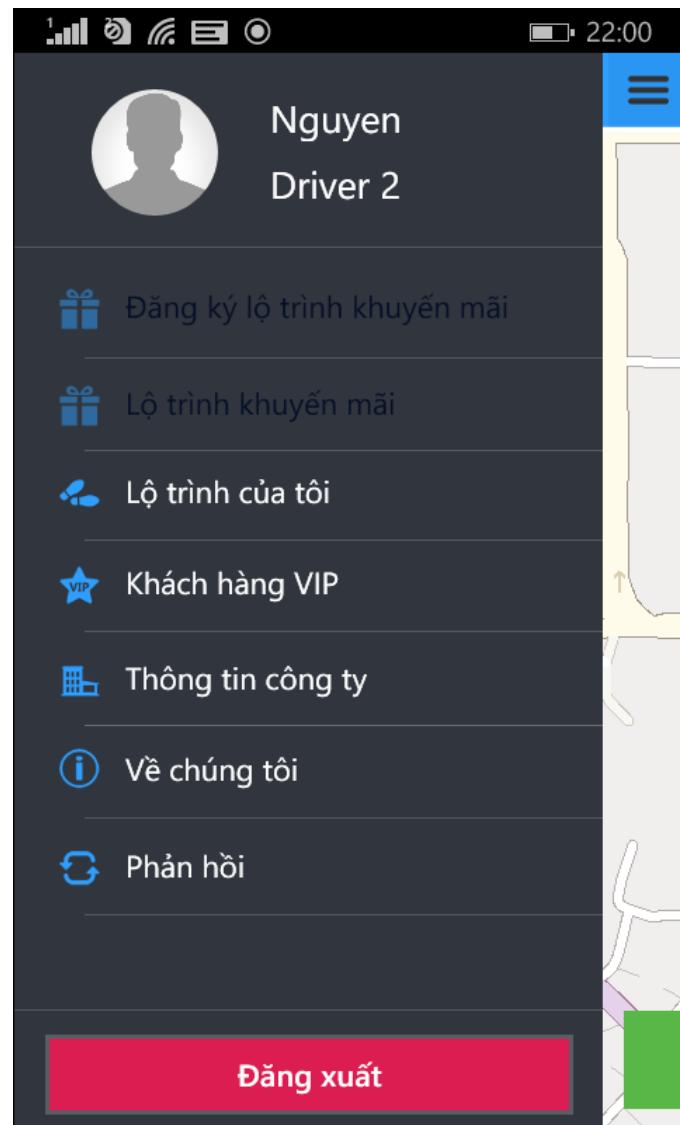
- View detail trip.
- Tap on “Đóng” for close detail trip.

## Notify Lost Asset



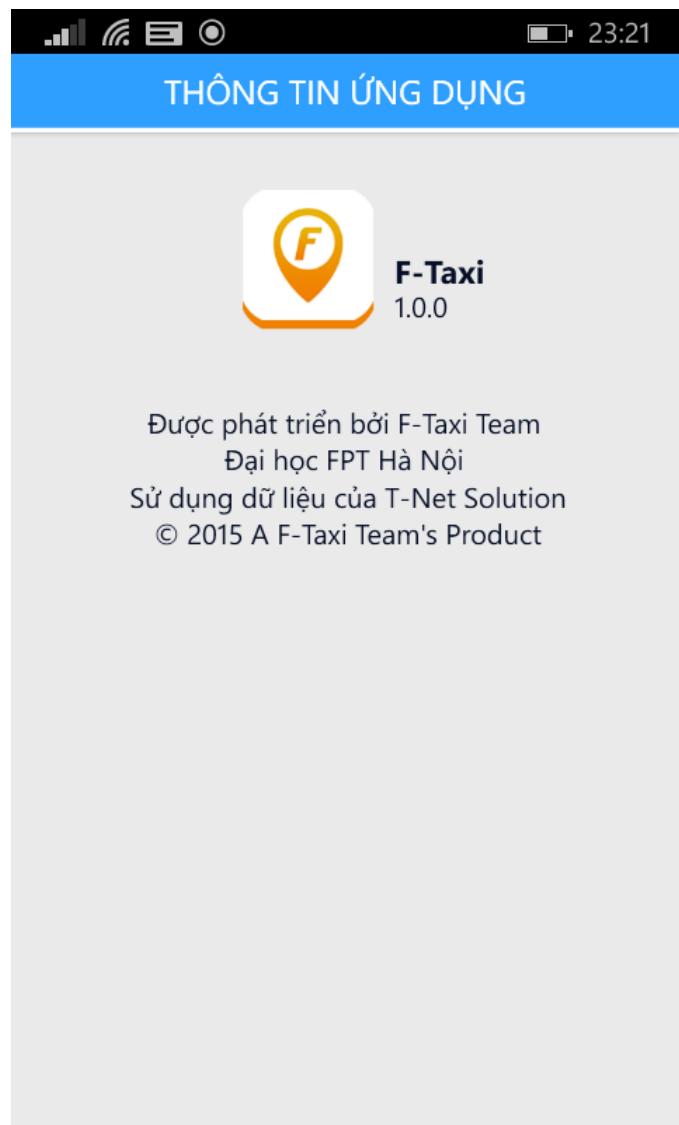
- Enter text field and tap on “Gửi” button.

#### 6.2.3.4.4 Log out application



- Step 1: Tap on “Đăng xuất” button on menu bar.
- Step 2: Tap on “Có” button.

#### 6.2.3.4.5 About Us



- Tap on “Thông tin” and view about us information

## **REFERENCE**

### ***Software Project Management***

- [1]. Template Template\_Project\_Plan, (2010), FPT University, Hanoi, Vietnam.
- [2]. Ian Sommerville, Software Engineering, 8th edition, (2007), USA.
- [3]. Kathy Schwalbe, Managing Information Technology Projects, 6th edition, Cengage Learning, (2009), Canada.
- [4]. <http://se.inf.ethz.ch/old/teaching/.../CSharpCodingStandards.pdf>.
- [5]. <http://msdn.microsoft.com/en-us/library/ff926074.aspx>

### ***Software Requirement Specification***

- [6]. Template Software\_Requirements\_Specification, (2010), FPT Software, Hanoi, Vietnam.

### ***Software Design Description***

- [7]. Template Software\_Design\_Template, (2010), FPT Software, Hanoi, Vietnam.
- [8]. Internal\_Design\_Template, FPT Software, Hanoi, Vietnam.
- [9]. Kai Qian, Software Architecture and Design Illuminated, Jones & Bartlett Learning, (2010), USA.

### ***Software Test Documentation***

- [10]. Templates for Test case & Defect log, FPT Software, Hanoi, Vietnam.