VOICE CONTROLLED DUMPSTER
Overview

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Introduction

• The use of robots in the present day has moves from industries to the normal day to life
• The use of voice commands to control a robot is much easier for domestic as well as industrial users
• This project proposes the use of an android mobile to control a robot via voice commands.
Hardware requirements

- Arduino Uno
- Bluetooth Module HC-05
- DC Motor Driver L293D
- DC Motor
- Power Supply
Arduino UNO

- Microcontroller board based on the ATmega328P.
- 14 digital input/output pins (of which 6 can be used as PWM outputs)
- 6 analog inputs.
- 16 MHz quartz crystal
- A power jack
- Connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.
The board...
Bluetooth Module (HC-05)

- For the communication between mobile phone and microcontroller Bluetooth module (HC-05) is used.
- Low Power 1.8V Operation, 1.8 to 3.6V I/O.
- Serial port Bluetooth module have a Bluetooth 2.0+EDR (enhanced data rate), 3Mbps modulation with complete 2.4GHZ radio transceiver and baseband.
- Using Bluetooth profile and android platform architecture different type of Bluetooth applications can be developed.
DC Motor Driver (L293D)

- L293D has quadruple high current half-H drivers.
- Wide Supply-Voltage Range: 4.5 V to 36 V
- High-Noise-Immunity Inputs
- Output Current 600mA Per Channel
- Peak Output Current 1.2A Per Channel.
Pin Diagram

Enable 1,2 → Vcc 1
Input 1 → Input 4
Output 1 → Output 4
GND → GND
Output 2 → Output 3
Input 2 → Input 3
Vcc 2 → Enable 3,4

L293D
Circuit Diagram
DC Motor

- 10 to 200RPM 12V DC motors with Gearbox
- 6mm shaft diameter with internal hole
- No-Load Current=60mA(max)
- Load Current=300mA(max)
Power Supply

230 V AC
50 Hz

12V step down transformer

Bridge rectifier

Filter (470 μF)

5V Regulator

5V DC
Android

• Android is an open-source operating system which means that any manufacturer can use it in their phones free of charge.
• It was built to be truly open.
• Android is built on the open Linux Kernel. Furthermore, it utilizes a custom JAVA virtual machine
Android Application on Mobile Phones

- An android app is meant for phones with an android based operating systems. They can be downloaded from the android app Market which is pre-loaded on every android phone.
- Blue control APP and Bluetooth Spp APP are some examples.
Android Application Operated Bluetooth

• The Android platform includes support for the Bluetooth network stack, which allows a device to wirelessly exchange data with other Bluetooth devices.

• The application framework provides access to the Bluetooth functionality through the Android Bluetooth APIs.
Android Application
Software Used..

- Arduino IDE
- Eclipse Android SDK (Software Development Kit)

Programming Languages Used..

- Embedded C/C++
- Java & XML
Applications

• It is quite evident from the name that it will be used for dumping purpose
References

• www.arduino.org
• www.beyondlogic.org
• www.wikipedia.org
• www.elementzonline.com
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Questions????
THANK YOU