



A DOOR MONITORING SYSTEM FOR SUBWAY CARS BASED ON WIRELESS SENSOR NETWORK

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Abstract- The place and performance of wireless sensor networks are rapidly improving in the automotive industry, industrial and environmental monitoring. Uptake of this technology can be used in urban rail vehicle management system. Due to the difficult and time-consuming maintenance of vehicle management, a remote automatic monitoring system is needed. In this paper, it is proposed to design, develop and implement a remote automatic vehicle monitoring system. The complete system architecture includes a group of sensor nodes, some sink nodes, and a data centre. The sensor nodes are connected to the sink node, which is connected to a data centre through CDMA or General Packet Radio Service (GPRS) technologies. In order to improve the reliability of wireless transmission, retransmission and redundant path are discussed. The system has been tested for half a year and satisfactory results have been observed, which indicate that this system is useful for urban rail vehicle monitoring.

Index terms: Wireless sensor networks, embedded operating system, remote monitoring, urban railway system, data centre.