

Home Automation Using Remote Control

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ABSTRACT

The world is moving fastly towards automation. People have less time to handle any work so automation is simple way to handle any device or machine will work to our desire. This paper aim is to develop and design a Home automation using Arduino with IR Receiver,4 Channel5v Relay Module. Home automation system gives a simple and reliable technology with Android application. Home appliances like Bulb, Switch, automatic door lock are controlled by Home automation system using Arduino Nano with IR Receiver,4 Channel 5v Relay Module . The paper mainly focuses on the monitor and control of smart home by Remote and provide a security based smart home, when the people does not present at home. This paper motive is controlled home appliances in smart home with user friendly, design at low cost, simple installation.

Keywords : *Arduino Nano,4-Channel Relay5v Module,IR receiver*

INTRODUCTION

There is an increasing demand for smart homes, where appliances react automatically to changing environmental conditions and can be easily controlled through one common device. This project helps the user to control all the electronic devices using his/her Remote. Time is a very valuable thing. Everybody wants to save time as much as they can. To save people's time we are introducing Home Automation system.

Advantages

The tasks to be carried out in our homes are much easier, and you can do many actions comfortably from a remote.

Disadvantages

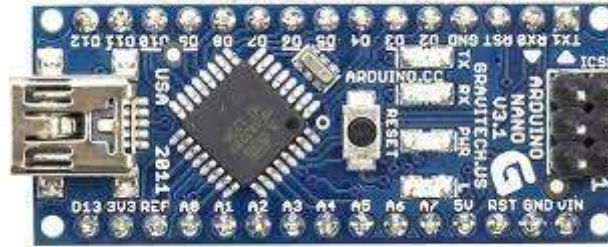
Installation cost can be high.The investment that must be made is very important since the entire home must be wired.

LITERATURE SURVEY

In this Home Automation System we are using Arduino Nano and controlling this with a remote controller (remote). We have given C language program to Arduino Nano and this will give signals to the remote to on and off to the particular switch or a bulb. We Have Use remote based because it is more sustainable to use and there are no difficult features for it.

SYSTEM AND COMPONENTS

Arduino Nano



The ARDUINO Nano is small component and when using on breadboard it is user friendly .

It is Used to add coding of an remote that when to on/off which switch. In this code there are all Remote coding for when to start a particular a certain part of switch and bulb.

IR Receiver



A heated bed is another most important part of a 3d printer. The objects are printed on this heated bed. on this heated bed there is a glass bed or a metal bed also so that we can remove the printed object easily. Heat beds prevent issues like poor adhesion to print bed, poor adhesion between layers, thermal runaway, and warping. the result of using a heated bed can be greater precision and less waste, due to the prevention of early or uneven cooling.

Channel 5v Relay Module



A power relay module is an electrical switch that is operated by an electromagnet. The electromagnet is activated by a separate low-power signal from a micro controller. It can be used to control high voltage high current as motor, lamps, AC load.

MP3 Player IR Remote



(InfraRed Remote control) IR Remote Control is a wireless device used to control/operate used to operate audio, video and other electronic device in a room with InfraRed signals.

Infrared light requires line of sight to its destination. Low-end remotes use only one transmitter at the end of the unit and have to be aimed directly at the equipment. High-quality remotes have three or four powerful IR transmitters set at different angles to shower the room with signals.

Printed Circuit Board(PCB)



PCB printed circuit board is electronic board used in device and projects to provide an electronic path to the components used in it.

Its is made by combining different type of sheets such as fiberglass or plastic which easily holds copper circuitry.

Male to Female jumper wires



Jumper wires have three versions which are male-to-male, male-to-female and female-to-female. The only difference between is that each is in the end point of the wire. Male ends have a pin protruding and can plug into things, while female ends do not and are used to plug things into.

Bulb Holder



A lightbulb socket, lightbulb holder, light socket, lamp socket or lamp holder is a device which mechanically supports and provides electrical connections for a compatible electric lamp

USB for Power Bank



We are using USB to provide portable battery to components. They can get current through portable battery.

Software used for Arduinio

We use a software named Arduinio. Arduinio is a software provided through Arduinio company, in which we can handle the working .In this software we can control or give control to remote were and how to on and off a certain component.

CONCLUSION

This project task is that by controlling home appliance it will save our time.The C program given to remote control it will control most appliance in the home.The Energy is saved in home and electricity will be also reduced.We can aply it in home,schools,hospitals etc. we trust that this research paper will inspire others to do work on related subjects.so,for decorative purposes,and working purposes we should think about the Home Automation.

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