

Department of Computer Science and Engineering

***Project***

Course Code: CSE 442

Course Title: Microprocessor and Microcontroller

Section: 02

Semester: Spring’17

Group No : 08

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*Submitted To*

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Submission Date: 10 April, 2017

Project Name:

IR (Infrared) Remote Control with Microcontroller for Home Appliances.

Components:

1. *Arduino UNO*
2. *TSOP1738 (Remote Sensor)*
3. *IR TV/DVD Remote*
4. *Relays 5 volt*
5. *3 LED*
6. *Connecting wires*
7. *Bread board*

Description:

In this project, we are using IR based wireless communication for controlling home appliances. In this project, Arduino is used for controlling whole mechanism of the process. We send some commands to the controlling system by using IR TV/DVD/MP3 remote for controlling AC home appliances. After receiving signal from IR remote, Arduino sends related signal to relays which are responsible for switching ON or OFF of the home appliances through a relay driver.

*Benefits:*

By using this project, we can control our A/C, Television, Light, Fan etc. only press a single button.

*Program Code:*

#include <IRremote.h>

int RECV\_PIN = 2;

int led1 = 3;

int led2 = 4;

int led3 = 5;

IRrecv irrecv(RECV\_PIN);

decode\_results results;

void setup(){

Serial.begin(9600);

irrecv.enableIRIn(); // Start the receiver

pinMode(led1,OUTPUT);

pinMode(led2,OUTPUT);

pinMode(led3,OUTPUT);

}

void loop() {

int data;

int one=12495;

int two=6375;

int three=31365;

int four=4335;

int five=14535;

int six=23205;

int seven=17085;

int eight=19125;

if (irrecv.decode(&results)) {

data= results.value;

//On Off LED 1

if(data==one){

digitalWrite(led1,HIGH);

}

if(data==four){

digitalWrite(led1,LOW);

}

//On Off LED 2

if(data==two){

digitalWrite(led2,HIGH);

}

if(data==five){

digitalWrite(led2,LOW);

}

//On Off LED 3

if(data==three){

digitalWrite(led3,HIGH);

}

if(data==six){

digitalWrite(led3,LOW);

}

Serial.println(data);

irrecv.resume(); // Receive the next value

}

delay(100);

}

*Simulation:*

