### **Use Case 1 Entering Garage**

* **Use Case ID:** 1
* **Use Case Name:** Entering Garage
* **Relevant Requirements:** SR53 SR54 SR61 SR81 SR82 SR83
* **Primary Actor:** Driver (arriving at the garage)
* **Pre-conditions:**
  + Space available for drivers to park.
* **Post-conditions:**
  + Recorded license plate and entry time.
  + Update occupancy count

* **Basic Flow:**
  + Vehicle entering the garage
  + System captured license plate
  + System record entry time
  + Update occupancy count
* **Extensions / Alternate Flows:**
* **Exceptions:**
  + The garage is full.
* **Related Use Cases:** Record License Plate

### **Use Case 2 Calculate Fee at Exit**

* **Use Case ID:** 2
* **Use Case Name:** Calculate Parking Fee at Exit
* **Relevant Requirements:** SR30 SR31 SR40 SR50 SR51
* **Primary Actor:** Driver (leaving the garage)
* **Pre-conditions:**
  + User Interface exist at exit
  + System record entry time.
  + System recorded license plate

* **Post-conditions:**
  + The amount due is calculated and presented to the driver
* **Basic Flow:**
  + The driver pulls up to the exit.
  + System captures the license plate and match it with a recent record
  + System calculate the fee
  + The system provides a due amount.
* **Extensions / Alternate Flows:**
  + No license plate match after the scanned, charge full day price.
* **Exceptions:**
* **Related Use Cases:** Entering Garage, Take Payment. Driver User Interface

### **Use Case 3 Open Garage Gate**

* **Use Case ID:** 3
* **Use Case Name:** Open Garage Gate
* **Relevant Requirements:** SR22 SR23 SR35 SR40 SR41 SR42
* **Primary Actor:** Driver (exiting the garage)
* **Pre-conditions:**
  + Fee must be paid
  + Gate opener is working properly
* **Post-conditions:**
  + Gate opened
  + Update occupancy count
* **Basic Flow:**
  + Vehicle arrives at exit
  + System pulls license plates and calculates the fee.
  + Provide payment options
  + Driver pays the fee
  + Opens the gate for exiting
  + Update occupancy count
* **Extensions / Alternate Flows:**
  + Gate remains closed due to payment failure
  + Driver attempts to pay again
* **Exceptions:**
  + Payment failure
* **Related Use Cases:** Start Parking, Take Payment.

### **Use Case 4 System Records Ticket**

* **Use Case ID:** 4
* **Use Case Name:** System records tickets
* **Relevant Requirements:** SR11 SR23 SR31 SR32 SR42
* **Primary Actor:** Driver (payer)
* **Pre-conditions:**
  + License plate is found.
  + Fee is calculated.
* **Post-conditions:**
  + The Ticket is recorded in the system.
* **Basic Flow:**
  + Created virtual Ticket when entering
  + Record the entry time and license plate
  + Record exit time and fee.
  + Save the Ticket information in the system.
* **Extensions / Alternate Flows:**
  + Print the ticket to store it physically.
* **Exceptions:**
  + Memory is full
* **Related Use Cases:** Calculate Fee

### **Use Case 5 Take Payment**

* **Use Case ID:** 5
* **Use Case Name:** Take Payment
* **Relevant Requirements:** SR22 SR23 SR24 SR40 SR41
* **Primary Actor:** Driver (payer)
* **Pre-conditions:**
  + License plate found in the system
  + Provide payment options
  + System able to calculate payment
  + User interface must exist at exit
* **Post-conditions:**
  + The amount due is paid in full.
  + The system recorded the fee.
  + Opens the gate
  + Update occupancy count

* **Basic Flow:**
  + The driver pulls up to the exit
  + The system pull up driver’s information
  + The system calculate and display amount due
  + The system provide payment options
  + The driver selects a payment method.
  + The system processes the payment.
  + The system opens the gate for driver to leave
* **Extensions / Alternate Flows:**
  + Driver selected one payment method then decided to change a payment method
* **Exceptions:**
  + Payment declined
* **Related Use Cases:** Calculate Fee, Open Exit Gate

### **Use Case 6 Operator Generate report**

* **Use Case ID:** 6
* **Use Case Name:** Operator generate report
* **Relevant Requirements:** SR20 SR21 SRSR33 SR52
* **Primary Actor:** Operator (System user)
* **Pre-conditions:**
  + The operator is authenticated and authorized to do so.
  + The system is able to read the stored data.
  + Operator user interface must exist
* **Post-conditions:**
  + Report is generated and saved a copy in the system.
* **Basic Flow:**
  + Operator logs into the system
  + Operator navigates to the report section
  + Operator select print report or email report
  + Operator select report type(weekly/monthly report)
  + The system generates the report and records the operator request for the report.
* **Extensions / Alternate Flows:**
  + The System automatically generates monthly reports and saves them in the system.
* **Exceptions:**
  + Unable to access the stored data
  + No data found
  + Unauthorized access.
* **Related Use Cases:** Calculate Fee, Take Payment, System Record Ticket

### **Use Case 7 Show Available Parking Spaces**

* **Use Case ID:** 7
* **Use Case Name:** show available parking spaces
* **Relevant Requirements:** SR10 SR53 SR54
* **Primary Actor:** Driver
* **Pre-conditions:**
  + Requires a display in entrance to display # of spaces in the garage
  + Require a display at the entrances to display rate
  + System keep live count of cars in the garage
* **Post-conditions:**
  + System will show available parking spaces
* **Basic Flow:**
  + System keep live count of cars
  + System shows the driver the available parking spaces
* **Extensions / Alternate Flows:**
  + Show available parking in different level / zone for the driver
* **Exceptions:**
  + Power or network failure on the display and can’t display to the driver. System will automatically notify the operator
* **Related Use Cases:** Open garage gate, start parking

### **Use Case 8 Authenticate Operator**

* **Use Case ID:**8
* **Use Case Name:** Authenticate operator login
* **Relevant Requirements:** SR25 SR52
* **Primary Actor:** Operator
* **Pre-conditions:**
  + Operator has the account
  + Authentication is available
  + Operator user interface exist
* **Post-conditions:**
  + Operator has access to the system
* **Basic Flow:**
  + Operator enter their username and password
  + Operator logging into their account
  + System verify the credential
  + System direct operator to the dashboard
* **Extensions / Alternate Flows:**
  + Retry attempts before account gets lock
  + Unlock / Password reset
* **Exceptions:**
  + Account does not exist
  + Account lock after 3 tries.
  + The account will automatically unlock after 10 minutes
  + Operator can do a password reset
* **Related Use Cases:** Operator generate report, Open garage gate

### **Use Case 1 Entering Garage**

### **Use Case 2 Calculate Fee at Exit**

### **Use Case 3 Open Garage Gate**

### **Use Case 4 System Records Ticket**

### **Use Case 5 Take Payment**

### **Use Case 6 Operator Generate report**

### **Use Case 7 Show Available Parking Spaces**

### **Use Case 8 Authenticate Operator**