Software Controlled Robotics Assistant Using Speech Processing

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Abstract:A robot designed to respond to the user's command and answer using certain libraries. This work can be used in many ways as we please and can be used for any kind of operations by doing certain changes or bringing advancements in the model. The robot runs on voice command as well as hand controlled. The major parts of the model are Raspberry Pi 3 B+ model, it has provided most of the requirements we had for this project which is why chose that model. And the next main part is Matrix Voice, it is a text-to-speech (TTS) and speech-to-text (STT) conversions. The whole equipment is assembled on a metal flat body which has four wheels. Matrix voice is connected to the Raspberry PI 3 B+, Matrix Voice can be used as a personal voice assistant by installing APIs like Google Assistant, Amazon Alexa or SIRI, but we created our own APIs with specified libraries and customizations.

I.INTRODUCTION

Before long a days by virtue of progress being developed different actually organized regions use Wi-Fi empowered robot for different applications. All things considered they are utilized for security reason. The robot vehicle can be effortlessly moved start with one spot then onto the accompanying by a particular contraption. Robot can be utilized for security reason with the establishment of a camera. In this undertaking, we will consider how to control robot controlled vehicle utilizing Wi-Fi module through android utilization of an android cell. The possible addition of utilizing robot controlled vehicle is it will overall be utilized for different purposes like to decrease manual work. This undertaking can be changed effectively to combine a cameras well that can move the records to the client over WiFi. to see since they don't advance toward glasses or contact focal core interests. Of the 37 million individuals across the globe who are obviously debilitated, more than 15 million are from IndiaOne of the most notable issues that numerous outwardly disabled and apparently obstructed people experience is their dayto-day challenge in adjusting to their handicap. Equipment like Braille, getting glasses, or a versatile stick are just a segment of two or three things that help apparently blocked people with getting their lives.

With the progress of development, a run of the mill Android progressed cell equipped with express applications can help ostensibly debilitated and astonish people in working. Eventually, the most improved choice of PDAs among ostensibly weakened customers is either an iPhone mind a particularly honorable device brought Voice Over or a modest assurance of one of the Android-based PDAs.

Using a high level PDA has an advantage that they give a wide extent of organizations like automated camera, talk recognizer, etc We have passed on an Android based progressed cell phone as a structure for picture dealing with and thing affirmation module which work on pictures got by an obviously incapacitated customer using a certain camera.

ILITERATURE SURVEY

1. Robot Control Design Using Android Smartphone Authors :Mrumal.K.Pathak, Javed Khan, Aarushi Koul, Reshma Kalane,Raunak Varshney The motivation behind this paper is to furnish amazing computational android stages with more straightforward robots equipment design. This paper depicts how to control a robot utilizing portable through Bluetooth correspondence, a few highlights about Bluetooth innovation, segments of the versatile and robot. It present a survey of robots constrained by cell phone through moving the robot upward, in reverse, left and right side by the android application like Arduino, Bluetooth.

2. Smart Phone Controlled Robot Using ATMEGA328 Microcontroller Authors : Aniket R. Yeole, Sapana M. Bramhankar,Monali D. Wani, Mukesh P. Mahajan In The motivation behind this paper is to furnish amazing computational android stages with more straightforward robots equipment design. This paper depicts how to control a robot utilizing portable through Bluetooth correspondence, a few highlights about Bluetooth innovation, segments of the versatile and robot. It present a survey of robots constrained by cell phone through moving the robot upward, in reverse, left and right side by the android application like Arduino, Bluetooth.

3. Android Mobile Phone Controlled Bluetooth Robot Using 8051

   Microcontroller Authors : Ritika Pahuja, Narender Kumar
   l Mehta, Nitin Bhuwania, MaitriParida
   This paper,deliberate how to control robot is ordinarily an electro-mechanical machine that is guided by PC and electronic programming. Different robots have been worked for putting away explanation and can be found in progress lines all through the planet. This paper build up the discarded gets in the android application which control the robot movement with them. Additionally, where Bluetooth correspondence is use to interface regulator and android. Regulator is interfaced to the Bluetooth module at any rate UART show.

4. Robot Controlled Car Using Wi-Fi Module Authors: S R Madkar, Viputcontrolled vehicle using Wi-Fi module through android utilization of an android PDA. It is also show that the machines can be controlled even without an android phone by sending a normal SMS. This assignment can be modified viably to join an undercover usable camera too that can move the accounts to the customer over Wi-Fi. Sun situated cells are as opposed to the standard lithiumion battery for the endeavor.

III.METHODOLOGY

For controlling both the servo engines and DC engines, a force supply was planned such a lot of that it had the decision to make satisfactory capacity to the engines to move around while passing on the articles. The servo engines are connected with the raspberry pi I/O ports while the DC engines is connected through an engine regulator to control the speed of the DC engine. The circuit plan schematic.

For the programming part, it is all through set up on Python programming style that is done on Raspberry Pi 2. The square outline of the functioning endeavor.
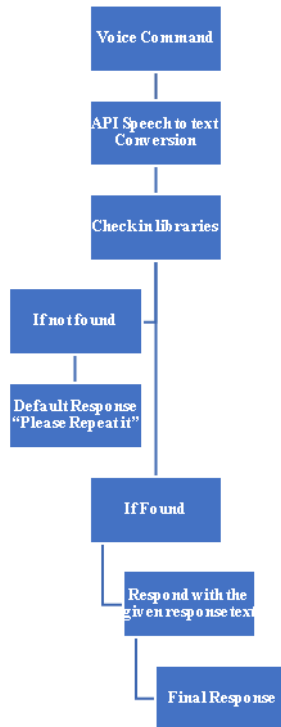
Fig 1: Block Diagram

moreover maintains 1080p30, 720p60 and 640x480p90 video.

Structure Voice is a progression board for building sound driven practices and interfaces. Cross section Voice was worked with a mission to give every maker, specialist, and designer all through the planet an aggregate, sensible, and straightforward gadget for simple to complex Internet of Things (IoT) voice application creation.

The Raspberry Pi Camera v2 is an incredible 8 megapixel Sony IMX219 picture sensor hand made add-prepared for Raspberry Pi, including a fixed focus point of convergence.

For still pictures, the camera is fit for 3280 x 2464 pixel static pictures, and

Fig 2: Flowchart

IV.RESULTS AND ANALYSIS

This piece of there port show the aftereffect of the exactness of the deeplearning model which can accomplish 92% on preparing set sandan 87.3% precision on.

The favor molecule sets. Moreover, the PWM assessments for all the state of the servo motors are showed up in the design of signs diverse introduced progresses with the help of the Bluetooth advancement. All the while, this program uses blue-tooth relationship with talk with robot. The proposed structure similarly shows that how a robot can be used for traveling reason. The functioning plan of wireless is Android, and it can make effective regulator program and by using WiFi distant association, the correspondence among mobile phone and robot can be recognized, which improves on it and favorable to control robot. focused on something basically the same.

Fig 3: Hardware Implementation

APPLICATIONS

1.. The robot is helpful in places where people find hard to arrive at any rate human voice comes to. For example in fire conditions, in essentially damaging zones.

2. It is the one of the basic time of Humanoid robots.

3.   Command and control of machines and equipment.

4.   Telephone help systems

5.   Speech and voice affirmation security structures

6. The robot can be used for perception or observation.

V.CONCLUSION

The proposed system shows how the android cell can be used as far away controller for robot

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VI. REFERENCES

[1]   S R Madkar (Assistant Professor), Vipul Mehta, Nitin Bhuwania, MaitriParida ,"Robot Controlled Car Using Wi-Fi Module". ISSN: 2277 128X Pg:31-33

[2]   Aniket R. Yeole, Sapana M. Bramhankar, Monali D. Wani , "Smart Phone Controlled Robot Using ATMEGA328 Microcontroller" ,ISO 3297: 2007 Pg:352-356

[3]   R. M. Narayana ,Harsha Chapala , "Voice Control Robot using Android Application ",Volume :4 ,ISSN: 2277 5668 Pg:332-337

[4]   Ritika Pahuja, Narender Kumar, "Android Mobile Phone Controlled Bluetooth Robot Using 8051 Microcontroller",ISSN (Online): Pg:2347 – 3878

[5]   K. Kannan , Dr. J. Selvakumar ,"Arduino Based Voice Controlled Robot ",Volume :02 issue :01 ,Mar-2015 ISSN: 2395-0072

[6]   Mrumal.K. Pathak , Javed Khan ,"ROBOT CONTROL DESIGN USING ANDROID SMARTPHONE ",2 Feb 2015 ,ISSN :2347-5471

[7]   Pratik Chopra ,Harshad Dange, "VOICE CONTROLLED ROBOT" Pg:31- 33

[8]   Kishan Raj KC , "CONTROLLING A ROBOT USING ANDROID INTERFACE AND VOICE" Pg:1-36

[9]   R. M. Narayana ,Harsha Chapala , "VOICE CONTROL ROBOT BY ANDROID" APP Pg:49-54

[10]   [10] IS TERRORISM A PHENOMENON OF A PARTICULAR RELIGION? EVIDENCE FROM BOKO HARAM TERRORIST OF NIGERIA, Sule Isah Kazaure and P. Durga Rao, International Journal Of Advance Research In Science And Engineering http://www.ijarse.com IJARSE, Volume No. 09, Issue No. 12, December 2020 ISSN-2319-8354(E).

[11] Harshad Dange ,"Smart Phones Android Operated Robot" Pg:551-567