



**Course Name** : Software Engineering I

**Course Code** : CS251

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**Project Name** : Automated Garage System

**Srs Documentation Title** :

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# Document Purpose and Audience

## Purpose :

- This document is to describe functionality of the Automated garage system and explain in details the following :
  1. Introduction to Software Purpose .
  2. Introduction to Software Scope .
  3. How to use system functions .
  4. How to deal with exceptions .

## Audience :

- Audience are : CEO , Customer "Car owners" , Project Manager , Business Analyst .

## Introduction

### Software Purpose

The purpose of this project is to give the car owners more facilities to park in the garage and allow customers to find and reserve available parking places.

### Software Scope

System allows car owners to register using website or by going to the garage . As Following :

1. System allows user to reserve an empty slot .
2. System provides high security insurances for the system owner .
3. System allows managing and observing over the garage .
4. System deals with exceptions .

## Definitions, acronyms, and abbreviations

LPRS	a license-plate recognition system
GLP full	the ground-level parking area is full
RES	reserving an empty spot
GR	guaranteed reservations
walk-ins	Registered customers once

# Requirements

## Functional Requirements

This section includes the requirements that specify all the fundamental actions of the software system.

### Functional Requirement 1

Use Case Name	Registration
Actors	Users ( Car Owners ) , Administrators
Description	car owner will have the option to register by system website or at the garage and should be able to enter his name and his demographic information and his car license plate and his credit card number and system shows him the option to register monthly or not and system will display the reservation empty slot .

### Functional Requirement 2

User Case Name	Garage Access Control
Actors	Administrator
Description	System will have license plate readers at garage entrance and exit these two readers will check the license plate of entered car and leaving car at garage exit gate .

### Functional Requirements 3

User Case Name	Occupancy Monitoring
Actors	
Description	System will have a sensor at every parking spot that check if this spot is empty or not if empty these sensors tells the system to make this spot available when a walk-ins comes and check if ground level is full .

### Functional Requirement 4

User Case Name	Administration
Actors	Administrator
Description	System will allow the manager to view information of registered car owners and walk-ins and the manager will view financial reports of every month.

## Functional Requirement 5

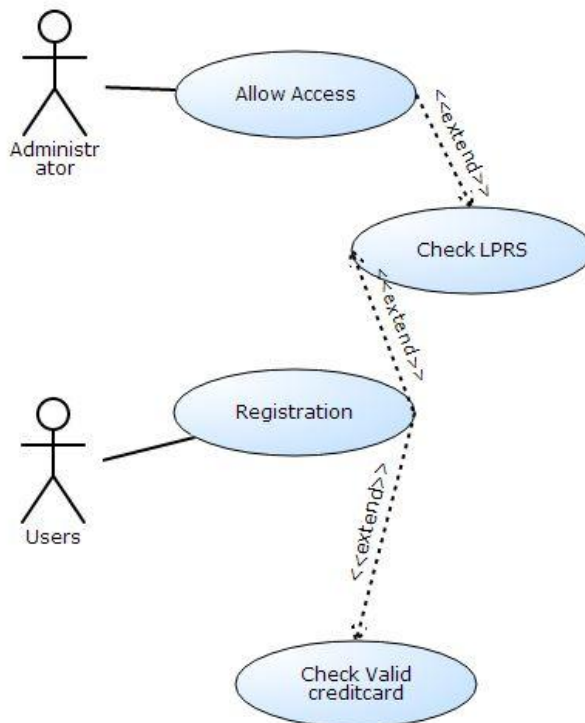
User Case Name	System Evaluation
Actors	Administrator
Description	Administrator can evaluate the system and produce reports such as charts reports graphical reports and see any possible updates to add to the system .

## Non Functional Requirements

	Details
Availability	<ul style="list-style-type: none"><li>• This ensures that the system is 24 hours available .</li></ul>
Security	<ul style="list-style-type: none"><li>• This ensures that the data of registered car owners or data of daily process is 100 % secure.</li></ul>
Maintainability	<ul style="list-style-type: none"><li>• This ensures that if any component is down then system will generate a suitable solutions of the problem .</li></ul>
Performance	<ul style="list-style-type: none"><li>• Withdraw operation will be done within 15 second</li></ul>

## System Models

### Use Case Model



## Use Case Tables

Use Case ID:	1	
Use Case Name:	Registration	
Actors:	Administrator , Users	
Pre-conditions:	RES , Check LPRS , Check Valid Credit Card.	
Post-conditions:	Checkout	
Flow of events:	<b>User Action</b>	<b>System Action</b>
	1.Enter username and his credit card number and his licenses plate number .	Check if credit card number and licenses plate number exist .
		2- System Verify user data
	3- User chooses Empty slot.	4 - RES
	5- Proceed to ES .	
Exceptions:	User enters credit card number as text .	
Includes:	2	
Notes and Issues:	Provide efficiency dealing with problems .	

Use Case ID:	2	
Use Case Name:	Garage Access Control	
Actors:	Administrator	
Pre-conditions:	Car has licenses plate	
Post-conditions:	Licenses plate of entered car is the same licenses plate as licenses plate of leaving car .	
Flow of events:	<b>User Action</b>	<b>System Action</b>
	1. Car enters the garage .	System reads licenses plate of entered car and save it .

	2. Car leaves the garage .	System check licenses plate of leaving car is the same as licenses plate of leaving car .
Exceptions:	Car has no licenses plate .	
Includes:	3	
Notes and Issues:	Ensures Empty Slots For Reserving .	

## Ownership Report

- Remove the following notes and any red notes
- For every item in this document, write the owners. If someone is owner of something, s/he understands it 100.%
- Team leader must verify the table with the team members.

Item	Owners

## Policy Regarding Plagiarism:

**Students have collective ownership and responsibility of their project. Any violation of academic honesty will have severe consequences and punishment for ALL team members.**

1. تشجع الكلية على مناقشة الأفكار و تبادل المعلومات و مناقشات الطلاب حيث يعتبر هذا جوهرية لعملية تعليمية سليمة
2. ساعد زملاءك على قدر ما تستطيع و حل لهم مشاكلهم في الكود و لكن تبادل الحلول غير مقبول و يعتبر غشا.
3. أى حل يتشابه مع أى حل آخر بدرجة تقطع بأنهما منقولان من نفس المصدر سيعتبر أن صاحبيهما قد قاما بالغش.
4. قد توجد على النت برامج مشابهة لما نكتبه هنا أى نسخ من على النت يعتبر غشا يحاسب عليه صاحبه.
5. إذا لم تكن متأكدا أن فعلا ما يعد غشا فلتسأل المعيد أو أستاذ المادة.
6. فى حالة ثبوت الغش سيأخذ الطالب سالب درجة المسألة ، و فى حالة تكرار الغش سيرسب الطالب فى المقرر.