Section – 2 (Real Project) : Mosquito Detector and Counter

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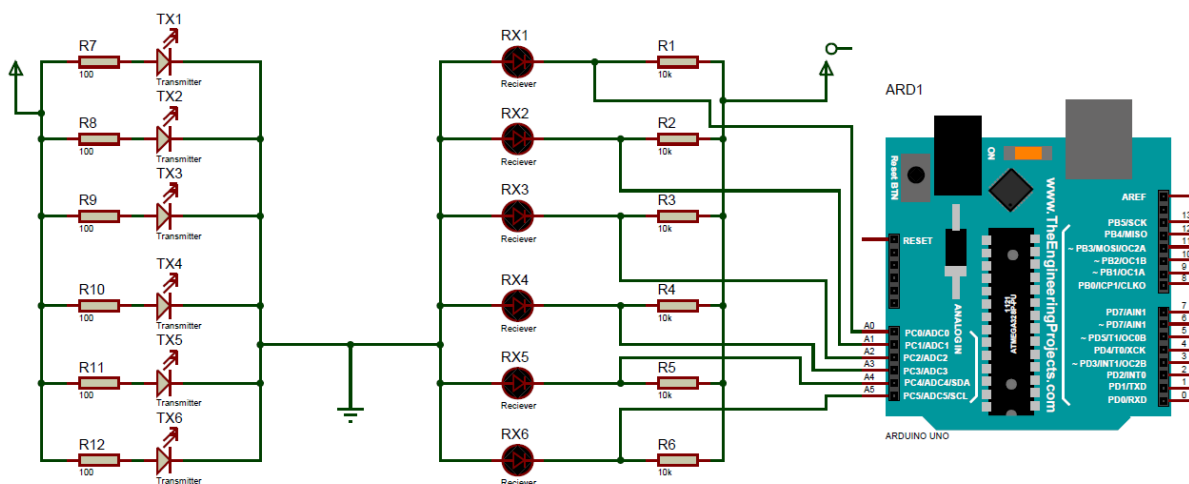
MATERIALS

(*List down the Components, Equipment, etc. actually used in the project*)

Arduino (UNO,DEU,MEGA), jumper wires, wires, soldering iron and wire, IR transmitter and receivers, PCB, resistors of 10k and 100 ohm resistances.

CIRCUIT DIAGRAM

(*Fully functional circuit diagram with exact connections. Can use Fritzing/Proteus*)

STEPS OF CIRCUIT COMPLETION

(*Bifurcate the circuit completion in steps, specify with photographs, leading to final project*)

1. Made a prototype using breadboard in which IR sensors were placed adjacent to each other.
   Result - The sensors didn't worked.
2. Reconfigured the prototype when transmitter and receiver were placed parallel and facing each other falling at line of sight.
   Result - IR sensors worked to detect thin wires but failed to detect small objects.
3. Made Array of transmitters and receivers using breadboard.
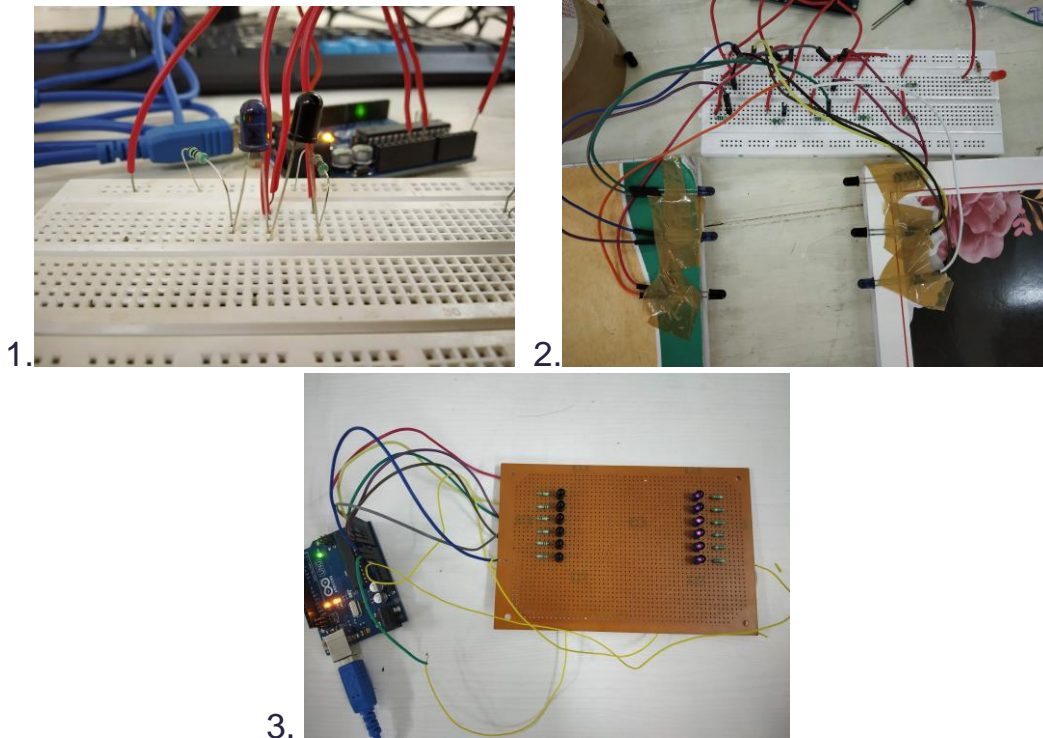   Result - IR sensors efficiency increased.

4. Made permanent connections using PCB.
   Result - Tested different ways mosquitoes can pass through the line of sight. But failed to detect mosquitoes.

5. Tried with different ADCs of different bit rates.
   Result - Sensitivity of the sensors increased with higher bit rate resolution.
6. Improved the codes efficiency.
   Result - Sensitivity increased a little, testing got easier and motion could be detected for smaller objects when compared to initial testing. But failed to detect mosquitoes.

Current Progress: -
Right now we are able to detect objects which are half in size in comparison to those which were detected in the initial testing. The sensors are detecting a paper of ball of about 5mm diameter when dropped from a height in a way that it passes from between the transmitters and receivers. But it still fails to detect the mosquitoes.

Assumed solution/ Next step: -
The next step would be to try the same setup of our project with an ADC with a higher bit rate resolution, most probably 16 bit.

1.

2.

3.

PROGRAM CODE

(*Link of your Github project*)

https://github.com/akashksinghal/Mosquito-Detector-and-Counter

QR CODE FOR THE SAME:

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