Literature review on WSN based transport management for courier

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Abstract

Logistics encompasses all of the information and material flows throughout an organization. It includes everything from the movement of a product or from a service that needs to be rendered, through to the management of incoming raw materials, production, the storing of finished goods, its delivery to the customer and after-sales service. The scope of logistics has changed since the emergence of new technologies and strategic alliances in order to complete on flexibility and responsiveness. The growing importance of logistics arises from companies becoming globalized to gain access to new markets, realize greater production efficiencies, and tap technological competencies beyond their own geographical borders. A reduction in trade barriers and the emergence of advanced technologies have led to a great interest in logistics in recent years.

We are having such problem from the earlier system from review paper. We can observe such deficiency; system cannot track the courier and also accidents taking place due to drunken driving. That can able the minimize the deficiency and implemented system, Vehicle as well as courier are tracking and also Alcohol Detection System. This device provides much advanced facilities in now a day's life as it can be easily implemented in vehicles. Thus we can reduce alcohol related road accidents and hence these kinds of detectors have a great relevance.

Keywords: Vehicle tracking, courier delivery, Alcohol detection, Accident prevention, GSM, GPS, ARM 9, Smart phone.

1. Introduction

Vehicle tracking systems implemented were first implemented for the shipping industry because people wanted to know where each vehicle was at any given time. Automated vehicle tracking system is being used in a variety of ways to track and display vehicle locations in real time. This paper propose a vehicle tracking system using GPS and GSM technology and Smartphone application to provide better service and cost effective solutions for users. And India had earned the dubious distinction of having more number of fatalities due to road accidents in the world. Road safety is emerging as a major social concern around the world especially in India. Drinking and driving is already a serious public health problem, which is likely to emerge as one of the most significant problems in the near future. The system implemented by us aims at reducing the road accidents in the near future due to drunken driving. The system detects the presence of alcohol in the vehicle and immediately locks the engine of

the vehicle. At the same time an SMS along with the location of the vehicle is send to three pre-selected contacts. Hence the system reduces the quantum of road accidents and fatalities due to drunk driving in future.

2. Literature survey

There is a spatial information technology like GSM, GPS etc. These technologies are popularized and widely used in intelligent dispatching. To solve this problem the vehicle monitoring and intelligent dispatching system is to be used. In this system the driver has to save the data in to the IC card with personnel and vehicle identification from the monitoring centre. The IC card is inserted in the card reader. After dispatching is finished the task will be allocated for the driver and then it will be written into the IC card. When the IC card is inserted into the card reader it will automatically display the location in the monitoring screen and will be directly sent from the route to the desired location [1].

Danyu, Z. And G.A.O. Hongfeng depicts communication is very important for vehicle

monitoring to improve the communication service system in vehicle. This study mainly focuses on performance reliability and reusability of communication server. For achieving this, GPRS and GSM are used. One can also apply the non blocking I/O technique to optimize this process. The J2EE design scheme and open source technique is used for the compatibility and reusability

[2]. Container logistics plays a vital role in logistics management.

Ming, Y., W. Xuefeng and Z. Renyi addresses to improve the logistics information like unreasonable usage of equipments and also improve the reliability. For that the Topology structure is followed in the basics of EBXML. All the goods details are collected and maintained in the database. The web base application is used to monitor the vehicle and the information is sent to the concerned persons [3]. The existing systems had a disadvantage of internet facility, every time system cannot be connected to internet because logistic vehicle passes through remote areas cannot provide internet. Every time system cannot be connected to servers. So tracking of vehicle is impossible in this aspect.

In the past, many papers & projects utilized the traditional display of several parameters using GPS data for the real time monitoring [4], [5], [8] but there is no progress observed for the efficient transmission of coordinates using single board embedded systems and to manage the accuracy [7], [9] by the modem technology cooperation. Like Kai Qin et al.'s proposed system [4] is about the entire system using the existing GPRS network to transmit information collected from the GPS module to the IP-fixed control centre in the internet. He gave some good answers related to Long distance wireless transmission in his article but in highly dense urban areas, the proposed system seems not capable enough to provide the facilities. Thus the past works [6], [10] clearly describe that in the vast areas of Inertial Navigation System; the key issues are the consistent monitoring System with reliable error compensation using maximum faultless techniques and real time solutions for frame work designing. This paper focus on developing a new bus monitoring system based on GPS and intelligent system for its location transmission. Lau [11] proposed simple bus tracking system in UCSI University, Kuala Lumpur, Malaysia. The tracking system provides student with the location information of a bus within a fixed route.

3. Discussion and proposed work

The proposed system automatically gathered location information using sensors and transmitting through GSM enabled devices and GPS used to locate the current location of the vehicle. System equipped with web camera, which will be helpful in monitoring the real-time/live incidences and driver conditions. A black box containing Barcode reader, GPS, and GSM transmitter is equipped in the moving bus. As the bus approaches a bus station with a barcode tag, the distance between the reader and the tag decreases and causes them to interact with each other. This communication produces data and the data obtained is sent to the monitoring center via GSM.
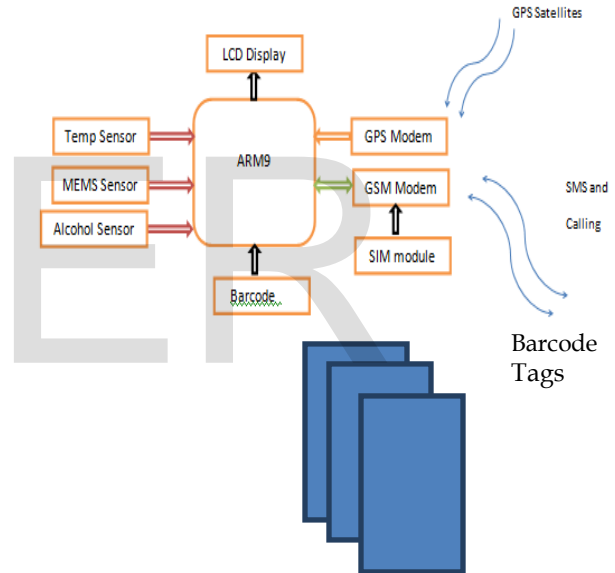

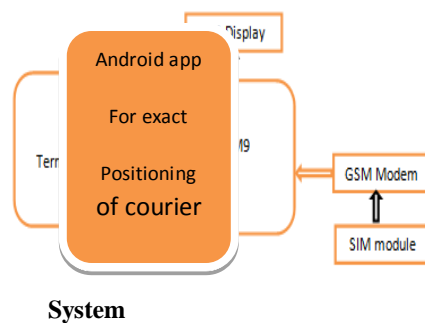**Fig. 1 Block Diagram of Vehicle Unit**

Android Smartphone with Internet

Fig.2 Block Diagram of Central Monitoring System

Once the position and the product ID information are captured through GPS and barcode, the vehicle terminal can send the messages to the logistics monitoring centre through GSM base stations. The system operating procedures consist of three basic stages. Firstly, when the products leave the warehouse and are handed over to transport company, the product identification data can be found by the Barcode reader. Mean while, the product's departure and arrival information can be automatically registered as well. The transporting information of goods will be sent to transport company momentarily, the GPS module achieves the message (latitude, longitude, and altitude) of vehicle position; barcode reader detects whether a product data is changed. Along with this the product information and the combined GPS position information will be sent in real time.

Alcohol detection system detects the content of alcohol in the breath and thus it attempts to clamp down alcoholics. This system uses LCD display, MQ3 alcohol sensor. Thus we can reduce alcohol related road accidents and it can be used in public place. This system provides much advanced facilities in now a day's life as it can be easily implemented in vehicles. At the same time an SMS along with the location of the vehicle is send to pre selected contacts.

4. Conclusion

Whatever we have studied until now we can observe deficiency and that can able to improve in our proposed system. This implementation can prove to be very effective in providing security for the goods and also ensures the safety and delivery of goods to respective enterprises. The vehicle will be track effectively using GPS and GSM technologies. That's shows the exact location of a moving or stationary vehicle in real time. In vehicle, a server and smart phone are used for the courier tracking. A vehicle geographic co-ordinate and vehicle unique ID obtained from black box will be recorded. The system can give effective performance to track a vehicle location and courier anytime from anywhere. This system brings innovation to the existing technology in the vehicles and also can improve the safety features.

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