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A PARKING GUIDANCE AND INFORMATION SYSTEM BASED ON WIRELESS SENSOR NETWORK

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ABSTRACT

This introduces a parking guidance and information system based on wireless sensor system. This system consists of parking space monitoring nodes, master node parking guidance display and an information and management center. The nodes transmit the information through wireless sensor network by RF transmission. After analyzing and processing the data, the information and management center would distribute the parking information by Lcd displays. And the results of the experiment show that the performance of the system can satisfy the requirements of parking guidance.

Keywords: Lcd (liquid crystal display)

I INTRODUCTION

Recent increase in the growth of automotive industrycoupled with the perpetual demand of commuters urged the need for better and smarter parking mechanisms. Though lot of researches were conducted in this area, most of the existing parking management systems rarely address the issues of parking space management, vehicle guidance,parking lot reservation etc[1]. Majority of these systems Have control at the entrance & exit and use vehicle detectors as an essential element to provide smart parking.Though inductive loop is one of the most widely useddetectors today, it includes various problems in installation and maintenance which might disturb the normal operationsof parking[2]. The widespread use of wireless technologies paired with the advancement in wireless applications for parking implies that digital data dissemination could be the key for resolving the growing parking challenges[3]. Flexibility to couple with sophisticated but cheap sensors that can accurately detect vehicles makes WSN a natural candidate to solve the emerging car parking problems. Wireless sensor network usually consists of a large number of nodes that are deployed in the sensing area and are equipped with different kinds of sensing, computation and communication units. These functional units enable WSN nodes to cooperatively collect, process, and transmit information to the communication subsystem. Compared with the existing parking management systems, this paper proposes a Smart Parking solution based on wireless sensor network technology[4]. Our choice was motivated by the need for an automated, cost-effective, real time and easy-to-use system for car parking. The proposed system is capable of monitoring & managing individual parking spaces, providing automated guidance and advanced reservation services as wel[5]l. In the remainder of

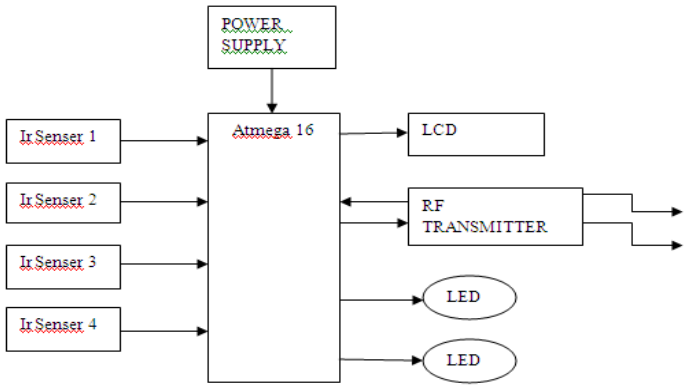
this paper, we present the complete overview of Smart Parking Management System, including the design and implementation of the developed prototype model as part of the project.

II WORKING

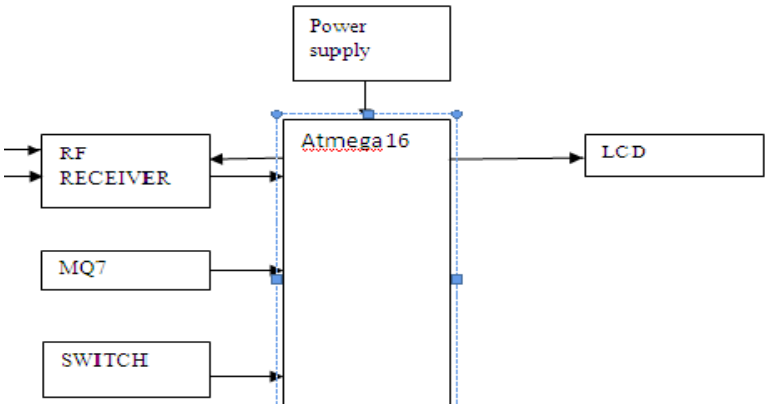
As shown in block diagram the transmitter node is an data collection node which sense the presence on vehicles in parking lot and sends this information to receiver node which is located at the entry of parking so that to inform car driver about the parking allotments, Also in this system we use logic to save energy ie if there is no car parked in parking lot the light will automatically turn off[6][7].

1.1 Block Diagram

Transmitter Section



Receiver Section



III CONCLUSION

This introduces a PGIS based WSN. We developed three kinds of sensor nodes, which form a WSN by tree-like topological network with non-standard protocol. And the information and management center is introduced. All of those constitute a PGIS. The experimental results show that the PGIS we developed can satisfy the application. This system can install in the parking lots convenient. So that there is no need to change the existing

parking system greatly and little destructive effect; besides, it is compatible with the existing wired networks. Therefore, this PGIS has great market significance.

$$\alpha + \beta = \chi. \qquad (1)$$

REFERENCES

[1] G F. Lv, X. Song, B. Wu, V. K. Singh, and R. Nevatia, "Left-luggage detection using Bayesian inference," in Proc. IEEE Int. Workshop PETS, 2006.

[2] C. Stauffer and W. E. L. Grimson, "Adaptive background mixture models for real-time tracking," in Proc. IEEE Computer. Soc. Conf. CVPR, vol. 2. Jun. 1999,

[3]K. Kim, T. H. Chalidabhongse, D. Harwood, and L. Davis, "Realtime foreground-background segmentation using codebook model "Real-Time Image , 2005.

[4] S. Agarwal, A. Awan, and D. Roth, "Learning to detect objects in images via a sparse, part-based representation," IEEE Trans. Pattern Anal. Mach. Intell. Nov. 2004.

[5] F. Porikli, Y. Ivanov, and T. Haga, "Robust abandoned object detection using dual foregrounds," EURASIP J. Adv. Signal Process., vol. 2008, Jan. 2008, Art. ID 30.

[6] E. Auvinet, E. Grossmann, C. Rougier, M. Dahmane, and J. Meunier, "Left-luggage detection is using homographies and simple heuristics," in PETS, 2006 .

[7] M. Beynon, D. Hook, M. Seibert, A. Peacock, and D. Dudgeon, "Detecting abandoned packages in a multi-camera video surveillance system," in Proc. IEEE Int. Conf. Adv. Video Signal- Based Surveillance, 2003 .