AUGMS- JIRA -SS1 - Deliverable 4AUGMS Events and Perfect Technology Assumption

1.1 External Events

External Event	Agent	Use Case Name	Use Case ID
A student/faculty member wants to register their vehicle.	Student, Faculty	Register Vehicle	UC-101
A registered vehicle arrives at the garage entry gate.	Sensor System	Validate Vehicle Entry	UC-102
A registered vehicle arrives at the garage exit gate.	Sensor System	Process Vehicle Exit	UC-103
A user wants to view real-time parking availability.	Student, Faculty	View Parking Status	UC-104
A user wants to request a service (EV charging/car cleaning).	Student, Faculty	Request Service	UC-105
An administrator wants to approve or reject a vehicle registration.	Garage Admin	Manage Vehicle Registration	UC-201
An administrator wants to monitor current garage occupancy.	Garage Admin	Monitor Garage Occupancy	UC-202
An administrator wants to handle a user's service request.	Garage Admin	Manage Service Request	UC-203

| Management wants to view usage and service reports. | University Management | Generate Usage Report | UC-301 |
| An administrator needs to modify user access (enable/disable). | University Management, Admin | Manage User Access | UC-302 |

1.2 Temporal Events

Temporal Event (Trigger)	Use Case Name (ID)
End of each day (e.g., Midnight)	Generate Daily Operations Report (UC-401)
End of each week/Month	Generate Weekly/Monthly Summary Report (UC-402)
A service request is completed and needs logging.	Log Completed Service (UC-403)

1.3 State Events

State Event	Use Case Name (ID)
Garage occupancy reaches 100% (Full)	Update Garage Status to FULL (UC-501)
Garage occupancy falls from 100% (No longer full)	Update Garage Status to AVAILABLE (UC-502)
A parking sensor indicates a malfunction/error.	Generate Sensor Error Alert (UC-503)

2. Perfect Technology Assumption Check

According to the perfect technology assumption, system control functions are not included in initial event analysis. These will be added during system design.

Included system-control events:

- Student requests parking access
- System checks availability
- Student reserves a spot
- Student enters garage (sensor detects entry)
- Sensor marks a spot as occupied
- Student requests electric charging
- Student requests car cleaning service

- Admin adds/updates parking zones
- System notifies student when capacity is full
- System updates which spots are free/occupied based on sensors

3. Brief Use Case Description Table

Use Case ID	Use Case Name	Brief Description
UC-101	Register Vehicle	The system allows a student or faculty member to input and save their personal and vehicle details for garage access.
UC-102	Validate Vehicle Entry	The system automatically checks a vehicle's license plate at the entry gate against registered records and grants or denies access.
UC-103	Process Vehicle Exit	The system records a vehicle's exit time, updates the parking space status, and opens the exit gate.
UC-104	View Parking Status	The system displays the real-time count of available and occupied parking spaces to users via a dashboard.
UC-105	Request Service	The system allows a user to submit and confirm a request for an optional service like EV charging or car cleaning.
UC-201	Manage Vehicle Registration	The system allows an administrator to review, approve, reject, or modify pending and active vehicle registrations.
UC-202	Monitor Garage Occupancy	The system provides administrators with a detailed view of current

		occupancy, often broken down by zone or floor.
UC-203	Manage Service Request	The system allows an administrator to view new service requests, assign them for completion, and update their status.
UC-301	Generate Usage Report	The system compiles and presents data on garage usage patterns and service statistics upon request from management.
UC-302	Manage User Access	The system allows an authorized administrator to temporarily or permanently revoke or restore a user's garage access privileges.
UC-401	Generate Daily Operations Report	The system automatically creates and stores a log of all daily activities (entries, exits, services) at the end of each day.
UC-402	Generate Weekly/Monthly Summary Report	The system automatically generates a summary report of parking and service trends for management review at scheduled intervals.
UC-403	Log Completed Service	The system automatically records the date, time, and user details when a service request is marked as completed.
UC-501	Update Garage Status to FULL	The system changes the overall garage status to 'FULL' on all user and admin interfaces when the last spot is occupied.

UC-502	Update Garage Status to AVAILABLE	The system changes the overall garage status back to 'AVAILABLE' when a spot becomes free and the garage was previously full.
UC-503	Generate Sensor Error Alert	The system detects a sensor malfunction, logs the error, and notifies the maintenance team or administrators.