

Controlling AC Lamp Dimmer through Mobile

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Abstract

This paper represents an effective technique for the user to monitor and control the house/office appliances and other equipment's via the mobile phone. The home automation improves the lifestyle of control of the home device. Our work is based on embedded system. In this project, we propose a unique System for Home automation utilizing Dual Tone Multi Frequency (DTMF) that is paired with a wireless module to provide seamless wireless control over many devices in a house. We can operate our robot from any distant or remote area. It is a wireless robot but instead of using a separate wireless module (transmitter and receiver) we are using the cell phones for this purpose. The principle used for mobile controlled robot is the decoding of DTMF tone.

Keyword- DTMF Decoder, Microcontroller, Embedded System, Mobile Phone Etc

I. INTRODUCTION

Home Automation system employs the integration of wireless communication, and power-line communication to provide the user with remote control of various lights and appliances within their home. As per our survey of literature various workers gained achievement in this field. "N. Sriskanthan[1]" explained the model for home automation using Bluetooth via PC but that work lacks to support mobile technology. "Muhhammad Izhar Ramli [2]" designed a prototype electrical device control system using web. They also set the server with auto restart if the server condition is currently down. "Al-Ali and Al-Rousan [3]" presented a design and java based automation system through World Wide Web. "Pradeep G [4]" proposed home automation system by using Bluetooth. "Hassan[5]" has developed a telephone and PIC remote control device for controlling the devices via cable network but there was a lack of wireless communication. "R. Piyare [6]" have introduced design and implementation of a low cost, flexible and wireless solution to the home automation. In the field of home automation "Das S.R. et al[7]" and "LaurI [8]" have achieved a great success about microcontroller based systems. This system uses a consolidation of a mobile phone application, handheld wireless remote, and PC based program to provide a means of user interface to the consumer. This system is designed to be low cost and expandable allowing a variety of devices to be controlled. Home automation is becoming more and more popular around the world and is becoming a common practice. Smart home automation becomes important, because it gives the user the comfortable and easy access to the home devices. The process of home automation works by making everything in the house automatically controlled, using technology to control and do the jobs that we would normally do manually. Home automation takes care of a lot of different activities in the house. In this project, we propose a unique system for Home automation utilizing Dual Tone Multi Frequency (DTMF) that is paired with a wireless module to provide seamless wireless control over many devices in a house. Conventionally, electrical appliances in a home are controlled via switches that regulate the electricity to these devices. As the world gets more and more technologically advanced, we find new technology coming in deeper and deeper into our personal lives even at home. Home automation is becoming more and more popular around the world and is becoming a common practice. Smart home automation becomes important, because it gives the user the comfortable and easy access to the home devices. The process of home automation works by making everything in the house automatically controlled, using technology to control and do the jobs that we would normally do manually. Home automation takes care of a lot of different activities in the house. In this project, we propose a unique System for Home automation utilizing Dual Tone Multi Frequency (DTMF) that is paired with a wireless module to provide seamless wireless control over many devices in a house.

II. PRINCIPLE

In the present project a microcontroller is used as a control unit which gets inputs (instructions, commands) from a mobile connected through GSM. To make the connection more secure, consumer authentication along with a password will be provided. To switch on/off any appliance positioned at controller's part, the cellular phones are connected the appropriate tone and password are entered. The tone entered is decoded via the DTMF decoder which further translates it into binary values. Binary values are the input to the microcontroller which verifies each tone individually and corresponding output is given at the output terminal³. Thus, when the relay drive is activated by the microcontroller, the device either gets ON or is switched OFF as per the requirement. Our project makes use of auto answer facility and hence eliminates the need of a ring detector circuit.

III. APPLICATIONS

- 1) This project can be used in Industries to control various devices from a remote distance.
- 2) This project can be used in home for domestic use.

IV. ADVANTAGES

- 1) This project is simple and easy to access.
- 2) It can be accessed from remote areas.
- 3) There is low power consumption.
- 4) It can be operated from a long range

V. FUTURE SCOPE

- 1) It can be used as controlling speed of fan.
- 2) It can be used to control room temperature.
- 3) It can be also used for security purposes burglary, gas detection, smoke detection

VI. CONCLUSION

The DTMF control AC dimmer system is not limited for any particular application, it can be used anywhere in a process industries with little modifications in software coding according to the requirements. This concept not only ensures that our work will be usable in the future but also provides the flexibility to adapt and extend, as needs change. The project "DTMF control AC dimmer" has been successfully designed and tested. Integrating features of all the hardware components used have developed it. Presence of every module has been reasoned out and placed carefully thus contributing to the best working of the unit. Secondly, using highly advanced IC's and with the help of growing technology the project has been successfully implemented.

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