HOME AUTOMATION FOR DISABLED PERSON USING VOICE TAG

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Abstract

Advancement of Automation technology, life is getting simpler and easier in all aspects. In today's world, Automatic systems are being preferred over manual system. There is a rapid increase in the number of users of internet over the past decade. This has made internet a part and parcel of life, and IoT is the latest and emerging internet technology. Internet of things is a growing network of everyday object-from industrial machine to consumer goods that can share information and complete tasks with other activities. Wireless Home Automation system using IoT is a system that uses computers or mobile devices to control basic home functions and features automatically through internet from anywhere around the world, an automated home is sometimes called a smart home. It is meant to save the electric power and human energy. The home automation system differs from other system by allowing the user to operate the system from anywhere around the world through internet connection.

Key Words-Arduino UNO, HC-05 Bluetooth Module, 2N2222 Transistor, PN Junction Diode, AMR Voice app.

1. INTRODUCTION

Home automation focuses on making it possible for older adults and people with disabilities to remain at home, safe and comfortable. Home automation is becoming a viable option for older adults and people with disabilities who would prefer to stay in the comfort of their homes. Most of the people choose an easy way to reduce the time and effort. Automating the home is the easiest method to reduce the time and effort of the peoples. This system uses voice commands to operate the electrical home appliances. An android application is used to capture the voice commands using Google voice assistant. The system uses bluetooth module for transmitting data for controlling the function of electrical loads. The Bluetooth can receive input signal from a device which have Bluetooth compatibility such as smartphone. The smart home automation is most beneficial for handicapped or aged people. The system solve the problem of switching on/off electrical appliances because when user just have to give voice command to control the appliance or electrical loads.The system is designed in such a way user can control all appliances at once or can control each separately. The system works by interfacing on/off switches of electrical appliance or loads by using mechanical relay or solid state relay, after connecting relays in system the electrical switch works as two way switch. The voice command is sent by using a software designed for controlling the system, a built in microphone and voice recognition system implemented in device. A micro-controller (Arduino Uno) is implemented in system, the micro controller receives input signal from user device and send signal to respective relay for turning on/off electrical appliances connected with system such as bulbs, fan, air conditioner unit etc. It helps those people who are sick, bedridden, physically disabled or elderly to easily operate the home appliances. It will be an easiest method for them to turn on/off the home appliances from where they are. Most people find it difficult and lazy to walk near the switch, to turn on light, fan or any other home appliances. With voice commands it is easy for the users, even the blinds, to operate the home appliances from the android phone. It is an easy, cheap and efficient method which will attract the customer's attention. This product can be made available in the market and the installation is very simple, even the customers can install it by themselves.

2. EXISTING SYSTEM

The existing home automation system was developed by using global system for mobile communication and ARM based technology. The home appliances are controlled using simple GSM based phone by sending SMS. ARM based architecture has lack of wireless function. The research provided here aims at studying the feasibility of implementing an SMS- based control of home appliances using the GSM technology without trying to access other local networks.

3. PROPOSED SYSTEM

The home automation through android mobile is designed for PHYSICALLY CHALLENGED and DISABLED PEOPLE. In GSM based architecture only text messages can be send. Voice recognition cannot be done in GSM. In ARM based home automation system, we cannot connect large number of peripherals. But it can be overcome in this bluetooth based home automation system.
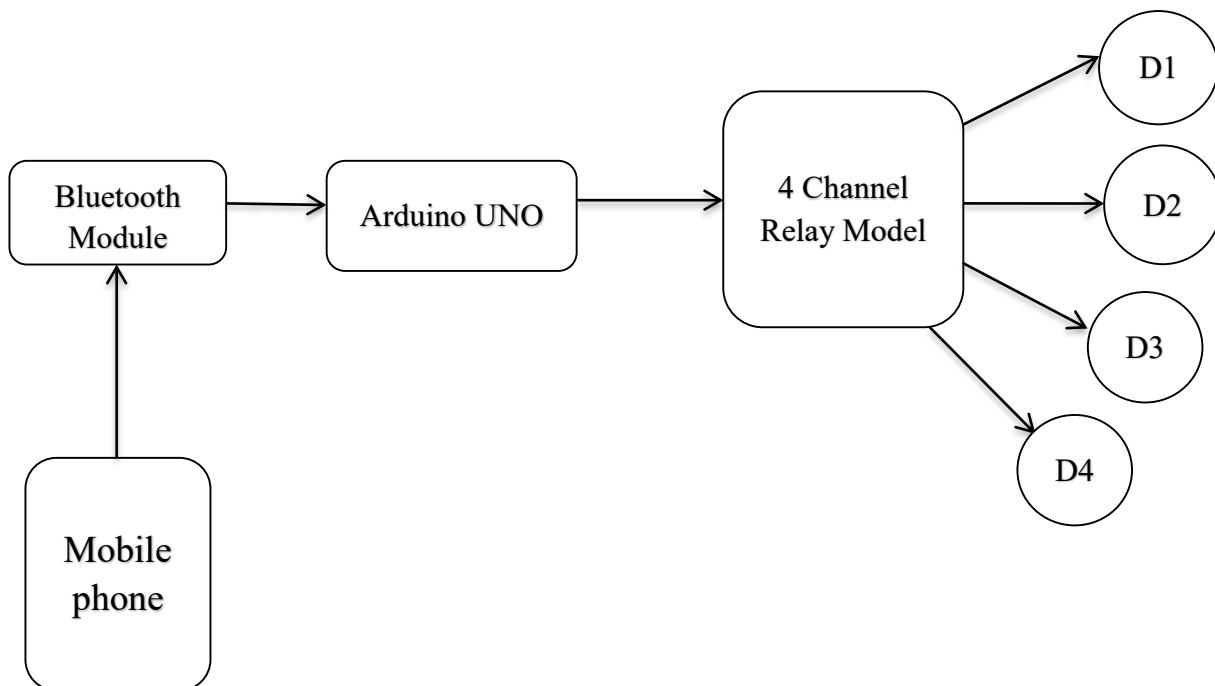
Fig: BLOCK DIAGRAM

First need to pair the phone's Bluetooth to the HC-05 bluetooth module. Before pairing up, have to install AMR VOICE app in android phone. Next step is to connect the phone with the bluetooth module. In AMR VOICE app, chose the option "connect robot" and select the appropriate bluetooth device. If the devices aren't paired earlier, need to pair them using the pin of the HC-05 bluetooth module. After the connections are made, the devices are ready to transmit data. For that, press the microphone icon on the app and start giving voice commands.

4. SIMULATION
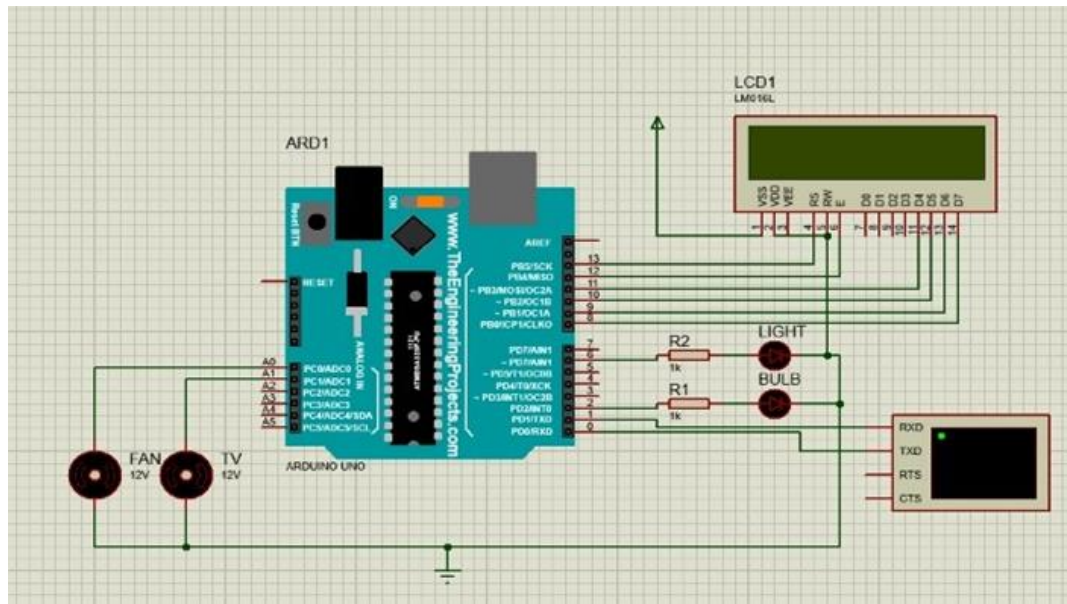
5. CONCLUSION

The purpose is to control some of the major household devices by voice. It is not only aimed at providing a healthy and comfortable lifestyle to the users, but also at aiding the sick or handicapped and people living alone, so that they can easily handle all their tasks at a convenience. Controlling the appliances such as a light bulb, TV, AC, etc.,

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