



ELECTRO-MANIA

Team Event(Y17)

Points : 35

Introduction :

Ever fantasized a smart home in which lights or fans automatically turns on or off based on presence of people in the room or not ? Ever thought of a smart AC which sets its compressor power based on the number of people in a room ? Ever wondered how easy organising a GBM would be when you know the number of people who are actually present in a room ? These examples shows the need of knowing how many people are in a particular room. Electromania Takneek gives you an opportunity to practically realize and understand the circuit behind this **people counting** device. The method of counting which we will used is **1st**

Generation: Infrared Beam Counters.

Problem Statement :

Aim is to keep the track of number of people entering and leaving the room and display the current count of people inside the room. Objective of the game is to create a robust prototype of such a model on breadboard.

Task :

- For detecting the number of people entering and leaving the room, a set of IR transmitters or receivers must be used.
- Counter should be updated only when a person has entered or left the room.
- You must be able to count and display atleast upto 9 people in a room.
- Direction in which the person enters and leaves the room must be clearly indicated.

Constraints :

- Only non-programmable IC's can be used.
- You have to make your circuit on breadboard.
- Use of any micro-controller is prohibited

General Rules :

- A team of maximum 4 members can be formed.
- The participating team must necessarily register themselves for the event.
- There can be any number of teams from each pool.
- You will be issued components only after you have submitted an abstract of your idea
- The teams must adhere to the spirit of healthy competition
- The teams must not damage their fellow participants' circuit in any way
- Judges reserve the right to disqualify any team indulged in misbehaviour
- In case of any dispute, judge's decision would be the final decision.



Judging Criteria :

- The judging criteria favours a proper layout of the components along with a robust circuit.
- All basic compulsory features should be implemented, and only after their evaluation would extra Extra features be considered and assessed.
- Any extra feature added in your circuit would add to your score.
- You need to prepare a flowchart on an A-3 size sheet (during evaluation) to present the complete logic Of your circuit.
- 20 points are for completion, robustness and clean bread boarding (i.e Basic and compulsory features).
- 15 points are reserved for any innovation in the project and/or new features implemented (Note that these 15 points will be checked for and awarded only after you implement the basic problem statement).

Contacts :

Prince Saroj - 8112992765
Hardik Maheshwari - 7309209153
Hemanth Bollamreddi - 7388725462

Note :Subjectable to minor changes