International Journal of Innovative Research in Engineering
Volume 3, Issue 3 (May-June 2022), PP: 638-640.
www.theijire.com **ISSN No: 2582-8746**

Vehicle Automatic Air Pollution ControlSystem

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How to cite this paper:
B. NIREESHA[1], P.RAMYA[2], J.KARTHIK[3], K.BHUWANESHWARI[4], D.V JAI VARDHAN[5], "Vehicle Automatic Air Pollution ControlSystem", IJIRE-V3I03-638-640.

Abstract: *This paper presents an automated control system for air pollution detection in vehicles. As the usage of vehicles is more in these days, pollution is increasing drastically. Asa solution to the above problem we aim to build an embedded system for controlling the pollution in vehicles. This emission from vehicles cannot be completely avoided but it definitely is controlled by using semiconductor sensors for detecting the various gases. This system "Pollution check-in vehicles and alerting system" uses IoT Technologies. When the pollution/ emission level shoots beyond the already set threshold level. During this time theall data will be uploaded into the IoT server.The synchronization and execution of the entire process are monitored and controlled by a microcontroller.*
Index Terms - *Pollution, Embedded, Sensors, Gasses, Meme, GPS, GSM.*

I. INTRODUCTION

The main aim of the project is using some semi-conductor sensors at the emission outlets of Vehicles which detects the level of pollutants and also indicates this level with a meter. Whenthe pollution emission level shoots beyond the already set threshold level, the motor speed will be reduced in the vehicle to indicate that the limit has been reached.

The GPS with help of GSM sends the current location of vehicle and asks for nearest Service station.An Embedded System is a combination of computer software and hardware, A system is a way of working, organizing or or doing one or many tasks according to fixed plan. Program or set of rules. And it can perhaps other parts or additional mechanical, & designed to perform a specific function. A good example is of an embedded system is the microwave oven. Almost every household has one, and tens of millions of them are used every day.

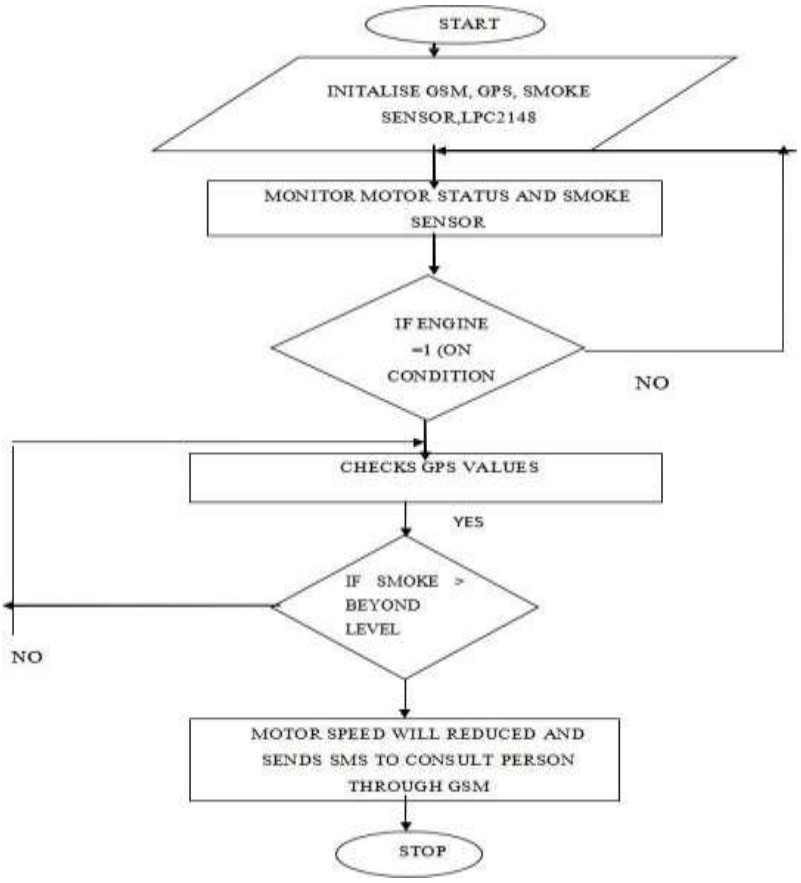
Nearly 99 per cent of the processors manufactured end up in embedded systems. Theembedded system market is one of the highest growth areas as these systems are used in very market segment- consumer electronics, office automation, industrial automation, telecommunications, transportation, military and so on.

At home use a number of embedded systems which include digital camer digital diary, DVD player, electronic toys, microwave oven, remote controls for TV and airconditioner, VCO player, video game consoles, video recorders etc. Today's high- tech car has about 20embedded systems for transmission control, engine spark control, airconditioning, navigation etc. Even wristwatches are now becoming embedded systems. The palmtops are powerful embedded systems using which can carry out many general purpose tasks such as playing games and word processing.

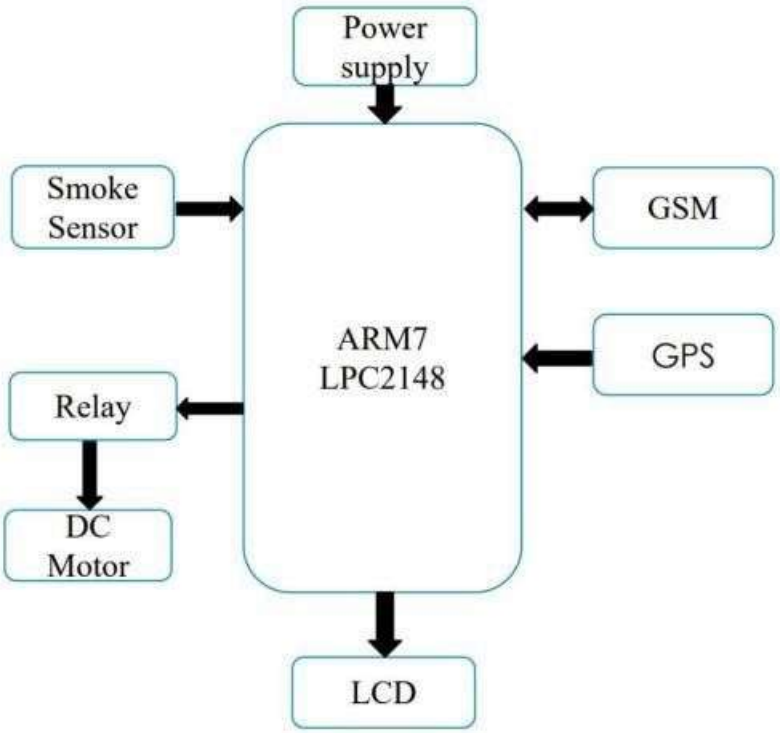
II.LITERATURE SURVEY

- Advances in mobile communications are paving way for many interesting applications using embedded systems.
- The mobile phone is one of the marvels of the last decade of the 20'th century. It is a very powerful embedded system that provides voice communication while are on the move.
- The Personal Digital Assistants and the palmtops can now be used to access multimedia services over the Internet.

III.FLOW CHART



IV.BLOCK DIAGRAM



V.WORKING PRINCIPLE

Hardware implementation deals in drawing the schematic according to the application, testingthe schematic design over the breadboard. Using the various IC's to find if the design meets the objective, carrying out the PCB layout of the schematic tested on breadboard. Finally preparing the board and testing the designed hardware. The input to the circuit is applied from the regulated power supply. The A.C input i.e., 230V from the mains supply is step down by the transformer to 12V.

GSM modem is provided with adaptor and SIM has to be inserted into the modem.Smoke sensor is heated to certain level, then GSM modem will display "give missed call" message, then give a call to the inserted SIM.The inserted SIM will automatically reject the call and it will send a message i.e.,CO2 is occurred.

If the pollution has crossed certain level, then the motor speed decreases and if pollution levelcrosses the set threshold level the motor will stop.

VI.RESUTLS

After initialization of GSM and MEMS Sensor it will ask a give missed call to the inserted mobile number as shown in below. And then giving missed call it will automatically rejectthe call and send a message as that your number is feeded successfully. With the help of Sensors the GPS will decodes its latitude and longitude values. When the emission level beyond the threshold voltage it will send a message. Any attempt at any level can't be satisfied completely without the report and guidance of learned people. These words are not enough to show my gratitude towards them. We would like to express our token of thanks to them. We would like to express our immense gratitude to Mrs.B.Nireesha, Assistant Professor for guiding and correcting various documents with lot of attention and care. We owe our profound gratitude to our coordinators Dr. D. Vemana Chary, Professor who took keen interest on my project and guided us all along, till the completion of our project by providing all the necessary information for developing a good project. We would like to convey our sincere thanks to Dr. SK. Umar Faruk, HOD of ECE department for his support and encouragement towards our project. We express our thanks to Principal Dr. K. V. Murali Mohan, for the conductive environment created by him in the college for effective completion of project undertaken by us. We would also like to thank our faculty members without whom this major project would have been a distant reality.

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