# Introduction:

A manager had the idea to start a business where you can reserve parking spots online before the arrival, because he noticed from his own experience that it took him a lot of time to look for a parking spot in the city area.

Hence, his business idea works as follows: The customers have an RFID card or tag which is connected to their account. On the company’s website, they reserve a parking spot for a precisely indicated duration with prepayment, for example: “the 6th of November from 15.00 – 18.25”. On this time the costumer can enter the parking area (which only consist of reservable parking spots). When he leaves, he should pay a fine when he has stayed longer than indicated. In the final system, the costumer should get notifications when his parking time is about to end.

The manager wants a security system that locks the doors of his parking area, only giving access to the people with a reservation at the right time.

Implementing this security system consists of our project therefor we elaborated a mission statement to have an overview of the project.  
Furthermore, this manager and people who work with parking areas are the most important stakeholders, so we interviewed an employee of the company “EZS parkeersystemen”, who installs, replaces and repairs the parking system machines.

# Mission statement

## Motivation

When parking in a parking garage there is always the risk that the parking garage is full and that there are no spots left anymore. This is highly impractical since you can only find this out when arriving at the parking garage and this problem is even worse when having to regularly park at a garage and having little time. Because of this there is a need of being able to reserve a parking spot in a parking garage.

## Type of system

The system must consist of:

* A database storing the user and access information
* Software communicating with the RFID chips and with the database
* Software to enable a user to reserve a spot in the garage

## Goal of the system

To enable the customer of the garage to reserve a spot and enable the owner of the garage to earn money on these reservations.

## Exclusion

There won’t be:

* A web interface to reserve places yet
* An option to get in if you didn’t reserve even if there is still a spot free

## Approach

The system will register which customer has reserved a spot. It will register the start time/date and end time/date, and this information will be saved in the database.

When a customer wants to enter the garage the system will compare the identity of the customer’s card to the database and see if the customer has reserved a spot at the current time. If this is the case, the customer is let in and if not the system won’t allow the customer in.

When a customer wants to leave the garage, the system will compare the identity of the customer’s card to the database to see if the customer leaves the garage before the end of his reservation. If he leaves on time the costs of the reservation will be payed and if he leaves too late the customer will be given a fine on top of the normal payment.