VOICE CONTROLLED REMOTE

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ABSTRACT

Voice controlled technology is using voice to operate devices. The voice controlled technology can be used to simplify and life the living standards of the elderly and disabled in our society. Moreover, it could also prevent the possibility of getting an electric shock and reduce the spreading of viruses as the device can now be operated through voices without having to touch the buttons.

This project aims to design and build a voice controlled remote which will be used to control two household devices- TV and Fan. The system will recognize the voice command and convert the voice command to digital signals and later send it by transmitters to the TV and fan which will receive the commands through receivers.

The prototype include the microphone, PC (Personal Computer), RS-232 (serial port), Atmel 89S52 microcontroller, DC control AC circuit, IR remote module and interface circuit. Voice commands setting by user in database can be recognized and analyzed by the SAPI (Speech Application Programming Interface). Next, the data recognized will be processed by Visual Basic 2008 programming language to identify the voice commands and send the digital signals to RS-232. GUI (Graphical User Interface) in Visual Basic is to enable users to know the response and process of the programming. Atmel 89S52 acts as the process device in this project and the programming of the microcontroller is using C++ language. Atmel 89S52 can use in 32 I/O port and providing 1.5V voltage. Max 232 will receive digital signals from RS 232 cable which has been connected to the PC. After converting the signals, MAX 232 will pass the digital signals to the microcontroller in proper order. Lastly, the microcontroller will transmit the digital signals to DC control AC system and IR remote module to control the TV and FAN.

The project has been conducted successfully to meet its objectives. The final prototype is able to recognize different voices and commands. It is also capable of converting voice commands to digital signals which will then be sent by transmitters to operate household devices, which will subsequently receive the commands via receivers.
Keywords: Atmel 89S52, RS 232, MAX 232 ,DC control AC system, IR remote module, GUI, Visual Basic, C++,SAPI