Solid Wastage And Street Light Management System

[1]Prof. S. A. Dhole, [2]Andhare Shubhangi, [3]Nutan Gaikwad, [4]Jadhav Madhuri

[1]Professor, [2,3,4]UG Student, [1,2,3,4]Dept. of Electronics and Telecommunication, Bharati Vidyapeeth's College of Engineering for Women, Pune, Maharashtra, India.

Abstract - **The pictures of garbage bins being overfull and all the garbage spills out resulting in pollution. This also increases number of diseases as large number of insects and mosquitoes walkover on it. A big Challenge in the metro cities Solid waste management not only in India but for most of the countries in the world. New technologies used on streetlight plants aim to give important benefits both for environment and for economic saving. In front of an initial cost, moderately higher than that of a classic technology, alternative energies and lamps, based on new technologies, allow to quickly reach the break-even and then to save money. The paper gives us one of the most efficient ways to keep our environment clean and green. And it also saves the power.**

Keywords: smart waste, smart cities ,wireless network smart power, IOT.

I. INTRODUCTION

This paper deals with medium-sized cities and their perspectives for development. Even though the vast majority of the urban population lives in such cities, main focus of urban research trends to be on the global metropolises.

Street light management system is building for a smart city. In this system using AVR controller, one LDR sensor to automatically ON/OFF street light, four LED's for four street light and four comparator for street light feedback to wi-fi for sending the message, four relay for ON/OFF the street lights. If any of the street light will faulty then street light LDR will send the feedback to the controller AVR and then automatically message will send by mobile app to Municipal Street light operator . So, then this operator will take the appropriate action if he will be not able to take action on that fault at that time then operator will receives that faulty street light feedback every day when street light will ON. If all street light will ok then no any feedback will sends to controller and no any message will sends to operator[1].

Solid waste management system: Garbage management system is building for a smart city. In this system using AVR controller, two IR modules, wi-fi for sending the message. Now a day's face a too much big problem of daily solid waste in that human can take a one part of this system is garbage bin which is located in various places in cities for collect the daily waste from cities peoples. Nobody can get watch on this garbage bin conditions which is get empty, full or overflow. So, now days so many places garbage bin gets overflow and the waste spread on the earth around the garbage bin. So, the solid waste management system to control the garbage bin overflow. Using the two

IR modules which was located at the two sides of the garbage bin the when garbage bin gets fill up to 80% to its limit then controller receives the feedback from the IR modules and sends the message to the municipal corporation garbage bin system operator. So, by using this system control the overflow of the garbage bin and number of diseases as large number of insects and mosquitoes are stopped[2].

II. METHODOLOGY

In the street light system using LDR (light dependent register) connected to street light pole .LDR sensor the light & according to that bulb will be on/off.at the day time bulb will be off & at the night bulb will be on this process is automatically done.

IR sensor is used to vary light intensity of bulb .IR sensor connected to both side of road. when object is sense light intensity will be high. there is no any object light intensity is low.it is also automatic process.

With the help of AVR controller control the LDR and IR sensor. android app and wi-fi module is used for street light management .by using current transformer we can measure the load output which is given to the comparator circuit and we check the bulb is faulty or not .if bulb is faulty then AVR controller send the message to the android app with the help of wi-fi module both status of bulb that is faulty or not upload on the mobile app.

In solid wastage management level sensor is used this level sensor connected to the both side of dust bin then garbage is full 80% then controller send the message to the android app with the help of wi-fi module & also munciple corporation.
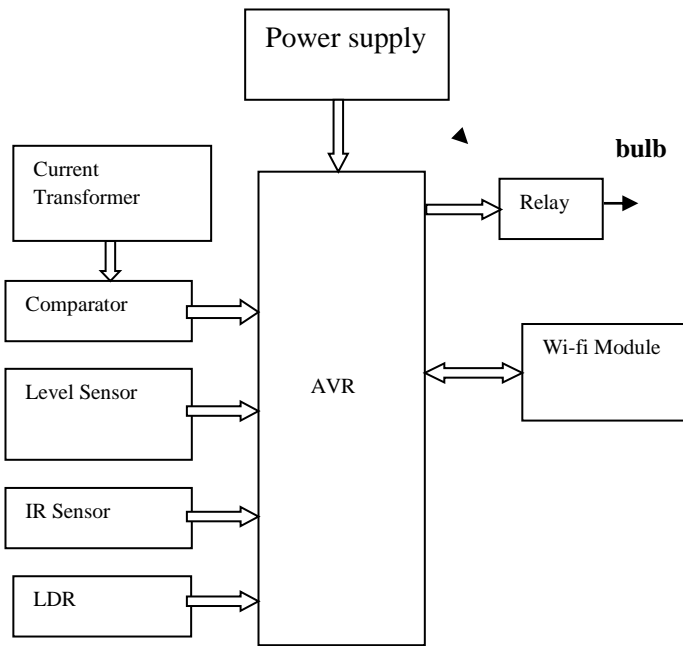
III.   SYSTEM DESIGN
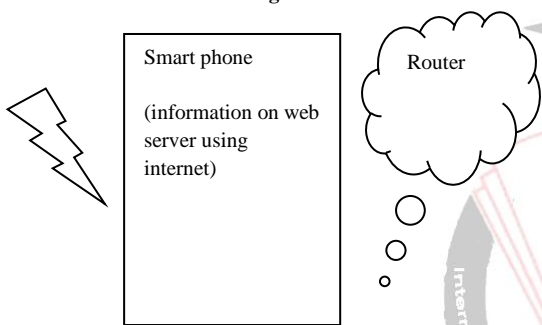

Fig. 1 Transmitter

Fig. 2 Receiver

1. AVR- It take's the input from LDR, level sensor, IR sensor, comparator, bulb and gives to the android app through Wi-fi module.

2. Power supply- It provide 5 volt power supply for operation.

3. LDR (light dependent resistor)- Whose resistance change according light we will set the automation system that at the daytime light can be off and for night it can be on automatically.

4. IR sensor- To check the human availability as per that light on/off control and energy saving can be done.

5. The level sensor is used for sense the level of the dust bin as per level status indication. The controller can be send or upload the data on the server.

4. Current Transformer -We can measure the load output which is given to the comparator circuit and we check that the bulb is faulty or not.

5.Wi-fi Module- It provide server to AVR controller to send message to the android app.

6.Smart Phone- With the help of app it will send the essage to the authorized person or municipal corporation.

IV. RESULT

By using LDR (light dependent resistor whose resistance change according light) set the automation system that at the day time light can be off and for night it can be on automatically.

To check the human availability by using IR Sensor as per that light on/off control and energy saving can be done.

The level sensor is used for the sense the level of the dust bin as per level status indication the controller can be send or upload the data on server.

By using the current transformer ewe can measure the load output which is given to the comparator circuit and we check that the bulb is faulty or not.

Garbage level status can be upload on android app also.

V.   CONCLUSION

By implementing this paper there are four problems of every city gets minimizes. Due to solid waste management system garbage bins overfull can avoid. For the street lights or lamps we easily on or off the light and can easily find out the faulty lamp.

REFERENCE

[1] M.Castro, "*Smart Lighting Solution For Smart Cities*," Advanced information networking and applications workshops (WAINA), 2013 27th international conference on Barcelona,2013,pp. 1374-1379.

[2] M. A. Wazed, N. Nafis, M. T. Islam and A. S. M. Sayem, "*Design And Fabrication Of Automatic Street Light Control System*", Engineering e-Transaction, Vol. 5, No. 1, June 2010, pp 27-34.

[3] M. Al-Maaded, 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, Volume 20, Issue 1, pp 186-194,March 2012,

[4] Elvik, R. "*Meta-Analysis Of Evaluations Of Public Lighting As Accident Countermeasure.*" Transportation Research Record 1485, TRB, National Research Council, Washington, D.C., pp. 112-123,(1995).

[5] Narayan Sharma,, "*Smart Bin Implemented For Smart City*", International Journal of Scientific & Engineering Research, Volume 6, Issue 9, September-2015

[6] Richu Sam Alex, "*Energy Efficient Intelligent Street Lighting System Using ZIGBEE and Sensors*", International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-3, Issue-4, April 2014.

[7] Narendra Kumar G, "*Efficient Garbage Disposal Management in Metropolitan*", Cities Using VANETs Journal of Clean Energy Technologies, Vol. 2, No. 3, July 2014.