

Requirements for the Elevator System

Learn about all requirements of the elevator system.

We'll cover the following

- Requirement collection

In this lesson, we'll list the requirements of the elevator system. This is a very crucial step as requirements define the scope of a problem, so getting them right from the interviewer and understanding them well will make the design of the rest of the system smooth and easy.

We'll use the notational convention to identify each requirement with a unique label "Rn", where "R" is short for Requirement and "n" is a natural number.

Requirement collection

For the elevator design problem, the requirements are defined below:

R1: There exist multiple elevator cars and floors in the building.

R2: The building can have a maximum of 15 floors and three elevators.

R3: The elevator car can move up or down or be in an idle state.

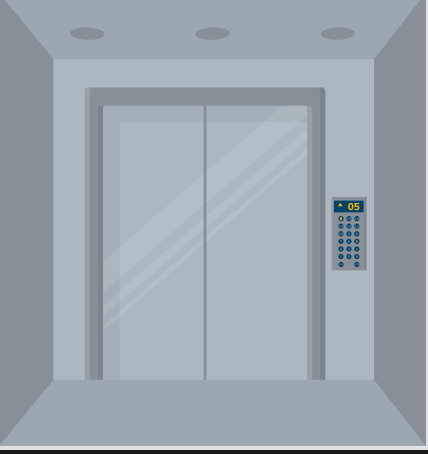


R4: The elevator door can only be opened when it is in an idle state.

R5: Every elevator car passes through each floor.

R6: The panel outside the elevator should have buttons to call an elevator car and to specify whether the passenger wants to go up or down.

R7: The panel inside the elevator should have buttons to go to every floor. There should be buttons to open or close the lift doors.



R8: There should be a display inside and outside the elevator car to show the current floor number and direction of the elevator car.

R9: The display inside the elevator should also show the capacity of the elevator car.

R10: Each floor has a separate panel and a display for each elevator car.

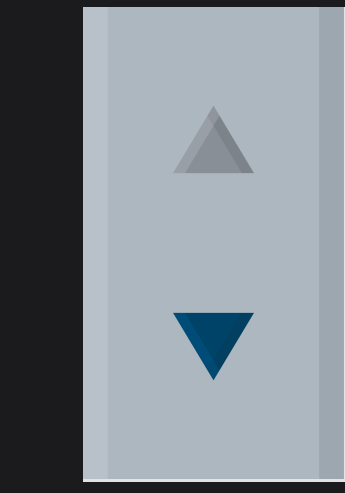


R11: Multiple passengers can go to the same or different floors in the same or opposite direction.

R12: The elevator system should be able to control the elevator car movement and the door functioning and monitor the elevator car.

R13: The elevator control system should be able to send the most appropriate elevator to the passenger when the passenger calls the elevator car.

R14: The elevator car can carry a maximum of eight persons or 680 kilograms at once.



We've identified our requirements for the problem. In the next lesson, we will define different use cases for the elevator control system.