

Student Transit System

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Abstract:- In the present time, technology is expanding its horizon and touching each and every area. Thus, there was a need of technology (or system) to ensure safely transit of students from source to destination. The safer transportation of students is critical issues it is frequently seen lot of fatal accident, student missing, torment, or travel from wrong bus with wrong route. From the present scenario as both the parents are working they don't have time to keep eye on their children's. This system intend to discover the solution of all these problem by developing the student transit system which keep the record of student data from source to destination will also control the passage and way out of student from the bus. The procedure system will control the passage by using RFID at entry and exit, GPRS which use to track the position of bus, GSM will use to send SMS to parents to inform its departure and arrival on their location or whenever they want to know the location of their children by giving miss call on specific number.

Keywords:- Microcontroller, RFID (Radio frequency Identification), GPRS module, GSM module ,GPS.

I. INTRODUCTION

Ubiquitous scenario, all over the world, crime against students is increasing at higher rates and 50% fatal accident take place in school bus due to drivers who prefer wrong route as parents don't have sufficient time to keep eye on their children's and it is high time to offer security support system for the students. This system procedure to track and keep the record of each and every students, bus, drivers, route in the database. However parent and management can go through record in case of emergency. The proposed system include a child module and server module. The child module is designed to control the passage from source to destination. This classification does several task, including identifying the personal information which is feed on RFID tag of each student which exchange the data with RFID reader via electromagnetic wave and display on LCD. Each student swipes their RFID card while entering and leaving bus by this the driver get to know the number of students arrived and departed at their destination. All these information updated periodically in the database. Meanwhile parents and management can go through site whenever they feel like via internet. In case any problem occurs then notifications will send to their parents and management via SMS.

II. LITERATURE REVIEW

1. Bus safety system for school children using RFID and SIM900 GSM Modem

Author: Maryam Said Al-Islamili, Ali Al-Mahruqi, Dr. Jayavrindra Vrindavanam

The proposed system will control the passage and way out of students from the bus using RFID and SIM900 GSM technologies to ensure that student reach their destination safely. If the students reach their destination safely then SMS will send to the management to inform that work accomplished by using GSM.

2. Child Tracking System using Android Phones

Author: Maghade Satish, ChavhanNandlal, Gore Sandip

In this system parents and children both should have android mobile phone. The application is developed to listen and reply back to server without the user help whenever sever want to know the client location. In this application two main services are GPS and GSM. SMS is used to communicating between the server and the client. GPS used for tracking the location of the client.

3. Implementation of Children Tracking System Using ARM7 Microcontroller

Author: G.Bharathi, L.Ramamurthy

The proposed system includes a child module and receiver modules i.e. smart phone. Every student have child module which is fixed with them. The child module consists of ARM7, GPS, GSM, and LCD. Whenever parents want to know the location of their children they send request to the child module then child module send information via SMS. The ARM7 control the GPS, GSM and LCD. GPS used for track the location (latitude & longitude) of children.

4. Gps And Sms-based Child Tracking System Using Smart Phone

Author: A.Al-Mazloun, E.Omer, M.F.A. Abdullah

This system aimed to help locating lost children or missing student by using smart phone. In this application the parent's side and child side both having smart phone they communicate with each other via SMS. The parent side send request to the child side then child side retrieve the location, reply back and show it on the map. It will not require 2G, 3G i.e. this application does not require internet connectivity. This application work on GPS and GSM services which inbuilt in smart phone.

II. SURVEY OF PROPOSED SYSTEM

The proposed system includes tracking the students from source to destination, updating the information on site periodically, keeping the record of each and every student in database. In this system we are using controller ARM7 LPC2138, RFID Tag, RFID reader, GPRS module, GSM module, microcontroller (ATn89s52), LCD.

(1) Enter location:

Every student will have their own ID i.e. RFID tag in which their all data is feed such as name, address, contact information etc. So whenever students get inside the bus the tag exchange the information by the RFID reader via electromagnetic wave and student name will display on LCD which is placed on bus unit. It consist of ARM processor (LPC 2138), GPRS (to send child data to the server) module, GPS (To send child location) module, LCD display, RFID reader to read the child RFID Tag. Every time students information with location is uploaded on server i.e. WEB PAGE periodically using internet.

(2) Parent Request:

If in case parents want to know their children location information that is they reach their destination safely or not? So parents can login to the web page where the all data is uploaded and saved in database.

(3) Server Unit:

It consists of PC with GSM module and Microcontroller (AT89s52). This basically works as transceiver. So at the server unit PC with internet connection can access the data from the bus unit periodically and all these data saved in database for further use. Whenever parents want to know children update can access the web page. If anything goes wrong then notification will send to their parents and management by the server.

(4) Exit location:

If same tag is detected second time then it means children is leaving the bus. This information about ID and location is also send to parent using GSM, and to the database on web page also. If parents want to check the location of children then they can access that web page at any time. Or can request to the server asking for a message by giving miss call on specific number so it will give back reply of location (name of location) via GSM.

III. SYSTEM ARCHITECTURE

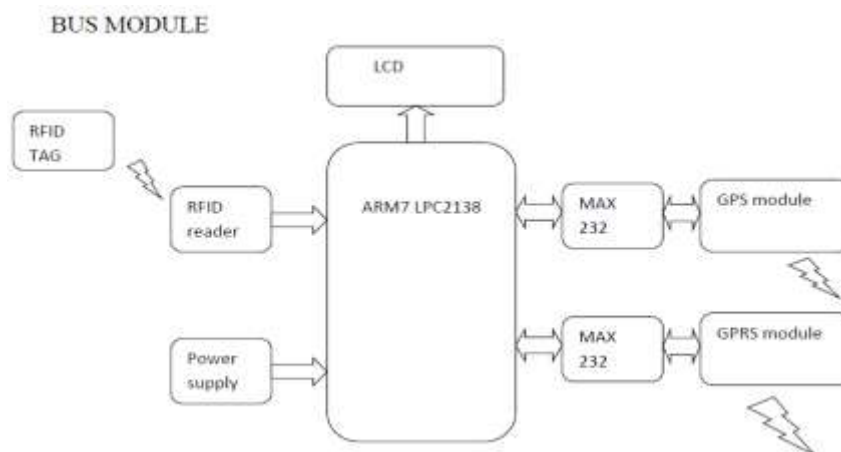


Fig 1 Block Diagram of Project (Bus Module)

The Bus module consist of RFID tag reader , LCD (16*2), ARM 7 LPC2138 as our core microcontroller, MAX 232 for compatibility ,GPS for determining the current position, GPRS for transmission of data to server database. ARM7 is interfaced with RFID reader, GPS and GPRS modules.

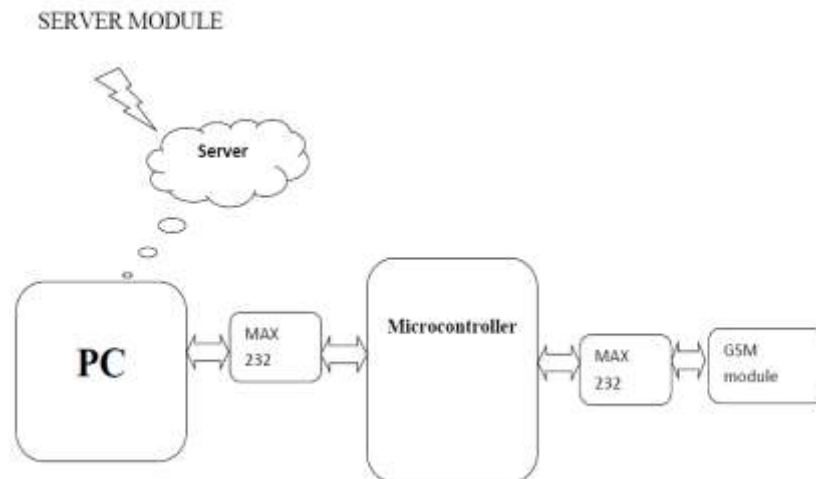


Fig 2 Block Diagram of Project (Server Module)

IV. CONCLUSION AND FUTURE WORK

In this project, we concentrated on the incorporation of the RFID, GPS, GPRS and GSM innovation for wellbeing and security reason. It is essential these days because of expansion in wrongdoing against understudies. Utilizing this framework to distinguish the real way and area of understudy things like these can be stayed away from. The analyses demonstrate that the warning is send to the folks when something turns out badly generally all point of interest of understudies, transport driver and way they take after be bolstered on the server for the wellbeing reason. The outcomes got show tasteful results.

Future works should be possible on the RFID innovation. Starting now we find that it is still goes about as one of the best answer for upgrade the well being in the school transports.

V. REFERENCES

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