

EGCC

Problem statement:

GREEN YOUR ELEVATOR

Design an elevator with the following specifications:

1. It should allow only a restricted no. of people into the elevator.
2. Restriction is based on the number and the net weight of people inside.
3. There **should** be a counter that displays the number of people inside.
4. Maximum no. of people that can be accommodated in the lift are **six**.
5. Maximum weight your lift can carry is 400kgs.
(Testing for weights: The model will be tested with small weights like 0.5, 1 and 2 kg, where 1kg represents 40kg. Hence your model should give an indication if test weight of more than 10kg is applied on it)
6. The fan in the elevator should be optimised (speed control) based on the no. of people in the lift.
7. Both the constraints 4 and 5 are the upper bounds for your lift.
8. If any of the 4th and 5th constraints is violated, there should be an indication (like a buzz or voice message).
9. Complete entrance (or departure) of a human being only should be considered as an entry (or exit). i.e. fake counting has to be avoided.

Extra credits:

- ➔ If the model displays the net weight of the people inside
- ➔ Voice message informing the violation of any of the 4th and 5th constraints.
- ➔ Aesthetics

Error allowance: Error in the indication of maximum weight may be allowed between 380 and 410kgs.

Credit Policy:

Counter :	50
Weight :	30
Fan:	20
Total:	100

Extra credits:

Display weight: 50

Voice message: 30

Aesthetics: 20

Total: 100

Net: 200

Team Specification:

A team may consist of a maximum of 3 members. Students from different educational institutes can also form a team.

Eligibility:

All students with a valid identity card of their respective educational institutes are eligible to Participate

Rules and Regulations:

1. Any team that is not ready at the time specified for the presentation will be removed from the competition automatically.
2. Judges' decision shall be treated as final and binding on all.
3. The organizers reserve the right to change any or all of the above rules as they deem fit. Change in rules, if any, will be highlighted on the website and notified to the registered participants.

Abstract submission:

Teams should send their abstract on or before 20-01-2011 by 23:59:59 Hrs. to vivek@iith.ac.in .

Abstract format:

1. Components used.
2. Basic structure of the lift.
3. How counting is done (principle used and brief explanation of how fake counting is avoided).
4. How weight is measured.
5. What is the indication (indications) used when the 4th and 5th constraints are violated.
6. Any assumptions made for your model to work.

Frequently asked questions:

1. What should be the size of the lift?

Ans. Size should be such that the organizers can check the required conditions.

The model has to be small such that it can rest on a table.

2. Can we use any readymade kit for sensing?

Ans. No, you should make the appropriate circuit.

Certificate Policy:

1. Certificate of Excellence will be awarded to the top 3 winners.
2. Disqualified teams will not be considered for any certificate.

Contact details:

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