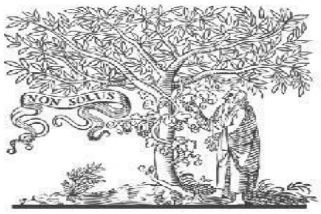
International Journal for Innovative Engineering and Management Research
A Peer Revieved Open Access International Journal
www.ijiemr.org

COPY RIGHT



ELSEVIER SSRN

IJIEMR Transactions, online available on 30th June 2020. Link:
http://www.ijiemr.org/downloads.php?vol=Volume-09&issue=ISSUE-05

Title: DESIGN AND IMPLEMENTATION OF BAD SMELL WITH SMART WASTE MONITORING AND ALERT SYSTEM

Volume 09, Issue 05, Pages: 128-132

Paper Authors

N.RUSHYENDRA, G.RAMANA REDDY

USE THIS BARCODE TO ACCESS YOUR ONLINE PAPER

To Secure Your Paper As Per UGC Guidelines We Are Providing A Electronic Bar Code

International Journal for Innovative Engineering and Management Research
PEER REVIEWED OPEN ACCESS INTERNATIONAL JOURNAL
www.ijiemr.org

DESIGN AND IMPLEMENTATION OF BAD SMELL WITH SMART WASTE MONITORING AND ALERT SYSTEM

[1]N.RUSHYENDRA, [2]G.RAMANA REDDY

[1]M.Tech scholar, Dept of ECE, Nalanda Institute of Engineering Technology, Sattenapalle, Guntur District, Andhra Pradesh

[2]Associate Professor, Dept of ECE, Nalanda Institute of Engineering Technology, Sattenapalle, Guntur District, Andhra Pradesh

ABSTRACT: In this paper the design of bad smell and smart waste monitoring and alert system is implemented. Basically, Smart waste management and monitoring system plays very important role in present generation. Firstly, when the waste is reached up to 70% then I.R Sensor-1 will be detected and sends an SMS and location of that place to the corresponding officer of that street. In the same way, when the waste is reached above 95% then I.R Sensor-2 will be detected and sends an SMS and location of that place to the corresponding officer of that street. The bad smell detection sensor will detect the bad smell and gives a beep sound using buzzer and in the same way message and location also send to the corresponding officer. Hence this project detects fast and gives effective outcome.

KEY WORDS: I.R Sensor, GSM, G.P.S, Buzzer, Power Supply, L.C.D Display, ARM.

I.INTRODUCTION

Because of fast populace development, complication of regional authorities, an absence of open mindfulness and constrained financing for programs, trash the executives is turning into a worldwide issue. Because of the absence of care and consideration by the specialists the trash receptacles are for the most part appear to be flooding. It must be taken into care by comparing specialists and should figure what strategy can be followed to take care of progressing issues are examined related with IOT. Web and its applications have become an essential piece of the present human way of life. It has become a fundamental device in each angle [1]. Because of the huge interest and need, analysts went past interfacing only PCs into the web.

These explores prompted the introduction of a shocking doohickey, Internet of Things (IoT). Correspondence over the web has developed from client to ,client to ,gadget to client, communication to gadget, gadget communications nowadays.

The IoT ideas were proposed a very long time back yet it's in the underlying phase of business sending. IoT can be utilized to give a stage to shrewd trash the board.. Viable moves will be made if the relating authority isn't concerned in regards to the cleaning of receptacles [2-3]. The execution of keen trash the board framework utilizing sensors, microcontrollers what's more, GSM module guarantees the cleaning of dustbins soon when the trash level arrives at its greatest. In the event that the dustbin isn't cleaned in explicit time, at that point the record is sent to the more significant position authority

International Journal for Innovative Engineering and Management Research
PEER REVIEWED OPEN ACCESS INTERNATIONAL JOURNAL
www.ijiemr.org

who can make fitting move against the concerned contractual worker.

This framework additionally assists with checking the phony reports and henceforth can lessen the debasement in the general administration framework. This decrease the all out number of outings of trash assortment vehicle and henceforth diminish the general consumption related with the trash assortment [4]. It extreme assists with keeping cleanness in the general public. Shrewd assortment container works with the sensors will show us the different degrees of trash in the dustbins and furthermore the weight sensor gets actuated to send its yield ahead when its edge level is crossed. In the event that dustbins are most certainly not cleaned in time, the subtleties will be sent to more significant position authority.

Nowadays, urban areas with creating economies experience depleted waste assortment administrations, insufficiently oversaw and uncontrolled dumpsites and the issues are compounding. Squander assortment technique in such nations is an on-going test and numerous battles because of feeble establishments and quick urbanization [5].

II. LITERATURE SURVEY

Author	Title	Year	City / Country
Clark, R.M., and Gillean, J.I	Analysis of Solid Waste Management in Cleveland, Ohio: Case Study	1975	Cleveland / USA
Ward, J.E., and Wendell, R.E	A Million Dollar Annual Savings from a Transfer Station Analysis in Pittsburgh	1978	Pittsburg / USA
Gotoh, S.	Issues and Factors to be Considered for Improvement of Solid Waste Management in Asian Metropolises	1989	Asian Cities
United Nations Centre for Human Settlements (UNCHS),	Refuse Collection Vehicles for Developing Countries	1989	Latin America
Or, I, & Curi, K	Improving the Efficiency of the Solid Waste Collection System in Izmir, Turkey, through Mathematical Programming	1993	Izmir / Turkey
Baud, I.S.A., and Schenk, H	Solid Waste Management in Bangalore: Reflections, Assessments and Suggestions	1994	Bangalore / India
Sundberg, J. et al	A System Approach to Municipal Solid Waste Management: A Pilot Study of Goteborg	1994	Goteborg / Sweden
Sudhir, V. et al	Integrated Solid Waste Management in Urban India: A Critical Operational Research Framework	1996	Chennai / India
Dorigo, M. et al	The Ant System: Optimization by a Colony of Cooperating Agents	1996	Netherland
Kulcar, T.	Optimizing Solid Waste Collection in Brussels	1996	Brussels / Belgium
Singh, S.K., and Singh, R.S	A Study on Municipal Solid Waste and its Management Practices in Dhanbad -Jharia Coalfield	1998	Dhanbad / India
Chung, S. S. and Poon, C. S.	A Comparison of Waste Management in Guangzhou and Hong Kong	1998	Hong Kong / China
Read, R.O	National Strategies and Local Practices: MSW Policy Implementation by Local Government in the UK	1998	UK
Chi, G.F., and Huang, G.H.	Long-term Planning of Integrated Solid Waste Management System under Uncertainty. Report summated to the City of Regina	1998	Regina / Canada
Report of the Supreme Court Appointed Committee, India	Solid Waste Management in Class 1 Cities in India	1999	India
Malviya, R et al	Study on Solid Waste Assessment and Management- Indore City	2002	Indore / India
Kansal, A.	Solid Waste Management Strategies for India	2002	India
Green Alliance, Collection of responses to Prime Minister's Strategy Unit	Waste Not Want Not: a Strategy for Tracking the Waste Problem in United Kingdom	2002	London / UK
Huang, G.H. et al	Combining Simulation with Evolutionary Algorithms for Optimal Planning under Uncertainty: an Application to Municipal Solid Waste Management Planning in the Regional Municipality of Hamilton-Wentworth	2003	Wentworth / USA
Buenrostro, O. and Bocco, G	Solid Waste Management in Municipalities in Mexico: Goals and Perspectives	2003	Mexico

III. PROPOSED SYSTEM

The below diagram shows the architecture of proposed system. Firstly, when the waste is reached up to 70% then I.R Sensor-1 will be detected and sends an SMS and location of that place to the corresponding officer of that street.

International Journal for Innovative Engineering and Management Research
PEER REVIEWED OPEN ACCESS INTERNATIONAL JOURNAL
www.ijiemr.org

In the same way, when the waste is reached above 95% then I.R Sensor-2 will be detected and sends an SMS and location of that place to the corresponding officer of that street. The bad smell detection sensor will detect the bad smell and gives a beep sound using buzzer. The description of each component is given below.

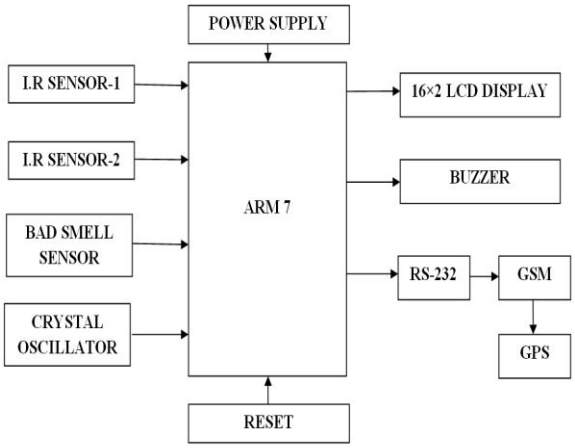


Fig. 1: PROPOSED SYSTEM

A. ARM

A 128-piece wide memory interface and stand-out stimulating specialist building configuration authority 32-piece code execution at the most extraordinary clock rate. For isolate code size applications, the alternative 16-piece Thumb mode diminishes code by in excess of 30 percent with immaterial execution discipline.

B. CRYSTAL OSCILLATOR

An oscillator gives a wellspring of repetitive A.C. movement over its yield terminals without requiring any commitment (beside a D.C. gracefully). The banner delivered by the oscillator is as a general rule of consistent adequate. The wave shape and adequacy are appearing by the arrangement of the oscillator circuit and choice of section regards. The repeat of the yield wave may be fixed or variable, dependent upon the oscillator structure.

C. POWER SUPPLY

Power supplies of late have largely improved in unwavering quality that may, on the grounds they need to deal with impressively higher voltages and flows than any or the vast majority of the hardware they gracefully, and regularly the most exposed to disappointment of any piece of an electronic framework. Present day power supplies have additionally expanded the incredibly their multifaceted nature, and can flexibly entirely stable yield voltages controlled by criticism frameworks. Many force gracefully circuits likewise contain programmed security circuits to forestall danger over voltage or over current circumstances.

D. GSM

Global System for Mobile Communications (GSM) modems are specific kinds of modems that work on membership based remote systems, like a cell phone. A GSM modem acknowledges Subscriber Identity Module (SIM) card, and essentially acts like a cell phone for a PC. Such a modem can even be a devoted cell phone that the PC utilizes for GSM arrange capacities.

E. RS-232

RS-S232 is a standard convention utilized for sequential correspondence; it is utilized for associating personal computer and its fringe gadgets to permit sequential information trade between them. As it acquires the voltage for the way utilized for the information trade between the gadgets.

F. LCD DISPLAY

LCD is utilized to show the information. 16x2 is the LCD that has been utilized for example 16 characters in 1 line; all out 2 lines are there. It requires +5V to work. It is associated with port 2 of microcontroller

International Journal for Innovative Engineering and Management Research
PEER REVIEWED OPEN ACCESS INTERNATIONAL JOURNAL
www.ijiemr.org

G. I.R SENSOR

Firstly, when the waste is reached up to 70% then I.R Sensor-1 will be detected and sends an SMS and location of that place to the corresponding officer of that street. In the same way, when the waste is reached above 95% then I.R Sensor-2 will be detected and sends an SMS and location of that place to the corresponding officer of that street.

H. BAD SMELL DETECTION SENSOR

The bad smell detection sensor will detect the bad smell and gives a beep sound using buzzer.

IV. RESULTS

The below figure (2) shows the basic circuit diagram of proposed system.

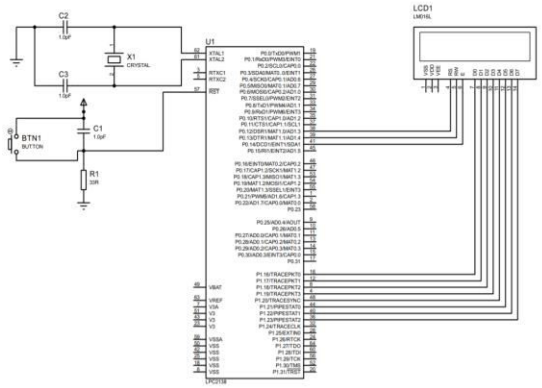


Fig. 2: BASIC CIRCUIT DIAGRAM

The below figure (3) shows the complete circuit diagram of proposed system.

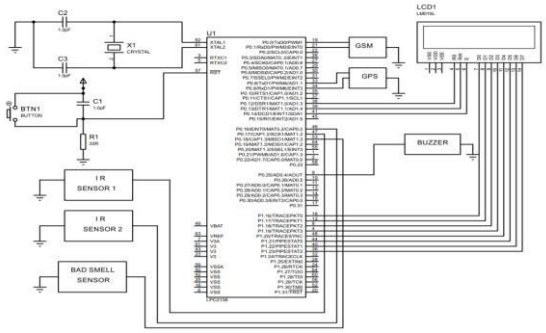


Fig. 3: CIRCUIT DIAGRAM OF PROPOSED SYSTEM

The below figure (4) shows the circuit diagram when I.R Sensor-1 is activated.

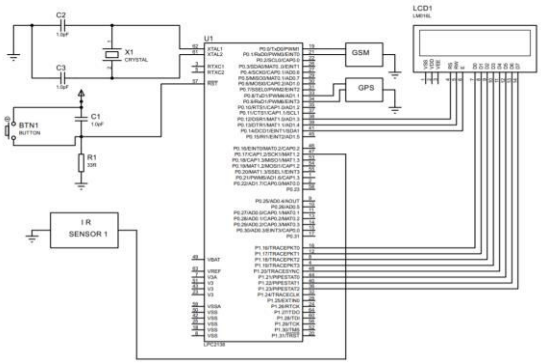


Fig. 5: WHEN I.R SENSOR-1 IS DETECTED

The below figure (6) shows the circuit diagram when I.R sensor-2 is detected.

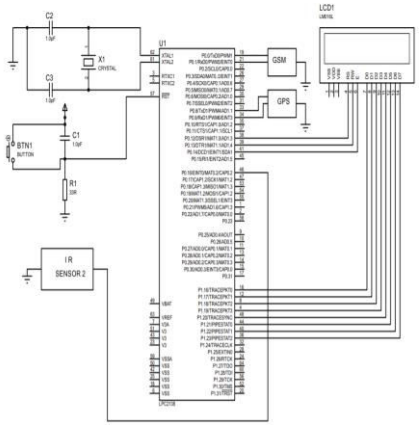


Fig. 5: WHEN I.R SENSOR-2 IS DETECTED

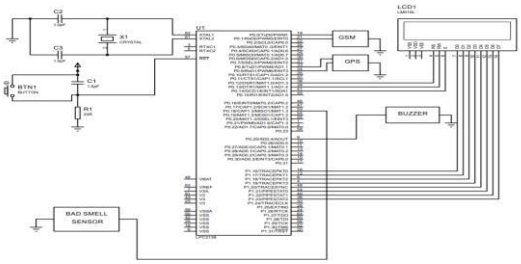


Fig. 6: WHEN BAD SMELL SENSOR IS DETECTED

V. CONCLUSION

Hence in this the design of bad smell and smart waste monitoring and alert system was implemented. Firstly, when the waste is reached up to 70% then I.R Sensor-1 will be detected

and sends an SMS and location of that place to the corresponding officer of that street. In the same way, when the waste is reached above 95% then I.R Sensor-2 will be detected and sends an SMS and location of that place to the corresponding officer of that street. The bad smell detection sensor will detect the bad smell and gives a beep sound using buzzer and in the same way message and location also send to the corresponding officer. Hence this project detects fast and gives effective outcome.

VI. REFERENCES

[1]. Prof. R.M.Sahu, Akshay Godase, Pramod Shinde, Reshma Shinde,―Garbage and Street Light Monitoring System Using Internet of Things‖

[2] international journal of innovative research in electrical, electronics, instrumentation and control engineering, issn (oNLINE) 2321 –2004, vOL. 4, iSSUE 4, aPRIL 2016.

[3]. M. Al-Maadeed, N. K. Madi, Ramazan Kahraman, A. Hodzic, N. G. Ozerkan , An Overview of Solid Waste Management and Plastic Recycling in Qatar, Springer Journal of Polymers and the Environment, March 2012, Volume 20, Issue 1, pp 186-194

[4]. Islam, M.S. Arebey, M. ; Hannan, M.A. ; Basri, H,‖Overview for solid waste bin monitoring and collection system"Innovation Management and Technology Research (ICIMTR), 2012 International Conference, Malacca, 258 – 262

[5]. Md. Shafique Islam M.A Hannan, ―An overview for solid waste bin Monitoring System‖ Journal of Applied science research, 8(2): 879-886, February 2012

[6]. Kanchan Mahajan, Prof J.S.Chitode ―Waste bin monitoring system using Integrated Technology‖, International Journal of innovative Research in science engineering and technology, Vol 3, Issue 7, July 2014.

[7]. Pavithtra, ―Smart trash system: An application using Zigbee‖ International and Technology, Vol. 1, Issue 8, October 2014‖

[8] Monika K A, Rao N, Prapulla S B and Shobha G 2016 Smart Dustbin-An Efficient Garbage Monitoring System International Journal of Engineering Science and Computing 6 7113-16.

[9] Navghane S S, Killedar M S and Rohokale D V 2016 IoT Based Smart Garbage and Waste Collection Bin International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE) 5 1576-78.

[10] Kasliwal Manasi H and Suryawanshi Smithkumar B 2016 A Novel approach to Garbage Management Using Internet of Things for smart cities International Journal of Current Trends in Engineering & Research 2 348-53.