International Journal of Research in Advent Technology (IJRAT) Special Issue
E-ISSN: 2321-9637
Sharadchandra Pawar college of Engineering, Dumbarwadi, Pune 410504, Organizes
National Conference "MOMENTUM-17", 14th & 15th February 2017
Available online at www.ijrat.org

PC Controlled Robot and Different Parameter Measurement System.

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ABSTRACT: Vehicles became important in human life. This air pollution mainly caused by vehicles and industries. This paper mainly concentrated on controlling the air pollution from vehicles by using semi-conductor gas sensor for detecting the emission level from vehicles. If the vehicle do not get service regularly, then pollution level higher than standard emission level. In this paper, smoke sensor has been used to detect carbon monoxide from vehicles. Smoke sensor senses the pollution level from vehicles. If pollution level is recorded beyond the standard values from government, then microcontroller alerts the buzzer and displays pollution level on LCD. Microcontroller also sends pollution level to service centre through text message by GSM module. At the same time, activate the time that indicates vehicle will be stopped after some time. During this time, GPS finds the location of vehicle in terms of latitude and longitude values and displays on LCD. GSM send GPS values to service centre through text message. When timer expires, vehicle will be stopped due to the fuel supply to engine get stop by relay circuit is controlled by microcontroller. Based on GPS values, service centre can trace and service the vehicle. The proposed system must be registered with service centre by sending text message. This project will benefit to the society and help in controlling the air pollution.

KEYWORDS –: Sensore, LPC2148, DC Motor.

I. INTRODUCTION

Robotics is the science of designing, building and applying robots. The word robotcame from Czechoslovakian word "ROBOTA" which means or slave doing heavy work. Therobot is a malfunction manipulator designed to move material parts, tools or specialized device through variable program motion for performance of variety of tasks. The robot is themachine that cannot be programmed once but as many times as one likes.We thought about doing some works in robotics field and produce something whichwould be useful to man. Hence we decided to make a robot which can indicate atmosphericconditions to the man from far place so that man can avoid such places and also determinewhether he can visit that place or not. In this project man can operate the robot from pc androbot can be moved properly. Here we have used a microcontroller for controlling all the processeswhich we require to perform. The robot is moved using 2 dc motors of 30rpm. Thesemotors require motor driver IC to drive them. This motor driver IC is required to boost thecurrent which is sufficient to drive the motor.We can use different types of sensors to measure different types of parameterslikemethane,LPG,Oxygen,Carbon,tempera t, light etc. we have used temperature and light sensors in our project these sensors give output in analog from which is converted in to thedigital form using ADC. These readings are shown on PC monitor as well as on LCD.

II. LITERATURE SURVEY

In the past most system used to detect the presence of toxic gases and other atmosphericparameter have not been integrated into one unit. They have been only available assingle device and were not as easy to control and used.Presently these systems are used by many countries military forces and in much other application. These system measures many harmful parameter and avoids damage to the humanbeings the parameter are like carbon monoxide, excessive temperature, low light, methanegas, low oxygen etc. These systems are also useful to revel enemy territories and avoidany damage by them to ourselves. First Autonomous robot created by William Walter inBristol, England in1948.The first digital and programmable robot was invented by George Devol in 1954.In the past most system used

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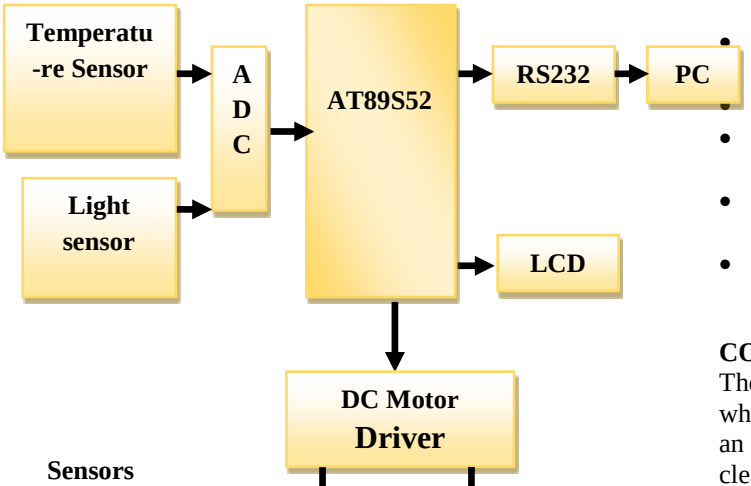
to detect the presence of toxic gases and other atmosphericparameter have not been integrated into one unit. In industrial area we can use the Collaborativerobots. It can effectively interact with human with simple industrial task. Asimov proposed three "Laws of Robotics" and later added the "zeroth law" . Robots are developedin different categories as military, domestic, medical, industrial, service. Robots can be autonomousor semi-autonomous and range from humanoids.Artificial humans and autonomous artificial servants have a long history in humanculture, though the term Robot and its modern literary conception as a mobile machineequipped with an advanced artificial intelligence are more fairly recent. The literary role ofartificial life has evolved over time: early myths present animated objects as instruments ofdivine will, later stories treat their attempted creation as a blasphemy with inevitable consequences,and modern tales range from apocalyptic warnings against blind technological progress to explorations of the ethical questions raised by the possibility of sentient machines.

III. BLOCK DIAGRAM & WORKING



Sensors

There are two sensor used temperature sensor and light intensity sensor. These two sensors measures the reading of [illegible] the microcontroller onlyunderstands digital signals, we have used here an analog to digital convertor . The analogoutputs of the sensor are given to the ADC where it is converted to digital and then given tothe microcontroller for further processing

ADC

The output from the sensor is in analog form. Therefore before giving it to microcontroller we have to convert it into digital form and we use analog to digital convertor. The IC we use as ADC is IC0804.

Microcontroller

As shown in block diagram we have used 89S52 microcontroller . the microcontrolleris interfaced to PC using RS 232. It is a 40 pin Ic produced byAtmel. Also the robot canbe controlled through the buttons displayed on the PC by visual Basic programming. The rotationof the motors depends on the press buttons on the PC and thus movement of the robotis controlled through the buttons on PC.

Motor Driver Ic

A DC motor driver is interfaced to the microcontroller. IC L293D is used as thedriver IC. Using this motor driver IC two DC motors are run. The requirement of the motordriver IC is to boost the current to run the motor. The control of the motor through the PC isdone using VB programming.

LCD:-

LCD displays are used to display the different results in specific manner the figuregiven below is an (16*2) display used to show the results noticed in the system.

IV. ADVANTAGES

- Data hazardous place can be taken without risking human life.
- 2. Reduces human efforts.
- 3. The work can be faster and efficiently as the sensing device is mounted on a robot.
- 4. As it is connected to pc the data can be directly seen on pc and a record can be made.
- 5. Many more parameter can be measured by making some modification in the circuit.

CONCLUSION

The objectives of this project has been achieved which was developing the hardwareand software for an accelerometer controlled robotic arm. Observation clearly shows that itsmovement is precise, accurate, and is easy to control and user friendly to use. Thus we havedesign the power supply successfully. We listed the required components of the systemfor controlling and detection of emission. We plot block diagram, algorithm and flowchart for this system which help us to employ design. The objective ofProject was To build a wired robot for industrial application with live audio video streaming.To search interesting stuff from where people are not able to reach. Interface RS232, LCD 16x2 with

microcontroller .To organize software, hardware & mechanical component to perform desire task .

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