Impact Factor (SJIF): 3.632

International Journal of Advance Research in Engineering, Science & Technology

e-ISSN: 2393-9877, p-ISSN: 2394-2444

(Special Issue for ITECE 2016)

Voice Operated Multi Purpose Entertainment Gadget With Appliances Control

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Abstract — Now technology have new era of voice based systems implemented everywhere for controlling purpose or security purpose. Voice based systems are covered lots of automated systems and can be used for less human efforts. For entertainment purpose it can be used also for TV, Home theatre systems, Projector presentations etc. In some applications one can control devices with voice.

This project is a demonstration of this technology while using it as a multipurpose system which can handle home appliances as well entertainment systems like TV, DVD, MP3 Players, Laptop, PC etc. So it is a kind of multipurpose entertainment gadget with advantage of controlling devices as we have seen by remote controlled but except that it is voice operated.

Home Automation industry is growing rapidly; this is fuelled by provide supporting systems for the elderly and the disabled, especially those who live alone. Coupled with this, the world population is confirmed to be getting older. Home automation systems must comply with the household standards and convenience of usage.

This project details the overall design of a wireless home automation system which has been built and implemented. The automation centers on recognition of voice commands and uses low-power RF wireless communication modules which are relatively cheap. The home automation system is intended to control all lights and electrical appliances in a home or office using voice commands.

i. INTRODUCTION

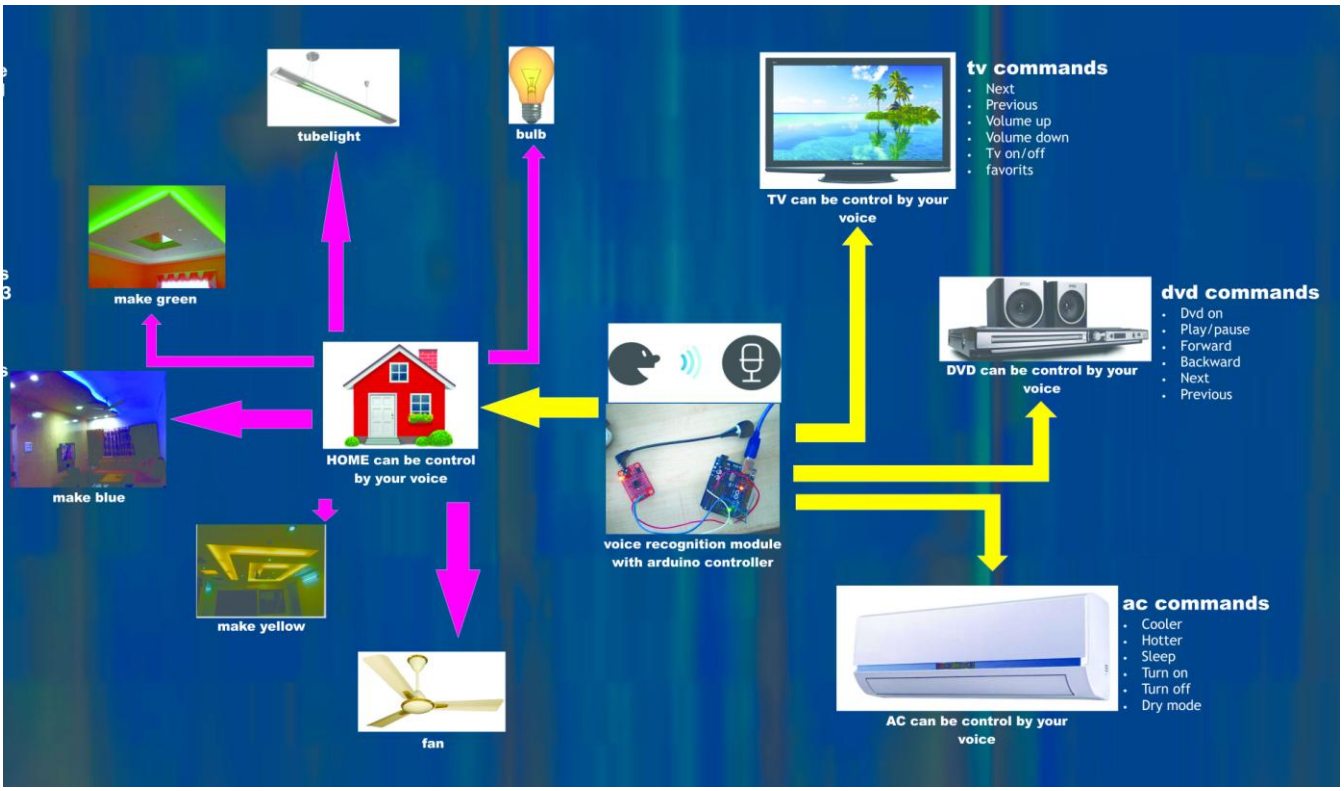
- The basic project idea is to provide highly efficient and easy interface to devices with humans to control and observe various types of action duly. The project consists of remote control transmitter with voice recognition which can enables to human for controlling various devices without touching any physical system or activating any kind of physical action. Voice recognition system can easily understands English language pronunciation roughly as a voice commands recorded into module.
- Remote control transmitter is universal to interface TV, DVD, Audio Systems as well as device controlling. Receiver section is consisting microcontroller board which understands IR NEC protocol and appropriately controls various devices and FAN control feature.
- At last say, this module completely called as entertainment & control gadget for home which can able to control as well as functions to entertainment systems.

1. SYSTEM DESIGN

The Voice-operated Android and Arduino Home automation system usesthe Arduino Uno as the microcontroller. The key components of this system are:

1. Easy Voice Recognition Module Shield
2. Arduino Mega2560 Microcontroller
3. Device Control Relay Board With FAN Dimmer
4. IR Sensor Transmitter Section For TV / DVD / MP3 Players

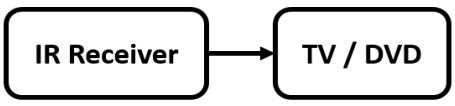
- The foremost aim of technology has been to increase efficiency and decrease effort. With the advent of ‘Internet of Things’ in the last decade, we have been pushing for ubiquitous computing in all spheres of life. It thus is of extreme importance to simplify human interfacing with technology. Automation is one such area that aims that achieves simplicity whilst increasing efficiency. Voice controlled House Automation System aims to further the cause of automation so as to achieve the goal of simplicity



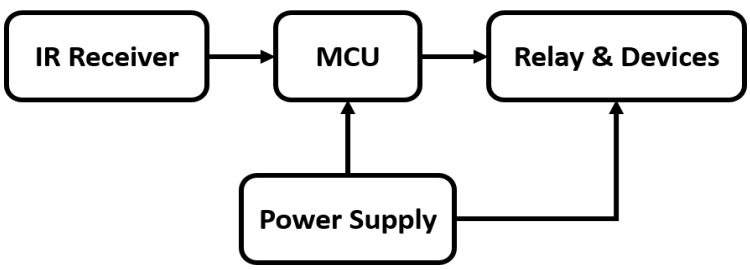
ii. IMPLEMENTATION

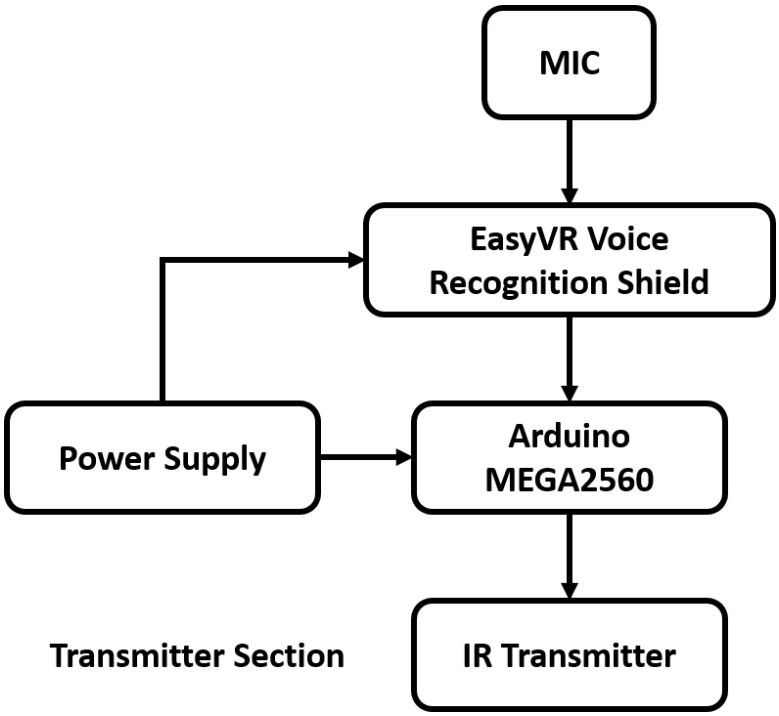
- Using the above mentioned components we implement our system on a breadboard. The microcontroller device voice module and relay circuit needs to be attached with the switch board. Then we need to launch the android based application-"Auto Home" on our Smartdevice. Through the application we can instruct the microcontroller to switch on/off an appliance. After getting the instruction through the Bluetooth module the microcontroller gives the signal to the relay board.
- The application first searches for the Bluetooth device. If it is available then it launches the voice recognizer. It reads the voice and converts the audio signal into a string. It produces a value for each appliance which will be given to the microcontroller device. The microcontroller uses the port in serial mode. After reading the data it decodes the input value and sends a signal to the parallel port through which the relay circuit will be activated.
- In this work we use Bluetooth module. We can also attach a GSM module to do the work, using which the application can be used anywhere where a mobile network is available.

1. BLOCK DIAGRAM



Receiver Section





iii. FUTURE TECHNOLOGY

This project can be enhanced with higher technology as well as giving more functionality to operate more devices and gadgets.

- Project can be enhance with Bluetooth / Wi-Fi technology for activating more functions.
- In future aspect voice recognition can be highly accurate with various language support.
- This project has advantage of wireless controlling, so it can be established in industrial concepts, medical era, agricultural scheme etc.
- Furthermore this idea can be applicable to handicap service organizations to give them better technology for their routine work.
- This device is fully portable, so it can carried away where ever we go and control numerous devices with click and sense.
- This device have mobile functionality as well to enhance the system while giving voice commands.

iv. CONCLUSION

has been much development in studies and research about home automation system. Home automation, which also known as Domestics and for special need person such as elderly, home automation for them usually called Assistive Domestics. The aim of this project is to develop a device control home appliances via human voice.

In conclusion, this low cost system is designed to improve the standard living in home. The remote control function by device provides help and assistance especially to disabled and elderly. In order to provide safety protection to the user

The Wireless Home Automation System is an integrated system to facilitate elderly and disabled people with an easy-to-use home automation system that can be fully operated based on speech commands. The system is constructed in a way that is easy to install, configure, run, and maintain.

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