**Use Case Specification**

**Use Case: 01**

**Use Case Name:** Employee Login

**Relevant Requirements:** Users must exist before logging in, user must have valid credentials present in the system

**Primary Actor:** User, Admin

**Pre-Conditions:** User must possess valid credentials, System is up and running

**Post-Conditions:** The user is now logged in

**Basic Flow or Main Scenario:**

1. The user logs into the system
2. The user is prompted with a login screen
3. The user enters their login info
4. The system validates the login info
5. If valid, the user is given access

**Extensions or Alternate Flows:**

* Invalid Credentials - If users provide invalid credentials, an error message will pop up and the user will have to provide new login details again.
* Locked or Disabled Credentials: If users provide invalid credentials, a message will pop up alerting the user that the credentials being used are locked or disabled.

**Exceptions:** User has connectivity issues

**Related Use Cases:** N/A

**Use Case: 02**

**Use Case Name:** Employee log out

**Relevant Requirements:** User must have successfully logged in with valid credentials

**Primary Actor:** User

**Pre-Conditions:** User must have successfully logged in with valid credentials

**Post-Conditions:** Session is terminated and Access is revoked

**Basic Flow or Main Scenario:**

1. User selects the logout option from interface
2. The system asks for confirmation of logout
3. System terminates user session
4. User is logged out, is now in

**Extensions or Alternate Flows:** If the user cancels the logout confirmation, their login session continues

**Exceptions:** If the session termination fails, the system maintains the session and retries the termination

**Related Use Cases:** Employee login

**Use Case: 03**

**Use Case Name:** Customer Requests Ticket

**Relevant Requirements:** The system must issue unique tickets when space is available

**Primary Actor:** Customer

**Pre-Conditions:** System is online, and garage is not full.

**Post-Conditions:** Customer receives a printed ticket with a unique ID, entry logged

**Basic Flow or Main Scenario:**

1. Customer drives to gate
2. Customer presses button at kiosk
3. System checks for available spaces
4. System issues unique ticket ID and prints ticket
5. Entry Gate opens

**Extensions or Alternate Flows:** If the garage is full, system displays “FULL" and does not issue a ticket.

**Exceptions:** Kiosk error

**Related Use Cases:** Check If Garage is Full, Logging Spaces and Events

**Use Case: 04**

**Use Case Name:** Calculate Parking Fee

**Relevant Requirements:** The system must calculate fees based on total parking time

**Primary Actor:** System

**Pre-Conditions:** Customer presents ticket at kiosk

**Post-Conditions:** Correct fee is calculated and displayed

**Basic Flow or Main Scenario:**

1. Customer inserts ticket
2. System retrieves entry time
3. System calculator total minutes parked
4. System calculates fee
5. Fee is displayed to customer

**Extensions or Alternate Flows:** System allows for discounts or coupons

**Exceptions:** Ticket not found

**Related Use Cases:** Ticket Validation, Customer Pays Ticket

**Use Case: 05**

**Use Case Name:** Customer Pays Ticket

**Relevant Requirements:** The system must be working and accept payments

**Primary Actor:** Customer

**Pre-Conditions:** Fee has been calculated

**Post-Conditions:** Payment processed, and marked as paid

**Basic Flow or Main Scenario:**

1. Customer chooses payment type
2. Payment is processed
3. Ticket is marked as paid
4. Exit gate is opened

**Extensions or Alternate Flows:** Card declines

**Exceptions:** Payment machine not working

**Related Use Cases:** Calculate Parking Fee, Ticket Validation, Logging Spaces and Events

**Use Case: 06**

**Use Case Name:** Employee Requests Report

**Relevant Requirements:** The system must generate usage and revenue reports.

**Primary Actor:** Employee

**Pre-Conditions:** Employee logged in with valid credentials

**Post-Conditions:** Report generated showing usage and revenue

**Basic Flow or Main Scenario:**

1. Employee selects report type
2. System compiles and generates report
3. Report is displayed or printed

**Extensions or Alternate Flows:** Employee cancels before report is generated

**Exceptions:**

**Related Use Cases:** Employee Login, Logging Spaces and Events

**Use Case: 07**

**Use Case Name:** Check If Garage is Full

**Relevant Requirements:** The system must prevent entry if no spaces are available

**Primary Actor:** System

**Pre-Conditions:** Customer requests ticket

**Post-Conditions:** Customer is denied entry because parking is full

**Basic Flow or Main Scenario:**

1. Customer presses button at kiosk
2. Display shows full and denies entry

**Extensions or Alternate Flows:** Garage isn’t full and gate opens

**Exceptions:**

**Related Use Cases:** Customer Requests ticket, Logging Spaces and Events

**Use Case: 08**

**Use Case Name:** Ticket Validation

**Relevant Requirements:** The system must validate tickets before payment

**Primary Actor:** System

**Pre-Conditions:** Customer presents ticket at kiosk

**Post-Conditions:** Ticket is either validated, expired, or invalid

**Basic Flow or Main Scenario:**

1. Customer inserts ticket
2. System retrieves ticket details
3. Ticket changes status to validated, expired or invalid

**Extensions or Alternate Flows: i**f a lost ticket is reported, customer must contact employee for override.

**Exceptions:** Ticket not found

**Related Use Cases:** Customer Requests Ticket, Calculate Parking Fee, Customer Pays Ticket

**Use Case: 09**

**Use Case Name:** Logging Spaces and Events

**Relevant Requirements:** The system must log all entry, exit, and payment events

**Primary Actor:** System

**Pre-Conditions:** A parking event occurs (entry, exit, payment)

**Post-Conditions:** Event is stored in the system log and space count updated

**Basic Flow or Main Scenario:**

1. Customer enters garage
2. Customer pays ticket
3. Customer exits

**Extensions or Alternate Flows:**

**Exceptions:**

**Related Use Cases:** Customer Requests Ticket, Customer Pays Ticket, System Checks if Garage is Full

**Use Case: 10**

**Use Case Name:** Employee manual gate operation

**Relevant Requirements:** Employees must be logged into the system, only authorized employees may open or close a gate

**Primary Actor:**  Employee

**Pre-Conditions:** Employee is logged in, Employee has authorization.

**Post-Conditions:** Gate is opened or closed as requested, action is logged with employee ID

**Basic Flow or Main Scenario:**

1. Employee opens the Gate Control screen.
2. Employee selects a gate.
3. Employee chooses to open or close the gate.
4. System sends the command.
5. Gate changes state and reports back.
6. System shows confirmation and logs the action.

**Extensions or Alternate Flows:** if gate is unresponsive show error message

**Exceptions:** System is down

**Related Use Cases:** Logging Spaces and Events, Ticket Validation

**Use Case: 11**

**Use Case Name:** Employee Ticket Override

**Relevant Requirements:** Employees must be logged into the system, only authorized employees can override tickets, all overrides must be logged in the system with user and date

**Primary Actor:**  Employee

**Pre-Conditions:** Employee is logged in, Ticket exists in system or customer presents lost/damaged ticket case

**Post-Conditions:** Ticket status is updated (lost, void, replaced)

**Basic Flow or Main Scenario:**

1. Employee searches for the ticket.
2. Employee selects an override type.
3. Employee enters a reason.
4. System applies the override policy.
5. Customer pays if required.
6. System updates the ticket and logs the action.
7. System provides a receipt or confirmation.

**Extensions or Alternate Flows:** If ticket results validated for exit show error message.

**Exceptions:** ticket results validated for exit.

**Related Use Cases:** Customer Pays Ticket, Ticket Validation.