Voice Controlled Electrical Appliances

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Abstract: In this paper a project is presented in which electrical appliances are controlled through human voice. This project is built on visual basic software through which we develop a front panel showing the status of the electrical appliances. Microcontroller 8951 is used in the project to convert the serial incoming data to parallel and compare the baud rate. LED’s are connected in parallel form as electrical appliances. Command through mike is given into the PC. A TTL to USB convertor is used as an interface between pc and the hardware. LED connected glows according to the command given by the user through voice.

Keywords: Visual basics, Microcontroller 8951, LED, TTL to USB convertor, Voice.

I. INTRODUCTION

The aim of this project is to develop a device which control home appliances via human voice. Microsoft Speech Recognition engine will be used as voice capture device. The Graphical User Interface (GUI) will be created using Visual Basic. For this project this system is called voice controlled electrical appliances. This is a project to produce a system that can control any electrical appliances by using user’s voice. User’s voice is an input to activate the electrical appliances through this system. This system can make the daily work at home easier for disabilities users who use this system. Speech recognition converts spoken words to machine readable input. The term voice recognition may also refer to speech recognition but more precisely refers to speaker recognition which attempts to identify person speaking as opposed to what is being said. With today’s computer technology human voice can be recorded and saved into computer memory for future references. This system needs a GUI (graphical user interface) which is provided by visual basic software. This software is used to build a graphical user interface and programming that can recognize the voice of human. The recognized voice can activate the electrical appliances that user want to use.

II. PROPOSED LAYOUT

III. IDEA OF THE PROJECT

The purpose of this project is to develop a system capable of working on voice command. Much system’s today have used remote control to activate certain home appliances, the appliances such as air conditioner, television, radio and so on. This method is difficult to a person who can’t move or paralyzed. So, because of this type of problem, the system that uses voice as an input or directive designed. As for this project, the proposed solution is to develop a wireless remote control for the electrical appliances which can be controlled using voice. This system includes visual basic software features to develop a front panel as a user interface. Hardware of this project includes microcontroller 8951 and TTL to USB convertor as the interface between software and hardware. By removing the need to use buttons, dials and switches, consumers can easily operate appliances with their hands full or while doing other tasks.
IV. WORKING PRINCIPLE

In this project we need one system to get the voice data and compare with the pre-insert data. In our project we use mike as a input device and data is compare inside the computer. Mike gets the voice input and through sound card this voice is converted into digital signal. This voice signal is further converted into data with the help of Microsoft voice to data converter software. We use Microsoft SDK software for this purpose. We use another software visual basic in attach with the Microsoft software to get and compare the data inside. With the help of visual basic we design a front page and show the detail of different appliances on screen. User selects the appliances number and provides a voice command to the system. Systems get the data and provide a serial output to microcontroller circuit. Microcontroller circuit gets the data and then switch on/off the particular appliances.

V. CIRCUITAL IMPLEMENTATION AND CONTROL DESCRIPTION

In this project we use 89s52 controller with relay driver circuit. We use one 5 volt dc power supply for microcontroller circuit. ULN 2003 is used for relay driver. TTL to USB convertor is used for interfacing. Output signal from the PC is serial and baud rate of the data 9600. PC transfers 8 bit data this 8 bit data is serially receive by the microcontroller RX pin. Microcontroller gets the data and compare inside the pre-inserted data. If data is ok then connected light is on.

VI. SOFTWARE DESCRIPTION

Visual Basic is a third-generation event-driven programming language and integrated development environment (IDE) from Microsoft for its COM programming model first released in 1991. Microsoft intends Visual Basic to be relatively easy to learn and use. Visual Basic was derived from BASIC and enables the rapid application development (RAD) of graphical user interface (GUI) applications, access to databases using Data Access Objects, Remote Data Objects, or ActiveX Data Objects, and creation of ActiveX controls and objects. The scripting language VBScript is a subset of Visual Basic. A programmer can create an application using the components provided by the Visual Basic program itself. Programs written in Visual Basic can also use the Windows API, but doing so requires external function declarations. Though the program has received criticism for its perceived faults, version 3 of Visual Basic was a runaway commercial success, and many companies offered third party controls greatly extending its functionality. The final release was version 6 in 1998. Microsoft's extended support ended in March 2008 and the designated successor was Visual Basic .NET (now known simply as Visual Basic). Though Visual Basic 6.0 is no longer officially available there remain a sizable number of developers who still prefer Visual Basic 6.0 over .NET.

VII. FUTURE SCOPE AND CONCLUSION

The developed system is a robust combination of a number of diverse technologies, to construct a speech activated portal to
home appliances to assists users who are disable and in home and workplaces. This system can control only eight electric appliances and can be further control 256 electric devices in industry or large organization through a single PC by upgrading the interface box and a little modification in the program. In our project the appliances can be controlled by different users without any restrictions. But in future this project can be further developed so only family members can operate the appliances having access to the system.

VIII. REFERENCES