

CS251: Software Engineering I



# **Software Requirements Specification For Automated Parking garage System**

**Prepared by**  
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# CS251: Phase 1 – Triple M

## Project: <Automated Parking Garage System>

# Software Requirements Specifications

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## Project: <Automated Parking Garage System>

### Software Requirements Specifications

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#### Document Purpose and Audience

##### Purpose

The objective of SRS define the purpose of the specific system or project and defines its user and its functional requirements so it is a contractual basis between the client and the developers.

##### Audience

The target audience for this document the persons that will interact with the systems such as the client, the users, the project management, the system analysts such as the developers who participate in the requirements, and the system designers who participate in the system design

#### Introduction

##### Software Purpose

The purpose of this project is to track and manage occupancy of a parking garage and allow customers to find and reserve available parking places.

The parking garage will be remodeled so that the parking decks above the ground level will be accessible only using an elevator that will lift the vehicles to different decks.

##### Software Scope

The goal of the system components that make the system easy to use for the user from this components:-



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- Elevator : to move cars between the different roles
- License-plate readers: one at the lift platform and the other at the end of the exit pathway the reader will use a digital camera and a license-plate recognition system.
- Sensor that senses the occupancy of the spot by a vehicle.
- Digital display installed in the vehicle elevator to display various messages.
- Company website: to allow to the users to register in the system and modify their reservation or cancel it, and he can buy using his credit card throw the website.

### Requirements

#### Functional Requirements

Automated Parking Garage System allow to the user to register throw the company website to reserve an empty slot in the garage and he can buy using his credit card throw the website he also entered his information and his car license plate number

- **Garage Access Control:** controls the cars will entered the garage and out from it using two license-plate readers: one at the lift platform and the other at the end of the exit pathway. The reader will use a digital camera and a license-plate recognition system. When a vehicle drives up on to the lift platform, the license-plate reader will read the vehicle reservation number. The other reader will record the reservation number of the departing vehicles.
- **Digital display:** is installed in the ground floor that will indicate available vacancies for the walk-in customers without reservations. This display will also indicate if the ground-level parking area is full
- **Occupancy Monitoring:** using a sensor that senses the occupancy of the spot by a vehicle and print it on the digital display which is installed on the ground floor.
- **The registration software:** will register at the company website in advance of using the parking garage. At the registration time, the customer will provide demographic information and a valid email and his or her credit card number
- **Administration:** The manager will be able to login into the system to view monthly reports, payroll information, and change prices for the parking garage. The manager will also be able to view the number of reserved cars and the number of walk-ins. Account information, Parking data and daily reports shall be backed up once a day, to prepare for any natural or human-induced disasters that may occur.