

Literature Survey of Robot with Different Applications

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Abstract: In this research paper, a system is proposed that focuses on the concept of how to control a robot with a human voice. Voice-controlled robots are just a practical example of controlling simple robot movements by giving routinely-used voice commands. The system uses his Android app as his medium for sending human commands to the microcontroller. The controller can connect to the Bluetooth module using the UART protocol. Audio is received by Android app and processed by the speech engine

Keywords: Robot, DC Motor, Robotic Arm, Stepper Motor, Gripper, Camera, ARDUINO UNO, ARDUINO IDE

I. INTRODUCTION

As we all know in today's world, one of the most powerful and rapidly developing devices is a smartphone, and all credit goes to powerful processor chips and their mode of communication. Here in our research also we used one such method for communication i.e., Bluetooth. This technology was created by Ericsson telecom vendor in 1994. Bluetooth provides connectivity between devices for file transferring. It's so powerful that it can connect almost seven other devices at the same time and can transfer data simultaneously. It is best suited for the home environment as it's working area has a range of about 8-10m. This is the reason why smartphones are becoming so powerful in recent years as it turned smartphones into an all-purpose portable device.

Using an android phone as a center for communication between robots and humans is already a very active field of research with several opportunities. Till now, speech recognition proved to be one of the ideal methods for controlling a robot. The system we designed is also based on the same technology as it is the easiest and very efficient way of giving commands. It's simply a technology where the system has to understand words, not it's meaning, thus reducing the computational time. In our system, speech recognition is separately handled by the android smartphone i.e., it functions independently from the robot's main intelligence. Speech recognition also allows the user to perform multitasking by letting him/her concentrate on other stuff and giving the command to the machine simultaneously. Furthermore, it's even more robust as anyone can control the robot with their command providing you, even more, convenience to household people. Just giving directions for controlling a robot just by talking to it makes it simpler to operate while improving the efficiency and efficiency of working with that device. Robotics is one of the fastest-growing technology in the science field. The main reason behind this is robots act as cheap labor that gives high accuracy of output. Robots also proved to surpass the human limits; thus, those tasks which seem impossible for the humans are now within their reach. There is no limit to the applications where robots can work.

II. LITERATURE SURVEY

[1] To control a robot we are using our voice we a very simple approach 1st all the human commands gets converted into text and for this we use Google's speech to text converter, it's all implemented in the android app that we are using next the text form of command is being transmitted to the Bluetooth module of the robotic arm.

[2] In this proposed system, a smart phone is used as the speech recognition device . To do this, we'll use an Android application that uses Google Speech Recognition to recognize human speech and finally convert it to text using the Google Speech to Text API. The converted text acts as code for the microcontroller and the is sent to the microcontroller via Bluetooth and the HC-05 is used for this purpose.

[3] Over the years, people have invested in new technologies that have evolved to reduce human effort and save lives. People with disabilities and the elderly may have difficulty handling objects and need a helper. Therefore, if a robot assistant that can be operated with voice commands is developed.

[4] Pick and place robotic arms are widely used in industry. Example on the production line. Helps you select components and place them where you want them. Here, in this work, a mobile robot that can pick up and place objects by voice command is developed for a wheelchair bound person.

[5] Voice control of home assistant robots is developed in of this publication. Voice commands are processed in real time using an offline server. Voice commands are sent directly to the server through the wired network. Personal Assistance Robot is developed on microcontroller based platform and can detect his current position.

[6] This paper exemplifies the words of a great entrepreneur. With today's advances in his technology, it's no wonder that in the near future people will become familiar with his with his family-friendly personal his assistants and social robots. Many elderly and her disabled people need someone to help him with his daily tasks at home.

[7]The Speech signals are the most important means of human communication. Almost all conversation for interaction is done via audio signals. Sound and different audio signals can be converted into electrical format using a microphone. Speech recognition is a technology used to convert audio signals into computer text format.

[8] This paper explains briefly about Personal robotic assistants help reduce human manual work in daily tasks. In this article, we develop a voice-controlled personal assistant robot. Human voice commands are given to the robot assistant remotely via a smartphone.

[9]The Paper explains Voice user interface is the main interface platform for voice-based applications. Getting the machine up and running is a big challenge Just send a voice command to the machine and you're done.

[10] As Cleaning the room is a daily job, it is hard to clean the house every day with a large vacuum cleaner, but with this vacuum cleaner, you can easily operate it for cleaning purposes with the 's voice or remote control. Features You can also use the feed home layout to clean your entire home with one voice command.

[11] A new technology based on voice recognition, object recognition and facial recognition, has become a complementary system for with disabilities. It usually translates the human environment into language or haptic information.

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