

Version: 1.0.0  
Release date: 25-10-2016

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PowerEnjoy

Summary

[Introduction 3](#_Toc465172195)

[Description of the given problem 3](#_Toc465172196)

[Actual system 3](#_Toc465172197)

[Goals 3](#_Toc465172198)

[Taxi drivers 3](#_Toc465172199)

[Clients 3](#_Toc465172200)

[Domain properties 3](#_Toc465172201)

[Glossary 3](#_Toc465172202)

[Text assumptions 3](#_Toc465172203)

[Constraints 3](#_Toc465172204)

[Regulatory policies 3](#_Toc465172205)

[Hardware limitations 3](#_Toc465172206)

[Interfaces to other applications 3](#_Toc465172207)

[Parallel operation 3](#_Toc465172208)

[Proposed system 3](#_Toc465172209)

[Identifying stakeholders 3](#_Toc465172210)

[Reference documents 3](#_Toc465172211)

[Actors identifying 3](#_Toc465172212)

[Requirements 3](#_Toc465172213)

[Functional requirements 3](#_Toc465172214)

[Non-functional requirements 3](#_Toc465172215)

[Scenario identifying 3](#_Toc465172216)

[UML models 3](#_Toc465172217)

[Use case diagram 3](#_Toc465172218)

[Use case description 4](#_Toc465172219)

[Class diagram 4](#_Toc465172220)

[Sequence diagrams 4](#_Toc465172221)

[Activity diagrams 4](#_Toc465172222)

[State diagrams 4](#_Toc465172223)

[Alloy modeling 4](#_Toc465172224)

[Model 4](#_Toc465172225)

[Alloy result 4](#_Toc465172226)

[World generated 4](#_Toc465172227)

[Future development 4](#_Toc465172228)

[Used tools 4](#_Toc465172229)

[Hours of work 4](#_Toc465172230)

[Changelog 4](#_Toc465172231)

# Introduction

## Description of the given problem

We will project the digital management system for PowerEnJoy™, which is a car-sharing service that exclusively employs electric cars.

The system, first, has to provide normally provided by car-sharing services such as the possibility for a new user to register and log in, to find locations of available nearby cars and to reserve them.

It has also to guarantee that a user who has used the service pays a fee that should be as fair as possible.

In order to strengthen the ecological mission of PowerEnJoy™, the system aims to incentivize virtuous behaviours of the users by adapting the fee.

For example, if there are at least three people on the car, or if the car is left charging at special parking areas, the system has to apply a discount. Instead, if the car is left far from a charging station with a low battery level, it has to apply a charge on the fee.

## Goals

* Users could register to the system and have their personal area;
* Users could see and select an available car close to him, or close to a specified address, and reserve it for up to one hour before they pick it up;
* Users could get in a car only if they are beside it and they reserved it;
* Users should pay proportionally to minutes they have used the car, and they should see in real time the amount of the fee;
* Virtuous behaviours should be incentivized for users by paying, on the last ride:
  + 10% if they share their trip with at least other two passengers;
  + 20% less if the car is left with at least 50% of battery level;
  + 30% less if the car is left plugged in at special parking areas;
  + 30% more if the car is left at more than 3km from the nearest power grid station with less than 30% of battery level.

## Taxi drivers

### Clients

## Domain properties

## Glossary

## Text assumptions

## Constraints

### Regulatory policies

### Hardware limitations

### Interfaces to other applications

### Parallel operation

## Proposed system

## Identifying stakeholders

## Reference documents

# Actors identifying

# Requirements

## Functional requirements

## Non-functional requirements

# Scenario identifying

# UML models

## Use case diagram

## Use case description

## Class diagram

## Sequence diagrams

## Activity diagrams

## State diagrams

# Alloy modeling

## Model

## Alloy result

## World generated

# Future development

# Used tools

# Hours of work

# Changelog