

PIR SENSOR BASED SECURITY ALARM SYSTEM

INTRODUCTION:

Generally, in security systems that are used in homes, shops, offices, etc., infrared or laser transmitters and receivers are used for accuracy and reliability. But these methods require a lot of monetary investment and infrastructure support.

A simple cost effective solution for Security Systems is implemented in this project where I will explain about a PIR based Security Alarm System, in which a PIR sensor is used instead of transmitter or receiver. This saves power consumption as well as it is a low cost implementation. PIR sensor is the short form of Passive Infrared Sensor.

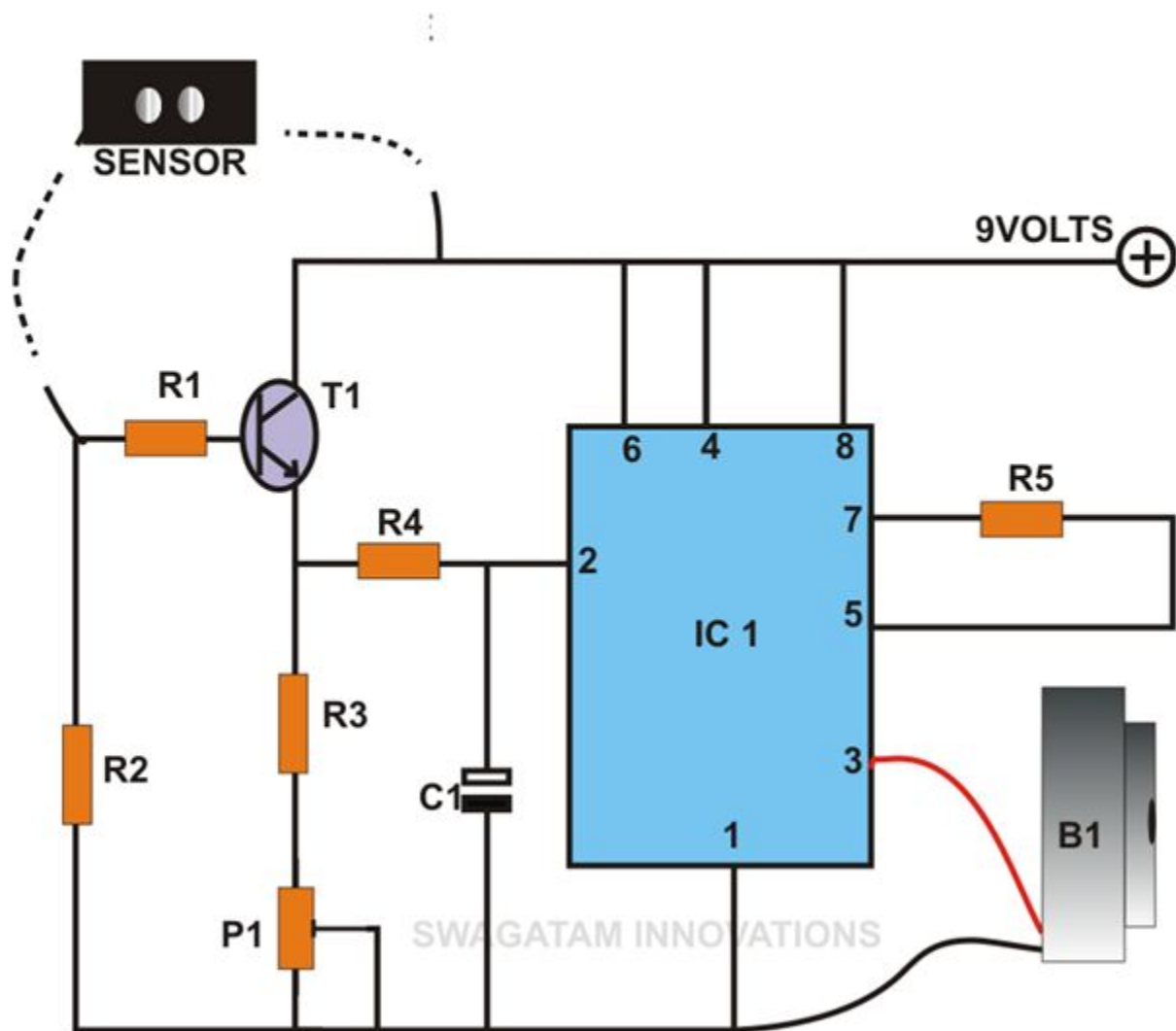
WORKING PRINCIPLE:

The main idea of the circuit is to provide security. This is based on PIR sensor with an IC that produces siren. The PIR sensor detects the IR radiations emitted from the humans and it produces a digital output. This digital output is applied to the Arduino UNO.

Based on the digital signal from the PIR Sensor, Arduino UNO then triggers the UM 3561 siren IC. Thus it produces the sound when any human is detected.

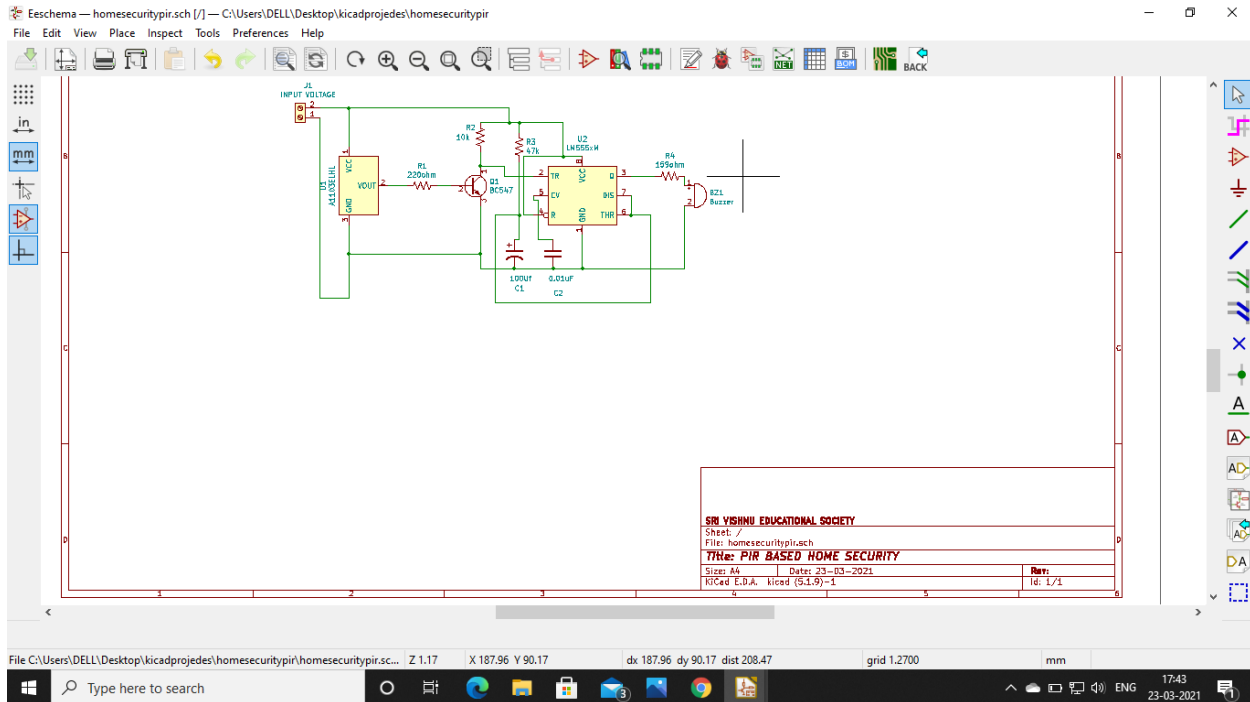
The UM3561 is a ROM IC. It generates multi siren tones like ambulance siren, fire engine siren, police siren, machine gun sound.

CORCUIT DIAGRAM:

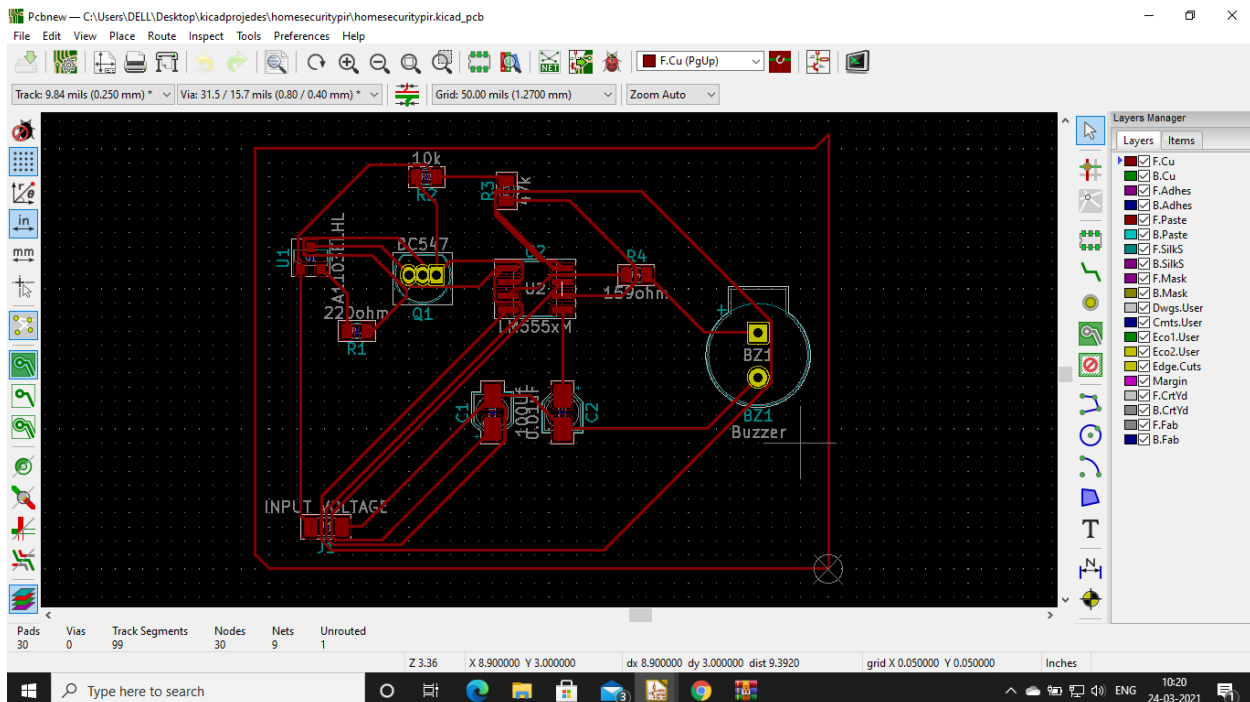


PCB DESIGNING PROCESS:

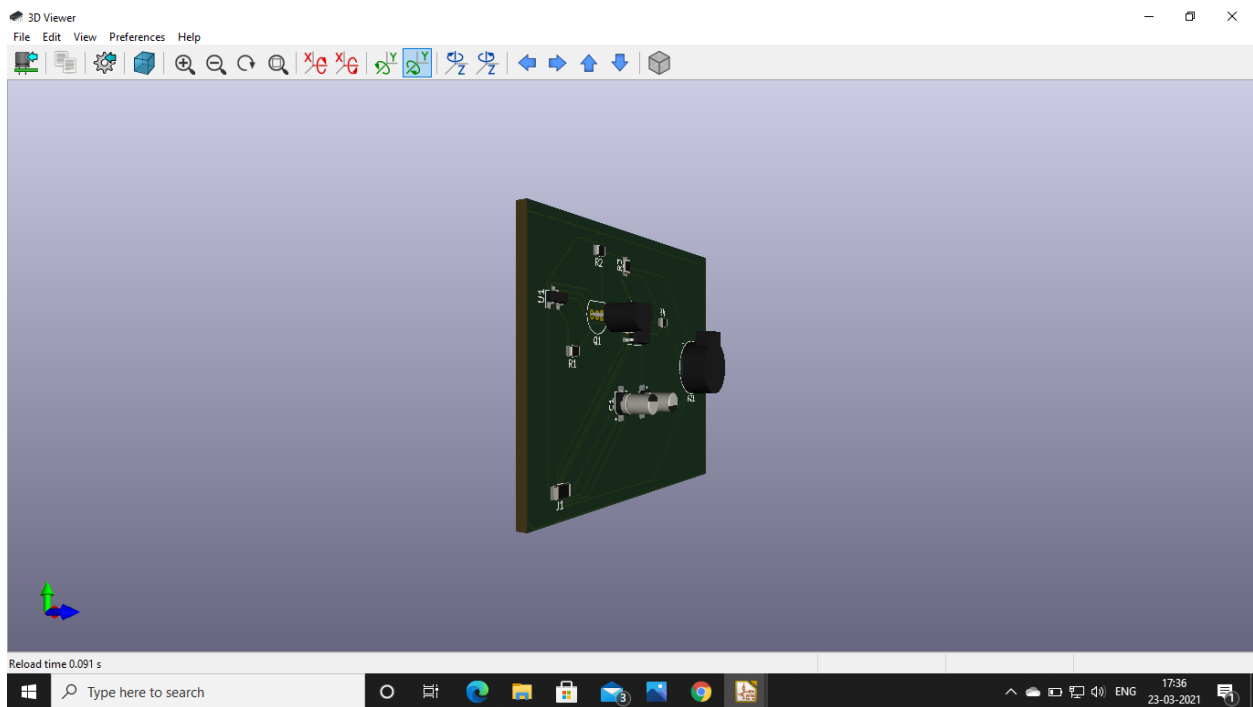
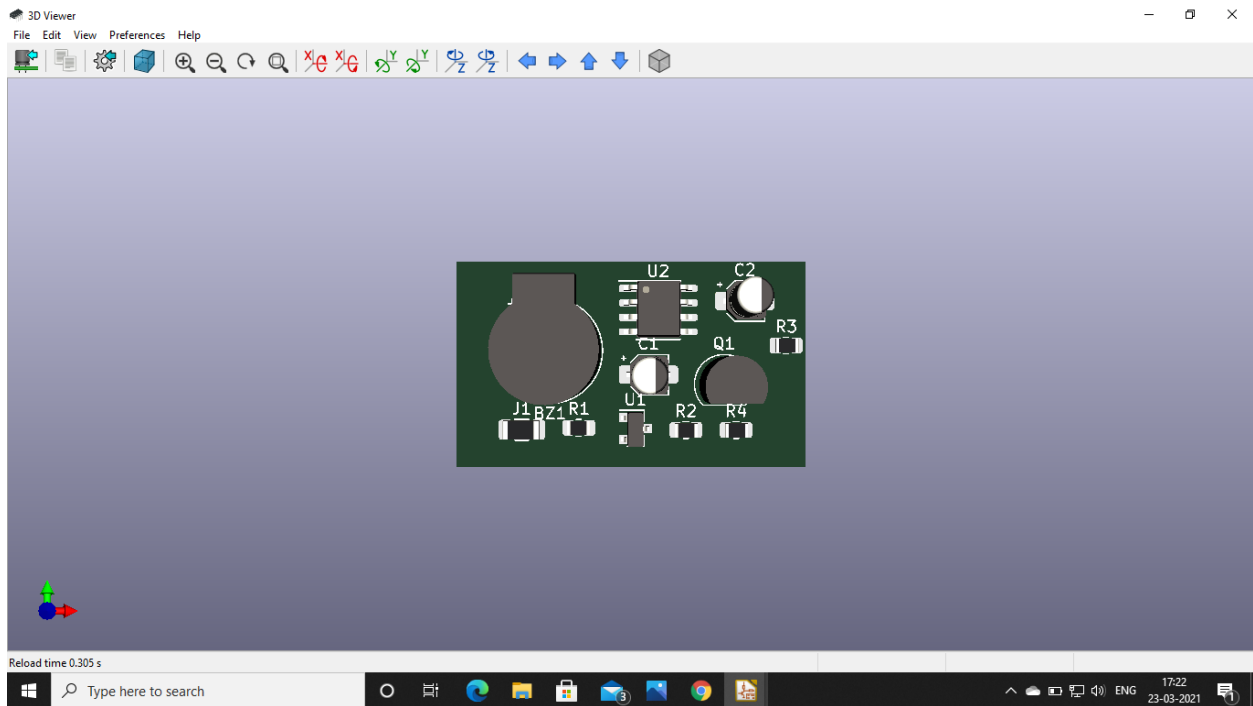
STEP NUMBER 1: NORMAL CIRCUIT

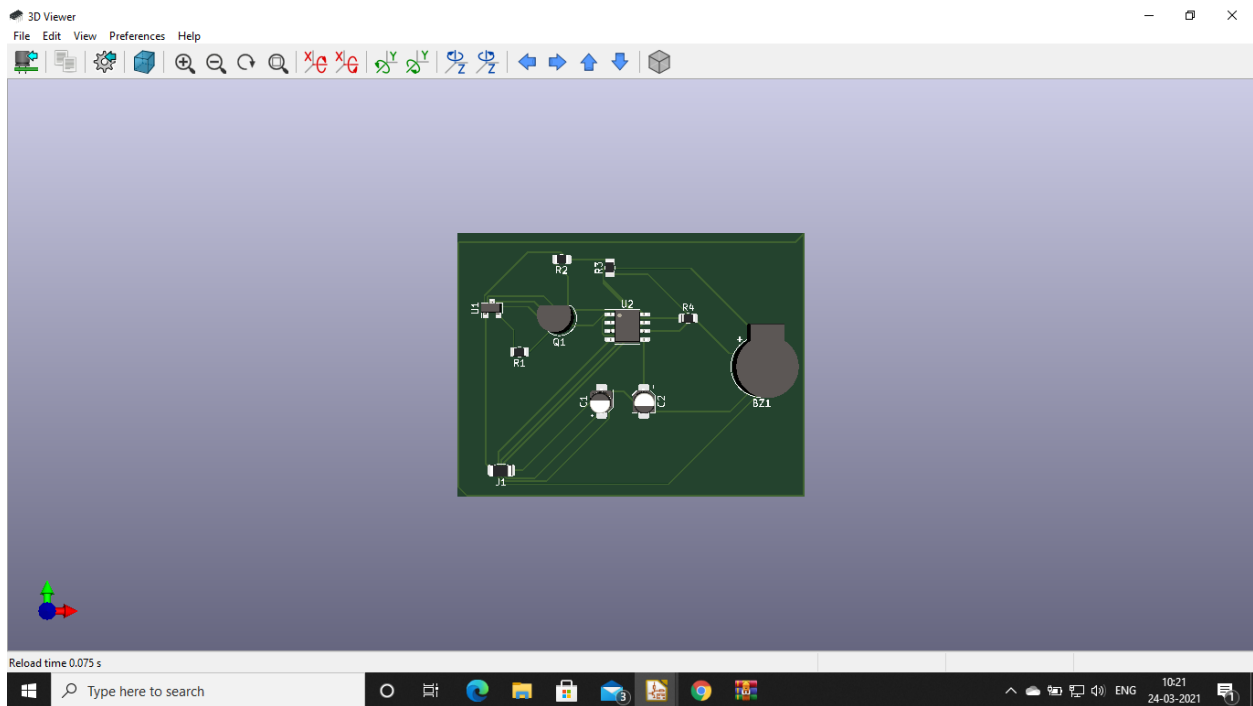
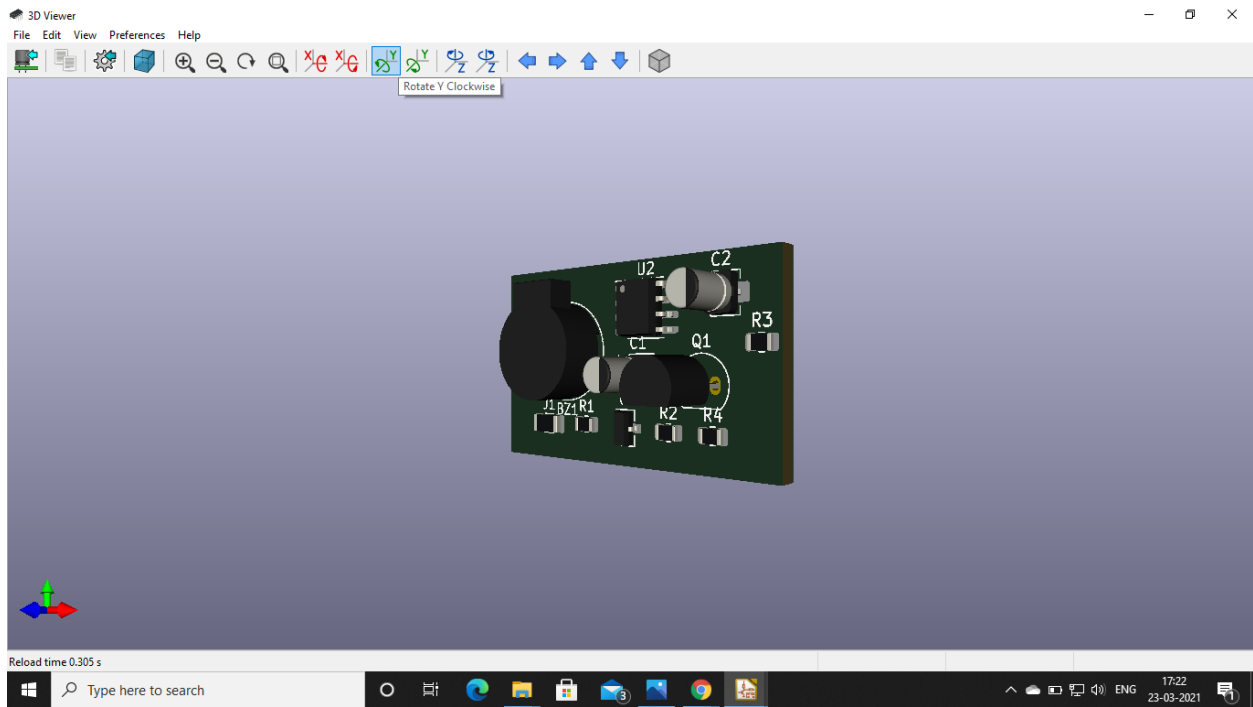


STEP NUMBER 2: LAYOUT



STEP NUMBER 3: 3D VIEW:





STEP NUMBER 4: GERBER FILE

