Ultrasonic Home Security System

Degree Project Report

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Declaration

We hereby declare that this Project named Ultrasonic Home Security System, based neither as a whole nor as a part here of has been copied out from any source. It is further declared that we have developed this project on our own and the accompanied report entirely on the basis of our personal efforts made under the sincere guidance of our seniors and teachers. If any part of this report is proved to be copied out or found to be reported, we shall standby the consequences. No portion of the work presented in this report has been submitted in support of any other degree or qualification of this or any other University or Institute of learning.

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ABSTRACT

The basic purpose of our project is to with the emergence of new technologies, the field of security has witnessed an exponential rise and it has spread across the entire country. Being engineering students we have decided to take up the challenge and build a portable security systems which is reliable, user friendly, cost effective, scalable and less power consumption and it could help us and others to protect property and privacy and needs no installation and detects invaders on their physical presence. The system uses PIR & Ultrasonic sensor that has a transmitter and a receiver part. The Ultrasonic transmitter periodically emits ultrasonic signals into an open area in front of it, and PIR sensor will look for living things e.g. human on large area. To cover a wide range for Ultrasonic sensor, a rotating servo motor is used to allow the sensor to cover roughly 180 degrees. If the signal ever hits a physical object, it will be reflected back and, the receiver part of the sensor will then capture it with the object considered detected. As the security system sends off a sound alarm (glows LED in our case). Then microcontroller sends the information to PC. That information is then polled by our MATLAB script that information will send as an email to an address set by the owner in advance. The system is also password protected; user can enable or disable system through correct password.

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