GARBAGE MANAGEMENT WITH SMART WINDOW

Aniket Jadhav[1], Sagar Jadhav[2], Akash Pawar[3]
[123]*Student, Dept of E&TC, DYPSOET, Maharashtra, India*

ABSTRACT

Rapid increase in volume and types of solid and hazardous waste as a result of continuous economic growth, urbanization and industrialization, is becoming a burgeoning problem for national and local governments to ensure effective and sustainable management of waste. It is estimated that in 2006 the total amount of municipal solid waste generated globally reached. Currently there is no system of segregation of dry, wet and metallic wastes at a household level at least cost, most appropriate technological option for safe management should be developed.

The purpose of this project is the realization of a compact, low cost and user friendly segregation system for urban households to streamline the waste management process. The methodology adopted in this paper to resolve the issue of waste segregation is by making the entire process automated and to the reduce cost such that it could be adapted in a household level.

Keywords:- PIC micro-controller, Proximity Sensors, GSM module, Android app.

I.INTRODUCTION:-

Rapid increase in volume and types of solid and hazardous waste as a result of continuous economic growth, urbanization and industrialization, is becoming a burgeoning problem for national and local governments to ensure effective and sustainable management of waste. It is estimated that in 2006 the total amount of municipal solid waste generated globally reached. Currently there is no system of segregation of dry and wet wastes at a household level at least cost, most appropriate technological option for safe management should be developed. The purpose of this project is the realization of a compact, low cost and user friendly segregation system for urban households to streamline the waste management process. The methodology adopted in this paper to resolve the issue of waste segregation is by making the entire process automated and to the reduce cost such that it could be adapted in a household level.

Razzle dazzle big puzzle, where will the global guzzle lead us to! Technology is growing at an unimaginable rate! There are new products, facilities, and luxury elements that are developed every day. But the dark side is that this boon has always been accompanied by a tremendous production of waste. The Philosophy of "Waste management Hierarchy" has been adopted by most industrialized nations as the menu for developing Municipal Solid Waste management strategies. [2] Every city is grappling with the menace of escalating amounts of waste. The situation calls for an efficient system that can sort waste at the primary stage thus making waste

management more efficacious and fruitful. Mechanizing such a system is of paramount importance as is clearly indicated in Aiden's work. We have thus come up with an Automatic waste segregator that categorizes the waste as wet, dry or metal.

This will not only help in dealing with the situation in a clever manner but will also improve the economy of our country. Ready to convert trash to cash?. An introduction to the proposed system was given in section I of the paper.

II. SYSTEM BLOCK DIAGRAM

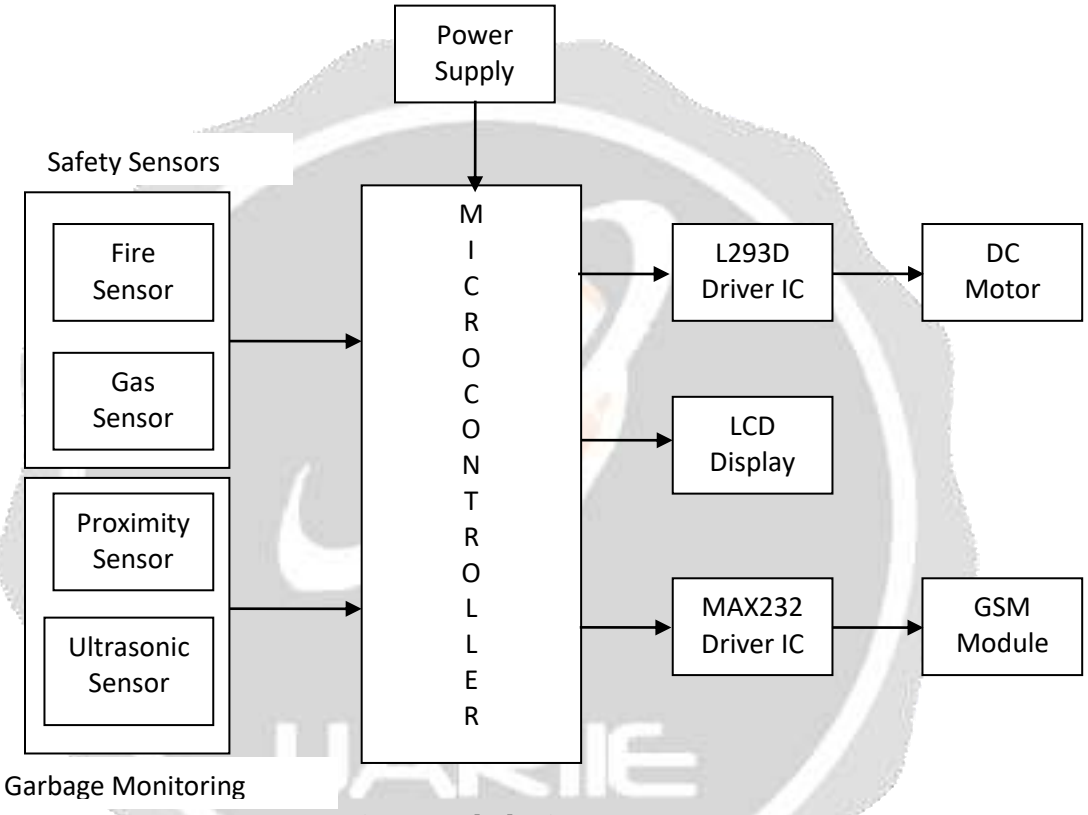

Figure1 - Block Diagram

1 PIC Microcontroller

PIC is a family of microcontrollers made by Microchip Technology, derived from the PIC4550 originally developed by General Instrument's Microelectronics Division. The name PIC initially referred to Peripheral Interface Controller. Early models of PIC had read-only memory (ROM) or field-programmable EPROM for program storage, some with provision for erasing memory. All current models use Flash memory for program storage, and newer models allow the PIC to reprogram itself.

2 PROXIMITY SENSOR:

A proximity sensor is a sensor able to detect the presence of nearby objects without any physical contact. A proximity sensor often emits an electromagnetic field or a beam of electromagnetic radiation (infrared, for instance), and looks for changes in the field or return signal. The object being sensed is often referred to as the proximity sensor's target. Different proximity sensor targets demand different sensors. For example, a capacitive or photoelectric sensor might be suitable for a plastic target; an inductive proximity sensor always

requires a metal target. Proximity sensors can have a high reliability and long functional life because of the absence of mechanical parts and lack of physical contact between sensor and the sensed object.

3 GAS SENSOR

A gas detector is a device that detects the presence of gases in an area, often as part of a safety system. This type of equipment is used to detect a gas leak and interface with a control system so a process can be automatically shut down. A gas detector can sound an alarm to operators in the area where the leak is occurring, giving them the opportunity to leave. This type of device is important because there are many gases that can be harmful to organic life, such as humans or animals. Gas detectors can be used to detect combustible, flammable and toxic gases, and oxygen depletion. This type of device is used widely in industry and can be found in locations, such as on oil rigs, to monitor manufacture processes and emerging technologies such as photovoltaic. They may be used in firefighting.

4 GSM MODULE

A GSM module or a GPRS module is a chip or circuit that will be used to establish communication between a mobile device or a computing machine and a GSM or GPRS system. The modem (modulator-demodulator) is a critical part here. These modules consists of a GSM module powered by a power supply circuit and communication interfaces (like RS-232, USB 2.0, and others) for computer. A GSM modem can be a dedicated modem device with a serial, USB or Bluetooth connection, or it can be a mobile phone that provides GSM modem capabilities.

5 ULTRASONIC SENSOR

Ultrasonic transducers are transducers that convert ultrasound waves to electrical signals or vice versa. Those that both transmit and receive may also be called ultrasound transceivers; many ultrasound sensors besides being sensors are indeed transceivers because they can both sense and transmit. These devices work on a principle similar to that of transducers used in radar and sonar systems, which evaluate attributes of a target by interpreting the echoes from radio or sound waves, respectively. An ultrasonic transducer is a device that converts AC into ultrasound, as well as the reverse, sound into AC. In ultrasonic, the term typically refers to piezoelectric transducers or capacitive transducers.

6 FIRE SENSOR

The Fire sensor, as the name suggests, is used as a simple and compact device for protection against fire. The module makes use of IR sensor and comparator to detect fire up to a range of 1 - 2 meters depending on fire density.

III. CONCLUSIONS:-

- The purpose of this project is to provide smart window for every block for segret wastes.
- Due to automatic waste management system overall health and hygiene level of society is increased which will also help to maintain disease free world.
- Plastics and metals from dry waste can be used directly in recycling process same with the metallic materials

IV. REFERENCES:-

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