Micro Mouse

Micro mouse is an auto controlled robot whose main aim is to solve a given maze and go from one end point to the center of the maze.It should not destroy or damage any of its surroundings.

Components :

1. Microcontroller
2. Sensors - (IR) 6 + 6 + 1(@ the rear end if necessary)
3. Motors - (Stepper) 2 (on either side for each wheel)
4. LEDs - 12 (one for each sensor)
5. Wheels - 2 + 1 (2 controlled by motors + 1 free wheel)
6. Battery - (yet to be chosen)
7. Chassis - (Aluminium sheet)

Construction :

The stepper motors and the wheels attached to them shall form the base of the micromouse (robot). Above these motors,the battery shall be placed. The PCB shall be mounted on a platform that willl be placed above the battery. The PCB will contain the micro controller, sensors and etc. attached to it.

There will be three (3) sensora\s, top-down looking sensors placed on each side of the micromouse. They will help in determining and sensing walls. We will also have three sensors on either side of the micromouse which will be looking sideways and will help in maintaining the distance between the micromouse and the walls of the maze. There will be a sensor in front that will help in determining the presence or absence of walls in the front of the robot. If necessary, we can also have a sensor at the back.Along with the front sensor, there will be three other sensors (all IR) placed on either side of the front sensor (As shown in the figure) to determine the presence of side walls.

The dimensions of the robot as a whole shall be within the limits of 15x15x10 cm (trying to minimise it to the farthest extent possible – the smaller the better).

EW Project – Group 4

Hardware :

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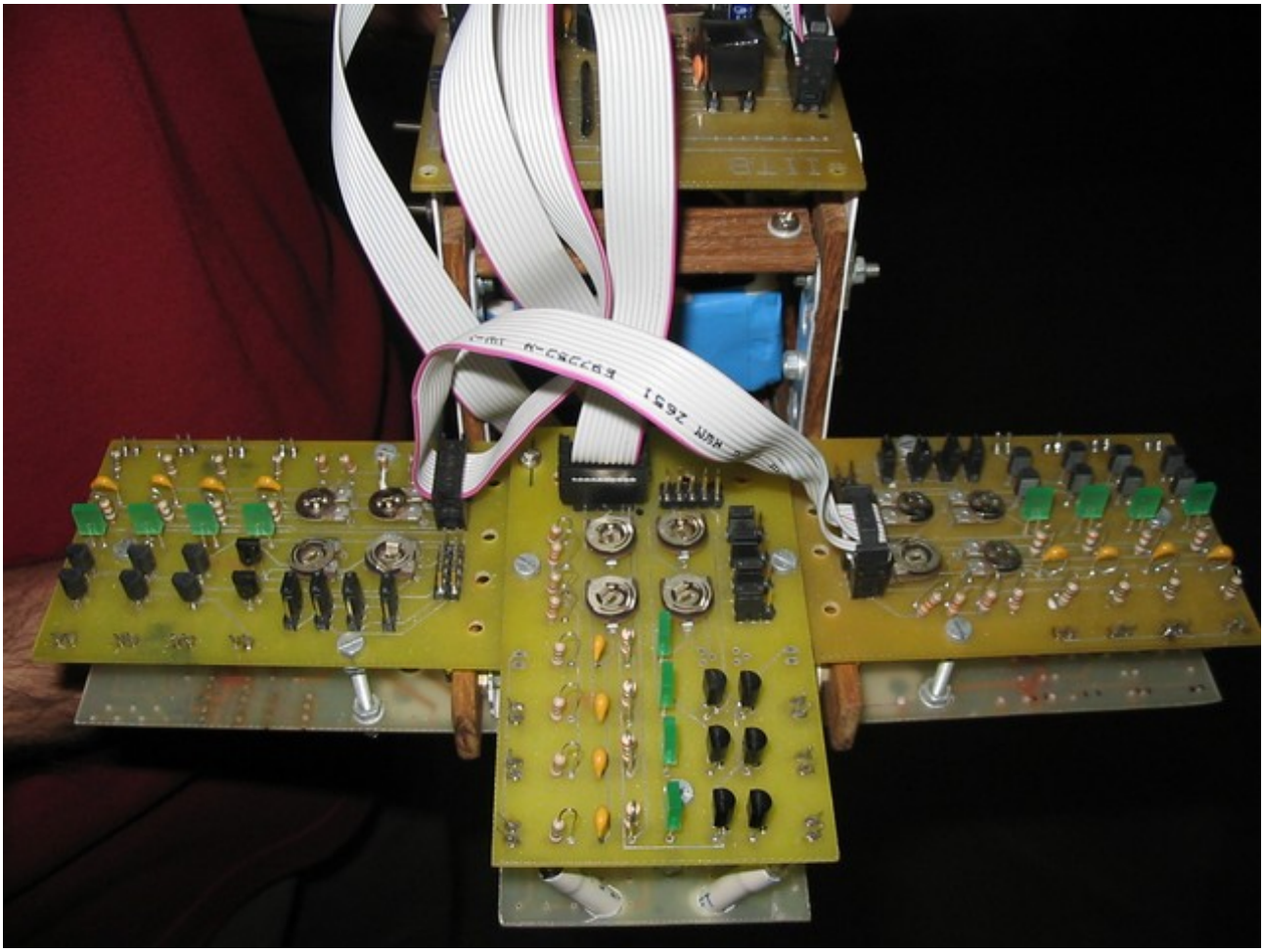
Software :

1. **Galla Vinod Kumar**
2. **Phani Krishna K S S S**



AN OVER ALL PICTURE OF PREVIOUSLY BUILT MICROMOUSE

(src : http://www.iitb.ac.in)

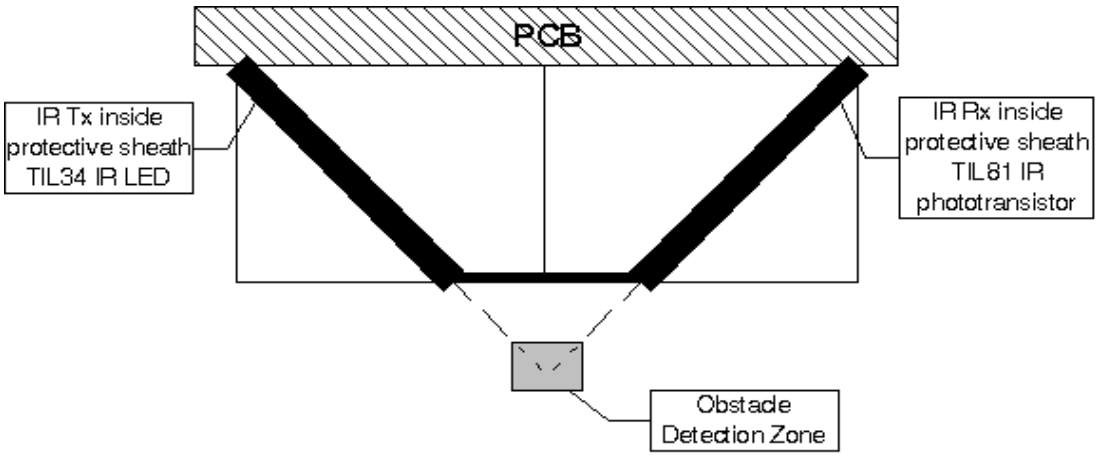


Figure 1: IR Sensor Detail (single unit)

THE FRONT PICTURE OF THE PLACEMENT OF SENSORS