myTaxiService
Requirements Analysis and Specification Document

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Contents

Chapter 1

Introduction

1.1 Purpose

This document represent the Requirement Analysis and Specication Document (RASD). The main goal of this document is to completely describe the system in terms of functional and non-functional requirements, analyse the real need of the customer to modelling the system, show the constraints and the limit of the software and simulate the typical use cases that will occur after the development. This document is intended to all developer and programmer who have to implement the requirements, to system analyst who want to integrate other system with this one, and could be used as a contractual basis between the customer and the developer.

1.2 Scope

The system described in this document is a taxi service for large cities. The main goals of the system are: 1) simplify the access of passangers to the service 2) guarantee a fair management of taxi queues. The system is composed by a web application, a mobile application and a web server.

There are three types of actors that can use the system: visitors, taxi drivers and passengers. Visitors have only two operations allowed: log in or sign in. Passengers can use both the web application and the mobile application to request a taxi. Taxi drivers use only the mobile application to modify their status and to confirm to the system that they are going to take care of a certain request from a certain passenger.

The system, when a passenger request a taxi, informs an available taxi driver (FIFO mode) about the current position of that passenger. At this time the taxi driver has two options:

- accept : the system sends a notification to the passenger with the estimated waiting time

- reject : the system searches for another available taxi driver

The system allows also a passenger to:

- reserve a taxi by specifying the origin and the destination of the ride

- share a taxi with others (if possible) by specifying all the rides that he/she wants to share. In this case the system defines the cost of the ride for each passenger

Besides the specific user interfaces for passengers and taxi drivers, the system offers also APIs to enable the development of additional services on top of the basic one.

1.3 Definitions, Acronyms, Abbreviations

1.3.1 Definitions

- User: person that uses the service applications.

- Visitor: user that has not registered nor logged in.

- Registered user: user that has registered to the service.

- Passenger: passenger registered to the service.

- Taxi driver: taxi driver registered to the service.

- System: the union of software and hardware to be developed and implemented.

1.3.2 Acronyms

1.3.3 Abbreviations

1.4 Actors

1.5 Identifying stakeholders

The main stakeholder of the project is the government of a large city. The government, with the help of the transport council, decided to improve the actual taxi service with MyTaxiService. With MyTaxiService the stakeholders want to:

- symplify the access of passangers to the service

- guarantee a fair management of taxi queues

- give the possibility to the passengers to reserve a taxi

- give the possibility to a passenger to share a taxi with other passengers

1.6 Reference documents

- Software Engineering 2 Project AA 2015/2016: Project Description And Rules

- Software Engineering 2 Project AA 2015/2016: Assignments 1 and 2 (RASD and DD)

- Software Engineering 2 Project AA 2015/2016: RASD-meteocal-example1

- Software Engineering 2 Project AA 2015/2016: RASD-meteocal-example2

1.7 Overview

This document is essentially structured in three parts:

- Section 1: Introduction: it gives a description of the document and some basical information about the system. It also identifying the stakeholders and the actors involved.

- Section 2: Overall Description: it gives general information about the software and hardware product, constraints and assumptions.

- Section 3: Specific Requirements: this is the core of the document. It describes the functional and non-functional requirements combined with some scenarios. There is also a class diagram that gives an overall representation of the system.

Chapter 2

Overall Description

Chapter 3

Specific Requirements

3.1 External Interface Requirements

3.1.1 User interfaces

The interface of MyTaxiService can be for web application and mobile application. Here will be presented some of the most important pages and screens of MyTaxiService.

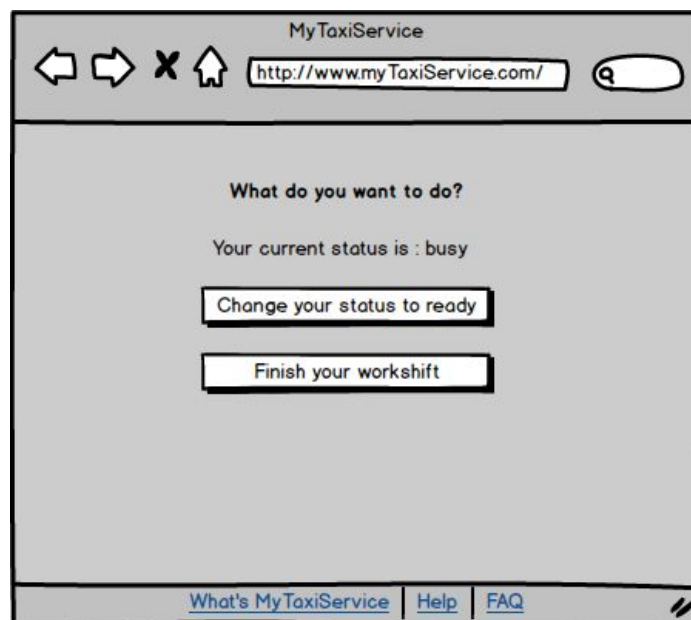**Log in:** In the figure below is shown the MyTaxiService's homepage

Registration: Here the visitor can sig up to the application

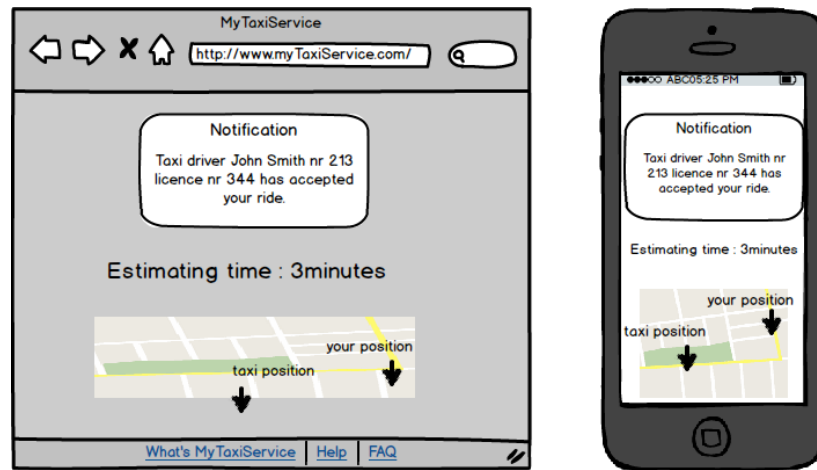**Passenger view:** This is the view of the passenger

Taxi driver view: This is the view of the taxi driver

Taxi driver notification: This is the notification that the taxi driver, choosen by the system, see when a passenger request a ride.
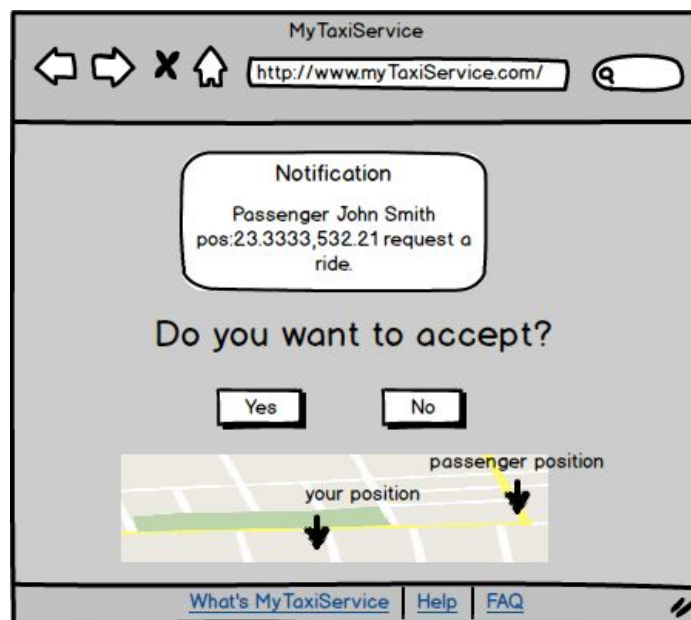
Passenger notification : This is the notification that the passenger see when a taxi accept the ride

MyTaxiService

http://www.myTaxiService.com/

Notification

Taxi driver John Smith nr 213 licence nr 344 has accepted your ride.

Estimating time : 3minutes

your position
taxi position

What's MyTaxiService | Help | FAQ

ABC 05:25 PM

Notification

Taxi driver John Smith nr 213 licence nr 344 has accepted your ride.

Estimating time : 3minutes

your position
taxi position

3.1.2   API interfaces

3.1.3   Hardware interfaces

MyTaxiService doesn't support any hardware interfaces.

3.1.4   Software interfaces

3.1.5   Communication interfaces

3.2   Functional Requirements

3.3   The world and the machine

3.4   Scenarios

3.5   UML Models

3.6   Non Functional Requirements