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Voice Control Robot (Pick & Place)

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ABSRACT*:* This research paper presents a system that focuses on the idea of how the human voice can control the robot. In this system, the Android application is used as a medium to send human commands to the microcontroller. It is a link between Bluetooth modules (HC-05). The power of the robot is easily provided by two DC servo motorscommands The Commands from the application are converted into digital signals via the Bluetooth module.
The range of the Bluetooth module is (<100m). Robot can listen command from Android app, movebackward, forward, left, right and stop.

I. INTRODUCTION

Our goal is to make robotic cars. Voice command control. The robot is controlled by a mobile phone and bluetooth module.
This type of system is called a voice control system (SCAS). In this design, an Android application with a microcontroller is used to perform the necessary tasks.Theconnection between the application and the robot supports the Bluetooth module (HC-05). Robots will be easily run by humans.
Bluetooth technology supports the connection between the application and the robot.
Commands will be sent to the module's channel and the module will receive them. The purpose of the Voice Control Robot (VCR) is to listen and respond to the user's commands added by Math. The voice control robot observes the human voice through the Android app's preprogrammed commands: back, forward, turn left, turn right, stop. Use the code in EMBEDDED c when building this voice controlled robot. Voice control robots (VCRs) listen and respond to userscommands ,the commands have been added via codes.

II.WORKING PRINCIPAL

Android smartphones are used to recognize the human voice. Use the Android operating system. Voice commands are processed via the phone, and speech-to-text conversion is done using speech recognition technology. A simple voice-controlled robot car block diagram is provided, includes a module for confirming the voice command and sending it wir elessly to the bluetooth module hc05, which sets the order of the device and sends the characters set for the arduino. Th e working arduino microcontroller Transmitter determines the sequence and performs additional functions as a notificat ion is sent to the motor that drives and drives the vehicle connected to it at the point of dispatching the goods. Comman ds are given to the mobile phone via the microphone. The portable phone is associated with the vehicle with the bluetoo th module. The portable electronic application of the application has been changed to receive voice commands from the microphone to the phone and the code stored in this simple command has been changed and Symbols are sent to the ar duino for further processing using the arduino microcontroller to determine the symbols. Strings are given and played a s additional abilities. At the delivery point, warnings are sent to the engine that connects the vehicle to it, and driving in structions are given to the mobile application via this portable microphone.handset is related to the transferring car by Bluetooth module the transportable utility applied is changed in order that the voice ordersgiven to the handset are acquired by means of themic and those easy voice orders are modified transformation those saved sequences are than

III. HARDWARE &SOFRWARE PART

A.Hardwarepart :

- Bluetooth module-HC-05
- L293D motor driver module
- Atmega 16 microcontroller
- 7805 regulator IC
- Motor driver IC
- Battery

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- Robotic Arm

B. Software part :

- Andriod application
- Embedeed language c.

C. BLOCK DIAGRAM &METHODOLGY :

The wireless voice control robot consists of a transmitter and a receiver. A bluetooth smartphone on the transmitter side and an Android app installed on it

The 7805 regulator IC are connected to the 9V battery , and regulator IC converted in 5V current.

Then this current flow the ATmega16microcontroller , Bluetooth module , L293D motor driver IC , servo motor .

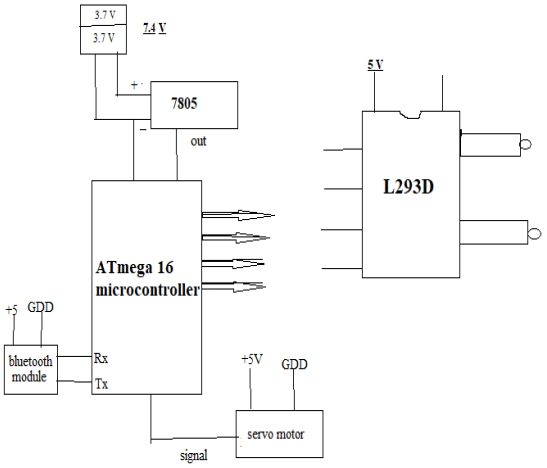

Fig .1 Block diagram of voice control robot

The 7805 regulator IC pin connected to GND , another one is input and output, there is also connected capacitor ,C6,C5 & C4 ,the C6 is value is 220uf , C4 value is 1000uf , C5 value is 0.1uf . there is switch (SW1) to use on and off.

The ATmega 16 microcontroller through 4 connection facilitated to feedback servo motor, and current come in from 7805 regulator IC .the Bluetooth is connected to the ATmega 16 microcontroller ,wecan give specific commands to the robot through an android app and a Bluetooth transceiver module receive the commands .

The Bluetooth module HC-05 are connected to L293D for servo motor a part of moving robot.

The ATmega 16 microcontroller are connected to the Bluetooth module, the Tx , Rx of Bluetooth module are connected to the Rx , Tx with ATmega 16 microcontroller . the ATmega 16 microcontroller pins 40 , 39, 38 , 37 , are connected to the L293D pins 2 , 7 , 1 , 10 , 15 and pin 9 are connected tro 5V supply. And they connected to the motor driver with facilitated to pins 3 , 6 , 11 , 14.

The ATmega 16 microcontroller supply 5V with connected to GND with capacitor C2 and C3 (0.1uf) and they connected to VCC and AVCC

There is gripper arm are connected to the servo motor

IV. LITREATURE REVIEW

a) movement of the robot is provided by two DC servo motors controlled by a microcontroller at the receiving end.

b) Speech recognition technology is used to capture the speech used in Android and convert them into digitally stored messages. Conversation skills have many uses. For this, automatic translation, robots, etc. are usually used. software is used.

c) Voice command techniques using mobile phones using bluetooth to create a microcontroller based robot

d) Jagadish Kumar wrote a voice control robot using the bluetooth module.

(December 2019). The robot on this map generates a voice command, simple voice commands such as back, forward, t urn left, turn right, stop.

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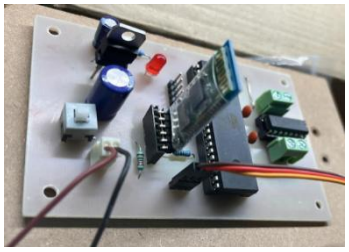
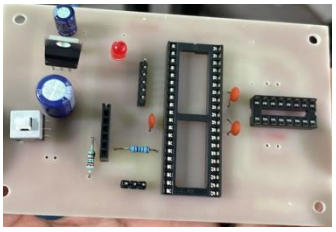
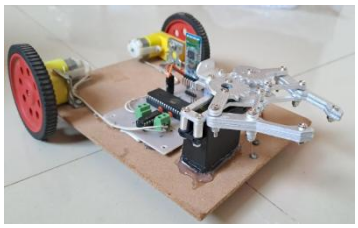
V.PROJECT NEED

The voice control robot is fully operated the hardware and software part .The robot can moving left , right , forward , backward , stop , to facilitated the Bluetooth module with help of coding , the code are using in this project is to EMBEDEED C. to listen the voice command of human. And it is used to industries for pick and place ,military purpose and etc.

VI. RESULT AND CONCLUSION







The voice controlling commands is successful transmitted in Bluetooth module . This project are always to reduce human works and efforts , where human are difficult work. It also help in industries to pick and place using arm . It also uses is military , industry , defence . etc.
The size of this robot is small so we use this robot car for spying purpose . We can implement web
Cam in this robot for using security . It is highly sensitive to recognition voice software has accuracy 80 % to identify voice commands .surrounding a noiose. The communication between robot and human to facilitated Bluetooth module (HC-05) so it is easy to operated .using code of embedded c .

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