A REPORT ON

DOOR SENSOR ALARM SYSTEM

ABSTRACT

The need for door sensor alarm system is a serious demand. As the number of crimes are increasing every day, there has to be something that will keep us safe. We are all aware of the high end door sensor alarm present in the market. But they are not easily available to everyone. We therefore intend to provide a solution by constructing a cost efficient electronic system that has the capability of sensing of door is open or closed and setting off the alarm. The basic idea behind this project is that when door is open then it will produce sound. And LED will glow.

The project involves the use of atmega328p microcontroller, Audio Out Device, LED , resistor and a simple program.

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INTRODUCTION

Door Sensor Alarm System is a project that enables to sense the Door is open or closed. This project can be use in home , organisation , and many other places. This is implemented in C . C is a platform independent language. Its created project can be used on a standalone machine.

The objective is to construction an electronic circuit that acts as a watch dog. It is used to protect a door when it is ON. It sounds an alarm when the door is open. Alerting you if someone opens, or tries to open , the doors in your home.

Anyone can use Door Alarm System in home, in hospital, in any organization. Door Alarm System can be very effective home security device. This project uses simple functions. It is very easy to work.

By using atmega328P microcontroller it can be achieved. This Project requires a lost cost of development.

The project involves the use of atmega328p microcontroller, Audio Out Device, LED , resistor and a simple program.

REQUIREMENTS

1. INTRODUCTION

Door Sensor Alarm System is a project that enables to sense the Door is open or closed. This project can be use in home , organisation , and many other places.

This project is implemented in C. C is a platform independent language. Its created project can be used on a standalone machine.

2. OBJECTIVE

The objective is to construction an electronic circuit that acts as a watch dog. It is used to protect a door. It sounds an alarm when the door is open. Alerting you if someone opens, or tries to open , the doors in your home.

3. 4W and 1H

Who

Anyone can use Door Alarm System in home, in hospital, in any organization , and a door of a car.

What

Door Alarm System can be very effective home security device.

Why

This project uses simple functions. It is very easy to work.

Where

This Project is used in any entry point in home and some other front door.

How

By using atmega328P microcontroller it can be achieved.

This Project requires a lost cost of development.

4.Detail requirements

High Level Requirements

In this Project we use a atmega328P microcontroller , a LED , an audio out device and a resistor.

1.This can be use in door of a car. If door of a car is open then this buzzer will produce sound and LED will glow.

2.This can be use in a home for security purpose. alerting you if someone tries to open the door.

Low Level Requirements

This project can be implemented by using c language in both windows and linux os. # Implemented

DESIGN

FLOW CHART OF DOOR SENSOR ALARM SYSTEM

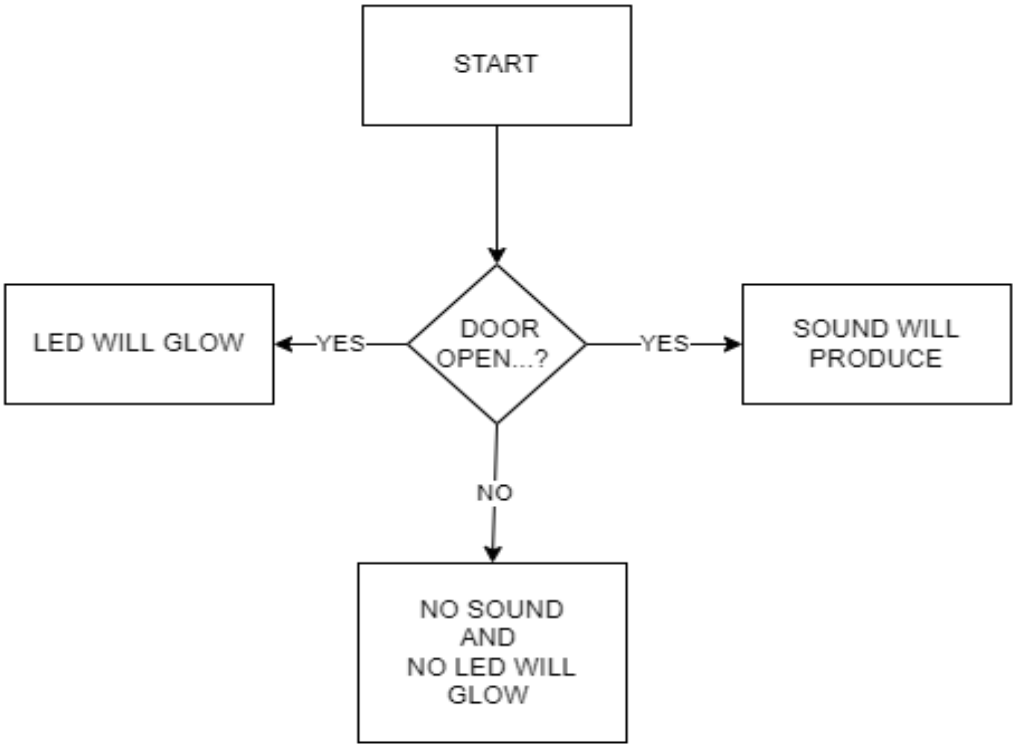


Fig 1.

STRUCTURAL DIAGRAM OF DOOR SENSOR ALARM SYSTEM

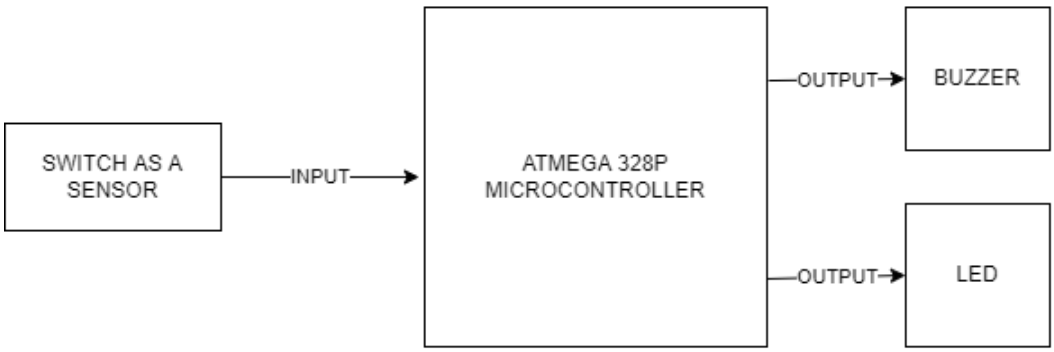


Fig 2.

HOW TO USE THIS PROJECT....?

1. Press the Switch button.
2. Open the switch.
3. LED will glow.
4. Buzzer will produce sound.
5. Close the switch.
6. LED will off.
7. Buzzer will not produce sound.

IMPLEMENTATION

```
/*
* A door sensor is connected to bit 0 of Port D.
* An LED is connected to bit 6  of Port C .
* An Audio Out device is connected to bit 3 of port C.
* Write an AVR C program to monitor the door sensor and when it opens turns on the LED without changing the state of other pins.
*
* Created: 20-04-2022
* Author: Sabih Fatima

*/



#include<avr/io.h>
#include<util/delay.h>
#include<stdio.h>

int main(void)
{

  DDRC=0XFF;
```

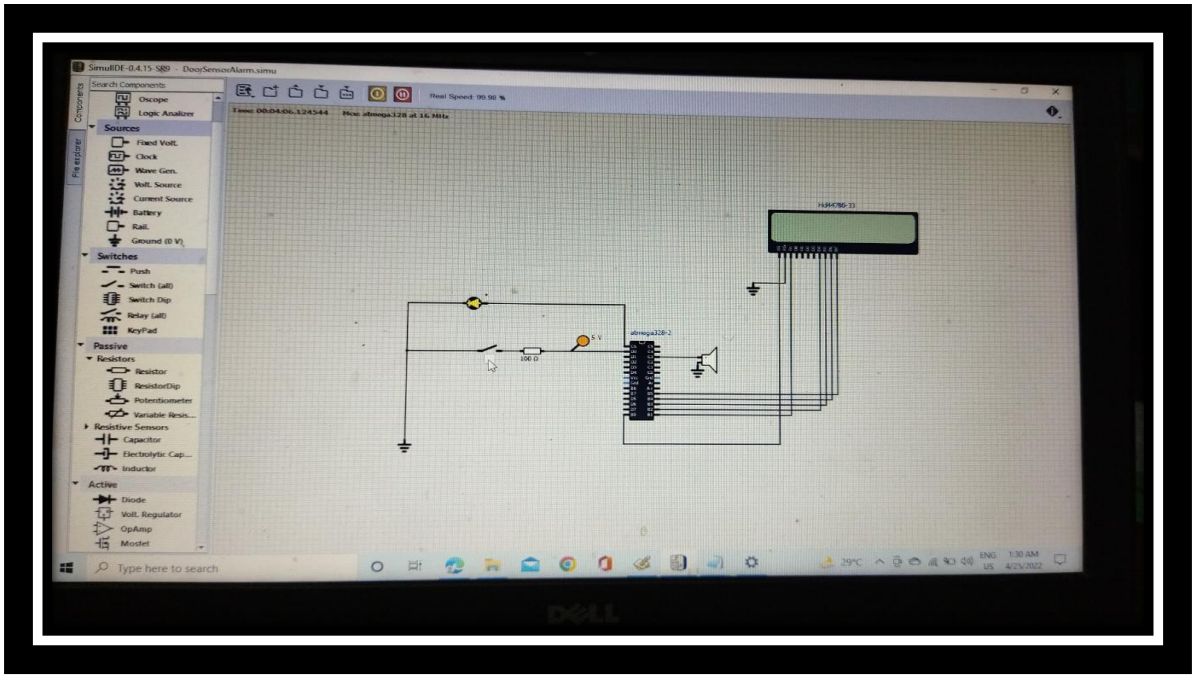
```
 DDRC|=(1<<PC0);                //  set B0=1 for led
 DDRD&=~(1<<PD0);               // clear bit
 PORTD|=(1<<PD0);

 while(1)
{
   if(!(PIND&(1<<PD0)))          //switch press
    {
    PORTC&=~(1<<PC0);         //LED will not glow
  _delay_ms(20);                //Wait for some time
     }
    else
   {
   PORTC|=(1<<PC0);             //LED will  glow
 _delay_ms(20);                 //Wait for some time

  PORTC=0xFF;                   //Turn ON the Buzzer connected to PORTC
  _delay_ms(20); //Wait for some time
 PORTC=0X00;    //Turn OFF the BUZZER connected to PORTC
 _delay_ms(20); //wait for some time
    }
}
 return 0;
 }
```

OUTPUT

1. When door is open



2. When door is closed.