Power EnJoy

Requirements Analysis and Specification Document

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Revision

In the following are listed the differences between versions:

1. First version

Contents

Chapter 1

Introduction

1.1 Purpose

This document represent the Requirement Analysis and Specification 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 software described in this document is a new digital management system for car-sharing service that exclusively use electrical cars. It has as main goal the simplification of the car sharing service and the management of the reservation and the usage of the car. It can be applied to different small and big city and even in a large urban area and it's composed by a mobile application who permit to the user to interact with the system and a web platform that explain to the users all the procedure to access to the service and also permit the report of feedbacks or problems. There are three type of users:

- Visitors: all the visitors have acces to the login and registration page on the mobile application and will be also able to visit the information part of the website that include FAQ page and Home page
- Registered user: this set can be split in two different subcategory:
  - Driver: this user can rent a car, invite other user to participate in the ride and finally can report problems or send a feedback.

  - Passenger: this type of user is invited by the driver and can, after a login, participate to a ride.

The main difference between a driver and a passenger is that the first one had enter its driver license and it can drive covered by the insurance. The second one can just participate to a ride by scanning a QRCode showed in the inboard computer of the car. 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 and abbreviations

Definitions

- User: person that uses the service applications
- Visitor: user that has not registered nor logged in
- Driver: user that has registered to the service and has enter his payment method and his driver license
- Passenger: user registered to the service that does not have the necessary documentation to become a driver
- System: the union of software and hardware to be developed and implemented

Acronyms

- RASD: requirements analysis and specification document
- AES: Advanced Encryption Standard
- FIFO: First In First Out
- ETA: estimated time of arrival
- API: application programming interface
- GPS: Global Positioning System

1.4 References

- Software Engineering 2 Project AA 2016/2017: Project Description And Rules
- Software Engineering 2 Project AA 2016/2017: Assignments 1 and 2 (RASD and DD)

1.5 Overview

This document is essentially structured in four parts:

- Introduction: it gives a description of the document and some basical information about the system. It also identifying the stakeholders and the actors involved
- Overall Description: it gives general information about the software and hardware product, constraints and assumptions
- 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
- Appendix: it provides informations that are not considered part of the actual RASD. It includes: software and tools used, alloy implementation, project group organization