Cab Tracking and Management System with Employee Information

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Abstract- *A Cab tracking system combines the installation of an electronic device in a Cab, with purpose-designed computer software at least at one operational base to enable the owner or a third party to track the vehicle's location, collecting data in the process from the field and deliver it to the base of operation. Vehicle information can be viewed on mobile via the GPS or GSM. Urban public transit authorities are an increasingly common user of vehicle tracking systems, particularly in large cities.GPS receiver will calculate the latitude and longitude and it will send the coordinates to the server unit via GSM modem. In today's world, safety and security are the major aspects that are confronted by any individual. The existing systems in the present scenario are not efficient enough to provide necessary security.*

Keywords- GSM, GPS, Cab tracking, RFID.

I. INTRODUCTION

In today's world employee security has become a major concern. Especially employee's that are working in call centers who have to do a night shifts and return home at late night hours. For such employees their safety is a major worry for all Company's. We read many attacks on such call center cabs in recent times, moreover there is no efficient way to inform the company or the police so that any immediate action can be taken. To resolve above mentioned problems we have come up with the solution of RF and GPS based employee tracking and security. Here we are tracking the employee cab as well as the employee's .also we have an arrangement for emergency button so, when ever any employee finds him/her self in any kind of trouble, an SMS can be sent to the nearest police station and the company so that immediate action can taken by the concerned authorities. A GPS, RFID & GSM Based Cab Tracking and Employee Security System combines the installation of an electronic device in a vehicle, with purpose-designed GPS to enable the company to track the vehicle's location. It consists of car unit, emergency button and company unit. Various sensors are also used here to keep vehicle and employee secure. These are Eye blink sensor, alcohol detector sensor and panic key, limit switch, relay are also used. This Eye Blink sensor is IR based, The Variation Across the eye will vary as per eye blink. If the eye is closed means the output is high otherwise output is low. This to know the eye is closing or opening position. This output is give to logic circuit to indicate the alarm. This can be used for project involves controlling accident due to unconscious through Eye blink. We can't take care of ours while in running by less conscious. If we done all the vehicles with automated security system that provides high security to driver, also gives alarm..

II. LITERATURE REVIEW

1) Abid khan, Ravi Mishra et al, "GPS – GSM Based Tracking System", Electronics and Telecommunication Engineering Department, IJETT, 2012.

In this paper we proposed the design, development of GPS (Global positioning system)/ GSM(Global system for mobile communications) based vehicle tracking in real time and provides alert system for reporting any kind of trouble occurrences. It will continuously monitor a moving vehicle. This system contains single board embedded system that is equipped with GPS and GSM modems along with ARM processor which is installed in the vehicle. After pressing the emergency key in case of trouble, SMS is sent to the server via SMS using AT command. A GSM modem is used to send the position (Latitude and Longitude) of the vehicle and GPS modem will continuously monitor the data that is the latitude and longitude indicating the position of the vehicle.

2) Vimlesh Bhat et al, "Real time GPS Tracking System for Transport Operation", IJSCE,2013.

In this paper that Design and development of GPS/GSM based vehicle tracking and alert system for commercial inter-city buses, based on the design, development and deployment of GPS (Global Positioning System)/GSM (Global System for Mobile Communications) based On Vehicle Tracking and Alert System which allows inter-city transport companies to track their vehicles in real-time and provides an alert system for reporting armed robbery and accident occurrences.

3) Kunal Purandare, Rahul Akhouri et al," Cab Tracking And Personal Security System", IJECS, 2015.

Users and guest users are employees who want to use the transport facility. The users can place their request for a bus to reach the company or for a cab when they want to go to a different place. These requests are approved or declined by the transport people or project manager. This application has rich user interface so that novice users can access easily. This application provides the management reports like Occupancy report, Approval status report, to track the usage of company's transport facility as well as cab facility.

4) M. A. Hannam, A. M. Mustapha, A. Hussain and H. Basri et al, "Intelligent Bus Monitoring and Management System", IEEE Transaction on Communication, 2013.

This paper deals with the implementation of an intelligent bus monitoring system based on current challenges and problems. In this system, RFID and integrated sensing technologies such as GPS, GPRS and geographic information system(GIS) are used to monitor the movement of bus.

III. IMPLEMENTATION OF PROPOSED SYSTEM

1) Proposed Block Diagram

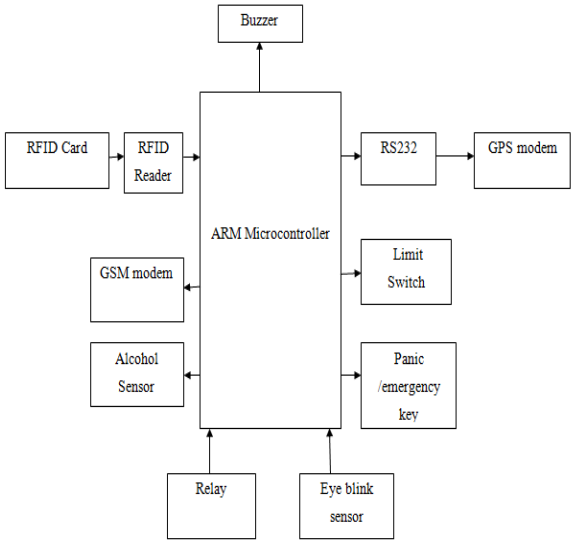

Fig. Proposed block diagram

2) Proposed system description

Cab Tracking &Personal Security System proposes a GPS & GSM based application for smart phones with integrated and more efficient functioning for company admin as well as employees. This application provides vital functionalities such as cab tracking and management, authenticated electronic check-in check-out, emergency services whenever needed, alert alarm for employee in insecure conditions.

IR Based Eye Blink Sensor: This Eye Blink sensor is IR based , The Variation Across the eye will vary as per eye blink.

Alcohol Sensor: The sensor circuit is used to detect whether alcohol was consumed by the driver recently.

GSM Modem: GSM is a cellular network, which means that mobile phones connect to it by searching for cells in the immediate vicinity.

GPS Modem: GPS modem is used to track the location of cab at different time and speed.

Relay: A relay is an electrically operated switch. The coil current can be on or off so relays have two switch positions and they are double throw (changeover) switches.

ARM Processor: ARM 7(LPC 2148) is used to control and interface the all circuitry.

RF-ID Readers: RF-ID readers communicate with tags through an RF channel to obtain identifying information.
RFID Tag: Tags are attached to all objects to be identified. Composed of an antenna or coupling element and integrated circuitry.

IV. ADVANTAGES

1) Remote controlling of vehicles, availability and ease of users.
2) Making the system location independent.
3) System is accessible in remote areas.
4) Provides safety and security to employees.
5) It is an efficient way for evacuation of bank.
6) System has less time delays.
7) Ability for quick response time.
8) It is a fully automated system.
9) It is robust system and low power requirement.

V. APPLICATIONS

1) Vehicle tracking.
2) ATM cash carrying vans.
3) Mining vehicles, oil tankers etc.

VI. CONCLUSION

Tracking system is becoming increasingly important in large cities and it is more secured than other systems. It is completely integrated so that once it is implemented in all vehicles, then it is possible to track anytime from anywhere. It

has real-time capability, emerges in order to strengthen the relations among people, vehicle and road by putting modern information technologies together and able to forms a real time accurate, effective comprehensive transportation system. This system has many advantages such as large capability, wide areas range, low operation costs, effective, Strong expandability and Easy to use in vehicle traffic administration. Upgrading this setup is very easy which makes it open to future a requirement which also makes it more efficient.

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