Automatic Energy Saving System Using Rfid Tag in Schools or Colleges

Mohd Hafeez Pasha[1] D.Bhasker[2]

[1]M.Tech Student ,CMR Engineering College, Telangana, India Email: hafeezpasha619@gmail.com ,
[2]Asst. Professor ,ECE Dept,CMREC,Telangana ,India

ABSTRACT : *In most of the colleges it is often that students or staffs forgets to turn the switches of light or fans to off before leaving the class which makes the energy to be wasted as no one is utilizing it. Hence this paper implements the efficient electronic technology which may be used in classrooms to avoid such problems. The RFID system is utilized as a board module to attach the parts of the object say student's or staffs identity card etc. And a server is maintained at any place of the campus, which monitors the classrooms.*

Keywords: *Rfid tags.*

I. INTRODUCTION

Currently we are living in an era where electricity power plays a vital role. Now we cannot imagine our lives without electricity. Our lives are completely relying on electricity. We made electricity as soul of our day to day life. Our health, education, agriculture, engineering and other technical activities all are now conditioned by electricity. Hence Electricity is considered as the one of the greatest achievements of man.

Hence even our small attempts to save electricity will be helpful. This paper is also an approach to save electricity by using electronic technology. Fans and Lights are often kept open even when there is no need of which. This paper shows the design of basic system which is very efficient in case of cost and power consumption parameter.

II. LITERATURE SURVEY

A number of related works exist in literature, application of RFID Technology to different areas and specifically to the area of academic attendance monitoring problem. In [1], the authors designed and implemented a parking system using rfid in which RFID reader/tags will control the check-in and check-outs of vehicle. Output of the latch is given to receive and transmission lines using a microcontroller. At the exit section of the parking area, RFID section and the microcontroller based system would calculate the parking-space usage time and automatically deduct the parking charges from the owner's account and a receipt would be printed using thermal printers.

In [2], an automatic attendance system using fingerprint verification technique was proposed. The fingerprint technique verification was achieved using extraction of abnormal point on the ridge of user's fingerprint or minutiae technique. The verification confirms the authenticity of an authorized user by performing one to one comparison of a captured fingerprint templates against the stored templates in the database. The proposed automatic attendance system signals either true or false based on logical result of previous one to one verification of person's authenticity [3]. The same application with rfid technology is seen in [4][5].

In [3], authors designed and implemented a model of a secured and portable embedded reader system to read the biometric data from the electronic passport. The authors attempted to solve problems of reliability, security and privacy in E-passports by authenticating holder online using Global System of Mobile Communications (GSM) network. The GSM network is the main interface between identification centre and the e-passport reader. The communication data is protected between server and e-passport reader by using AES to encrypt data for protection while transferring through GSM network.

III. HARDWARE DESIGN CONSIDERATIONS

RFID tags: RFID tags, a technology once limited to tracking cattle, are tracking consumer products worldwide. Many manufacturers use the tags to track the location of each product they make from the time it's made until it's pulled off the shelf and tossed in a shopping cart. A significant advantage of RFID devices over the others

mentioned above is that the RFID device does not need to be positioned precisely relative to the scanner. We're all familiar with the difficulty that store checkout clerks sometimes have in making sure that a barcode can be read.

Microcontroller: The proposed design uses Atmega32L microcontroller or a computer system to store data. It is a low power controller that provides support for high speed communications, with the ability to be programmed using AT commands. Record of Persons entered in room would also be recorded. When the person enters the RFID Reader, the Reader reads the RFID Tag and sends the RFID tag information to the database system. The database notes the person's information.
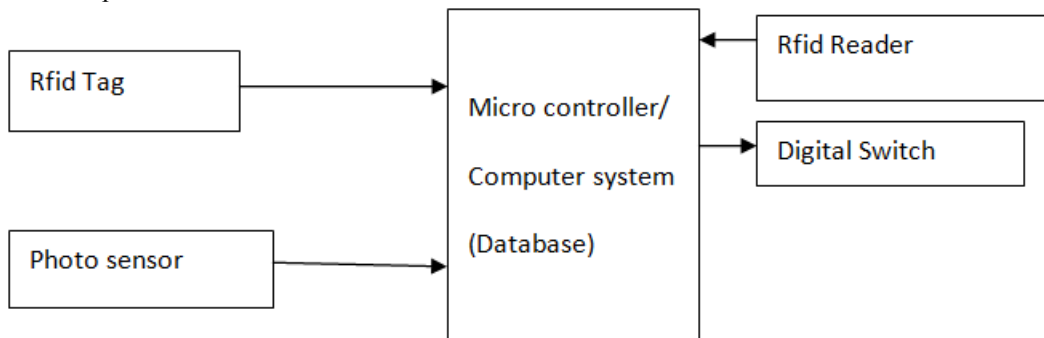
IV. SOFTWARE CONSIDERATION
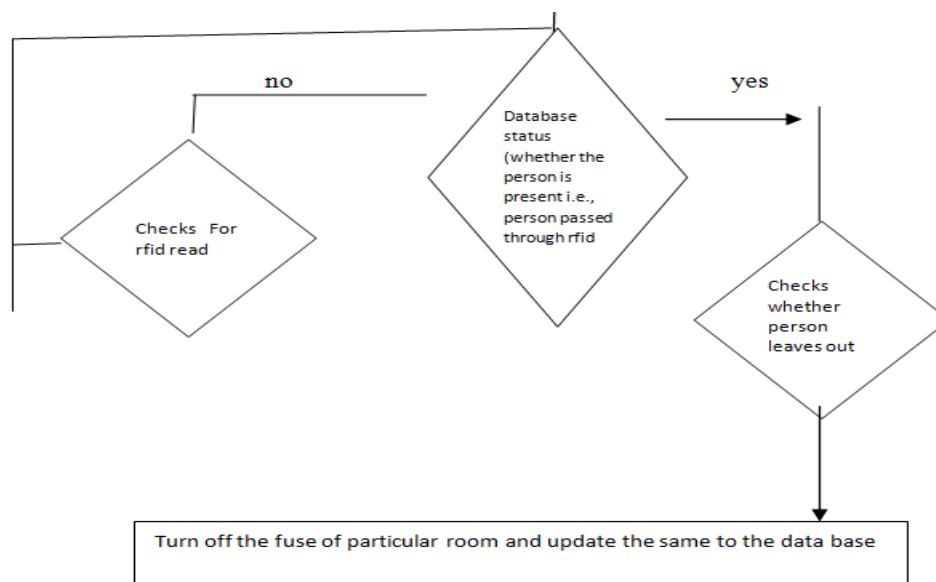
V. APPLICATIONS

The system can be installed at the
1. Parking Lots of Offices
2. Malls
3. Toll plazas
4. Underground parking areas in Metros
5. Commercial buildings

VI. CONCLUSION

As the RFID technology evolves, more sophisticated applications will use the capability of RFID to receive, store and forward data to a remote sink source. RFID has many applications as can be imagined. In this paper, we have utilized the versatility of RFID in implementing functional and automatic energy saving system.

REFERENCES

[1]   Parking Management System, International Journal of Scientific & Engineering Research Volume 4 Iss. 2 Feb. 2014

[2]   Chitresh, S and Amit K (2010),"An efficient Automatic Attendance Using Fingerprint Verification Technique ",International Journal on Computer Science and Engineering (IJCSE),Vol. 2 No. 2,pp 264-269.

[3]   Henry. S, S. Arivazhagan and L. Ganesan (2003), "Fingerprint Verification Using Wavelet Transform", International Conference on Computational Intelligence and Multimedia Applications, 2003.

[4]   RFID-Based Students Attendance Management System, International Journal of Scientific & Engineering Research Volume 4, Issue 2, February-2013 1 ISSN 2229-5518.

[5]   Longe O.O.(2009),"Implementation of Student Attendance System using RFID Technology", B. Tech Project Report, Ladoke Akintola University of Technology, Ogbomoso, Nigeria.