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VOICE WELL-ORDERED HOME MECHANIZATION ARRANGEMENT EXHAUSTING IOT

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Abstract **-** The home automation is a wireless automation system that is supposed to be implemented in existing home environments without any changes in the infrastructure. Home automation let the user to control the home from his or her smart phones and assign actions that should happen depending on time or other sensor readings such as light, temperature or sound from any electronic devices surround or in the network areas. The main abstract of this project is used to control all household appliances through a voice controlled android applications. To provides low cost effective and flexible home controlled and monitoring system. To implement home energy control systems design intelligence services and provides by using smart phone.

Keywords — Household appliances, Energy control system design .

I. INTRODUCTION

Home automation is anything that enables you to use your home's lighting, heating and appliances more conveniently and efficiently. It can be a complete system that controls all major parts of your own personal preferences. Home automation is anything that gives you remote or automatic control of things around the home.It is a term used to describe the working together of all household amenities and appliances. For example, a centrally-controlled LCD panel can have the capability to control everything from heating, air conditioning, security systems. Audio systems, video systems, lighting, kitchen appliances and home theatre installations.The house hold activities are automated by the development of special appliances such as water heaters to reduce the time taken to boil water for bathing and automatic washing machines to reduce manual labour of washing clothes. In developed countries, homes are wired for electrical power, Doorbell, TV outlets and telephones. The different application includes when a person enters the room the lights turn on. In advanced technology, the room can sense the presence of the person and who the person is.

Taking into account the day of the week, time of the day and other such factors it can also set lighting, temperature levels, television channels or music levels. In the case of a smoke detector when fire or smoke detected, the lights in the entire house begin to blink to alert the resident to the probable fire. In case of home theatre, the home automation system can avoid distraction and lock the audio and video components and can also make an announcement. The home automation system can also dial up the house owner on their mobile phone to alert them or call any alarm monitoring company. It is essential that the different controllable appliances interconnected and communicate with each other. The basic aim of home automation is to control or monitor signals from different appliances or basic services. A smart phone or web browser can be used to control or monitor the automation system. In this project we are choosing four appliances. That appliances are three bulbs and the one fan. This will be controlled by using the android app. The voice should be send to the android app then the speech signalwill be converted into text by using speech to text converter. The android app compare the conditions light ON or OFF that will be based on the user provide conditions. The user conditions should be pre-storage in the programming language. So the process will be based on programming either light is ON or OFF nor fan ON or OFF. The user commands will be stored in the cloud storage. The cloud storage allocates the

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space for user commands that will be in the name of firebase. In that firebase we can store the data up to 15GB in this process storing of data should be free we should not need to pay any amount.

We send the voice commands into the android app that will be send in the format of 0's and 1's.After the storing of data in the firebase the name of the given commands will be stored in the tag. In this project the commands are the light ON, light OFF, fan ON, fan OFF these commands are stored in tag that tag is already created in the firebase. When the light and fan is in ON condition at that time the values taken by the controller is 1 and when the light and fan is in OFF condition at that time the values taken by the controller is 0.

II. OBJECTIVE OF THE STUDY

[1] To increase the speed of the controller.
[2] To control the increased amount of apliances.
[3] To reduce the cost of the automation system.

III. METHODOLOGY

There are several advanced technology and innovations are available for the increased in home automatation system.Our project automates the operation of every single appliance in the house, which gradually reduces the power consumption due to excess use/wastage of the appliance's services. The developed system controls all the home appliances through the voice command in anywhere of the world. The commands should be given to the appliances by using smart phone with proper android applications. The speed of the controller should be fast when compared to the existing method. This leads to command received at a receiver side in specific time and this will be very easiest methods to controlling the appliances through the voice commands. The command should be in normal human language this will be based on the process of Natural language processing method.The appliances are connected to the mobile device through an Arduino Board that establishes the concept of internet of things. The Arduino Boards are interfaced with the appliances and programmed in such a way that they respond to mobile inputs.

IV. EXPERIMENTAL SETUP

This block diagram consists of power supply section, GSM, Arduino controller, LCD, smoke Sensor, Temperature Sensor, Relay, and Driver IC. Here, Arduino controller is used for the proposed system. The sensors are used here to sense various temperature of inside home and its surrounding areas then the information collected here and it will be transmitted through the mobiledevice that will be present in transmitter side. The receiver is used at the other end and to receive all these information and process this information. The GSM board has a valid SIM card with a sufficient recharge amount to make outgoing calls and the messages. The circuits powered by +5v Dc. The Block diagram of proposed work based on GSM and Arduino node MCU is shown in figure 1and 2.

V. BLOCK DIAGRAM

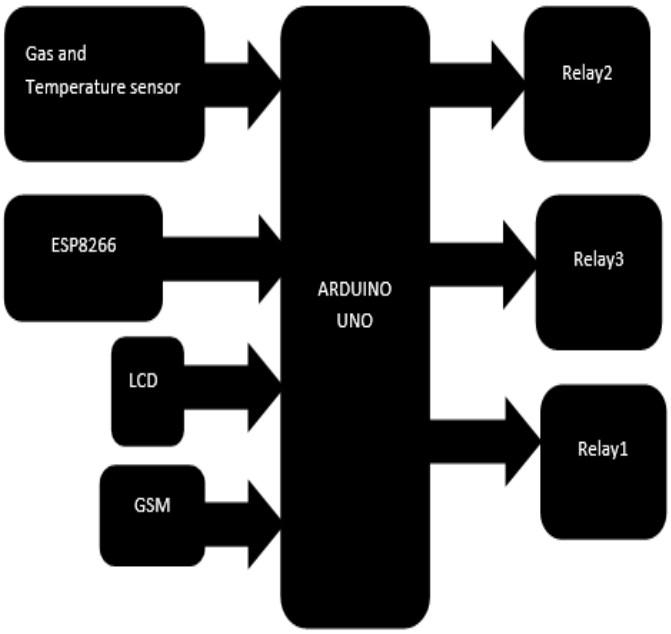

Figure 1 Block Diagram

VI. RESULT

Figure 2. Overall Hardware Output

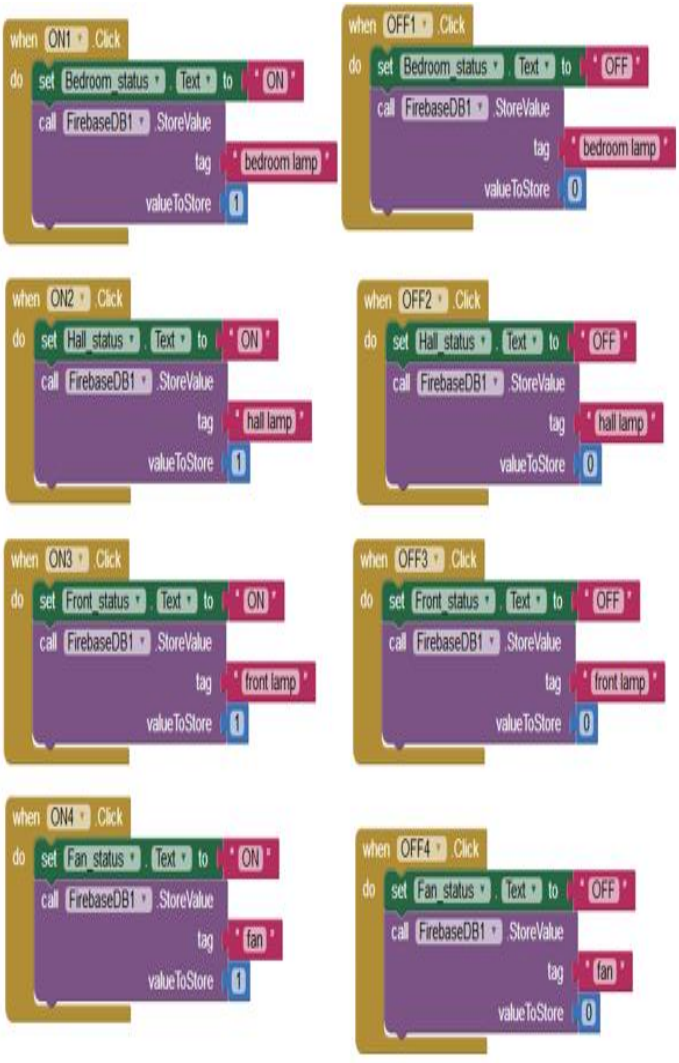

Figure 3. Voice controlled hme automation system android application

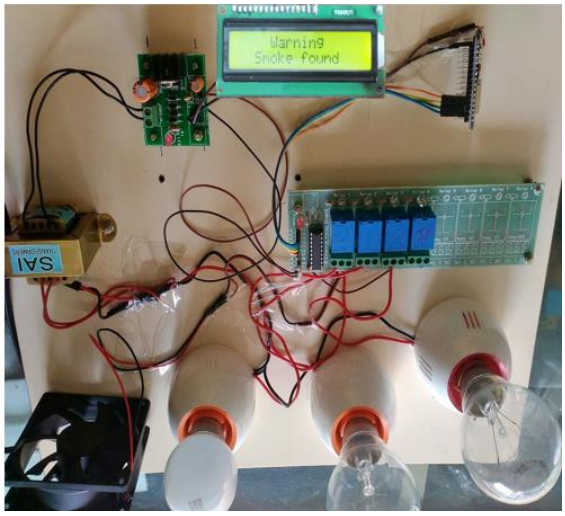

Figure 4. Hardware output when spoke will be detected

VII. CONCLUSION

According to this survey, we understand that existing system has some problems and requires some of resources that cause system costly. Systems working on different environments and different resources causes user to adjust with the system. It is not as much popular in Asian countries, to increase the scope of these systems needs to be implemented with some user friendly interfaces which will help users and gives more efficient access to system A voice activation system for use in wireless home environments is proposed, implemented and evaluated. Performance evaluation results show that the recognizer can produce reasonable recognition accuracy when the noise level is maintained at certain level and limited grammar with a small vocabulary is used. It is found that the recognition accuracy for a specific speaker cannot be predicted since the speaking habit of each speaker affects the recognition accuracy. It is also found that clear, confirmative voice is desired by the speech recognizer to produce better recognition results. Based on these findings, it is feasible to use voice as the unified control method in a home environment to control simple wireless devices and appliances.Most of the existing automation systems follow a specific set of commands or procedures in order to interact with their home appliances. These cumbersome procedures distance the users away from the technology. To overcome all of the

existing issues and address the solution our project proposes voice commands to interact with home appliances using Arduino and a mobile device. These voice commands which are processed by Natural language processing helps the users to build a better connection with the technology and encourages them to use it more. It also eradicates the mundane task of operating home appliances manually.

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