Requirement Analysis and Specification Document

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October 29, 2015

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Chapter 1

Introduction

1.1 Description of the problem

We will design and implement myTaxiService, a new web and mobile app to optimize the taxi service in big cities. It should simplify the access of passengers to the service and guarantee a fair management of taxi queues.

The users will have to register and login in order to use the application, then they can request a taxi and be informed about the code of the incoming taxi and the waiting time.

We suppose the city is divided in zones and every one of them has a queue of available taxis present in the zone, whose position is calculated according to GPS. After a request arrives, the system informs the first taxi in the queue of the zone from which the request came. If the taxi accept the request, the system sends the confirmation to the user. If not, the system will put it at the end of the queue and forward the request to the next available taxi.

To accept ride requests, taxi drivers will have to login through the mobile app like normal users. Then they can set themselves as available and receive ride requests.

A user can also reserve a taxi by inserting origin, destination and time of the ride. The request must be submitted at least two hours before. The system will allocate a taxi and notify the user 10 minutes before the ride.

1.2 Actors

- Guest: the guests are users who are not registered yet. They must sign themselves up into the system in order to use the features available to registered users.
- Registered user: this type of user, after successful login, has access to all the features of the application as a customer. They can request rides, be

them simple or detailed, and receive notifications after a ride has been confirmed.

- Driver: they have the functionalities of both customer and worker, so they can set themselves as available and so can be notified when a new ride request arrives, but can also use the application as a registered user when they are not working.

1.3 Goals

myTaxiService should have these features:

- Guests should be able to:
  - [G1] Register themselves into the system
- Users should be able to:
  - [G2] Log into the system
  - [G3] See number of available taxis of the zone he's in
  - [G4] Make a request for a simple ride
  - [G5] Make a request for a detailed ride
  - [G6] Read the confirmation of the request
- Drivers should be able to:
  - [G7] Log into the system
  - [G8] Set themselves as available
  - [G9] Read and accept ride requests
- The system should:
  - [G10] Notify passengers after the confirmation of a normal request
  - [G11] Notify passengers 10 minutes before the ride reserved through a detailed request
  - [G12] Forward requests to the first taxi in queue
  - [G13] After 30 seconds, forward the request to the second taxi in queue and put the first at the end

1.4 Definitions, acronyms, abbreviations

1.4.1 Definitions

1.4.2 Acronyms

1.4.3 Abbreviations

- [Gn]: n-goal.

1.5 Reference Documents

- Specification document: Assignments 1 and 2 (RASD and DD).pdf
- IEEE Standard For Requirement Specification.pdf

1.6 Document overview

This document is essentially structured in four part:

- Section 1: Introduction, it gives a description of document and some basical information about software.
- Section 2: Overall Description, gives general information about the software product with more focus about constraints and assumptions.
- Section 3: Specific Requirements, this part list requirements, typical scenarios and use cases. To give an easy way to understand all funcionality of this software, this section is filled with UML diagrams.
- Section 4: Appendix, this part contains some information about the attached .als file and some described screenshot of software used to generate it.