`Use Case Diagram or Parking lot System

The use case diagram for a parking lot system is shown in the diagram below. There are two actors in this diagram: the sensor and the display board. The sensor in this system oversees counting cars as they enter and exit the parking lot. Furthermore, a display board will show the number of available parking spaces for the car. This system also includes an indicator that displays available space. For instance, if there is free space, green LED will turn on and red LED will be turn off; otherwise, if there is not free space, green LED will turn off and green LED will turn on. This system will also include a gate controller handle, which will allow the gate to be closed or opened.

Parking Lot System Sequence Diagram

The flow of the system will be depicted in this sequence diagram. Sensor, system, display, led green, led red, and gate controller are the six required objects. Initially, the sensor will inform the system whether the car is entering or exiting the parking lot. If the car enters the parking lot, the system will receive the input value is 1. If the car drives away, the input value will be 0. The system will then update the number of cars and calculate free space. Following the completion of the process of updating and calculating the number of cars, the system will display the number of available spaces on the display board. If there is free space available, the green LED will turn on, the red LED will turn off, and the system will open the gate. If there is no free space, the green LED will turn off, the red LED will light up, and the gate will close.