Personal Car Rental system

Supplementary Specification

Version <1.0>

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| <dd/mmm/yy> | <x.x> | <details> | <name> |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Table of Contents

1. Introduction 4

2. Non-functional Requirements 4

2.1 Availability 4

2.2 Performance 4

2.3 Security 4

2.4 Testability 4

2.5 Usability 4

3. Design Constraints 4

Supplementary Specification

# Introduction

The **Supplementary Specification** captures the system requirements that are not readily captured in the use cases of the use-case model. Such requirements include:

Legal and regulatory requirements, including application standards.

Quality attributes of the system to be built, including usability, reliability, performance, and supportability requirements.

Other requirements such as operating systems and environments, compatibility requirements, and design constraints.

# Non-functional Requirements

*Scenario: Client wants to search for vehicles in an area*

*Source of stimulus: human entity*

*Stimulus: Client clicks the “Search” button*

*Environment: application is waiting for input*

*Artifact: whole system*

*Response: a list containing one or more ads*

*Response measure: time.*

*[Define system quality attributes in terms of scenarios according to the following template:*

* *Quality attribute definition*
* *Source of stimulus: the entity (human or another system) that generated the stimulus or event*
* *Stimulus: a condition that determines a reaction of the system*
* *Environment: the current condition of the system when the stimulus arrives*
* *Artifact: is a component that reacts to the stimulus. It may be the whole system or some pieces of it*
* *Response: the activity determined by the arrival of the stimulus*
* *Response measure: the quantifiable indication of the response*
* *Tactics*

*]*

## Availability

*Definition: The degree to which a system is in a specified operable and committable state at the start of a mission, when the mission is called for at an unknown, i.e. random, time.*

*Tactics: Fault Detection, Fault Recovery, Fault Prevention.*

*The application should be available 24/7 once deployed.*

*Once the user clicks the “Search” button, the application should respond.*

## Performance

*Definition: The amount of useful work accomplished by a computer system.*

*Tactics: Resource Demand, Resource Management, Resource Arbitration.*

*Resources are limited throughout the development of this application.*

*Once the user clicks the “Search” button, the application should respond IN a reasonable time.*

## Security

*Definition: The freedom from, or resilience against, potential harm caused by others.*

*Tactics: Resisting Attacks, Detecting Attacks, Recovering from Attacks*

*No critical data is being handled by the application.*

*Sufficient security is provided by Java.*

*The user should not be able to damage the application.*

## Testability

*Definition: The degree to which a software artifact supports testing in a given test context.*

*Tactics: Record/Playback, separate interface from implementation, specialize access routes/interfaces, Internal Monitoring*

*The user does not test the application.*

## Usability

*Definition: The ease of use and learnability of a human-made object such as a tool or device.*

*Tactics: Runtime Tactics (maintain a model of the task/user/system), Design time Tactics (separate UI from the rest of the system)*

*The UI of the system will be as simplified as possible.*

*The user should be able to figure out easily how to search for vehicles.*

# Design Constraints

*The application is developed using Eclipse IDE. The application logic is implemented using Java, and the user interface is implemented using JavaScript, CSS and HTML. Used plugins include Spring Boot and Hibernate for the ORM. The database is implemented using MySQL, and it is queried in the application using SQL statements.*

*The Web application will be hosted on Apache Tomcat server.*