

Home Automation for Disabled Person using Voice Tag

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Abstract: Home automation is one of the major growing industries that can change the way people live. Some of these home automation systems target those seeking luxury and sophisticated home automation platforms; others target those with special needs like the elderly and the disabled. Typical wireless home automation system allows one to control household appliances from a centralized control unit which is wireless. These appliances usually have to be specially designed to be compatible with each other and turn ON or OFF any appliance that is plugged into a wall outlet, get the status of different sensors and take decision accordingly. The system is portable and constructed in a way that is easy to install, configure, run, and maintain. The perfect user interface still does not exist at present and to build a good interface requires knowledge of both sociology and technology fields.

Keywords: Home Automation, Voice Tag, Wifi - Module, Wireless Communication, Android Mobile.

I. INTRODUCTION

An embedded system can be defined as a computing device that does a specific focused job. Appliances such as the air-conditioner, VCD player, DVD player, printer, fax machine, mobile phone etc. are examples of embedded systems. Each of these appliances will have a processor and special hardware to meet the specific requirement of the application along with the embedded software that is executed by the processor for meeting that specific requirement. The embedded software is also called "firmware". The desktop/laptop computer is a general-purpose computer. You can use it for a variety of accounting, software development and so on.

II. OBJECTIVE

The purpose of a home automation system is to streamline how your home functions. Consider some of these benefits: Remote access: Control your home from mobile devices, including your laptop, tablet, or smartphone. Comfort: Use home automation to make your home a more comfortable, livable space.

II. LITERATURE SURVEY

Mukesh Kumar et.al proposed to make a home automation system specifically for the paraplegic people. The main challenge discussed in this was how to adjust a bed in different positions using voice commands. As the disabled can't afford the hefty price tag of something like Google

Home, the system described in this paper used readily available devices [4].

Yash Mittal talks about developing a home automation system using a dedicated hardware module for the voice recognition module and a Arduino Uno microcontroller to send respective commands to devices. The voice commands are divided into five groups with up to seven commands in each group. The command groups are Access, Safety, Fan, Light and Utility. The user has to state the group name followed by the command for it to register successfully. The voice recognition module is trained using the voices of five male and five female users. This ensures that the system can recognize voice commands irrespective of user age, gender, accent and distance from microphone. A bar graph of the average number of attempts it takes to successfully recognize a command at different distances from the microphone is generated to determine the best position for placing the central microphone [8].

IV. IMPLEMENTATION

The firmware is based on the Lua project, and built on the ESP8266. Secure WIFI technology is used by server, and hardware interface module is used to communicate with each other. The user may use the same technology to login to the server web-based application. Is server is connected to the internet, so remote users can access server web-based application through the internet using compatible web browser.

A switch regulates the ON and OFF of a circuit. When the switch is OFF, a gap is present in the circuit and it is considered open. Electric current cannot flow through such a circuit. The opposite process takes place if the switch is ON thus letting the flow of electric current. The electric circuits are closed-loop or paths, forming a network of electrical components where electrons can flow. This path is made using electrical wires and is powered by a source, like a battery. The start of the point from where the electrons start flowing is called the source, whereas the point where electrons leave the electrical circuit is called the return.

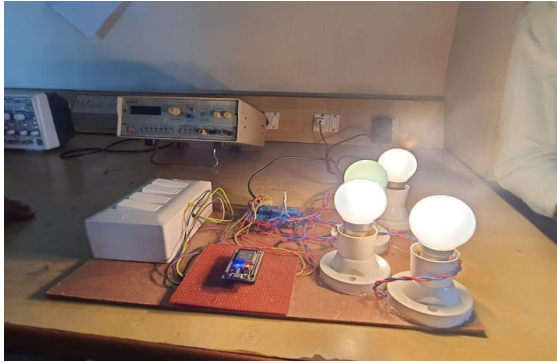


Fig 1: Circuit Diagram

V. RESULT

Home automation makes life more convenient and can even save you money on heating, cooling and electricity bills. Home automation can also lead to greater safety with Internet of Things devices like security cameras and systems.

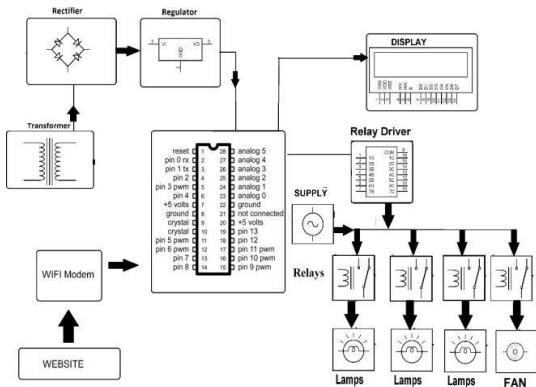


Fig 2: view of Project

CONCLUSION






In conclusion, people with intellectual disabilities can live meaningful, satisfying, and productive lives, within their own communities, when provided adequate supports. Finally, all three of the methods were cost effective as compared to the market staples like Google Home, and were implementable easily with readily available equipment at home but, the home automation sector is still in its early stages and its popularity is growing by the day.

FUTURE SCOPE

In the future, humans will play an increasingly important role in accelerating machine learning through "VOICE". This field of home automation is fastly emerging in technology making homes safer and better places to live. These features help users to virtually monitor and control home attributes like lights, entertainment systems, security, climate control, etc. The ability to control everything from light, security to devices like watching machines and air conditioners from one device using audio controls and just a few taps is the vision of the feature. Smart devices like smart A.C.'s can change the temperature based on time, environment (outside temperature), and the number of people.

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