Smart Garbage Management System Prof. Bhushan

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ABSTRACT

With increase in population, the scenario of cleanliness with respect to garbage management is degrading tremendously. The overflow of garbage in public areas creates the unhygienic condition in the nearby surrounding. It may provoke several serious diseases among the nearby people. It also degrades the valuation of the area. To avoid this and to enhance the cleaning, 'smart garbage management system' is proposed in this project. In the proposed project, the level of garbage in the dustbins is detected with the help of Sensor systems, and communicated to the authorized control room through GSM system. Micro-controller is used to interface the sensor system with GSM system. A GUI is also developed to monitor the desired information related to the garbage for different selected locations.
This will help to manage the garbage collection efficiently.

Keyword: -IR sensors, GSM, smoke sensor, moisture sensor, ATmega16

1.INTRODUCTION

In our city many times we see that the garbage bins or dustbins placed at public places are overflowing. It creates unhygienic conditions for people. Also it creates ugliness to that place. At the same time bad smell is also spread.To avoid all such situations we are going to implement a project called Garbage collection bin overflow indicator using GSM technology. In this project we are going to place a weight sensor under the dustbin. When the weight reaches to the threshold value, a sms will be sent to the respective Municipal / Government authority person. Then that person can send the collection vehicle to collect the full garbage bins or dustbins.

1.1 GSM

It is Quad band GSM module which is use to send SMS to concern authority.

1.2 ATmega16

AT mega power consumption is very low. It has advance high RISC architecture. It also has a fully static operation. That's why we choose AT mega processor.

1.3 IR Sensor

An infrared sensor is an electronic instrument which is used to detect the height of garbage in dustbin by either emitting and/or detecting infrared radiation.

1.4 Moisture Sensor

This sensor can be use to test the moisture.

1.5 Smoke Sensor

A smoke detector is a device that senses smoke, typically as an indicator of fire. Commercial security devices issue a signal to a fire alarm control panel as part of a fire alarm system, while household smoke detectors, also known as

smoke alarms, generally issue a local audible or visual alarm from the detector itself.

2.Block Diagram
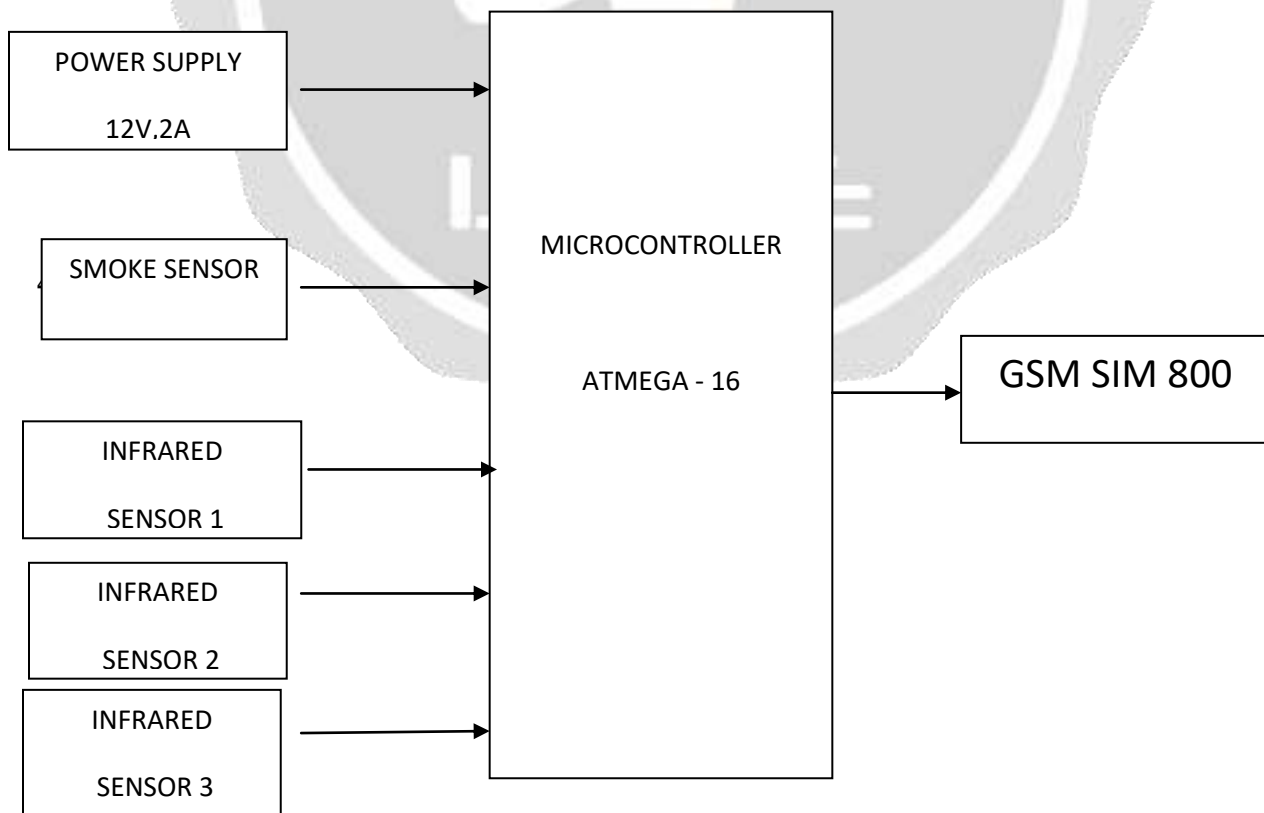
1) To collect dustbins placed at public places in city.

2) This project can also be used in college / university campus

3) This project can also be used in companies

4)Many times Garbage dust bin is overflow and many animals like dog or goat enters inside or near the dustbin. This creates a bad scene. Also some birds are also trying to take out garbage from dust bin. This project can avoid such situations.

Future Development for the project:

1. We can add GPS modem to this project. This will help to track the position in case there are more dustbins.

4.Conclusion

This report shows the implementation of smart garbage management system using IR sensor, micro-controller and GSM module. This system assures the cleaning of dustbins soon when the garbage level reaches its maximum. If the dustbin is not cleaned in specific time, then the record is sent to the higher authority who can take appropriate action against the concerned contractor.
This system also helps tomonitor the fake reports and hence can reduce the corruption in the overall management system. This reduce the total number of trips of garbage collection vehicle and hence reduce the overall expenditure associated with the garbage collection. It ultimate helps to keep cleanness in the society. Therefore, The smart garbage management system makes the garbage collection more efficient The use of solar panels in such systems may reduce the energy consumption. Such systems are vulnerable to plundering of components in the system in different ways which needs to be worked on.

5.References

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