Requirements Analysis and Specification Document

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1 Introduction

1.1 Purpose

The presented document is the Requirements Analysis and Specification document (RASD) for the MyTaxiService platform project.

The main purpose of this document is to analyze the problems that the new system is to solve and the customer's necessities, to identify use cases and actors, to describe the functional and non-functional requirements of the platform along with existing constraints, and to propose an in-depth specification of the system before moving on to the more concrete design phase.

This document is intended for stakeholders, software engineers, and programmers and is to be used as reference throughout the whole development of the system. Each phase of the project must be brought on with this document in mind, and any implementation of the system must be clearly designed to reflect the specifications presented here.

The secondary audience for this document includes system maintainers and developers who wish to integrate the platform's services within their own software.

1.2 Scope

The aim of this project is to create the MyTaxiService platform, a web based information system to manage the taxi service of Pallet Town.

The purpose of the platform is:

1. To provide users with a web application and a mobile application, with which to easily make use of the town's taxi service.

2. To provide taxi drivers with a mobile application, with which to manage customers' requests (submitted through the above mentioned systems)

In short, the platform is to be an integrated infrastructure to manage the initial interaction between customers and taxi drivers, to aid the former in requesting a taxi ride, and to enable the latter in managing such requests.

The platform will therefore be used exclusively to support the town's taxi service, and is aimed at making the taxi request process much efficient by reducing overall costs, communication overhead and potential requests overloads.

The platform will implement all necessary functions on both the users' side and the drivers', while keeping the two aspects separate and unaware of each other. It will also be given a particular focus to the storage of user data, in order to maximize privacy and security, and to the extensibility of the system, in order to make the platform flexible to potential changes in the requirements.

1.3 Definitions, acronyms, and abbreviations

Throughout this document, the following definitions will be applied without further explanations:

- **Platform**: the set of software applications and hardware infrastructure that make up the MyTaxiService service; these include the back-end server software, the web application and the mobile application used by the customers, the mobile application used by the taxi drivers, and all the necessary hardware needed to run the mentioned software and any needed support software.

- **System**: any subset of software components of the platform (it will be specified before using the term).

- **Back-end**: the software run on the back-end server of the platform which is used to handle the communication between the user applications. The term also addresses all the necessary software components that are needed to store data, perform calculations and manage the hardware (e.g. an operating system).

- **Customer-side application**: software run on a personal device which is used to send taxi requests to the system and to handle the system's replies. It is designed to be used by customers (see below) and can either be a mobile application (run on a smartphone or tablet) or a web application (run on any personal device through an Internet browser).

- **Taxi-side application**: software run on a personal device which is used to manage taxi requests forwarded by the system and to reply to the system with information on how to handle the requests. It is designed to be used by taxi drivers (see below) and is a mobile application (run on a smartphone or tablet).

- **User-side application**: the set of customer-side and taxi-side applications

- **Taxi driver**: the owner of a taxi license in Pallet Town, who uses the taxi-side application to interact with the platform.

- **Customer**: a person which intends to exploit the taxi service of the town, and who uses the user-side applications to interact with the platform.

The following acronyms will also be used in place of the extended form:

- **RASD**: Requirement Analysis and Specification Document

- **CGI**: Common Gateway Interface

- **DBMS**: Data Base Management System

Finally, in order to increase readability the following abbreviations will be used in place of the full words or sentences:

- **e.g.:** *exempli gratia*

1.4 References

This document contains references to other documents which are part of the complete set of deliverables used to describe and design the project. The references are intended as follows:

- **Document 1**: ..

- **Document 2**: ...

1.5 Overview

The presented RASD is divided in sections and structured as follows:

- **Section 1 - Introduction**: contains a high level description of the project, along with its goals, and contains information about the document itself, such as abbreviations used and the document structure.

- **Section 2 - Overall description**:

- **Section 3 - Requirements**: