

# STUDENT TRACKING SYSTEM

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## Abstract

The RFID and GPS used student tracking system is mobile application or website ensuring the safety and security of the students. The main objective of the application is to build a smart ID-card for a school students. The system keeps track of the ward who board the bus and reach school or who manage to get down on the way to school or back to home. Because, In present time due to increase in number of kidnapping and road accident cases, parents always worry about their children. This system recommends SMS based action in which assists parents to track their children location in real time. Whenever a child boards a bus, the RFID tag located in his identity card will be detected by the reader present check in the bus and the system will identify the child and will send a text message to the parents consisting the current location and time. This is the way parents will be able to keep record of their kids whereabouts. Millions on children required school bus for pick up and drop to the school on every Day basic, in this system we have implemented a new system which will help a parent identify whether their kids reached the educational organization at correct time or not.

## I. INTRODUCTION

The number of students enrolled in schools in India is steadily increasing. It has been steady since 2010 at 96.7%. But there has been a decline in children's attendance. From 73.4% in 2007 it has declined to 70.9% in 2011 says an annual report on the state of education in the country [4]. There is a sharp decline in attendance in some states. Figures revealed that enrolment in undivided Andhra Pradesh from Class I to V slipped from 74 lakhs in 2005-06 to 72 lakhs in 2013-14. In Bihar it has declined to 50% from 59% in 2007 and in Madhya Pradesh it was 67% in 2007 and it has declined to 54.5% in 2011[4]. To aid the enrolment, now a days almost every school provides transportation facility to their students. Parents also prefer them so that the children reach the school on time and come back safe in the same bus. As students grow up they find chance to bunk classes. They board the school bus but get down on the way before reaching the school. The students may also get down on the way back home. Even though the school maintains supervisors in the bus, the students find a chance to get their way out.

In this project we have developed a system which ensures the students who boarded the bus will get down at school only. the bus at any location. They are tracked with the locations are traced by GPS and are informed to the parent and school.

## II. Problem Definition

**Parent Conformation :-**Parent not conform their child is enter in school and also not conform where timing is come back in home.

**Student Security:-** It is most important to all student .and parent also want to student security.

**Staff conformation:-**staff also conform their student exact time. Conform Location of Bus:-for Eg. Suppose you are emergency pickup in your child ,then you don't know where exact position in bus. you have don't option then

you are going to your child school. That situation you lost of time and your feeling so freaking-out .Then this system are work that situation. Because I know same situation are face then, we are get the solve the problem.

### **III. RELATED WORK**

This section checks the related works. There are many systems which uses Bluetooth devices worn as necklace bracelets etc [1]. But this works only for a particular range. There are biometric products also [2]. Here if the children fail to place the palm correctly on the reader, proper image can't be obtained. The use of GPSs makes it easier to maintain and usage. The authors of [3] used GPSs to detect the children and entering and moving out of the bus. Children are being dropped at the correct stop or elsewhere.

Our paper devised a method to identify the students are dropped at correct locations and if they are dropped elsewhere the location is identified and alert is sent to parent.

#### **GPS Based School Children Tracking System**

This data is then sent to the processor. At the same time the location is identified GPS. These values are then send to the modem to forward to the parent and the school.

This project detect the student who start from home but don't reach the college or school. Whenever a student get down from the bus, a message is sent to the parent and the school informing the location obtained through the GPS unit. Arent can be used to give in the message and use any map application to identify where the student is . The children and entering and moving out of the bus .This system informs the parent and driver whenever the students board the bus and exit. They don't provide a facility to check whether the children are being dropped at the correct stop or elsewhere. Our paper devised a method to identify the students are dropped at correct location and if they are Dropped elsewhere the location is identified and alert is sent to parent.

#### **A) GPS:-**

The Global Positioning System (GPS) is space based navigation system that provides location information in terms of latitude and longitude, anywhere on the earth by using satellite. GPS having various applications which are specifically used in civil, military, and in commercial purpose. In some of school of America, uses this GPS based system in which one small GPS module is kept in the school bag of each child. But there is a problem that on some occasions or for any other reason child may or may not carry the bag each and every time or bag is not necessarily with child every time.



Figure 1. Block Diagram of GPS

In the proposed child tracking system, GPS module act as one of the functional block which will track the location of the child and also alert the parents if child is moving outside of define area with the help of Atmega328.

### B) RFID Section:-

Radio frequency identification uses electromagnetic fields to automatically identify and track tags attached to objects. The tags contain electronically stored information. Passive tags are placed near to the reader as they collect energy from a nearby RFID reader's interrogating radio waves. Active tags have a local power source such as a battery and may operate at hundreds of meters from the RFID reader. Unlike a barcode, there is no need to place the tag within the line of sight of the reader, so it may be embedded in the tracking object. RFID is one method for Automatic Identification and Data capture (AIDC). IN this paper the RFID is used in the bus tracking and attendance of the school class room.



### IV. Conclusion

While doing research on the project we divided our project work into modules and assigned each module to each team member. We performed our task with a good team coordination and support. We acquired more knowledge about the PHP programming language. We also got some more useful ideas on this project. We learnt to use different developer tools, software and also got the idea to debug the error along with error handling. We also learnt some more about android application development while doing our study and research work. In some difficult case we consulted with our teacher for their guidance. Despite of the problems we encountered while doing our project, we became success on solving them and completing our project up to this level. So in overall, with our hard team work and collaboration we have come this far and hope for the successful completion of our project.

**Reference** [1] Shu,c., "Guardian Uses Bluetooth Low Energy Tech To Keep Your Child Safe." [2] Coxworth, B., "Kid track biometric system keeps track of kids on school buses." [3] Prashant, c., "GPS and GSM Tracking system, student alert system ,E-bus pass ,Automatic Accident Detection System."