IIT GOA

INDIAN INSTITUTE OF TECHNOLOGY GOA
भारतीय प्रौद्योगिकी संस्थान गोवा

CS524 Advanced Data Structures using C++

Mini-Project Specifications

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Project: Elevator Control System.

Goal: To simulate the Elevator control system in C++ by making use of Classes, Objects and STL.

What the project intends to do?

Implementation of basic functionalities of an elevator, such as:

- Making a call for the elevator.
- Making a request to the elevator to go to a specific floor.
- Taking multiple requests.
- Emergency stop.
- Checking for the conditions that may cause security issues, such as the upper weight limit and the number of passengers in the elevator at a time.

When a passenger presses the directional keys (UP or DOWN) from his/her floor, an elevator comes to that floor in order to serve the passenger. When the passenger enters the elevator, the security system of the elevator checks if the weight limit or the number of passengers limit has been exceeded, in such cases, until the security checks are satisfied, some passengers may be needed to leave the elevator in order for it to function again. While moving UP or DOWN, the elevator takes all the

intermediate requests in that direction. As expected from an elevator, the elevator can't go up from the top floor, and can't go down from the ground floor, unless specified if there are underground floors.

Input specifications:

- Will take input if the passenger has to go in the upward direction or the downward direction.
- The floor number where the passenger intends to go.

Output specifications:

Expected output is that all the passengers inside the elevator have to reach their specified floors correctly. Hence, whenever a passenger is transported to his/her desired floor, the program will output a confirmation message that the passenger has arrived at his/her floor.