

Software Requirements Specification

Version 1.0

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**Managing the garage of the oil
refinery in Homs**

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1.0. Introduction

1.1. Purpose

The purpose of this document is to present a detailed description of the Managing the garage of the oil refinery in Homs . It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system .

1.2. Scope of Project

The garage is important department in the oil refinery in Homs , it job organize the work of mechanisms to serve the company , where all the information about each of the existing mechanisms is recorded , record the time of entry and exit of mechanisms, submit and approve repair's requests , meet the tasks incoming to the mechanisms and the damaged mechanisms are offered for sale at auction .

Therefore , a system has been developed to manage the work that is carried out in the garage as the time for carrying out previous operations is reduced .

In this document we provide a description of the system that operates a garage , so we were asked by the manager of the garage develop this system to automate work in it with the aim of completely abandoning paperwork and reducing the time and effort to process orders .

We communicated with the garage manager directly and got to know the nature of work in garage to determine the project to develop this system .

1.3. Glossary

Term	Definition
garage	The places where the mechanisms were left.
Manager	he is responsible person of the company's garage.
Guard	The person who record the time of entry and exit for each mechanism
Personnel Specialist	the person who enters the garage data(mechanism-Driver)and modifies it.
Repair task	it is a message (E-mail) explaining the damage of the mechanism for the appropriate decision to be taken
Software Requirements Specification	A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document.
Data base	Collection of all the information monitored by this system.
Employees	The employee from the rest of the company's departments .

1.4. References

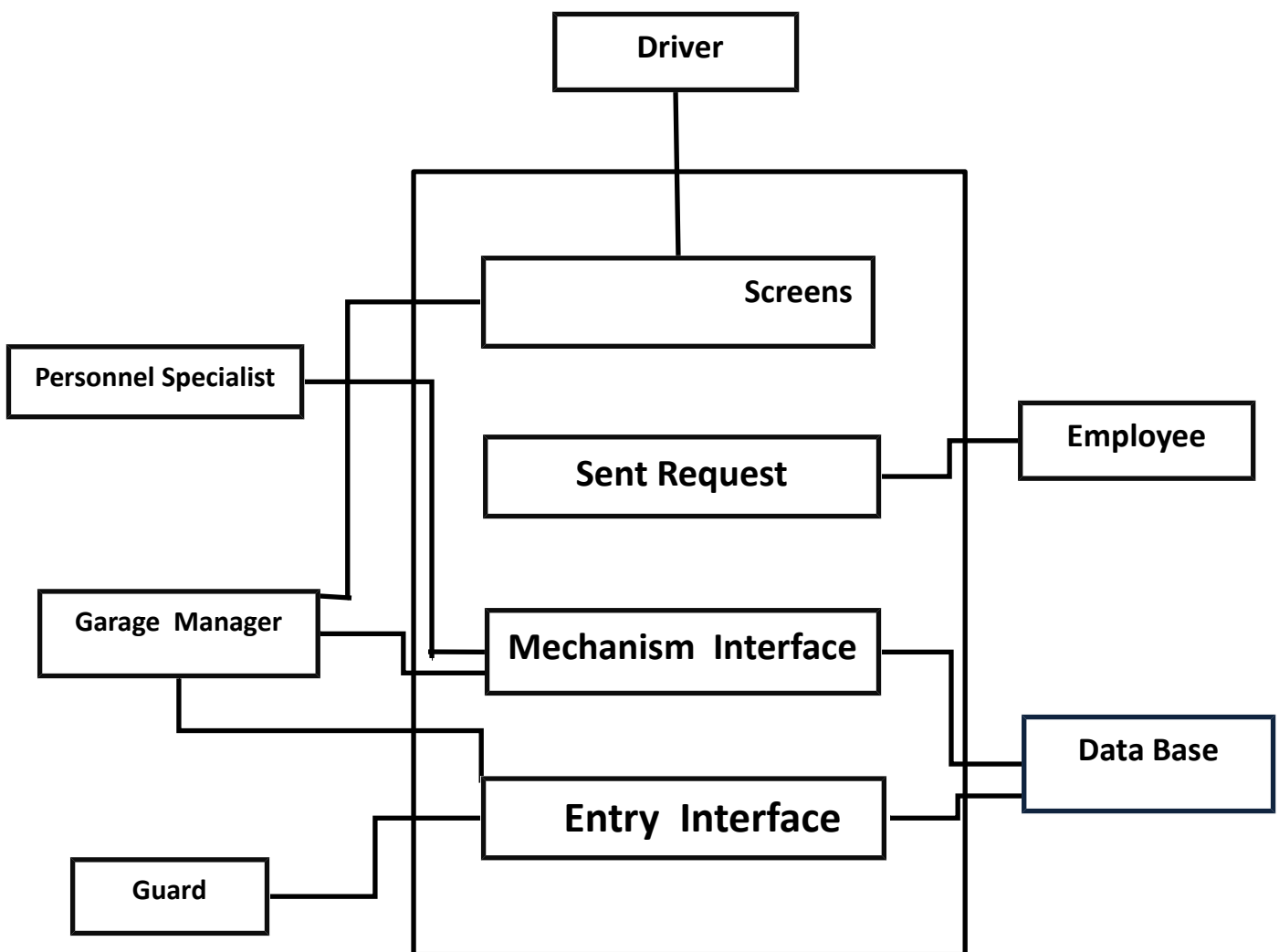
IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

1.5. Overview of Document

The next chapter, the Overall Description section, of this document gives an overview of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter.

The third chapter, Requirements Specification section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product. Both sections of the document describe the same software product in its entirety, but are intended for different audiences and thus use different language.

2.0. Overall Description



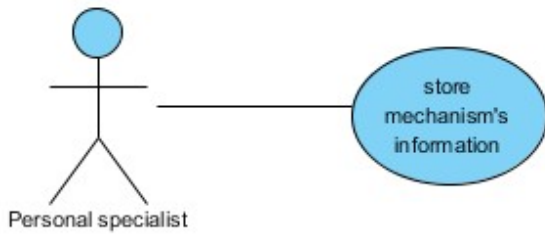
There are five actors in the system manager , employees , drivers , guard , Personal specialist . the manager and the employees interact with each other via e-mail , the guard stores it in the system database and the drivers receive the task by displaying the number of their vehicles on the screens fixed in the garage .

2.1 Functional Requirements Specification

2.1.1 Personnel Specialist Use case

Use case : store machine's information

Diagram:



Brief Description

the employee record all information about machine in the system's database .

Initial Step-By-Step Description

Before this use case can be initiated , a new vehicle has arrived to the garage

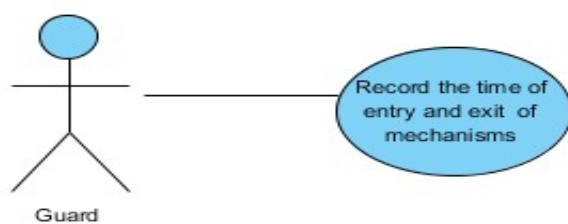
1. the employee press on the add button to add new machine .
2. an interface is displayed for the employee to enter information.
3. enter information and save it.

Xref : Section 3.2.1, Store machine's information .

2.1.2 Guard Use case

Use case : Guard record the time of entry and exit of mechanisms

Diagram:



Brief Description

The guard enter the time of entry and exit of mechanisms to database.

Initial Step-By-Step Description Before this use case can be initiated ,when one machine entry or exit.

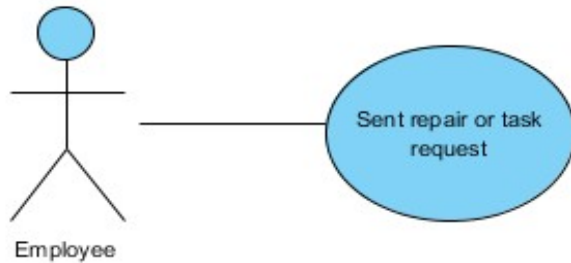
1. the guard open database and query about entry or exit mechanisms .
2. enter the time about entry or exit mechanisms .
3. refresh database .

Xref : Section 3.2.2 : Guard record the time of entry and exit of mechanisms

2.1.3 Employee Use case

Use case : sent repair request or task request.

Diagram:



Brief Description

The employees offered repair request or task request to manager .

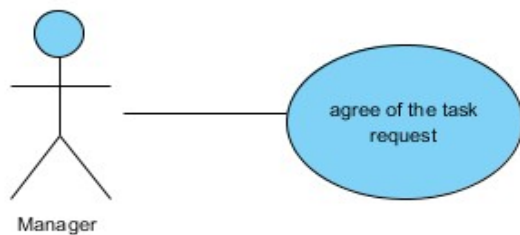
Initial Step-By-Step Description Before this use case can be initiated ,when we need to do a task or when mechanism breakdown .

1. The employees sent repair request or task request through e-mail .

2.1.4 Manager Use case

Use case : agree of task request

Diagram:



Brief Description

The Manager approves the received task request .

Initial Step-By-Step Description Before this use case can be initiated , receive task request .

1. The manager sees the request and decides whether or not to agree .
2. If he agrees then look for appropriate mechanism and get all information .
3. Then inquires if the mechanism is available or not.

4.If it is available then send a command to display number of mechanism on the fixed screen on the garage.

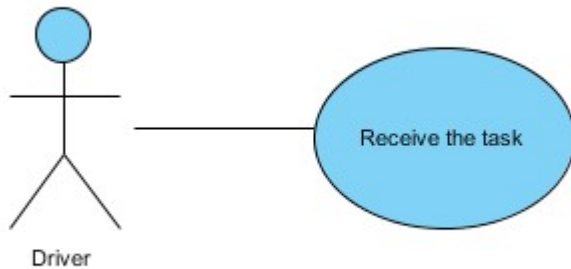
5.If isn't then look for another mechanism.

Xref : Section 3.2.3, Manager Use case .

2.1.5 Driver Use case

Use case : receive the task through the fixed screen .

Diagram:



Brief Description

When the manager select the mechanism , the number of mechanism will be display on the fixed screen when the concerned driver sees it will leave .

Initial Step-By-Step Description Before this use case can be initiated , a task is requested from manager.

1. The manger agree on the task and display the number of mechanism on the screen.
2. The driver see the number of mechanism then leave the garage to do the work.

Xref : Section 3.2.4, Driver Use case .

2.2 User Characteristics

1-The user should have a computer with suitable specifications

2- the user is expected to be able to use a e-mail.

2.3 Non-Functional Requirements

1. A local network must be available that connects all sections of the garage and connects it with the rest of the company .
2. A suitable specifications computers must be available for the system to work .
3. That each employees has an e-mail for work .
4. Screen to display the information of the tasks required of the mechanisms .
5. use database to store information (driver ,mechanism).
6. that system is available during working hours .
7. the software works on the windows system.

8. the system interface must be clear and simple so that the user can work with it easily .
9. the system is valid for 10 years .
- 10 . a must for maintenance and inspection .
- 11 . the system must achieve the maximum benefit from it , which is to reduce time and effort .
12. the incidence of errors and faults in the system should be low .

3.0. Requirements Specification

3.1 External Interface Requirements

Linking to the system's database in which drivers' data is saved (name , family data ,data of commencement of work , the type of vehicle that he can driver according to his testimony)

And it saves the data of the mechanisms (plate number , mechanisms number , technical specification , emergency repairs , adjusting fuel standards) and information about driver and vehicles is inquired according to their number .

3.2 Functional Requirements

3.2.1 Personal specialist Use case

Use Case Name	Record information
Xref	2.1.1
Trigger	the Personal specialist record information about new mechanisms
Precondition	the arrival of a new mechanisms
Basic Path	1 . a news mechanisms arrives for the garage 2 . the Personal specialist enters the data on the database 3 . refresh the database
Alternative Paths	none
Postcondition	save new mechanism's information in system database
Exception Paths	error entering mechanism information

3.2.2 Guard Use case

Use Case Name	Record the time of entry and exit of mechanisms
Xref	2.1.2
Trigger	The guard records the entry and exit times from the garage for each mechanism
Precondition	Exit and entry mechanism for the garage
Basic Path	When the mechanism enters the garage ,the guard record the time of its entry and change its status to available
Alternative Paths	None
Postcondition	Determine if the mechanism is available or unavailable
Exception Paths	None

3.2.3 Manager Use case

Use Case Name	Receive task request
Xref	2.1.4
Trigger	Receive repair or task requests
Precondition	A task request has been received
Basic Path	1 . arrival of task request 2.if he approves it ,then will send his approval 3. look for appropriate mechanism and get all information . 4. Then inquires if the mechanism is available or not. 5 . display mechanism's number on the screen.
Alternative Paths	In step 2 if he refused it ,then he will send e-mail with no approval 2.If the mechanism is not available then search about another mechanism
Postcondition	Send a mechanism to do its job
Exception Paths	

3.2.4 Driver Use case

Use Case Name	Receive the task through the fixed screen
Xref	2.1.5
Trigger	The driver sees the mechanism on the screens
Precondition	when requesting a job from the manager's office
Basic Path	The driver sees the mechanism on the screens
Alternative Paths	None
Postcondition	Mission accomplished
Exception Paths	None

3.3 Detailed Non-Functional Requirements

3.3.1 Logical Structure of the Data

The logical structure of the data to be stored in the mechanism and driver database e is given below.

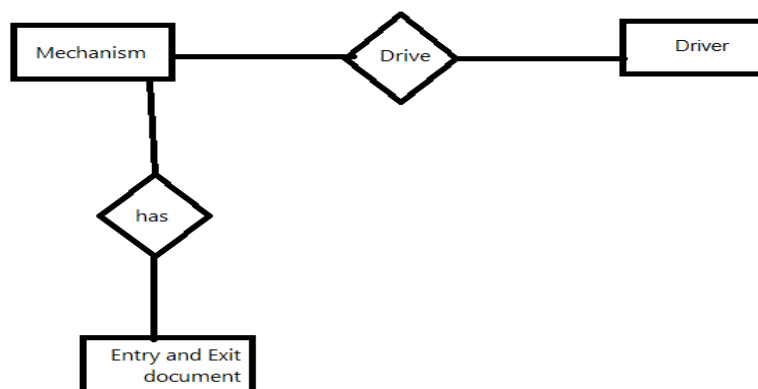


Figure 2- Logical Structure of the Article Manager Data

Mechanism Data Entity:

Data Item	Type	Description	comment
Mechanism Number	number	The number for each mechanism which identifies it as the garage	That display on the screen
Plate number	number	The number for each mechanism which identifies it as the global	none
Technical specification	text	Mechanism specifications of speed , bearing and fuel exchange	To help when requesting a task to choose the appropriate mechanism
Fixes repairs	text	Includes all repairs with their date ,cost and type of repair	Assists in deciding whether to repair or destroy the mechanism

Driver Data Entity:

Data Item	Type	Description	comment
name	text	Name driver	
Family data	text	social status ,a family member's phone	
Date of commencement of work	date		
Type of mechanism that drives	text	To determine which mechanism he can drive	