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An overview on Smart Highway

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***Abstract*: A project to automate street lighting "IoT-based smart street light system" is under development Reduced lighting maintenance and power consumption. The application is designed like this So put a light sensor in every street light circuit that turns the switch on. and turn off automatically. When the lights come on, current sensors are installed along each street A ring of light serves to report the status of a problem to a central system. GSM module connected in circuit. Status is available in the central system. Workers can now easily find specific lights to work with, minimizing wasted time. Find it and fix it. The system also maintains a database that stores useful information about each individual. Power consumption of street lights, total lighting time, total number of lights, etc. Interruptions, compares actual power consumption with supplied power and provides interruption details. recognition. This leads to commercial purposes as the system continues to operate at optimal power consumption. This benefits the economy and prosperity of the city as a whole. People living in today's modern society prefer a sophisticated life with all the amenities. science Technological development is progressing rapidly to meet the above needs. advanced Innovation, the Internet of Things (IoT) is playing an important role in the automation of various fields such as health Surveillance, traffic control, agricultural canals, street lights, classrooms, etc. Manually operating street lights is a huge waste of energy everywhere. The world, and it should change. In this project, we investigated how IoT could be used for road development. It shines smartly according to the present age. It's an important fact in solving the energy crisis We develop street lights for the whole world. In addition, through research on smart street lighting systems. We have analyzed and described various sensors and components used in IoT environments. All the components of this survey are widely used and very humble but effective. A solid intelligence system. Keywords: intelligent street lighting system, internet of things, temperature sensor, weather sensor, Raspberry Pi, Arduino Uno.**

***Keywords*: Solar panel, LDR, Arduino, switch, sensor.**

1. Introduction

A well-designed street lighting system allows users to navigate at night with good visibility. It reduces many night time malfunctions and improves performance while ensuring safety and comfort. A view of the neighborhood. Conversely, a poorly designed lighting system can lead to poor lighting. Visibility may be low for pedestrians passing through this street. Quite often, poorly designed street lighting and poorly maintained (e.g. (blowing out lamps) and obsolete lighting technology that consumes a lot of energy and financial resources. Installing street lights is one of his most important and costly jobs city mission [1]. Street lighting is a particular concern for public authorities Developing countries because of their strategic importance for economic and social stability. The proposed street light monitoring and control system plan facilitates street light maintenance. This maintenance will also allow the municipality to extend street lighting to more areas. Improve access to street lighting installations on all roads and other underserved areas. In addition, safety will be improved by improving the quality of lighting and expanding services. Both vehicular traffic and pedestrian situations. the application is designed that way Place a light sensor in every street light circuit and take charge of the switching. Turns on and off automatically [2]. When the light is on, a current sensor on each lamppost controls it. It uses the connected GSM modules to report problem status to a central system. Racecourse workers can easily do this as the statuses are available in a central system. Identify specific lights in need of repair, minimizing search and repair time. The system also collects useful information from each streetlight at the end of each day. of Information is stored in a database and graphs are created based on this information. of Information such as performance is displayed graphically in the street light area consumption total burn hours and total interruptions show actual values.

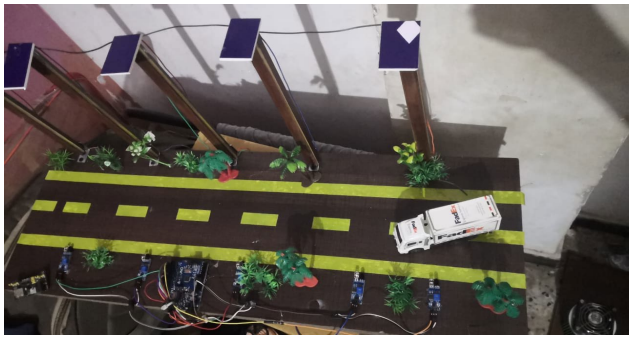

Fig. 1. Hardware model

2. Conclusion

This paper presented an overview of smart highway.

References

[1] S. Srivastava, “Automatic Street Lights,” in Advance in Electronic and Electric Engineering, vol. 3, no. 5, pp. 539-542, 2013.
[2] V.V.S. Maduri, P. Mallikarjuna Salma, N. SandhyaRani, “Automatic Street Lighting with PLC.”
[3] K.Y. Rajput, Gargeye Khatav, Monica Pujari, Priyanka Yadav, “Intelligent Streets” Lighting system with GSM.”

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[4] Omkar Natu, S.A. Chavan, “GSM-Based Intelligent Street Light Monitoring and Control system.”
[5] R. Caponetto, G. Dongola, L. Fortuna, “Reducing remote control power consumption”. "Controlled Street Lighting System,” SPEEDAM 2008 International Symposium on Electricity electronics, electric drives, automation, motion.
[6] A. Ray-Equakill, G. Vendramin, “Reliability of LED-Based Public Lighting Systems.”
[7] R. Rubanath, T. Kavitha, “A GSM-based RFID approach to automated street lighting System,” April 2012.
[8] M. A. Wazed, N. Nafis, “Design and Manufacturing of Automatic Street Light Control System.”
[9] Radhi Priyasree, Rafiyakauser H., Vinytha E., Gangaharan N., “Automatic Street lights Intensity Control and Traffic Safety Module with Embedded Systems,” (ICCCE 2012), 2012.
[10] MeihuaXu, Yujie Zhang, Guoqin Wang, “Designing Intelligent Street Light Monitoring Systems Based on STM32,” 2012 IEEE Symposium on Electrical & Electronics Engineering (EESYM).
[11] Deepak Kapgate, “Wireless streetlight control system,” International Journal of Computer Applications, vol. 41, no. 2, March 2012.
[12] Mircea Popa, Costin Cepişcă, “Solution for Saving Energy Consumption Based on Intelligent Street Lighting Control Systems.”