

SOUND SENSITIVE SMART SECURITY SYSTEM WITH USER DEFINITION

[Project sponsored by Karnataka State Council for Science and Technology, Bangalore
under 37th Student Project Programme]

Project Report Submitted by

**Ashwini Prabhu
(4NM10EC023)**

**Athul Shenoy K
(4NM10EC024)**

**Pruthvi Tantri
(4NM10EC069)**

**Reynol Barnes
(4NM10EC079)**

UNDER THE GUIDANCE OF

Guide

Dr. M.K. Parasuram
Director, Dept. of Electronics
& Communication Engineering

Co-guide

Ms. Ankitha Rao
Asst. Prof., Dept. of Electronics
& Communication Engineering

in partial fulfillment of the requirements for the award of the Degree of

***Bachelor of Engineering in Electronics and
Communication***

from

Visvesvaraya Technological University, Belgaum

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

N.M.A.M. INSTITUTE OF TECHNOLOGY

(An Autonomous Institution under VTU, Belgaum)

(AICTE approved, NBA Accredited, ISO 9001:2008 Certified)

NITTE –574 110, Udupi District, KARNATAKA



April 2014

ABSTRACT

The main objective of our project is to prevent activities like burglary, robbery etc. The design comprises of microcontroller, microphones, sound identification and detection blocks. Sound dependent smart security system utilizes the sounds inherent during a break-in to provide security.

This system consists of a microphone which is used for detecting sounds. These sensors are placed at strategic locations around the house to be protected. The sounds are then characterized into harmful or non-harmful based on which required action is taken. To differentiate between sounds happening in the immediate surrounding from that of background noise, the signal is sent to a comparator with a predetermined threshold. Hence only sounds of considerable threat are considered.

The sound identification block then ascertains the persistence of the sound signal for it to be a signal of interest. Each microphone is equipped with these circuits and the outputs are fed to a microcontroller which performs the necessary user defined operations to notify the system user. The system reacts to a break-in by setting off an alarm, switching on of lights in the area close to the break-in and sending messages to user and other people assigned by the user.

Thus a low cost system capable of preventing break-ins at all instances is designed to help prevent illegal activities.